

Figure 4 shows the activation (using PDA pointer 32) of an application to provide a visitor's guide after encountering a RF beacon. The amount of handset screen space in the top pane 14 devoted to running and interacting with a specific application is manually or automatically adjustable, so more
5 screen area can be devoted to the application, or to the rack in the lower pane 16 monitoring different application opportunities: for example, the pipeline pane 12 might be dragged lower on the screen via a hotspot.

In an alternative arrangement, where the host device comprises (or has means for connection to) two display devices, the two screens might be
10 synchronised, one for the opportunity monitor, one for the application interaction.

On activating an application, then the application-interaction area 34 in top pane 14 scrolls upward from the centre pane 12 as in Figure 5 and interaction proceeds, for example with the user checking option boxes as in
15 Figure 6. The application is then closed by selecting a 'minimise' hotspot 36 in the upper right hand corner of the application interaction area 34, as in Figure 7. The application interaction area 34 then slides down to the centre pane and disappears, as in Figure 8.

Figure 9 shows the advent of a new opportunity-source, the handset's
20 RF unit having detected the nearby presence of a person, Mr. McPeterson. This event-icon 38 moves from right to left across the centre pane 12 and then down to form a second bar on the rack of currently-active opportunities for user interaction in the lower pane 16 (Figs. 10 and 11). As with the example in Figure 2, the icon 38 trails a further message 40 which scrolls across the
25 centre pane 12.

In Figure 12, the user activates one application that the source, Mr. McPeterson has on offer for interaction, and by pointer 32 selection of a hand icon 44. On activation, this application delivers a business card 46 for Mr McPeterson as seen in Figure 13.

30 So far in this description, the events have been triggered externally and opportunities for interaction have appeared spontaneously (pushed) to the user. The next sequence covering Figures 13 to 18 illustrates the user

manually activating an application (pull). By touching the icon 48 on the right hand of the centre pane 12 shown as 'me' in Figure 13, a set of pre-selected applications, or 'tools' that the user can activate in their currently active context emerge from right to left across the centre pane 12, as shown in Figure 14.

5 These tools may be for example a music player 50 or a calendar 52 as depicted by the icons on the first pane 12 in Figure 14. In Figure 15, a 'radar function' icon is selected. This application searches and alerts the user of the proximity of nearby people who are projecting an RF 'aura' that the handset can detect, or who have their locations tracked by an external infrastructure or

10 service provider, at the same time clearing the previous item (business card 46) from the upper pane 14, as shown in Figure 16.

The radar function visualises 56 how important or interesting nearby people are depending on the user's current context. Each nearby person is visualised with an icon inside the radar associated with a descriptive name

15 (e.g. Otto in Fig. 17). The more interesting or relevant that other people are, then the closer to the radar's centre they are drawn. Thereby the user can easily assess a large number of nearby people for interaction opportunities. The radar may also be extended to show the relevance of nearby devices, services, and places in addition to people. As an alternative (or additional

20 functionality) where positioning location is available for the remote sources, the relative positions on the radar of the radar icons may indicate their relative geographical positions to the user.

In Figure 18, the user then switches (by pointer selection of the vertical bar 60 at the edge of the upper pane 14) modes to view and adjust their

25 personal settings and possibly also to change their currently selected context and its filtering of incoming opportunity-events, as will be discussed in greater detail below.

The user suitably has a number of such opportunity-filters that both screen out and prioritise 'pushed' events and/or the applications they carry.

30 For instance, these filters may be for running in the user's contexts of:

- At home
- At work

- Doing sports
- Leisure Time
- On the Move

5 The icon 'me' 48 on the right hand of the first pane 12 In Figure 18
Indicates that the 'On the Way' context (and its associated filtering and
prioritisation) is currently active. In contrast, Fig 29 shows a 'house' icon on the
right of the pipeline, indicating that the 'At Home' settings are currently active.
Note that the current filter and settings may be influencing (invisible) programs
10 or remote applications with which the user does not directly or explicitly
interact on the handset. For example, the 'At Work' context selection may
influence the settings of their home heating, answering machine or security
systems. Also note that the selection of which of the 'contexts' is active may
be done explicitly by the user. Alternatively, however the user may decide to
15 delegate the context switching (and so the selection of active filters, priorities
and application tools) to an externally detected event. This context-controlling
event or situation may be the entry to a sports hall, shopping mall or work
office (sensed by RF/IR beacons, RF-ID tags or GPS location) – or to the time
of day, or indeed to the proximity of other people of a certain group. In
20 principle any automatically-detected change of state might be the trigger for an
automatic context change.

Personal Settings Mode

In Figure 18, the user has activated a change of modes by clicking on
25 the right-hand bar 60. The personal-settings screen view 62 then scrolls out
over the opportunity-event and application view as in Figure 19. The mode can
be reversed again by selecting the arrows icon 64 on the right hand end of the
pipeline in Figure 20, as is shown being done in Figure 26.

In the personal settings mode, the screen is again split into upper and
30 lower panes 14', 16', divided by a horizontal central pane 12', acting as the
visual focus for the user. The lower part, 16' is for the main selections between
different user contexts ('Home', 'Tourist', 'Business' etc) and the assignments

of their associated sets of applications. The upper part, 14' is for the detailed set-up of application preferences.

In Figure 20, four tools can be seen as currently available in the 'On the Way' context by the presence of icons on 12', representing the radar, calendar, music and information board applications. These are available in the context of 'On the Way' (the third-from-top icon 66 in the column on the right-hand side of 16' shown shaded to indicate that it is active).

In Figure 21, a change is made to the 'Business' context (the lowest icon 68 in the column on the right hand side of 16'). The old application-tool set slides away as shown and a new set appears from right to left on the pipeline. As with all other operations with the user-interface, feedback on such actions may optionally be reinforced by sounds, tunes or vibration patterns which can also be a channel to inform the user of other properties of the handset, situation, peer, opportunity source context or application.

In Figure 22 one of the 'Business context' tools 70 is selected for personal adjustment. The profile-settings view 72 for this information tool emerges scrolling upwards from the central pane 12' as in Figure 23. As with the other mode, the user can devote more screen space to view this application's settings via the scroll hotspot at 74, moving the central pane 12' down and leading to the view in Figure 24.

After the user has completed in this mode any personal preference and setting adjustments, plus their prioritisation of tool/applications/alerts for different contexts (see Fig. 25), then the user's activates the arrow hotspot 72 on the right hand end of the central pane 12'. This closes the settings view 72 (as in Fig. 26) and then slides the second mode's screens away (Fig. 27), returning to the opportunity-event manager of the first mode, with the radar application currently activated, as in Figure 28.

Returning to the Opportunity Management mode, a number of more sophisticated extensions are possible, as shown in Figures 29 and 30. As examples, the clock icon at 78 has a bubble 80 indicating that explanatory text is available. The heart 82 added to the event-icon 84 on the left of the bar indicates that this carries a trusted set of applications which are very personal

for the user. A heart added to an event-icon associated with a service indicates the user is a known subscriber to that service. A heart added to an event-icon representing a person indicates that this source is a trustworthy or known person (e.g. from earlier interactions or being a colleague or friend).

5 The downward pointing triangle 86 on the event-icon at 88 shows that this is from a cluster of applications that can be expanded further. (Note especially that one event may open up an hierarchy of groups of application opportunities of different types for the user.) The 'i' annotation 90 on icon 92 indicates that this application is waiting for interaction from the user.

10 In Figure 30 the states of a number of monitors running on the handset (or interrogated by the handset) are shown in the upper pane 14 when no other applications are using that screen area. For instance, in the left-most column, running top to bottom, icons indicate:

 at 94 that the house is currently locked;
15 at 96 that an alert has fired about the price of the user's stock;
 at 98 that handset sounds are activated (ear icon);
 at 100 that the screen is also turned on (eye icon);
 at 102 that the battery is getting low; and
 at 104 that there is a strong GSM network signal.

20 The second column of monitors suggests nutritional advice for the day (106), the current temperature (108), the current time (110), and at 112 the user's current location (determined by mobile cell ID, GPS, RF beacon or another manner).

 As mentioned above, the host apparatus of the interface may comprise
25 a PDA, mobile telephone, laptop or like device. Figure 31 shows the principal components of such a device 120 embodying the invention and with Interaction opportunities from two remote sources, beacons 122, 124. Information about the interaction opportunities from beacon 122 is picked up by antenna 126 (which may be external or internal to the device 120) and, via
30 a receiver and decoder stage 128, the received data is passed to a central processor 130.

Coupled with the processor 130 is a data storage means 132, which may comprise both read-only and random access¹ memory suitably linked to the processor by addressing and data buses. As indicated by the dashed line at 134, the memory 132 may be supplemented by removable storage means, 5 such as floppy or optical disc, memory sticks, solid state memory cards and the like. The data storage includes the program instruction for controlling the processor to generate and manage the user interface as described hereinabove with reference to Figures 1 to 30.

Also coupled to the processor 130 is a display device 10 on which the 10 user interface is presented. User input means are also coupled to the processor to support the user interaction with the detected interaction opportunities and also with the interface itself (for example in the Personal Settings mode). The form of user input device will be to some extent dictated by the form and function of the device 120 as a whole. For example, where 15 the device is a laptop computer, the user input device will typically comprise a full alpha-numeric keyboard as well as an x/y cursor control (either integral or through a plugged in mouse or trackball device). Where the device is a mobile telephone, the number of keys for inputting data is likely to be greatly reduced, and mechanisms such as a touch sensitive screen coupled with option menu 20 generation may be used. In the example shown, the device is a PDA (or similar) with a touch screen interface 136 coupled with the display device (typically a liquid crystal device) 10, with user selection of items displayed on the user interface being effected by use of a pointer device 32.

From reading the present disclosure, other variations will be apparent to 25 persons skilled in the art. Such variations may involve other features which are already known in the field of apparatuses having graphical or screen display interfaces or component parts thereof and/or methods for control of the same and which may be used instead of or in addition to features already described herein.

30

CLAIMS

1. A portable data processing apparatus being operable to receive information identifying interaction opportunities for a user of the apparatus and present the same to said user via a display, the apparatus comprising:
- 5 a processor coupled with data storage means and said display and programmed to generate a respective display icon for each identified interaction opportunity; and
- user operable input means for selecting a displayed icon;
- 10 wherein the processor is arranged to generate a user interface having at least first, second and third display panes, with newly generated display icons being initially displayed in said first display pane and subsequently moved to said second display pane wherein other icons are displayed; wherein the processor is configured to arrange the icons in the second display pane according to a predetermined prioritisation scheme; and wherein on user
- 15 selection of a displayed icon additional data associated with the selected icon is displayed in the third display pane.
2. Apparatus as claimed in Claim 1, being arranged to determine
- 20 from said information identifying interaction opportunities a respective priority for each, wherein said predetermined prioritisation scheme applied by the processor positions those display icons in the second display pane in order of priority relative to the position of the first display pane.
3. Apparatus as claimed in Claim 1, wherein said predetermined
- 25 prioritisation scheme applied by the processor positions those display icons in the second display pane in the order they arrived in the first display pane.
4. Apparatus as claimed in any of Claims 1 to 3, wherein the
- 30 processor is configured to identify, from said received information, a plurality of different classes of interaction opportunity and to indicate the same to a user

by the form of display icon presented for each identified interaction opportunity.

5 5. Apparatus as claimed in Claim 4, wherein the form of each display icon is determined at least partly by data held in said data storage means.

10 6. Apparatus as claimed in any of Claims 1 to 5, wherein the processor is operable to receive additional information relating to an interaction opportunity for which an icon is already displayed in the second display pane and to indicate the arrival of said information to the user by altering the appearance of the respective display icon in the second display pane.

15 7. Apparatus as claimed in any of Claims 1 to 6, comprising means coupled with said processor and operable to receive said information identifying interaction opportunities from at least one remote source.

20 8. Apparatus as claimed in Claim 7, wherein the processor is further operable to generate in said third display pane a visual representation of relative valuations for two or more remote sources to the apparatus.

 9. Apparatus as claimed in Claim 7 or Claim 8, wherein said means operable to receive said information is a wireless receiver.

25

 10. Apparatus as claimed in any of Claims 1 to 9, further comprising means controlled by the processor to generate an alert to a user on the generation of a new icon in the first display pane.

30 11. Apparatus as claimed in any preceding Claim, wherein the processor is arranged to scroll an icon in the first display pane from one edge

of the pane to an opposite edge prior to moving such icon to the second display pane.

12. Apparatus as claimed in any preceding Claim, wherein the first display pane is positioned between the second and third display panes on the apparatus display.

13. Apparatus as claimed in any preceding Claim, being further operable to facilitate user alteration of device settings through said user interface, wherein options for setting are nested in menus with submenus for respective entries, with respective icons in the first display pane representing menu items on selection of one of which icons are presented in the second display pane representing the respective submenu options, and on selection on one of the icons in the second display pane, the individual device setting options under that submenu are shown in the third display pane.

14. A method for managing the presentation of information identifying interaction opportunities to a user via a user interface, comprising the steps:

generating a user interface having at least first, second and third display panes;

generating a respective display icon for each identified interaction opportunity and initially displaying the same in said first display pane;

subsequently moving the icon from the first to the second display pane wherein other icons are displayed;

arranging the icons in the second display pane according to a predetermined prioritisation scheme; and

on user selection of a displayed icon, displaying additional data associated with the selected icon in the third display pane.

15. A computer readable storage medium containing executable instructions for performing the method steps of Claim 14.

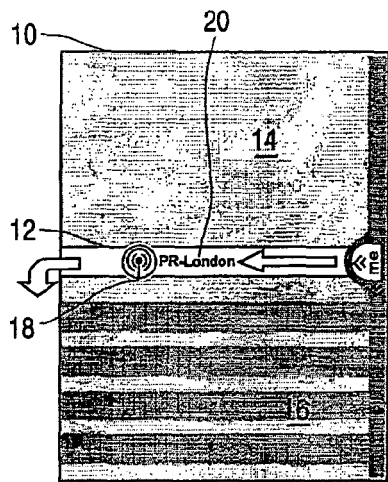


FIG. 1

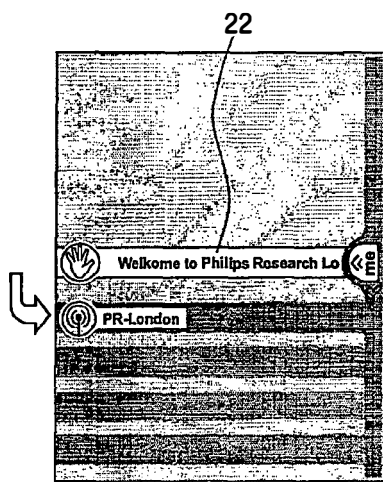


FIG. 2

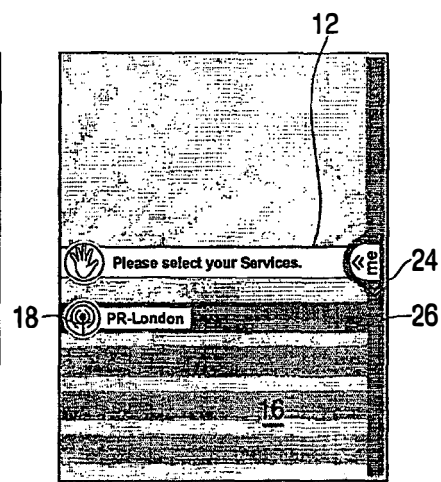


FIG. 3

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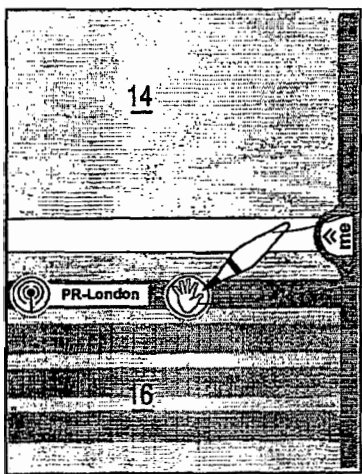


FIG. 4

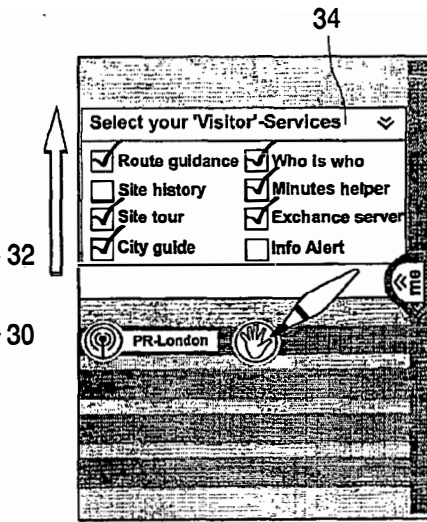


FIG. 5

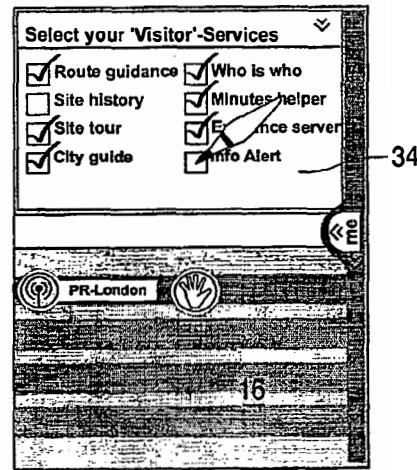


FIG. 6

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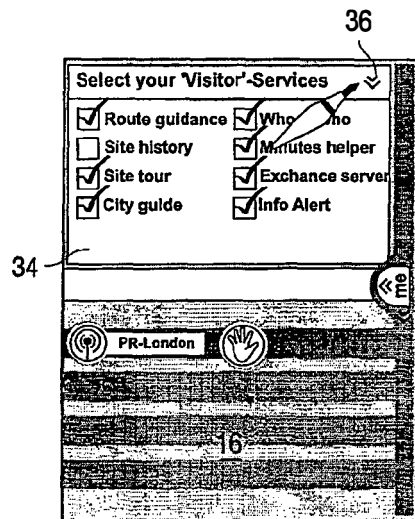


FIG. 7

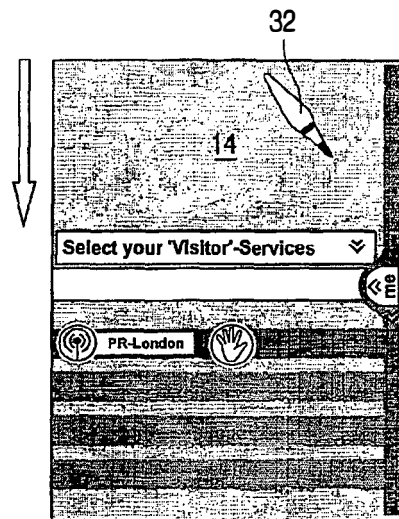


FIG. 8



FIG. 9

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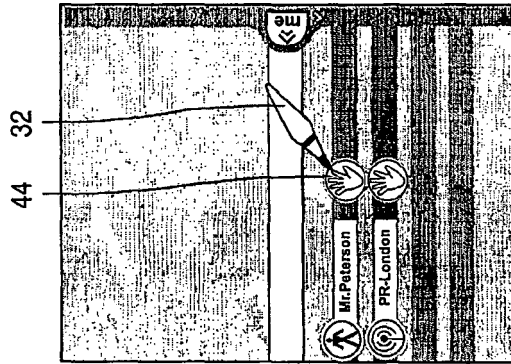


FIG. 10

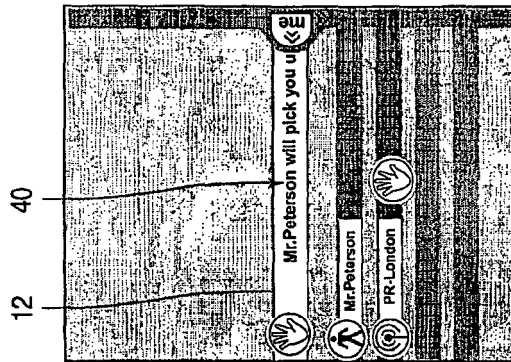


FIG. 11

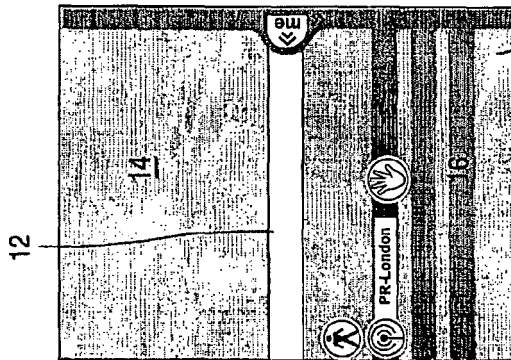


FIG. 12

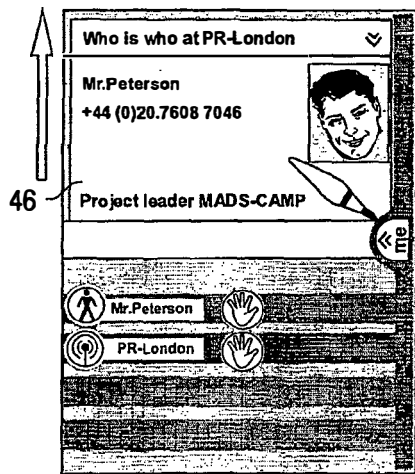


FIG. 13

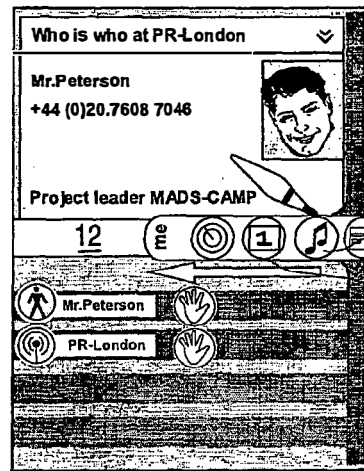


FIG. 14

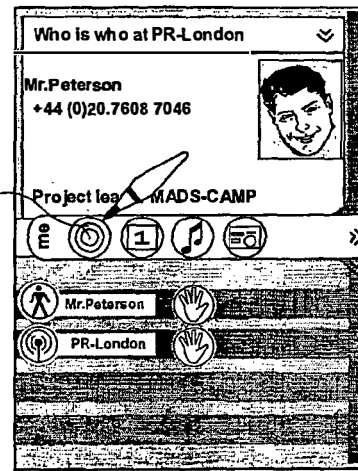


FIG. 15

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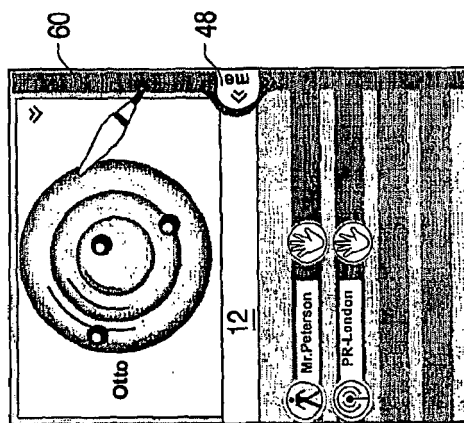


FIG. 16

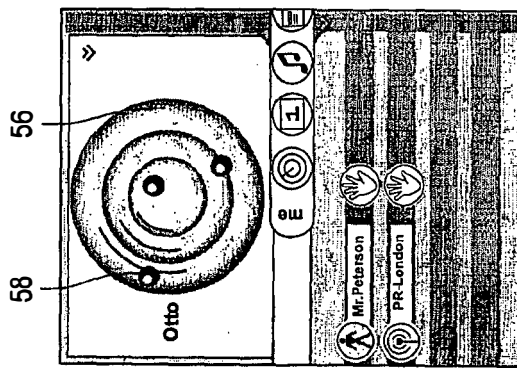


FIG. 17

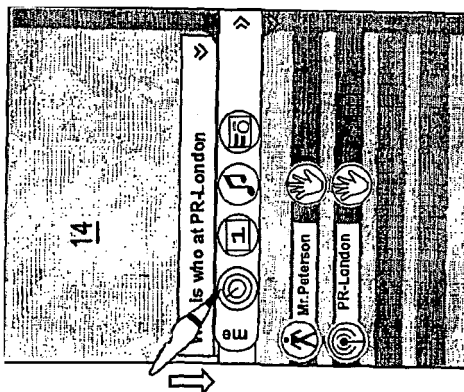


FIG. 18

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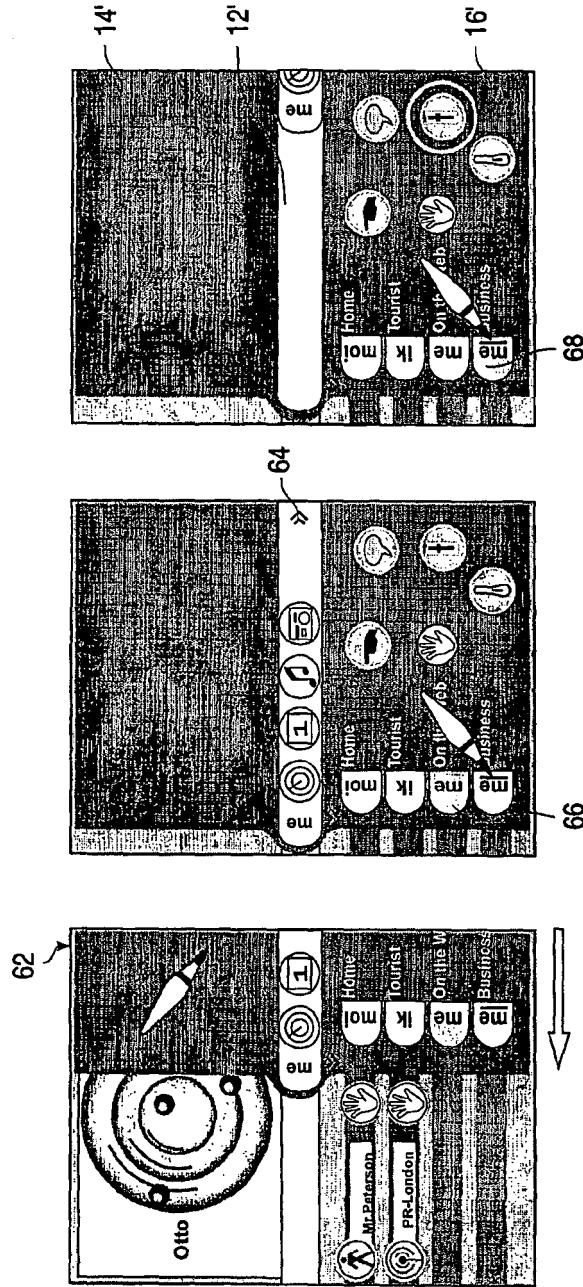


FIG. 21

FIG. 20

FIG. 19

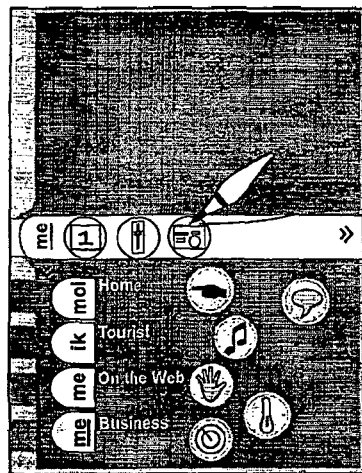


FIG. 22

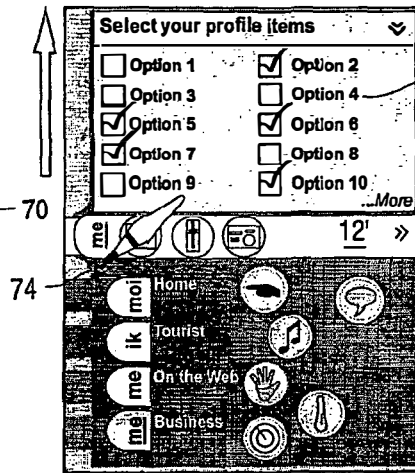


FIG. 23

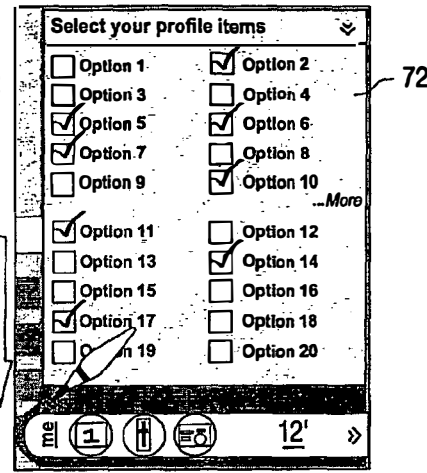


FIG. 24

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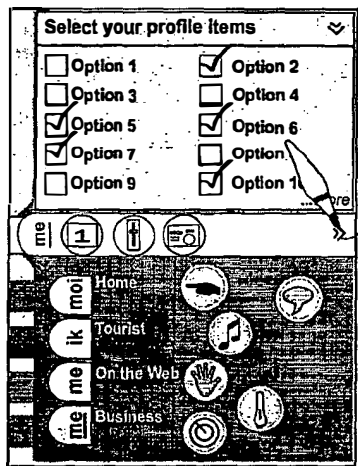


FIG. 25

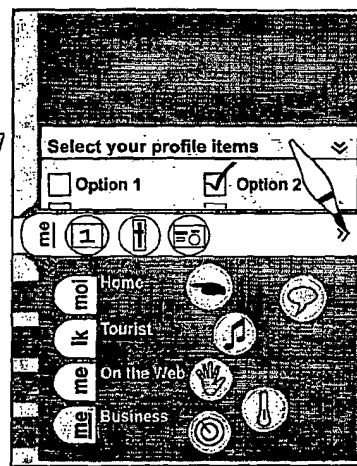


FIG. 26

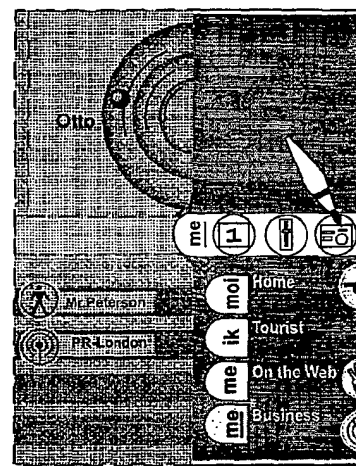


FIG. 27

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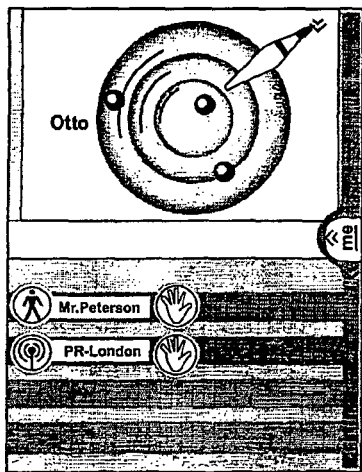


FIG. 28

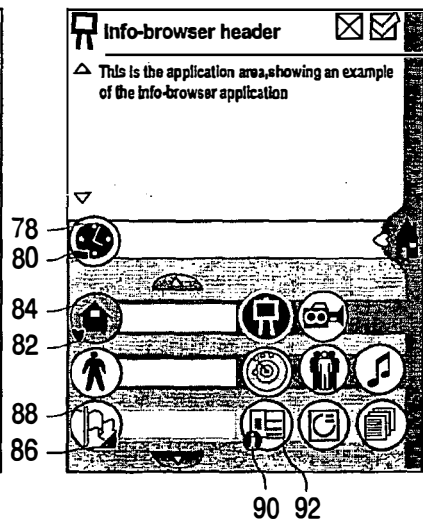


FIG. 29

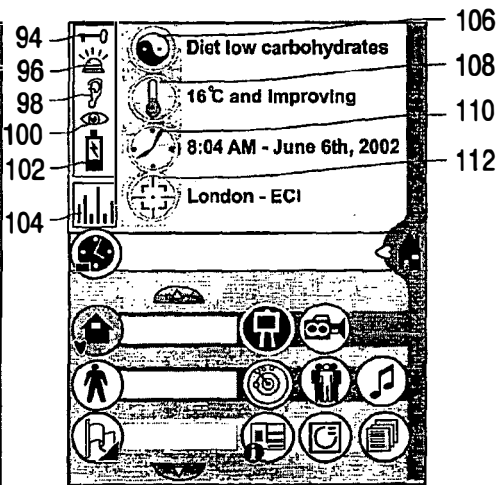


FIG. 30

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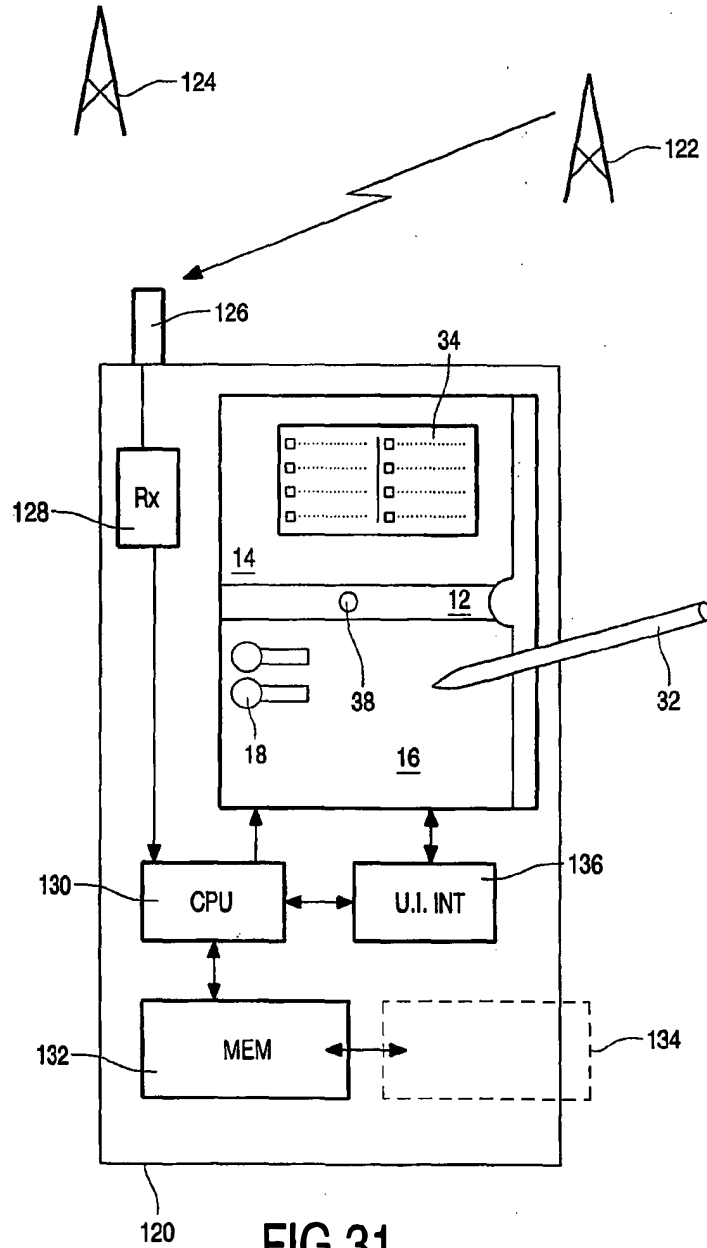


FIG.31



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
10/983,606 11/09/2004 Sherryl Lee Lorraine Scott 16813-39US 2886

5412 759 06/25/2008

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IRVING, TX 75039

Table with 1 column: EXAMINER

SALOMON, PHENUEL S

Table with 2 columns: ART UNIT, PAPER NUMBER

2178

Table with 2 columns: MAIL DATE, DELIVERY MODE

06/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/983,606
Filing Date: November 09, 2004
Appellant(s): SCOTT, SHERRYL LEE LORRAINE

Paul J. Field
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on April 04, 2008 appealing from the Office action mailed on November 28, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

EP 1434411 A1	Ogren Per	06-2004
6,047,197	Jarrad	04-2000
US 2003/0013483 A1	Ausems et al.	01-2003
US 2004/0204233 A1	Andrew et al.	10-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 7,10,13, 19, 22, 25 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197).

Claim 1: Ögren discloses a method for controlling an apparatus comprising:

providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus (col. 2, para [0009]), each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus (col. 2, para [0013], [0014]), and the dynamic bars providing links to invoke said respective interfaces (col. 2, para [0010]) and col. 8, lines 2-8);

invoking said respective interfaces to control said apparatus in response to user input (col. 3, lines 26-30).

associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar (col. 2, para [0014]); and

updating the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (col. 5, para [0033]) [By constantly display the signal strength is considered as updating].

But does not explicitly disclose said each dynamic bar having an expandable popup interface for providing respective preview information determined from information managed by applications and function. However, Jarrad discloses an overlay window with a text field which identifies the function or application..(col. 4, lines 42-49). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include popup interface in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the information related to a particular icon or application.

Claims 10 and 22: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses at least some of the links to invoke respective interfaces are represented by respective icons (fig. 4).

Claims 7 and 19: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen

including a plurality of icons for activating respective interfaces for applications and functions provided by the apparatus (col. 8, para [0041] lines 11-29 and 39-46).

Claim 13: Ögren discloses an apparatus comprising:

a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:

provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus (col. 2, para [0009]), each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus (col. 2, para [0013], [0014]), and the dynamic bars providing links to invoke said respective interfaces (col. 2, para [0010]) and col. 8, lines 2-8);

invoke said respective interfaces to control said apparatus in response to user input (col. 3, lines 26-30); and

associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and to display the dynamic preview information (col. 2, para [0014]); and

update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (col. 5, para [0033]) [By constantly display the signal strength is considered as updating].

a processor coupled to the storage medium to execute the programming instructions (fig. 2, items 20, 22 and 24)

But does not explicitly disclose said each dynamic bar having an expandable popup interface for providing respective preview information determined from information managed by applications and function. However, Jarrad discloses an overlay window with a text field which identifies the function or application..(col. 4, lines 42-49). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include popup interface in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the information related to a particular icon or application.

Claim 25: Ögren and Jarrad disclose a machine-readable medium comprising program code executable on a processor for implementing the method as in claim 1 above, Ögren further discloses a status information store (col. 6, lines 19-20).

Claims 26-27: Ögren and Jarrad disclose the method of claims 1 and 13 above, Ögren further discloses wherein the predetermined logical (preloaded applications) relationships are contextual relationships (status information related to the device performance) based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions (providing a list of further possible actions and selections relating to the performance) (col. 2, para. [0016]).

7. Claims 4, 11, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Maass et al (WO03/100591 A2).

Claims 4 and 16: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly disclose further comprising providing a filter defining interface for defining a filter with which to determine the preview information. However, Maass discloses ‘a pipeline for the announcing the arrival of new opportunities/events that pass the user’s current personal filter..’ (p. 6, lines 18-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include information filtering in Ögren. One would have been motivated to do so in order to efficiently and accurately let the user leave out undesired information.

Claims 11 and 23: Ögren and Jarrad disclose the method as in claims 10 and 22 above, but do not explicitly disclose an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon. However, Maass discloses pre-selected applications or tools that a user can activate in their currently active context..(p. 8, line32 and p. 9, lines 1-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to facilitate the apparatus configuration effortlessly.

8. Claims 5-6, 8, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Ausems et al (US 2003/0013483 A1).

Claims 5 and 17: Ögren and Jarrad disclose the method as in claims 1 and 13 above, further but do not explicitly disclose selecting particular applications and functions for associating with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions. However, Ausems discloses menu associated with applications and icons..(p. 6, para [0064]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to select an application relating to an icon.

Claims 6 and 18: Ögren and Jarrad disclose the method as in claims 5 and 17 above, but do not explicitly including labelling the dynamic bars in response to one of the predetermined logical relationships. However, Ausems discloses description of icon associated with a particular application.. (p. 6, para [0065]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include labeling in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the available resources.

Claims 8 and 20: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly discloses at least one of expanding and collapsing a respective pop-up interface associated with the at least one dynamic bar in response to respective user input. However, Ausems discloses a drop down menu list of applications in response to the user input.. (p. 9,para

[0075] and [0077]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the available resources.

9. Claims 9, 12, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Andrew et al (US 2004/0204133 A1).

Claims 9 and 21: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly disclose further comprising associating a respective menu interface with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar. However, Andrew discloses ‘setting link which when tapped takes the user to the connection manager user interface display..’ (p. 3, para [0034]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to manage the available resources.

Claims 12 and 24: Ögren and Jarrad disclose the method as in claims 10 and 22 above, but do not explicitly disclose selecting the icon for representing with a respective link in response to a

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value of said one or more options. However, Andrew discloses a link respective to a connection manager icon..(p. 3,para [0031]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to facilitate the user with applications and functions selection.

(10) Response to Argument

The arguments, in the order presented by the appellant, will be addressed by the examiner.

Claims 1, 13 and 25

a) Argument:

Ogren requires user input and hence does not teach displaying dynamic preview information in a dynamic bar. Thus, Ogren does not provide convenient at-a-glance information about the applications and/or functions of the device, unlike the presently claimed subject matter.

Response:

It is noted that Ogren discloses a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call and It should be realized that these are just a few of

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the possible performances, functions and applications for which an icon might be displayed. Some icons might only be provided if the application or function related to the phone has been activated or invoked either by the user of the phone himself or by some other type of influence, for instance the influence from outside the phone like the reception of an e-mail or a phone call. (col. 6, para. [0038]). This paragraph clearly shows display of dynamic preview information and/or application status.

b) Argument:

Hence, it would be clear to a person skilled in the art that Ogren is not teaching that signal strength is displayed as a dynamic preview of information from an application or function, but that signal strength is displayed as a mere indicator of the state or performance of the device.

Response:

Signal strength displayed is equated as a dynamic preview of information concerning the phone performance but Ogren further discloses a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call and It should be realized that these are just a few of the possible performances, functions and applications for which an icon might be displayed (col. 6, para. [0038]).

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c) Argument:

Ogren still does not teach any link provided by the status icons that would allow a user to directly invoke an interface for the associated application or function as recited by the present claims.

Thus, unlike the present claims, Ogren does not provide invokable links in a dynamic bar itself, but only after the user makes a selection to further expand the bar.

Response:

Ogren discloses item of status information relating to the performance of the portable device and possibly activated applications and functions in the device and further display information relating to the said item upon detecting a selection (col. 3, para. [0018]). The new interface with further information contains items or icons when acting upon will give commands to the software which are then translated into instructions that the computer can interpret as shown in figs. 3 and 4. Therefore, Ogren discloses invokable links that when click on will display interface for an application or function.

d) Argument:

Thus, Ogren does not teach the stream-lined interface that is described in the present claims, and to a large extent, teaches in a direction that is contrary to the claimed subject matter.

Response:

It is noted that Ogren discloses a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call and It should be realized that these are just a few of the possible performances, functions and applications for which an icon might be displayed (col. 6, para. [0038]).

e) Argument:

The text field or overlay window does not provide any information beyond the name of the application or function represented by the icon. There is no teaching or suggestion of any dynamic preview information that might be continuously updated, nor does Jarrad teach or suggest including any information with the overlay window or in the text field aside from the name of the application or function. In fact, Jarrad fails to teach or suggest providing preview information of any sort.

Further, Jarrad fails to teach or suggest updating a dynamic bar in response to changes in respective dynamic preview information. Indeed, Jarrad does not teach continuously updating any dynamic information at all.

Response:

Jarrad was only used to remedy the deficiency in Ogren where he fails to disclose an overlay window or pop up with a text field which identifies the function or application..(col. 4,

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lines 42-49). But Ogren discloses dynamic preview information in the following paragraph “ a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call and It should be realized that these are just a few of the possible performances, functions and applications for which an icon might be displayed” (col. 6, para. [0038]).

Claims 10 and 22

Argument:

Ogren does not teach the use of links to invoke the interface for an application or a function. Ogren does not provide a simple at-a-glance method for a user to directly invoke an interface for an application or function directly from the icons on a dynamic bar, but requires the user to expand the icon before the icon is selectable.

Response:

Ogren discloses item of status information relating to the performance of the portable device and possibly activated applications and functions in the device and further display information relating to the said item upon detecting a selection (col. 3, para. [0018]). The new interface with further information contains items or icons when acting upon will give commands to the software which are then translated into instructions that the computer can interpret as

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shown in figs. 3 and 4. Therefore, Ogren discloses invocable links that when click on will display interface for an application or function.

Claims 7 and 19

Argument:

Ogren does not teach activation of interfaces for applications and/or functions. Ogren does not teach that the main screen may include a plurality of icons that can activate respective interfaces for applications and functions.

Response:

Ogren discloses an example of the icons displayed is shown in fig. 3. It should be known that an application, function, or performance determination unit 26, 28 or 30 might signal to the control unit 20, their activation and then the control unit selects the icons corresponding to the activated application, function or performance unit for displaying on the display. Other performance determination units or function units might be constantly activated (col. 8, para. [0041] and fig. 5B steps 62, 64, 68, 70 and 72).

Claims 26 and 27

Argument:

Ogren does not provide applications and functions that are related to each other by predetermined logical relationships.

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Response:

Ogren discloses providing further actions and selections based on the status information, but further discloses providing action related to an application and performing said action or providing a list of further possible actions in relation to the application as stated in (col. 2, para. [0014] and [0015]). Therefore, there are some predetermined logical relationships between the functions and the applications so the function can be properly executed. As per claims 5 and 17, Ausems was cited to reinforce the selecting particular applications and functions as stated in (para. [0064], page 6).

Claims 4, 11, 16 and 23**Argument:**

Maass does not teach or suggest displaying dynamic preview information in a dynamic bar, as in the resent claims.

Response:

Maass was only used to remedy the deficiency where Ogren fails to define a filter for the preview information. But Ogren discloses dynamic preview information in the following paragraph “ a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a

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missed phone call and It should be realized that these are just a few of the possible performances, functions and applications for which an icon might be displayed” (col. 6, para. [0038]).

Claims 5, 6, 8, 17 and 23

Argument:

Ausems does not teach the feature of providing dynamic preview information in a dynamic bar.

Response:

Ausems was cited to remedy the deficiencies of Ogren in claims 5, 6, 8, 17 and 23 respectively but not providing dynamic preview information while Ogren clearly discloses dynamic preview information in the following paragraph “ a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call and It should be realized that these are just a few of the possible performances, functions and applications for which an icon might be displayed” (col. 6, para. [0038]).

Claims 9, 12, 21 and 24

Argument:

Andrew does teach or suggest providing links within the status bar to invoke interfaces for associated applications or functions.

Response:

Andrew discloses a connectivity dialog that appears when a user taps on the displayed antenna/signal strength meter or other suitable signal indicator or icon. Then a connectivity bubble is displayed and the user can further configure the device connection (p. 2, para. [0029]).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Phenuel S. Salomon/

Phenuel S. Salomon
Patent Examiner
Art Unit 2178

Conferee:

/Stephen S. Hong/

Supervisory Patent Examiner, Art Unit 2178

Application/Control Number: 10/983,606
Art Unit: 2100

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Stephen Hong
Supervisory Patent Examiner
Art Unit 2178

/DENNIS-DOON CHOW/

Supervisory Patent Examiner, Art Unit 2173

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/983,606

Art Unit: 2178

Filed: 11/09/2004

Confirmation No.: 2886

Applicant: Sherryl Lee Lorraine Scott

Examiner: Phenuel S. Salomon

Title: DYNAMIC BAR ORIENTED USER INTERFACE

Docket No.: 16813-39US

Customer No.: 20988

Mail Stop Appeal Brief - Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, V.A. 22313-1450

Dear Sir/Madam:

APPEAL BRIEF

This Appeal Brief is submitted pursuant to the Notice of Appeal received in the U.S. Patent and Trademark Office on February 28, 2008, and in support of the appeal from the final rejection(s) set forth in the Office Action mailed on November 28, 2007. The fee for filing a brief in support of an appeal is enclosed.

APPEAL BRIEF 2
Application Serial No. 10/983,606

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APPEAL BRIEF
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Real Party in Interest

The real party of interest is Research In Motion Limited, by virtue of an assignment executed by the inventors in favour of Research In Motion Limited, recorded at Reel/Frame 015981/0900.

APPEAL BRIEF
Application Serial No. 10/983,606

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Related Appeals and Interferences

None.

Status of Claims

Pursuant to the Examiner's Final Office Action mailed November 28, 2007, the status of the claims is as follows:

claims 1, 4-13 and 16-27 stand rejected under 35 U.S.C. 103(a); and

claims 2-3 and 14-15 were previously cancelled.

The rejections of claims 1, 4-13 and 16-27 are being appealed.

APPEAL BRIEF
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Status of Amendments

In the Applicant's response filed January 28, 2008, claims 26 and 27 were amended to be dependent on claims 5 and 17, respectively. These amendments have been entered by the Examiner and have overcome the objection based on claim informalities, as stated in the Examiner's Advisory Action mailed February 4, 2008.

Summary of Claimed Subject Matter

The present claims are directed to a method for controlling an apparatus and an apparatus in which at least one dynamic bar is displayed on a main screen of a graphical user interface. The dynamic bar provides interfaces for applications and functions on the apparatus, as well as an expandable pop-up interface for displaying preview information. The features of independent claims 1 and 13 are described in detail below.

Independent claim 1 defines a method for controlling an apparatus. The steps of the method include: providing at least one dynamic bar (304) for displaying on a main screen (300) of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus (paragraph [0046], lines 19-22), each dynamic bar having an expandable pop-up interface (407) for providing respective preview information determined from information managed by the applications and functions (paragraph [0046], lines 14-16; paragraph [0047], lines 4-17; paragraph [0048], lines 8-11) and the dynamic bars providing links to invoke the respective interfaces (610; paragraph [0048] lines 7-8); invoking the respective interfaces to control the apparatus in response to user input (1642; paragraph [0061]); associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars (paragraph [0048], lines 8-11) and displaying the respective dynamic preview information within the associated dynamic bar (paragraph [0047], lines 4-17); and updating the display of the at least some of the dynamic bars in response to a change to the respective dynamic preview information (paragraph [0047]).

Independent claim 13 defines an apparatus having a storage medium having stored therein a plurality of programming instructions and a processor (238) coupled to the storage medium to execute the programming instructions. The programming instructions are designed to enable the apparatus to: provide at least one dynamic bar (304) for displaying on a main screen (300) of a graphical user interface for controlling

the apparatus, each dynamic bar associated with respective more than one interfaces for applications and functions provided by the apparatus, each dynamic bar having a pop-up interface (407) for providing preview information determined from information managed by the application and functions (paragraph [0046], lines 14-16; paragraph [0047], lines 4-17; paragraph [0048], lines 8-11) and the dynamic bars providing links to invoke the respective interfaces (610; paragraph [0048] lines 7-8); invoke the respective interfaces to control the apparatus in response to user input (1642; paragraph [0061]); associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars (paragraph [0048], lines 8-11) and to display the dynamic preview information (paragraph [0047], lines 4-17); and update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (paragraph [0047]).

Grounds of Rejection to be Reviewed on Appeal

The Applicant seeks to appeal the following grounds of rejection:

1) whether claims 1, 7, 10, 13, 19, 22, 25 and 26-27 are unpatentable under 35 U.S.C. 103(a) over European Patent Application No. 1,434,411 to Ögren et al. (hereinafter “Ögren”) in view of U.S. Patent No. 6,047,197 to Jarrad (hereinafter “Jarrad”);

2) whether claims 4, 11, 16 and 23 are unpatentable under 35 U.S.C. 103(a) over Ögren in view of Jarrad and in further view of PCT Publication No. 03/100591 to Maass et al. (hereinafter “Maass”);

3) whether claims 5-6, 8, 17-18 and 20 are unpatentable under 35 U.S.C. 103(a) over Ögren in view of Jarrad and in further view of U.S. Patent Application Publication No. 2003/0013483 to Ausems et al. (hereinafter “Ausems”); and

4) whether claims 9, 12, 21 and 24 are unpatentable under 35 U.S.C. 103(a) over Ögren in view of Jarrad and in further view of U.S. Patent Application Publication No. 2004/0204133 to Andrew et al. (hereinafter “Andrew”).

Argument

Rejection under 35 U.S.C. 103(a) over Ögren in view of Jarrad

Claims 1, 13 and 25

Independent claims 1 and 13 are directed to a method for controlling an apparatus and an apparatus, respectively, in which at least one dynamic bar is displayed on a main screen of a graphical user interface. Each dynamic bar is associated with respective multiple interfaces for applications and functions provided by the apparatus, and each dynamic bar has an expandable pop-up interface for providing respective preview information. The interfaces can be invoked to control the apparatus in response to user input. At least some of the dynamic bars are associated with and display respective dynamic preview information from information managed by the respective applications and functions, and this display can be updated in response to a change to the respective dynamic preview information.

The presently claimed subject matter aims to provide an advantage of providing the user with information about applications and functions of an apparatus in an efficient and convenient at-a-glance format by providing dynamic preview information. Dynamic preview information from applications and/or functions running on an apparatus is provided on a dynamic bar, allowing the user to monitor these applications and/or functions without having to take the trouble of activating the application or function. Should the user wish to see more information about the application or function, each dynamic bar has an expandable pop-up interface which provides further respective preview information from the application or function.

A person skilled in the art would understand that dynamic preview information is different from mere status information. As described in paragraph [0047] and [0048], dynamic preview information contains information managed by associated applications and functions, and is updated as this information is changed in the associated applications and functions. Paragraph [0047] provides the example that the dynamic preview

information may include a count of new events in an application, such as a count of new messages; or the preview information may include details of a recent event, such as information about a missed call. Such information is distinctly different from mere status information. Dynamic preview information as described in the present disclosure provides the user with a method of accessing a portion of the information maintained by an associated application or function without having to invoke the interface for the application or function. Status information merely displays a state of the device, for example the battery charge or signal strength, rather than information maintained by an application or a function. As described in paragraph [0047], this status information may be displayed in a status portion 306, separate from the dynamic bar 304.

Additionally, the dynamic bar provides links 610 to invoke interfaces of the applications or functions, allowing the user to quickly navigate to the desired application without having to find the menu or icon for that application. An example of possible links for different applications or functions is shown in Figs 13A-C. This provides a streamlined way for the user to navigate to an application, such as when the dynamic preview information provided by the dynamic bar is sufficient for the user to decide whether or not the interface for an application should be invoked. For example, if a user sees that there are 50 unread email messages, the user may wish to open the email application directly to answer these messages, and the user may not need to see a preview of all 50 messages to decide whether or not to open the email application.

Ögren teaches a row of status icons displayed at the top of a screen on an electronic device. These icons each relate to the status of the device or an application, and can be expanded to a full-screen display, as shown in Fig. 4, by pressing a button on the device. The full-screen display provides information relating to each status or application, and also provides links where applicable. While some status icons may be always displayed at the top of the screen, in particular those relating to the status of the device such as battery life and signal strength, others may be displayed only when an associated application or function has been activated or invoked (column 6, line 57 to column 7, line 7).

Unlike the subject matter recited by the present claims, in which the dynamic bar contains interfaces for applications or functions and provides continuously updated dynamic preview information for an application or function, Ögren teaches displaying an icon for an application only when the application is activated, and no further information beyond that. As described in column 8, lines 21-24 of Ögren, when an application, function or performance unit is activated, the application “might signal to the control unit 20 their activation and then the control unit selects the icons corresponding to the activated application, function or performance unit for displaying on the display.” That is, unless an application is activated, its icon is not shown. Ögren also states in column 8, lines 32-37 that “[i]f an input is detected, step 58, the control unit 20 retrieves further information...for displaying to the user...” That is, there is no automatic display of any dynamic preview information for the application as in present claim 1. Ögren requires user input and hence does not teach displaying dynamic preview information in a dynamic bar. Thus, Ögren does not provide convenient at-a-glance information about the applications and/or functions of the device, unlike the presently claimed subject matter.

The Examiner alleges that constantly displaying the signal strength, as disclosed in paragraph [0033] of Ögren, is considered the same as updating dynamic preview information displayed in a dynamic bar as described in the present claims. The Applicant submits that this is an improper interpretation of Ögren. The signal strength cannot be equated with dynamic preview information, as there is nothing to preview; it is merely an indication of the status of the device and not a preview of more detailed information contained in an application. Even if signal strength is continuously updated, as the Examiner suggests, updating a display of mere status information is different from updating a display of dynamic preview information. As explained above, dynamic preview information provides a portion of information maintained by an application or function. This allows the user to decide whether or not the application or function needs to be invoked, for example to perform a task or action, based on the dynamic preview information. In contrast, signal strength is merely status information, indicating the state of the device, and does not need to be maintained by any application or function. An update of the signal strength merely provides status information to the user, and does not

provide any information related to any invocable application or function. A user does not decide to invoke an associated application or function to perform a task or action based on an update of mere status information. Indeed, paragraph [0033] of Ögren clearly categorizes signal strength under “performance of a device”, as distinct from “function” and “application unit”. Hence, it would be clear to a person skilled in the art that Ögren is not teaching that signal strength is displayed as a dynamic preview of information from an application or function, but that signal strength is displayed as a mere indicator of the state or performance of the device.

Even if displaying dynamic preview information is taught by Ögren, with which the Applicant strongly disagrees, Ögren still does not teach any link provided by the status icons that would allow a user to directly invoke an interface for the associated application or function as recited by the present claims. The Examiner cites paragraph [0010] of Ögren as disclosing such a link. That paragraph describes an aspect “wherein said further information comprises a link back to said item of status information such as through a “back”-key.” To better understand what is being taught in this paragraph, it is useful to refer to paragraph [0008] of Ögren, which describes the steps of “providing an item of status information...[and] providing limited further information relating to said item.” Column 6, lines 7-8 further explains that “the “back”-key 13 is used for moving backwards in the menu system.” That is, the user is first provided with the item of status information, then is provided further information upon selection. The further information comprises a link back to the item of status information, and not to invoke an interface for any application or function, contrary to the present claims. Thus, contrary to the Examiner’s assertion, the link does not invoke an interface for an associated application or function, but rather brings the user back to the row of status icons. The Examiner also cites column 8, lines 2-8, which describes selecting an icon. However, this selection is available only with the expanded menu of Fig. 4, and not the status bar of Fig. 3. Thus, unlike the present claims, Ögren does not provide invocable links in a dynamic bar itself, but only after the user makes a selection to further expand the bar.

Ögren teaches that the user can perform an action related to the application or function not directly from the row of status icons, but only after the user chooses to

expand the icons. This is clearly shown in Figs. 5A and 5B in Ögren. The status bar is provided at step 56, and further information must be activated at step 60 before an icon can be selected at step 62. Indeed, because Ögren teaches that some icons for applications are displayed only in response to a new event, it would not make sense to use these icons to invoke an interface for an application, since there are application icons that would not be available a majority of the time. Thus, Ögren does not teach the stream-lined interface that is described in the present claims, and to a large extent, teaches in a direction that is contrary to the claimed subject matter.

The Examiner further relies on a combination of Ögren with Jarrad to teach an expandable popup interface for providing respective preview information as presently claimed. In contrast, Jarrad teaches a method of displaying menu icons in a cellular telephone. Jarrad provides a text field 130 (Fig. 3) or overlay window 140 (Fig. 4) including a text field, all of which simply identify the function or application of the icon at which the cursor is located. The text field or overlay window does not provide any information beyond the name of the application or function represented by the icon. There is no teaching or suggestion of any dynamic preview information that might be continuously updated, nor does Jarrad teach or suggest including any information with the overlay window or in the text field aside from the name of the application or function. In fact, Jarrad fails to teach or suggest providing preview information of any sort. As stated in column 1, lines 60-63, Jarrad is concerned with providing a cellular telephone user interface in which the menu system is user friendly and which allows for quicker feature selection in a manner which is largely independent of language. Because of the requirements of a small display screen and the need for quick feature selection, Jarrad teaches a user interface that is very simple. As Jarrad states in column 1, lines 31-60, the disclosure of Jarrad is concerned with the problem of unwieldy menu systems in cellular telephones requiring scrolling and translation to multiple languages. As stated in column 1, lines 60-63, Jarrad aims to provide a user interface for a cellular telephone that is simple and largely independent of language. Providing any preview information would clutter the interface and may introduce additional language requirements, contrary to the aim of Jarrad.

Further, Jarrad fails to teach or suggest updating a dynamic bar in response to changes in respective dynamic preview information. Indeed, Jarrad does not teach continuously updating any dynamic information at all. Unlike the dynamic preview information presently claimed, the text of the overlay window and the text field of Jarrad is not updated continuously and in fact is not updated at all, since a text field or overlay window associated with a particular icon of Jarrad will always present the same information, namely the function or application of the associated icon. Thus, contrary to the Examiner's assertion, the feature of an expandable popup interface for providing respective preview information is not taught by and indeed goes against the teachings of Jarrad.

In the Final Office Action, the Examiner alleges that a person skilled in the art would find it obvious to combine Ögren and Jarrad to arrive at the pop-up interface of the present claims, and would have been motivated to do so "in order to make it very convenient for a user to visualize the information related to a particular icon or application." However, as discussed above, Jarrad is concerned with the display of menu icons on a small cellular telephone screen. Fig. 4 of Jarrad shows that the overlay window or text field taught by Jarrad is relatively small as compared to the display screen. In contrast, Ögren shows in Fig. 4 a pop-up interface that is detailed and covers a majority of the display screen. Thus, a combination of Ögren with Jarrad would result in an overlay that is large and unwieldy, with more language requirements, contrary to the purpose of Jarrad. Further, as already explained above, neither Ögren nor Jarrad teach or suggest dynamic preview information as presently claimed.

In view of the foregoing arguments, it is submitted that:

- a) Ögren and Jarrad, whether taken alone or in combination, fail to teach or suggest all the features of the pending claims;
- b) Jarrad teaches away from the claimed subject matter and is not a suitable reference for citation in a rejection under 35 U.S.C. 103(a); and

c) Ögren and Jarrad teach away from each other and are not suitable to be combined in a rejection under 35 U.S.C. 103(a).

Claim 25 is directed to a machine readable medium comprising program code executable on a processor for implementing the method of claim 1. As such, claim 25 is novel and inventive over Ögren and Jarrad for at least the reasons provided for claim 1.

Claims 10 and 22

Claims 10 and 22 are dependent on claims 1 and 13, respectively, and are novel and inventive over Ögren and Jarrad for at least the reasons given above for claims 1 and 13. Claims 10 and 22 further describe the feature that the links to invoke respective interfaces for the application and/or function are represented by respective icons.

The Examiner alleges that Ögren discloses, in Fig. 4, the use of icons to represent such links. However, as explained above with respect to claims 1 and 13, Ögren does not teach the use of links to invoke the interface for an application or a function. Even if Ögren teaches the use of links to invoke an interface for an application or a function, which the Applicant submits is not the case, Ögren does not teach the use of icons to represent links. Indeed, the icons taught by Ögren are not individually selectable. Paragraph [0039] describes Fig. 4. Column 8, lines 2-5 states that “[t]he first icon 32 and the additional information 54 and 52 relating to it is highlighted. This highlighting indicates that a selection of this icon can be made.” That is, the link is not in the icon itself, but only in the expanded box that contains the icon and additional information for the icon. Thus, Ögren does not provide a simple at-a-glance method for a user to directly invoke an interface for an application or function directly from the icons on a dynamic bar, but requires the user to expand the icon before the icon is selectable.

Claims 7 and 19

Claims 7 and 19 are dependent on claims 1 and 13, respectively, and are novel and inventive over Ögren and Jarrad for at least the reasons given above for claims 1 and 13. Claims 7 and 19 further recite the feature that providing at least one dynamic bar

includes displaying the at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for applications and functions provided by the apparatus.

The Examiner cites paragraph [0041] lines 11-29 and 39-46 of Ögren as disclosing the features of claims 7 and 19. As explained with respect to claims 1 and 13 above, Ögren does not teach activation of interfaces for applications and/or functions. Further, as explained with respect to claims 10 and 22 above, Ögren does not provide the user with the ability to select any icons from the main screen displaying the status bar as shown in Fig. 3, but requires the user to first expand the status bar as shown in Fig. 4. Thus, Ögren does not teach that the main screen may include a plurality of icons that can activate respective interfaces for applications and functions.

Claims 26 and 27

Claims 26 and 27 are dependent on claims 5 and 17, respectively. Claims 5 and 17 describe the feature that the particular applications and functions associated with the at least one dynamic bar are selected based on predetermined logical relationships between the applications and functions. Claims 26 and 27 further describe the feature that the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions. Contextual relationships for selecting applications and functions associated with a dynamic bar are described in paragraphs [0051] and [0052] of the present disclosure.

The Examiner cites paragraph [0016] of Ögren as disclosing the features of these claims. That paragraph of Ögren describes the step of “if the first item of status information relates to the performance of the portable electronic device, providing a list of further possible actions and selections relating to the performance.” Ögren merely describes providing further actions and selections based on the status information, not providing applications and functions that are related to each other by predetermined logical relationships, as presently claimed. Indeed, the Examiner admits in the Final

Office Action, at the top of page 7, that Ögren and Jarrad do not disclose the subject matter of claims 5 and 17, on which claims 26 and 27 are dependent. Hence, claims 26 and 27 are novel and inventive over Ögren and Jarrad.

Rejection under 35 U.S.C. 103(a) over Ögren in view of Jarrad and Maass

Claims 4, 11, 16 and 23

Claims 4 and 16 are dependent on claims 1 and 13, respectively, and are novel and inventive over Ögren and Jarrad for at least the reasons explained above for claims 1 and 13. Claims 4 and 16 further recite the feature of providing a filter defining interface for defining a filter with which to determine the preview information. This feature is described in paragraph [0049] with respect to Fig. 9.

Claims 11 and 23 are dependent on claims 10 and 22, respectively. Claims 10 and 22 state that at least some of the links to invoke respective interfaces are represented by respective icons. Claims 11 and 23 further recite the feature that an icon is associated with a respective dialog interface for configuring one or more options for controlling the operation of the apparatus, the dialog interface displayed in association with the icon. Claims 11 and 13 are novel and inventive over Ögren and Jarrad for at least the reasons given above for claims 1 and 13, and claims 10 and 22.

A combination of Ögren and Jarrad with Maass still does not disclose the subject matter of claims 1 and 13, and by extension that of claims 4, 11, 16 and 23.

Maass is concerned with providing a way to manage received data. As stated on page 2, lines 5-9, the problem addressed by Maass is that “[t]he user’s CA terminal may be equipped to filter the information received according to pre-stored user preferences...but there is still a need to effectively manage the information that does pass the filter.” Maass teaches a method of managing incoming data using information filtering. Maass also teaches a set of pre-selected applications that the user can activate in a currently active context. However, Maass is not concerned with providing the user with convenient and efficient at-a-glance information, nor is Maass concerned with providing

the user a simple way to invoke an interface for an application. Maass does not teach or suggest displaying dynamic preview information in a dynamic bar, as in the present claims.

Rejection under 35 U.S.C. 103(a) over Ögren in view of Jarrad and Ausems

Claims 5, 6, 8, 17, 18 and 20

Claims 5 and 17 are dependent on claims 1 and 13, respectively. Claims 5 and 17 are novel and inventive over Ögren and Jarrad for at least the reasons given above for claims 1 and 13. Claims 5 and 17 further recite the feature of selecting particular applications and functions for associating with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions. This feature is described in paragraphs [0051] and [0052] of the disclosure.

Claims 6 and 18 are dependent on claims 5 and 17, respectively, and are novel over Ögren and Jarrad for at least the reasons given above for claims 1 and 13. Claims 6 and 18 further recite the feature of labelling the dynamic bars in response to one of the predetermined logical relationships.

Claims 8 and 20 are dependent on claims 1 and 13, respectively, and are novel over Ögren and Jarrad for at least the reasons given above for claims 1 and 13. Claims 8 and 20 further describe at least one of expanding and collapsing a respective pop-up interface associated with the at least one dynamic bar in response to respective user input.

The failure of Ögren and Jarrad to teach all the features of claims 1 and 13 is not remedied by a combination with Ausems. Ausems teaches a user interface having a menu associated with applications and icons. As shown in Fig. 6, Ausems discloses an application box 200 containing various selectable icons within a folder menu 196 that is brought up when the system menu 158 is clicked. However, there is no teaching or suggestion in Ausems to provide dynamic preview information with the system menu or the application box. Fig. 6 illustrates message and event previews appearing under the folder menu rather than within the folder menu or application box, indeed the folder

menu obscures the preview information. Any preview information would be presented in the main screen, rather than within any dynamic bar. Thus, Ausems does not teach the feature of providing dynamic preview information in a dynamic bar, as claimed in present claims 1 and 13. Thus, claims 1 and 13 are novel and inventive over Ögren and Jarrad in combination with Ausems. Claims 5, 6, 8, 17, 18 and 20 are dependent on claims 1 and 13 and hence are also novel and inventive for at least the same reasons. Claims 26 and 27 are dependent on claims 5 and 17, and if the Examiner were to apply Ausems also to claims 26 and 27, these claims would be novel and inventive over Ögren and Jarrad in combination with Ausems for at least the same reasons give above.

Rejection under 35 U.S.C. 103(a) over Ögren in view of Jarrad and Andrew

Claims 9, 12, 21 and 24

Claims 9 and 21 are dependent on claims 1 and 13, respectively, and are novel and inventive over Ögren and Jarrad for at least the reasons given above for claims 1 and 13. Claims 9 and 21 further recite the feature of associating a respective menu interface with at least some of the dynamic bars, the respective menu interface being displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

Claims 12 and 24 are dependent on claims 10 and 22, respectively, and are novel and inventive over Ögren and Jarrad for at least the reasons given above for claims 1 and 13, and claims 10 and 22. Claims 12 and 24 further recite the feature of selecting the icon for representing with a respective link in response to a value of the one or more options.

The failure of Ögren and Jarrad to teach all the features of claims 1 and 13 is not remedied by a combination with Andrew. Andrew is concerned with providing the user with a convenient interface for managing network connections in a mobile computing device. Andrew teaches a method of connectivity notification, including a connectivity dialog that provides a link to enable configuration of a connection. As described in paragraph [0028], this interface is in the form of a connectivity dialog 220 that appears

when the user taps on a signal strength icon 222. However, there is no dynamic preview information regularly provided to the user on the status bar. The signal strength icon only graphically depicts the signal strength, which as explained above is not the same as the dynamic preview information of the present claims. Further, Andrew does not teach or suggest providing links within the status bar to invoke interfaces for associated applications or functions, as presently claimed. Thus, claims 1 and 13 are novel and inventive over Ögren and Jarrad in combination with Andrew. Claims 9, 12, 21 and 24 are dependent on claims 1 and 13 and hence are also novel and inventive for at least the same reasons.

Conclusion

In view of the foregoing arguments, it is the view of the Applicant that the present claims are patentable for the following reasons:

a) Ögren and Jarrad, whether taken alone or in combination, fail to teach or suggest all of the features recited in the claims;

b) Jarrad teaches away from the claimed subject matter and is not suitable references for citation in a rejection under 35 U.S.C. 103(a);

c) Ögren and Jarrad teach away from each other and are not suitable to be combined in a rejection under 35 U.S.C. 103(a); and

d) the dependent claims recite further features that are not taught or suggested by a combination of Ögren and Jarrad with Maass, Ausems, or Andrew.

The Board of Appeals is thus respectfully asked to withdraw the claim rejections under 35 U.S.C. 103(a).

If any extension of time under 37 C.F.R. 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. 1.16 or 1.17 which are not enclosed herewith, including any fees required for

APPEAL BRIEF


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Application Serial No. 10/983,606

an extension of time under 37 C.F.R. 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,

OGILVY RENAULT LLP

By /pjf/ 

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Claims Appendix

Claims involved in the Appeal:

1. (Previously Presented) A method for controlling an apparatus comprising:

providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus, said each dynamic bar having an expandable pop-up interface for providing respective preview information determined from information managed by the applications and functions and the dynamic bars providing links to invoke said respective interfaces;

invoking said respective interfaces to control said apparatus in response to user input;

associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar, and

updating the display of the at least some of the dynamic bars in response to a change to the respective dynamic preview information.

2. (Cancelled)

3. (Cancelled)

4. (Previously Presented) The method of claim 1, further comprising providing a filter defining interface for defining a filter with which to determine the preview information.

5. (Previously Presented) The method of claim 1 further comprising selecting particular applications and functions for associating with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions.

6. (Previously Presented) The method of claim 5 further comprising labelling the dynamic bars in response to one of the predetermined logical relationships.

7. (Previously Presented) The method of claim 1 wherein providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for applications and functions provided by the apparatus.

8. (Previously Presented) The method of claim 1 further comprising at least one of expanding and collapsing a respective pop-up interface associated with the at least one dynamic bar in response to respective user input.

9. (Previously Presented) The method of claim 1 further comprising associating a respective menu interface with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

10. (Original) The method of claim 1 wherein at least some of the links to invoke respective interfaces are represented by respective icons.

11. (Original) The method of claim 10 wherein an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.

12. (Previously Presented) The method of claim 10 further comprising selecting the icon for representing with a respective link in response to a value of said one or more options.

13. (Previously Presented) An apparatus comprising:

a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:

provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective more than one interfaces for applications and functions provided by the apparatus, said each dynamic bar having a pop-up interface for providing preview information determined from information managed by the applications and functions and the dynamic bars providing links to invoke said respective interfaces;

invoke said respective interfaces to control said apparatus in response to user input;

associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and to display the dynamic preview information;

update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information; and

a processor coupled to the storage medium to execute the programming instructions.

14. (Cancelled)

15. (Cancelled)

16. (Previously Presented) The apparatus of claim 13 wherein said programming instructions are designed to provide a filter defining interface for defining a filter with which to determine the dynamic preview information.

17. (Previously Presented) The apparatus of claim 13 wherein said programming instructions associate particular applications and functions with the at least one dynamic

bar in response to predetermined logical relationships between the applications and functions.

18. (Previously Presented) The apparatus of claim 17 wherein said programming instructions are designed to label the dynamic bars in response to at least one of the predetermined logical relationships.

19. (Original) The apparatus of claim 13 wherein said programming instructions are designed to display said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for at least one of applications and functions provided by the apparatus.

20. (Original) The apparatus of claim 13 wherein said programming instructions are designed to at least one of expand and collapse a respective pop-up interface associated with a dynamic bar in response to respective user input.

21. (Original) The apparatus of claim 13 wherein said programming instructions are designed to provide a respective menu interface in association with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

22. (Original) The apparatus of claim 13 wherein said programming instructions are designed to represent at least some of the links to invoke respective interfaces with respective icons.

23. (Original) The apparatus of claim 22 wherein said programming instructions are designed to provide a respective dialog interface in association with an icon for

configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.

24. (Original) The apparatus of claim 22 wherein said programming instructions are designed to select the icon for representing with a respective link in response to a value of said one or more options.

25. (Original) A machine readable medium comprising program code executable on a processor for implementing the method of claim 1.

26. (Previously Presented) The method of claim 5, wherein the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions.

27. (Previously Presented) The apparatus of claim 17, wherein the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions.

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Evidence Appendix

None.

APPEAL BRIEF
Application Serial No. 10/983,606

29

Related Proceedings Appendix

None.

Electronic Patent Application Fee Transmittal

Application Number:	10983606			
Filing Date:	09-Nov-2004			
Title of Invention:	Dynamic bar oriented user interface			
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott			
Filer:	Paul Joseph Field/Kelly Trewin			
Attorney Docket Number:	16813-39US			
Filed as Large Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Filing a brief in support of an appeal	1402	1	510	510
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				510

Electronic Acknowledgement Receipt

EFS ID:	3104217
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	54120
Filer:	Paul Joseph Field/Kelly Trewin
Filer Authorized By:	Paul Joseph Field
Attorney Docket Number:	16813-39US
Receipt Date:	04-APR-2008
Filing Date:	09-NOV-2004
Time Stamp:	12:36:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 510
RAM confirmation Number	6430
Deposit Account	195113
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Appeal Brief Filed	Appellants_Appeal_Brief.pdf	1038100	no	29
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Warnings:

Information:

2	Fee Worksheet (PTO-06)	fee-info.pdf	8152	no	2
			ec3b57b35301ebeeaa77bfd8e22bad22 8a633a69		

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Total Files Size (in bytes):	1046252
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

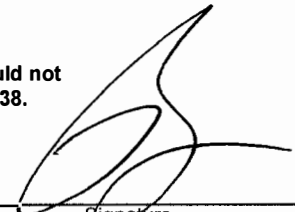
National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES		Docket Number (Optional) 16813-39US	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed name _____	In re Application of Sheryl Lee Lorraine SCOTT		
	Application Number 10/983,606	Filed November 9, 2004	
	For Research in Motion Limited		
	Art Unit 2178	Examiner Phenuel S. Salomon	
Applicant hereby appeals to the Board of Patent Appeals and Interferences from the last decision of the examiner.			
The fee for this Notice of Appeal is (37 CFR 41.20(b)(1))		\$ 510.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is:		\$ _____	
<input type="checkbox"/> A check in the amount of the fee is enclosed.			
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.			
<input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account. I have enclosed a duplicate copy of this sheet.			
<input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. <u>195113</u> . I have enclosed a duplicate copy of this sheet.			
<input type="checkbox"/> A petition for an extension of time under 37 CFR 1.136(a) (PTO/SB/22) is enclosed.			
WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.			
I am the			
<input type="checkbox"/> applicant/inventor.		Signature	
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)		Paul J. Field Typed or printed name	
<input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>34,963</u>		416-216-3903 Telephone number	
<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____		February 28, 2008 Date	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
<input type="checkbox"/> *Total of <u>1</u> forms are submitted.			

This collection of information is required by 37 CFR 41.31. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Electronic Patent Application Fee Transmittal

Application Number:	10983606
Filing Date:	09-Nov-2004
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Filer:	Paul Joseph Field/Kelly Trewin
Attorney Docket Number:	16813-39US

Filed as Large Entity

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Notice of appeal	1401	1	510	510

Post-Allowance-and-Post-Issuance:

Extension-of-Time:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				510

Electronic Acknowledgement Receipt

EFS ID:	2923528
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	54120
Filer:	Paul Joseph Field/Kelly Trewin
Filer Authorized By:	Paul Joseph Field
Attorney Docket Number:	16813-39US
Receipt Date:	28-FEB-2008
Filing Date:	09-NOV-2004
Time Stamp:	12:35:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$510
RAM confirmation Number	8058
Deposit Account	195113
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal Filed	Notice-of-Appeal.pdf	64019 <small>1ce3419ba4a8fcbdd47b24dcd635f1eae583d4dbb</small>	no	1
Warnings:					
Information:					
2	Fee Worksheet (PTO-06)	fee-info.pdf	8140 <small>0d30ff606f84bdf1cf295d5ec6b9e42f216c574</small>	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			72159		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/983,606	11/09/2004	Sheryl Lee Lorraine Scott	16813-39US	2886
54120	7590	02/04/2008	EXAMINER	
RESEARCH IN MOTION ATTN: GLENDA WOLFE BUILDING 6, BRAZOS EAST, SUITE 100 5000 RIVERSIDE DRIVE IRVING, TX 75039			SALOMON, PHENUEL S	
			ART UNIT	PAPER NUMBER
			2178	
			MAIL DATE	DELIVERY MODE
			02/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

mn

**Advisory Action
Before the Filing of an Appeal Brief**

Application No. 10/983,606	Applicant(s) SCOTT, SHERRYL LEE LORRAINE	
Examiner Phenuel S. Salomon	Art Unit 2178	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 28 January 2008 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
- a) The period for reply expires 3 months from the mailing date of the final rejection.
- b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) They raise the issue of new matter (see NOTE below);
- (c) They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. Applicant's reply has overcome the following rejection(s): See Continuation Sheet.
6. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. For purposes of appeal, the proposed amendment(s): a) will not be entered, or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: _____
- Claim(s) objected to: _____
- Claim(s) rejected: _____
- Claim(s) withdrawn from consideration: _____

AFFIDAVIT OR OTHER EVIDENCE

8. The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. Other: _____



**STEPHEN HONG
SUPERVISORY PATENT EXAMINER**

Continuation of 5. Applicant's reply has overcome the following rejection(s): in response to objections to claims 26 & 27 in the last office action dated November 28, 2007.

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments filed on 1/28/2008 have been fully considered but they are not persuasive.

Ogren (EP 1,434,411) teaches updating the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (col. 5, para [0033]), the dynamic bars providing links to invoke said respective interfaces is disclosed in (col. 2, para [0010]) and col. 8, lines 2-8); and Jarrad (US 6,047,197) discloses said each dynamic bar having an expandable popup interface for providing respective preview information determined from information managed by applications and function (an overlay window with a text field which identifies the function or application) (col. 4, lines 42-49). The combination of Ogren and Jarad teaches the applicant's claim limitations and the rejections are proper and sustainable.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/983,606

Art Unit: 2178

Filed: 11/09/2004

Confirmation No.: 2886

Applicant: Sherryl Lee Lorraine Scott

Examiner: Phenuel S. Salomon

Title: DYNAMIC BAR ORIENTED USER INTERFACE

Docket No.: 16813-39US

Customer No.: 20988

MS AMENDMENT
Commissioner of Patents
P.O. Box 1450
Alexandria, V.A. 22313-1450

Dear Sir/Madam:

RESPONSE TO OFFICE ACTION

This is in response to the Office Action of November 28, 2007. Please amend the application as follows.

Amendments to the Claims begin on page 2.

Remarks/Arguments begin on page 7.

OK To ENTER

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/983,606

Art Unit: 2178

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MS AMENDMENT

Commissioner of Patents

P.O. Box 1450

Alexandria, V.A. 22313-1450

Dear Sir/Madam:

RESPONSE TO OFFICE ACTION

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Amendments to the Claims begin on page 2.

Remarks/Arguments begin on page 7.

Amendments to the Claims

Please replace the existing listing of claims with the following:

1. (Previously Presented) A method for controlling an apparatus comprising:

providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus, said each dynamic bar having an expandable pop-up interface for providing respective preview information determined from information managed by the applications and functions and the dynamic bars providing links to invoke said respective interfaces;

invoking said respective interfaces to control said apparatus in response to user input;

associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar, and

updating the display of the at least some of the dynamic bars in response to a change to the respective dynamic preview information.

2. (Cancelled)

3. (Cancelled)

4. (Previously Presented) The method of claim 1, further comprising providing a filter defining interface for defining a filter with which to determine the preview information.

5. (Previously Presented) The method of claim 1 further comprising selecting particular

applications and functions for associating with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions.

6. (Previously Presented) The method of claim 5 further comprising labelling the dynamic bars in response to one of the predetermined logical relationships.

7. (Previously Presented) The method of claim 1 wherein providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for applications and functions provided by the apparatus.

8. (Previously Presented) The method of claim 1 further comprising at least one of expanding and collapsing a respective pop-up interface associated with the at least one dynamic bar in response to respective user input.

9. (Previously Presented) The method of claim 1 further comprising associating a respective menu interface with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

10. (Original) The method of claim 1 wherein at least some of the links to invoke respective interfaces are represented by respective icons.

11. (Original) The method of claim 10 wherein an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.

12. (Previously Presented) The method of claim 10 further comprising selecting the icon for representing with a respective link in response to a value of said one or more options.

13. (Previously Presented) An apparatus comprising:

a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:

provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective more than one interfaces for applications and functions provided by the apparatus, said each dynamic bar having a pop-up interface for providing preview information determined from information managed by the applications and functions and the dynamic bars providing links to invoke said respective interfaces;

invoke said respective interfaces to control said apparatus in response to user input;

associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and to display the dynamic preview information;

update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information; and

a processor coupled to the storage medium to execute the programming instructions.

14. (Cancelled)

15. (Cancelled)

16. (Previously Presented) The apparatus of claim 13 wherein said programming instructions are designed to provide a filter defining interface for defining a filter with which to determine the dynamic preview information.

17. (Previously Presented) The apparatus of claim 13 wherein said programming instructions associate particular applications and functions with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions.

18. (Previously Presented) The apparatus of claim 17 wherein said programming instructions are designed to label the dynamic bars in response to at least one of the predetermined logical relationships.

19. (Original) The apparatus of claim 13 wherein said programming instructions are designed to display said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for at least one of applications and functions provided by the apparatus.

20. (Original) The apparatus of claim 13 wherein said programming instructions are designed to at least one of expand and collapse a respective pop-up interface associated with a dynamic bar in response to respective user input.

21. (Original) The apparatus of claim 13 wherein said programming instructions are designed to provide a respective menu interface in association with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

22. (Original) The apparatus of claim 13 wherein said programming instructions are designed to represent at least some of the links to invoke respective interfaces with respective icons.

23. (Original) The apparatus of claim 22 wherein said programming instructions are designed to provide a respective dialog interface in association with an icon for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.

24. (Original) The apparatus of claim 22 wherein said programming instructions are designed to select the icon for representing with a respective link in response to a value of said one or more options.

25. (Original) A machine readable medium comprising program code executable on a processor for implementing the method of claim 1.

26. (Currently Amended) The method of claim ~~[[1]]~~ 5, wherein the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions.

27. (Currently Amended) The apparatus of claim ~~[[13]]~~ 17, wherein the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions.

REMARKS/ARGUMENTS

Clarifying amendments are made to claims 26 and 27. Claims 1-25 are not amended. No admission or representation is made by the present argument other than that explicitly provided herein.

Claims 26 and 27 have been amended to be dependent on claims 5 and 17, respectively, in order to provide proper antecedent basis for “predetermined logical relationships”.

Claims 1, 7, 10, 13, 19, 22, 25 and 26-27 stand finally rejected under 35 U.S.C. 103(a) as being obvious over European Patent Application No. EP 1,434,411 to Ögren (“Ögren”) in view of U.S. Patent No. 6,047,197 to Jarrad (“Jarrad”). Claims 4, 11, 16, and 23 stand finally rejected under 35 U.S.C. 103(a) as being obvious over Ögren in view of Jarrad and in further view of International Application No. WO 03/100591 to Maass et al. (“Maass”). Claims 5-6, 8, 17-18 and 20 stand finally rejected under 35 U.S.C. 103(a) as being obvious over Ögren in view of Jarrad and in further view of U.S. Patent Publication No. US 2003/0013483 to Ausems et al. (“Ausems”). Claims 9, 12, 21 and 24 stand finally rejected under 35 U.S.C. 103(a) as being obvious over Ögren in view of Jarrad and in further view of U.S. Patent Publication No. US2004/0204133 to Andrew et al. (“Andrew”). The Applicant submits that the independent claims are both novel and unobvious in view of these references alone or in combination for the reasons set forth below. The Applicant submits this further argument as a response after final rejection in the hopes that the need to appeal the final rejection can be avoided.

Independent claims 1 and 13 are directed to a method and an apparatus for controlling an apparatus in which at least one dynamic bar is displayed on a main screen of a graphical user interface. Each dynamic bar is associated with respective multiple interfaces for applications and functions provided by the apparatus, and each dynamic bar has an expandable pop-up interface for providing respective preview information. The interfaces can be invoked to control the apparatus in response to user input. At least some of the dynamic bars are associated with and display respective dynamic preview

information from information managed by the respective applications and functions, and this display can be updated in response to a change to the respective dynamic preview information.

The presently claimed subject matter aims to provide an advantage of providing the user with information about applications and functions of an apparatus in an efficient at-a-glance format. Dynamic preview information from applications and/or functions running on an apparatus is provided on a dynamic bar, allowing the user to monitor these applications and/or functions without having to take the trouble of activating the application/function. Should the user wish to see more information about the application/function, each dynamic bar has an expandable pop-up interface which provides further respective preview information from the application/function.

The dynamic bar provides links to invoke interfaces of the applications and/or functions, allowing the user to quickly navigate to the desired application without having to find the menu or icon for that application. An example is shown in Figs 13A-C. This provides a stream-lined way for the user to navigate to an application, such as when the dynamic preview information provided by the dynamic bar is sufficient for the user to decide whether or not an application should be invoked. For example, if a user sees that there are 50 unread email messages, the user may wish to open the email application directly to answer these messages, and the user may not need to see a preview of all 50 messages to decide whether or not to open the email application.

Ögren teaches a row of status icons displayed at the top of a screen on an electronic device. These icons each relate to the status of the device or an application, and can be expanded to a full-screen display, as shown in Fig. 4, by pressing a button on the device. The full-screen display provides information relating to each status or application, and also provides links where applicable. While some status icons may be always displayed at the top of the screen, in particular those relating to the status of the device such as battery life and signal strength, those relating to applications may be displayed only when a new event arrives.

The Examiner alleges that constantly displaying the signal strength, as disclosed in paragraph [0033] of Ögren, is considered the same as updating dynamic preview information displayed in a dynamic bar. The Applicant submits that this is an improper interpretation of Ögren. The signal strength cannot be equated with dynamic preview information, as there is nothing to preview; it is merely an indication of the status of the device and not a preview of more detailed information such as that contained in an application.

Even if displaying dynamic preview information is taught by Ögren, with which the Applicant strongly disagrees, Ögren still does not teach any link provided by the status icons that would allow a user to directly invoke the associated application or function as recited by the present independent claims. The Examiner cites paragraph [0010] of Ögren as disclosing such a link. However, that paragraph states “wherein said further information comprises a link back to said item of status information...” Thus, contrary to the Examiner’s assertion, the link does not invoke an associate application or function, but rather brings the user back to the row of status icons.

Ögren teaches that the user can perform an action related to the application or function not directly from the row of status icons, but only after the user chooses to expand the icons. This is clearly shown in Figs 5A and 5B in Ögren. The status bar is provided at step 56, and further information must be activated at step 60 before an icon can be selected at step 62. Indeed, because Ögren teaches that the status icons for applications are displayed only in response to a new event, it would not make sense to use these icons to invoke an application, since the icon would not be available a majority of the time. Thus, Ögren does not teach the stream-lined interface that is described in the present claims, and to a large extent, teaches in a direction that is contrary to the claimed subject matter.

The Examiner further relies on a combination of Ögren with Jarrad to teach an expandable popup interface for providing respective preview information as presently claimed. Jarrad provides a text field 130 (Fig. 3) or overlay window 140 (Fig. 4) including a text field 130, all of which identify the function or application of the icon at

which the cursor is located. Jarrad fails to teach or suggest including dynamic preview information with the overlay window 140 or in the text field 130. In fact, Jarrad fails to teach or suggest providing preview information of any sort. Further, Jarrad fails to teach or suggest updating the dynamic bar in response to changes in respective dynamic preview information. Further yet, Jarrad fails to teach or suggest including dynamic preview information with the overlay window 140 or in the text field 130. Unlike the dynamic preview information presently claimed, the overlay window 140 and the text field 130 of Jarrad are not updated continuously and in fact are not updated at all, since a text field or overlay window associated with a particular icon of Jarrad will also present the same information, namely the function or application of the associated icon. Thus, contrary to the Examiner's assertion, the feature of an expandable popup interface for providing respective preview information is not taught by Jarrad.

The Examiner further relies on a combination of Ögren and Jarrad with Maass, Ausems, or Andrew to arrive at the subject matter of the dependent claims. Maass teaches a method of managing incoming data using information filtering. Maass also teaches a set of pre-selected applications that the user can activate in a currently active context. Ausems teaches a user interface having a menu associated with applications and icons. Andrew teaches a method of connectivity notification, including a connectivity dialog that provides a link to enable configuration of a connection. However, none of Maass, Ausems, or Andrew teaches displaying dynamic preview information in a dynamic bar, as recited in the present claims.

In view of the foregoing arguments, it is the view of the Applicant that the final rejections presented by the Examiner are improper and unsustainable. It is submitted that claims 1 and 13 are patentable over Ögren and Jarrad alone or in combination because Ögren and Jarrad, whether taken alone or in combination, fail to teach or suggest all of the features recited in these claims. A combination of Ögren and Jarrad with Maass, Ausems, or Andrew still does not arrive at all the features of claims 1 and 13. The dependent claims recite further patentable subject matter and are patentable because of their dependence from the independent claims.

Favourable reconsideration and allowance of the application are respectfully requested. Should the Examiner have any questions in connection with the Applicant's submissions, please contact the undersigned.

Respectfully submitted,

OGILVY RENAULT LLP

By

 /pjf/

Paul J. Field

Registration No. 34,963

Telephone (416) 216-3903

Fax (416) 216-3930

Date: January 28, 2008

OGILVY RENAULT LLP
Suite 3800, Royal Bank Plaza, South Tower
200 Bay Street, P.O. Box 84
Toronto, Ontario M5J 2Z4
Canada

Electronic Acknowledgement Receipt

EFS ID:	2773918
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	20988
Filer:	Paul Joseph Field/Lioba Reeves-Bet
Filer Authorized By:	Paul Joseph Field
Attorney Docket Number:	16813-39US
Receipt Date:	28-JAN-2008
Filing Date:	09-NOV-2004
Time Stamp:	13:05:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment After Final	Response-to-Office-Action.pdf	423401 <small>1b722bbc87b5d60f0ea576cdd85b9918cd671190</small>	no	11

Warnings:

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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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Commissioner for Patents
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Application Number	10/983,606
Filing Date	November 9, 2004
First Named Inventor	Sherryl Lee Lorraine Scott
Art Unit	2178
Examiner Name	Phenuel S. Salomon
Attorney Docket Number	16813-39US

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- Applicant/Inventor
- Assignee of record of the entire interest.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).
- Attorney or agent of record. Registration Number 34,963
- Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____.

Signature

/pjf/

Typed or Printed
Name

PAUL J. FIELD

Date January 28, 2008

Telephone 416-216-3903

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

 *Total of 1 forms are submitted.This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	2774016
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	20988
Filer:	Paul Joseph Field/Lioba Reeves-Bet
Filer Authorized By:	Paul Joseph Field
Attorney Docket Number:	16813-39US
Receipt Date:	28-JAN-2008
Filing Date:	09-NOV-2004
Time Stamp:	13:21:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Change of Address	Change-of-Correspondence-Address.pdf	48826 <small>c4c03e256112bb830a1bd0890f18bf6d94629272</small>	no	1

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/983,606	Filing Date 11/09/2004	<input type="checkbox"/> To be Mailed
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APPLICATION AS FILED – PART I			OTHER THAN SMALL ENTITY			
(Column 1)		(Column 2)	SMALL ENTITY <input type="checkbox"/> OR		SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A		N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (j), or (m))</small>	N/A	N/A	N/A		N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A		N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =		X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =		X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).					
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>						
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		TOTAL	

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY			
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY OR		SMALL ENTITY	
AMENDMENT	01/28/2008	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 23	Minus	** 25 = 0	X \$ =		OR X \$50=	0
	Independent <small>(37 CFR 1.16(h))</small>	* 2	Minus	***3 = 0	X \$ =		OR X \$210=	0
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR	
					TOTAL ADD'L FEE		OR TOTAL ADD'L FEE	0

APPLICATION AS AMENDED – PART II					OTHER THAN SMALL ENTITY			
(Column 1)		(Column 2)	(Column 3)		SMALL ENTITY OR		SMALL ENTITY	
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)	
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	** =	X \$ =		OR X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	*** =	X \$ =		OR X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>								
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>							OR	
					TOTAL ADD'L FEE		OR TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
Brenda Harrison

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes application details for 10/983,606 and 20988, inventor Sheryl Lee Lorraine Scott, and examiner SALOMON, PHENUEL S.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

AD

Office Action Summary	Application No. 10/983,606	Applicant(s) SCOTT, SHERRYL LEE LORRAINE	
	Examiner Phenuel S. Salomon	Art Unit 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 September 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4-13 and 16-27 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,4-13 and 16-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/2007.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. This office action is in response to the amendment file on September 17, 2007.
2. Claims 1,4-9,12,13, and 16-18 are amended, claims 2, 3, and 14-15 are canceled, claims 26 and 27 are new and claims 1, 4-13 and 16-27 are pending.
3. The rejection of claim 14-24 under 35 U.S.C. §101 first paragraph as directed to non-statutory subject matter has been withdrawn pursuant to applicant amendment.

Claim Objection

4. Claims 26 and 27 objected to because of the following informalities: “predetermined logical relationships” in line 1. There is insufficient antecedent basis for this limitation in the claims.
Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 7,10,13, 19, 22, 25 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197).

Claim 1: Ögren discloses a method for controlling an apparatus comprising:

providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus (col. 2; para [0009]), each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus (col. 2, para [0013], [0014]), and the dynamic bars providing links to invoke said respective interfaces (col. 2, para [0010]) and col. 8, lines 2-8);

invoking said respective interfaces to control said apparatus in response to user input (col. 3, lines 26-30).

associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar (col. 2, para [0014]); and

updating the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (col. 5, para [0033]) [By constantly display the signal strength is considered as updating].

But does not explicitly disclose said each dynamic bar having an expandable popup interface for providing respective preview information determined from information managed by applications and function. However, Jarrad discloses an overlay window with a text field which identifies the function or application..(col. 4, lines 42-49). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include popup interface in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the information related to a particular icon or application.

Claims 10 and 22: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses at least some of the links to invoke respective interfaces are represented by respective icons (fig. 4).

Claims 7 and 19: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for applications and functions provided by the apparatus (col. 8, para [0041] lines 11-29 and 39-46).

Claim 13: Ögren discloses an apparatus comprising:

a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:

provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus (col. 2, para [0009]), each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus (col. 2, para [0013], [0014]), and the dynamic bars providing links to invoke said respective interfaces (col. 2, para [0010]) and col. 8, lines 2-8);

invoke said respective interfaces to control said apparatus in response to user input (col. 3, lines 26-30); and

associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and to display the dynamic preview information (col. 2, para [0014]); and

update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (col. 5, para [0033]) [By constantly display the signal strength is considered as updating].

a processor coupled to the storage medium to execute the programming instructions (fig. 2, items 20, 22 and 24)

But does not explicitly disclose said each dynamic bar having an expandable popup interface for providing respective preview information determined from information managed by applications and function. However, Jarrad discloses an overlay window with a text field which identifies the function or application..(col. 4, lines 42-49). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include popup interface in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the information related to a particular icon or application.

Claim 25: Ögren and Jarrad disclose a machine-readable medium comprising program code executable on a processor for implementing the method as in claim 1 above, Ögren further discloses a status information store (col. 6, lines 19-20).

Claims 26-27: Ögren and Jarrad disclose the method of claims 1 and 13 above, Ögren further discloses wherein the predetermined logical (preloaded applications) relationships are contextual relationships (status information related to the device performance) based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions (providing a list of further possible actions and selections relating to the performance) (col. 2, para. [0016]).

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7. Claims 4, 11, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Maass et al (WO03/100591 A2).

Claims 4 and 16: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly disclose further comprising providing a filter defining interface for defining a filter with which to determine the preview information. However, Maass discloses ‘a pipeline for the announcing the arrival of new opportunities/events that pass the user’s current personal filter..’ (p. 6, lines 18-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include information filtering in Ögren. One would have been motivated to do so in order to efficiently and accurately let the user leave out undesired information.

Claims 11 and 23: Ögren and Jarrad disclose the method as in claims 10 and 22 above, but do not explicitly disclose an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon. However, Maass discloses pre-selected applications or tools that a user can activate in their currently active context..(p. 8, line32 and p. 9, lines 1-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to facilitate the apparatus configuration effortlessly.

8. Claims 5-6, 8, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Ausems et al (US 2003/0013483 A1).

Claims 5 and 17: Ögren and Jarrad disclose the method as in claims 1 and 13 above, further but do not explicitly disclose selecting particular applications and functions for associating with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions. However, Ausems discloses menu associated with applications and icons..(p. 6, para [0064]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to select an application relating to an icon.

Claims 6 and 18: Ögren and Jarrad disclose the method as in claims 5 and 17 above, but do not explicitly including labelling the dynamic bars in response to one of the predetermined logical relationships. However, Ausems discloses description of icon associated with a particular application.. (p. 6, para [0065]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include labeling in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the available resources.

Claims 8 and 20: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly discloses at least one of expanding and collapsing a respective pop-up interface associated with the at least one dynamic bar in response to respective user input. However, Ausems discloses a drop down menu list of applications in response to the user input.. (p. 9,para [0075] and [0077]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the available resources.

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9. Claims 9, 12, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Andrew et al (US 2004/0204133 A1).

Claims 9 and 21: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly disclose further comprising associating a respective menu interface with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar. However, Andrew discloses ‘setting link which when tapped takes the user to the connection manager user interface display..’ (p. 3, para [0034]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to manage the available resources.

Claims 12 and 24: Ögren and Jarrad disclose the method as in claims 10 and 22 above, but do not explicitly disclose selecting the icon for representing with a respective link in response to a value of said one or more options. However, Andrew discloses a link respective to a connection manager icon..(p. 3,para [0031]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to facilitate the user with applications and functions selection.

Response to Arguments

10. Applicant’s arguments filed on 09/17/2007 have been fully considered but they are not persuasive.

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With respect to claims 1 and 13, applicant argues:

a) There's no teaching or suggestion of associating this with further information about the status of the applications that the icons represent in Ögren. For example there are no numbers associated with the number of new emails.

Examiner notes that the limitations "associating this with further information about the status of the applications that the icons represent" and "numbers associated with the number of new emails" are not recited in either claim 1 or 13.

b) Applicant argues: Ögren fails to teach or suggest updating the dynamic bar in response to changes in respective dynamic preview information.

Examiner notes that the limitation "updating the dynamic bar in response to changes in respective dynamic preview information" is not recited in either claim 1 or 13.

c) Applicant further argues: Jarrad fails to teach or suggest including continuously updated dynamic preview information with the overlay window 140 or in the text field 130.

In response to argument, Jarrad teaches an overlay window, which is equivalent to applicant expandable popup interface, but Ögren further discloses dynamic display of related information to the phone that is influenced by outside source like receiving an email or a phone call (col. 7, lines 2-8). Therefore, dynamic preview information will be achieved by combining Ögren and Jarrad.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. Moon et al. (US 6,211,858 B1) discloses methods and apparatus for displaying a rotating meter icon on a portable intelligent communications device.
 - b. Goshen (US 2001/0029527 A1) discloses method and system for providing a customized browser network.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phenuel S. Salomon whose telephone number is (571) 270-1699. The examiner can normally be reached on Mon-Fri 7:00 A.M. to 4:00 P.M.(Alternate Friday Off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272 4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

Art Unit: 2178

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSS
11/20/2007


Stephen Hong
Supervisory Primary Examiner

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	10983606
	Filing Date	2007-11-09 2007-11-09
	First Named Inventor	Sherryl Lee Lorraine Scott
	Art Unit	N/A 2178
	Examiner Name	N/A P. SALOMON
	Attorney Docket Number	16813-39US

U.S. PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
/P.S./	1	5617526	US	2007-04-01	ORAN, Daniel P. et al.			
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
/P.S./	1	20030142125	US	2003-07-31	SALMIMAA, Marja et al.			
/P.S./	2	20030013483	US	2003-01-16	AUSEMS, Michiel R. et al.			
/P.S./	3	20030120957	US	2003-06-26	PATHIYAL, Krishna K.			
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	1							<input type="checkbox"/>

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10983606
Filing Date	2004-11-09 2007-11-09
First Named Inventor	Sherryl Lee Lorraine Scott
Art Unit	N/A
Examiner Name	N/A
Attorney Docket Number	16813-39US

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
/P.S./	1	European Search and Examination Report for European Patent Application No. 06125884.4, mailed June 26, 2007.	<input type="checkbox"/>
	2		<input type="checkbox"/>
	3		<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/Phenuel Salomon/	Date Considered	11/20/2007
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Notice of References Cited	Application/Control No. 10/983,606	Applicant(s)/Patent Under Reexamination SCOTT, SHERRYL LEE LORRA	
	Examiner Phenuel S. Salomon	Art Unit 2178	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-6,047,197	04-2000	Jarrad, Salah Khalil	455/566
*	B US-2003/0013483 A1	01-2003	Ausems et al.	455/556
*	C US-6,211,858 B1	04-2001	Moon et al.	715/771
*	D US-2004/0204133 A1	10-2004	Andrew et al.	455/566
*	E US-2001/0029527 A1	10-2001	Goshen, Nadav	709/218
*	F US-			
*	G US-			
*	H US-			
*	I US-			
*	J US-			
*	K US-			
*	L US-			
*	M US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
*	N WO 03/100591 A2	12-2003	Great Britain	Maass, Henning	G06F 3/033
*	O EP 1 434 411 A1	06-2004	Stockholm	Ogren, Per	H04M 1/725
*	P				
*	Q				
*	R				
*	S				
*	T				

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
*	U				
*	V				
*	W				
*	X				

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims 	Application/Control No. 10983606	Applicant(s)/Patent Under Reexamination SCOTT, SHERRYL LEE LORRAINE
	Examiner Salomon, Phenuel S	Art Unit 2178

✓	Rejected
=	Allowed

-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	07/03/2007	11/20/2007						
	1	✓	✓						
	2	✓	-						
	3	✓	-						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	-						
	15	✓	-						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20	✓	✓						
	21	✓	✓						
	22	✓	✓						
	23	✓	✓						
	24	✓	✓						
	25	✓	✓						
	26		✓						
	27		✓						

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10983606	
	Filing Date		2004-11-09	
	First Named Inventor	Sherryl Lee Lorraine Scott		
	Art Unit		N/A	
	Examiner Name	N/A		
	Attorney Docket Number		16813-39US	

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	1	5617526	US	2007-04-01	ORAN, Daniel P. et al.		

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	1	20030142125	US	2003-07-31	SALMIMAA, Marja et al.		
	2	20030013483	US	2003-01-16	AUSEMS, Michiel R. et al.		
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	10983606
	Filing Date	2004-11-09
	First Named Inventor	Sherryl Lee Lorraine Scott
	Art Unit	N/A
	Examiner Name	N/A
	Attorney Docket Number	16813-39US

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	1	European Search and Examination Report for European Patent Application No. 06125884.4, mailed June 26, 2007.	<input type="checkbox"/>
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EXAMINER SIGNATURE

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10983606
	Filing Date		2004-11-09
	First Named Inventor	Sherryl Lee Lorraine Scott	
	Art Unit		N/A
	Examiner Name	N/A	
	Attorney Docket Number		16813-39US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/cnh/	Date (YYYY-MM-DD)	2007-09-26
Name/Print	Christopher N. Hunter	Registration Number	52528

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	2244682
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	20988
Filer:	Christopher Nelson Hunter/Janani Kulasingam
Filer Authorized By:	Christopher Nelson Hunter
Attorney Docket Number:	16813-39US
Receipt Date:	26-SEP-2007
Filing Date:	09-NOV-2004
Time Stamp:	15:54:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	Letter.pdf	365026 <small>cb47fab7fd9b41847fbb9e3e352b1c645c665b45</small>	no	1

Warnings:

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2	Information Disclosure Statement (IDS) Filed	IDS.pdf	986320	no	4
			59b950d5494bcea4d12a96517009caaf2d059cb		

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3	NPL Documents	SearchandExaminationReport.PDF	126869	no	8
			716bcd098778a089b296c3e4c9d7069eae392c0a		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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New International Application Filed with the USPTO as a Receiving Office

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**OGILVY
RENAULT**

LLP / S.E.N.C.R.L., s.r.l.

Christopher N. Hunter
Direct Dial: (416) 216-1906
Direct Fax: (416) 216-3930
chunter@ogilvyrenault.com

Toronto, September 26, 2007

United States Patent and Trademark Office
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
U.S.A.

Dear Sir/Madam:

RE: U.S. Patent Application No. 10/983,606
Title: DYNAMIC BAR ORIENTED USER INTERFACE
Inventors: Sherryl Lee Lorraine Scott
Our Ref: 16813-39US

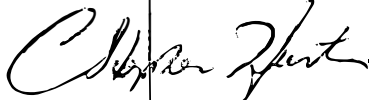
Along with this letter, the Applicant submits an Information Disclosure Statement (IDS) for the above-noted application. The IDS includes a reference to a European Search and Examination Report for a related European Application.

The European Search and Examination Report rejected the claims as being obvious over the cited U.S. Patent Applications.

Please have the IDS recorded against the above-noted application.

Yours very truly,

OGILVY RENAULT LLP



Christopher N. Hunter
CNH/MVE:jk

Enclosures

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Patent Agents & Trade-mark Agents

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/983,606

Art Unit: 2178

Filed: 11/09/2004

Confirmation No.: 2886

Applicant: Sherryl Lee Lorraine Scott

Examiner: Phenuel S. Salomon

Title: DYNAMIC BAR ORIENTED USER INTERFACE

Docket No.: 16813-39US

Customer No.: 020988

MS AMENDMENT

Commissioner of Patents

P.O. Box 1450

Alexandria, V.A. 22313-1450

Dear Sir/Madam:

RESPONSE TO OFFICE ACTION

This is in response to the Office Action of July 16, 2007. Please amend the application as follows:

Amendments to the Claims appear on page 2.

Remarks/Arguments appear on page 7.

Amendments to the Claims

Please replace the existing listing of claims with the following:

1. (Currently Amended) A method for controlling an apparatus comprising:
 - providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective ~~one or more~~ multiple interfaces for ~~at least one of~~ applications and functions provided by the apparatus, said each dynamic bar having an expandable pop-up interface for providing ~~at least one of~~ respective preview information determined from information managed by the ~~at least one of~~ applications and functions and the dynamic bars providing links to invoke said respective interfaces; and
 - invoking said respective interfaces to control said apparatus in response to user input;
 - associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar, and
 - updating the display of the at least some of the dynamic bars in response to a change to the respective dynamic preview information.
2. (Cancelled)
3. (Cancelled)
4. (Currently Amended) The method of claim [[2]] 1, further comprising providing a filter defining interface for defining a filter with which to determine the preview information.
5. (Currently Amended) The method of claim 1 further comprising selecting particular

applications and functions for associating with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions.

6. (Currently Amended) The method of claim 5 including further comprising labelling labeling the dynamic bars in response to one of the predetermined logical relationships relationship.

7. (Currently Amended) The method of claim 1 wherein providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for ~~at least one of~~ applications and functions provided by the apparatus.

8. (Currently Amended) The method of claim 1 further comprising at least one of expanding and collapsing a respective pop-up interface associated with the at least one ~~[[a]]~~ dynamic bar in response to respective user input.

9. (Currently Amended) The method of claim 1 including further comprising associating a respective menu interface with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

10. (Original) The method of claim 1 wherein at least some of the links to invoke respective interfaces are represented by respective icons.

11. (Original) The method of claim 10 wherein an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.

12. (Currently Amended) The method of claim 10 including further comprising

selecting the icon for representing with a respective link in response to a value of said one or more options.

13. (Currently Amended) An apparatus comprising:

a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:

provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective ~~one or more~~ more than one interfaces for at least one of applications and functions provided by the apparatus, said each dynamic bar having a pop-up interface for providing at least one of preview information determined from information managed by the at least one of applications and functions and the dynamic bars providing links to invoke said respective interfaces; and

invoke said respective interfaces to control said apparatus in response to user input; and

associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and to display the dynamic preview information;

update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information; and

a processor coupled to the storage medium to execute the programming instructions.

14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) The apparatus of claim [11-41] 13 wherein said programming

instructions are designed to provide a filter defining interface for defining a filter with which to determine the dynamic preview information.

17. (Currently Amended) The apparatus of claim 13 wherein said programming instructions associate particular applications and functions ~~are selected for associating~~ with the at least one dynamic bar in response to predetermined logical relationships between the applications and functions.

18. (Currently Amended) The apparatus of claim 17 wherein said programming instructions are designed to label the dynamic bars in response to at least one of the predetermined logical relationships relationship.

19. (Original) The apparatus of claim 13 wherein said programming instructions are designed to display said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for at least one of applications and functions provided by the apparatus.

20. (Original) The apparatus of claim 13 wherein said programming instructions are designed to at least one of expand and collapse a respective pop-up interface associated with a dynamic bar in response to respective user input.

21. (Original) The apparatus of claim 13 wherein said programming instructions are designed to provide a respective menu interface in association with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

22. (Original) The apparatus of claim 13 wherein said programming instructions are designed to represent at least some of the links to invoke respective interfaces with

respective icons.

23. (Original) The apparatus of claim 22 wherein said programming instructions are designed to provide a respective dialog interface in association with an icon for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.

24. (Original) The apparatus of claim 22 wherein said programming instructions are designed to select the icon for representing with a respective link in response to a value of said one or more options.

25. (Original) A machine readable medium comprising program code executable on a processor for implementing the method of claim 1.

26. (New) The method of claim 1, wherein the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions.

27. (New) The apparatus of claim 13, wherein the predetermined logical relationships are contextual relationships based on a manner in which a user of the apparatus uses the applications and functions and functional relationships based on functions that are performed by the applications and functions.

REMARKS/ARGUMENTS

Clarifying amendments are made to claims 1, 4-9, 12, 13, and 16-18. Claims 2, 3, 14, and 15 are cancelled without prejudice. New claims 26 and 27 are presented for consideration. Support for claims 26 and 27 can be found at paragraphs 51 and 56 and throughout the specification and figures, as originally filed. No new matter has been added. No admission or representation is made by the present argument other than that explicitly provided herein.

The Examiner rejected claims 1-3, 7, 10, 13-15, 19, 22 and 25 under 35 U.S.C. 103(a) as being obvious over European Patent Application No. EP 1,434,411 to Ögren ("Ögren") in view of U.S. Patent No. 6,047,197 to Jarrad ("Jarrad"). The Examiner further rejected claims 4, 11, 16, and 23 under 35 U.S.C. 103(a) as being obvious over Ögren in view of Jarad and in further view of International Application No. WO 03/100591 to Maass et al ("Maass"). The Examiner further rejected claims 9, 12, 21, and 24 under 35 U.S.C. 103(a) as being obvious over Ögren in view of Jarad and in further view of U.S. Patent Publication No. US 2004/0204133 to Andrew et al. ("Andrew"). It is submitted that the amended claims recite subject matter that is not obvious over the cited art for the reasons that follow.

Claim 1 has been amended to incorporate the subject matter of original claims 2 and 3. Likewise, claim 13 has been amended to incorporate the subject matter of original claims 14 and 15. Claim 1 now recites a method for controlling an apparatus comprising: providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective multiple interfaces for applications and functions provided by the apparatus, said each dynamic bar having an expandable pop-up interface for providing respective preview information determined from information managed by the applications and functions and the dynamic bars providing links to invoke said respective interfaces; invoking said respective interfaces to control said apparatus in response to user input; associating with

at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the at least some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar, and updating the display of the at least some dynamic bars in response to a change to the respective dynamic preview information.

The subject matter of the amended independent claims addresses the efficient representation of information, and in particular changing information, from multiple applications/functions running on a small screen device such as a Smartphone or PDA. There is provided a dynamic bar display element associated with more than one application such as voice mail, email, SMS, and messenger type applications as shown in figures 5 and 6. Dynamic preview information, such as a number of missed calls, is associated with the dynamic bar as illustrated in figure 5. An expandable pop-up interface is provided which shows preview information as illustrated in the figure 6. Thus, two sets or types of preview information may be displayed depending on the display mode. The preview information might include, as shown, that there are no new emails but that there are 50 unread ones. This information is not new to the user and so, in one embodiment, may not be displayed in the dynamic preview information in the dynamic bar itself. Thus, the dynamic bar arrangement highlights changing information but also provides further preview information with the expandable pop-up interface on a number of applications at the same time. This reduces the amount of screen space and user action needed to present this information on a small screen device, and is therefore a convenient mechanism compared with conventional solutions.

In contrast, Ögren shows a row of icons in figure 3. There is no teaching or suggestion of associating this with further information about the status of the applications that the icons represent. For example, there are no numbers associated with the number of new emails. More information about the applications/functions associated with the icons can be obtained by actuating the "more" button and getting a different full screen interface showing additional information about the various processes such as a new SMS. Even if the full screen interface of Ögren is read to be the claimed dynamic bar of claim

1, which the Applicant submits is not a proper interpretation of Ögren, then in this case Ögren still fails to provide a further pop-up interface.

Ögren also fails to teach or suggest including continuously updated dynamic preview information with the icons of figure 3, and instead this may be included only with the information provided in the full screen interface. Further, Ögren fails to teach or suggest updating the dynamic bar in response to changes in respective dynamic preview information. The approach detailed by Ögren is not updated but is simply triggered by the arrival of a first new email, and is not then affected by the arrival of further new emails. Further yet, Ögren fails to teach or suggest including dynamic preview information with the icons of figure 3. Unlike the dynamic preview information presently claimed, the status bar of Ögren is not updated continuously. The appearance of an icon only occurs following the first associated event. In this way, the status bar described by Ögren may be said to provide a notification of a first new event in respect of one or more applications represented by the icons 32-38 rather than preview information which provides some further information concerning new events beyond a notification that a first new event has occurred. Thus, Ögren fails to teach or suggest many of the features recited in claim 1.

The Examiner attempts to cure the deficiencies of Ögren with reference to Jarrad. Jarrad provides a text field 130 (FIG. 3) or overlay window 140 (FIG. 4) including a text field 130, all of which identify the function or application of the icon at which the cursor is located. Jarrad provides no further relevant teaching or suggestion. Jarrad fails to teach or suggest including continuously updated dynamic preview information with the overlay window 140 or in the text field 130. In fact, Jarrad fails to teach or suggest providing preview information of any sort. Further, Jarrad fails to teach or suggest updating the dynamic bar in response to changes in respective dynamic preview information. Further yet, Jarrad fails to teach or suggest including dynamic preview information with the overlay window 140 or in the text field 130. Unlike the dynamic preview information presently claimed, the overlay window 140 and the text field 130 of Jarrad are not updated continuously and in fact are not updated at all, since a text field or

overlay window associated with a particular icon of Jarrad will also present the same information, namely the function or application of the associated icon. The appearance of the overlay window 140 or the text field 130 occurs only following a first associated event, which is a button press. Thus, Jarrad fails to teach or suggest many of the features recited in claim 1 and fails to cure the deficiencies of Ögren.

It is submitted that claim 1 is patentable over Ögren and/or Jarrad because Ögren and Jarrad, whether taken alone or in combination, fail to teach or suggest all of the features recited in claim 1. Claim 13 recites many of the features of claim 1 and is patentable for the same reasons. The dependent claims recite further patentable subject matter and are patentable because of their dependence from the independent claims.

Favourable reconsideration and allowance of the application are respectfully requested. Should the Examiner have any questions in connection with the Applicant's submissions, please contact the undersigned.

Respectfully submitted,

OGILVY RENAULT LLP

By /pj/
 Paul Field
 Registration No. 34,963
 Telephone (416) 216-3903
 Fax (416) 216-3930

Date: August 27, 2007

OGILVY RENAULT LLP
 Suite 3800, Royal Bank Plaza, South Tower
 200 Bay Street, P.O. Box 84
 Toronto, Ontario M5J 2Z4
 Canada

Electronic Acknowledgement Receipt

EFS ID:	2125796
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	20988
Filer:	Paul Joseph Field/Janani Kulasingam
Filer Authorized By:	Paul Joseph Field
Attorney Docket Number:	16813-39US
Receipt Date:	27-AUG-2007
Filing Date:	09-NOV-2004
Time Stamp:	12:21:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment - After Non-Final Rejection	OfficeActionResponse.pdf	3524256 <small>97da7931187445f70948cb2916538da251176a0</small>	no	10

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/983,606	11/09/2004	Sherryl Lee Lorraine Scott	16813-39US	2886

20988 7590 07/16/2007
 OGILVY RENAULT LLP
 1981 MCGILL COLLEGE AVENUE
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 MONTREAL, QC H3A2Y3
 CANADA

EXAMINER

SALOMON, PHENUEL S

ART UNIT	PAPER NUMBER
2178	

2178

MAIL DATE	DELIVERY MODE
07/16/2007	PAPER

07/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No. 10/983,606	Applicant(s) SCOTT, SHERRYL LEE LORRAINE	
Examiner Phenuel S. Salomon	Art Unit 2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 November 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 09 November 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
- Certified copies of the priority documents have been received.
 - Certified copies of the priority documents have been received in Application No. _____.
 - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/05 and 1/06
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. This action is in response to the original filing of November 09, 2004. Claims 1-25 are pending and have been considered below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 7,10,13-15, 19, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197).

Claim 1: Ögren discloses a method for controlling an apparatus comprising:

providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for at least one of applications and functions provided by the apparatus, said each dynamic bar for providing at least one of respective preview information determined from information managed by the at least one of applications and functions and links to invoke said respective interfaces (col. 2, para [0009, 0010, 0013, 0014] and col. 8, lines 2-8); and

invoking said respective interfaces to control said apparatus in response to user input (col. 3, lines 26-30).

But does not explicitly disclose expandable pop-up interface. However, Jarrad discloses an overlay window with a text field...(col. 4, lines 42-49). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include popup interface in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the information related to a particular icon or application.

Claims 2 and 14: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar (col. 2, para [0014]).

Claims 3 and 15: Ögren and Jarrad disclose the method as in claims 2 and 14 above, Ögren further discloses including updating the display of the at least some dynamic bars in response to a change to the respective dynamic preview information (col. 5, para [0033]) [By constantly display the signal strength is considered as updating].

Claims 10 and 22: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses at least some of the links to invoke respective interfaces are represented by respective icons (fig. 4).

Claims 7 and 19: Ögren and Jarrad disclose the method as in claims 1 above and 13 below, Ögren further discloses providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for

activating respective interfaces for at least one of applications and functions provided by the apparatus (col. 8, para [0041] lines 11-29 and 39-46).

Claim 13: Ögren discloses an apparatus comprising:

a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:

provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for at least one of applications and functions provided by the apparatus, said each dynamic bar for providing at least one of preview information determined from information managed by the at, least one of applications and functions and links to invoke said respective interfaces (col. 2, para [0009, 0010, 0013, 0014] and col. 8, lines 2-8); and

invoke said respective interfaces to control said apparatus in response to user input (col. 3, lines 26-30); and

processor coupled to the storage medium to execute the programming instructions (fig. 2, items 20, 22 and 24

But does not explicitly disclose each dynamic bar having a pop-up interface. However, Jarrad discloses an overlay window with a text field...(col. 4, lines 42-49). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include popup interface in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the information related to a particular icon or application.

Claim 25: Ögren and Jarrad disclose a machine-readable medium comprising program code executable on a processor for implementing the method as in claim 1 above, Ögren further discloses a status information store (col. 6, lines 19-20).

4. Claims 4, 11, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Maass et al (WO03/100591 A2).

Claims 4 and 16: Ögren and Jarrad disclose the method as in claims 2 and 14 above, but do not explicitly disclose providing a filter defining interface for defining a filter with which to determine the preview information. However, Maass discloses ‘a pipeline for the announcing the arrival of new opportunities/events that pass the user’s current personal filter..’ (p. 6, lines 18-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include information filtering in Ögren. One would have been motivated to do so in order to efficiently and accurately let the user leave out undesired information.

Claims 11 and 23: Ögren and Jarrad disclose the method as in claims 10 and 22 above, but do not explicitly disclose an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon. However, Maass discloses pre-selected applications or tools that a user can activate in their currently active context..(p. 8, line32 and p. 9, lines 1-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to facilitate the apparatus configuration effortlessly.

5. Claims 5-6, 8, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Ausems et al (US 2003/0013483 A1).

Claims 5 and 17: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly disclose selecting particular applications and functions for associating with the at least one dynamic bar in response to logical relationships between the applications and functions. However, Ausems discloses menu associated with applications and icons..(p. 6, para [0064]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to select an application relating to an icon.

Claims 6 and 18: Ögren and Jarrad disclose the method as in claims 5 and 17 above, but do not explicitly including labeling the dynamic bars in response to the logical relationship. However, Ausems discloses description of icon associated with a particular application.. (p. 6, para [0065]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include labeling in Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the available resources.

Claims 8 and 20: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly discloses at least one of expanding and collapsing a respective pop-up interface associated with a dynamic bar in response to respective user input. However, Ausems discloses a drop down menu list of applications in response to the user input.. (p. 9,para [0075] and [0077]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in

Art Unit: 2178

Ögren. One would have been motivated to do so in order to make it very convenient for a user to visualize the available resources.

6. Claims 9, 12, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ögren et al. (EP 1 434 411 A1) Ögren et al. (EP 1 434 411 A1) in view of Jarrad (US 6,047,197) and in further view of Andrew et al (US 2004/0204133 A1).

Claims 9 and 21: Ögren and Jarrad disclose the method as in claims 1 and 13 above, but do not explicitly disclose including associating a respective menu interface with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar. However, Andrew discloses ‘setting link which when tapped takes the user to the connection manager user interface display..’ (p. 3, para [0034]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to make it very convenient for a user to manage the available resources.

Claims 12 and 24: Ögren and Jarrad disclose the method as in claims 10 and 22 above, but do not explicitly disclose selecting the icon for representing with a respective link in response to a value of said one or more options. However, Andrew discloses a link respective to a connection manager icon..(p. 3,para [0031]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Ögren. One would have been motivated to do so in order to facilitate the user with applications and functions selection.

Conclusion

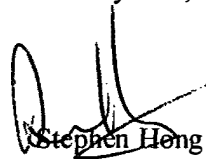
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. Moon et al. (US 6,211,858 B1) discloses methods and apparatus for displaying a rotating meter icon on a portable intelligent communications device.
- b. Goshen (US 2001/0029527 A1) discloses method and system for providing a customized browser network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phenuel S. Salomon whose telephone number is (571) 270-1699. The examiner can normally be reached on Mon-Fri 7:00 A.M. to 4:00 P.M.(Alternate Friday Off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272 4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSS *PSS.*
7/03/2007


Stephen Hong
Supervisory Primary Examiner

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	10983606
	Filing Date	2004-11-09
	First Named Inventor	Sherryl Lee Lorraine SCOTT
	Art Unit	2635
	Examiner Name	John W. CABECA
	Attorney Docket Number	16813-39US

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10983606
Filing Date	2004-11-09
First Named Inventor	Sherryl Lee Lorraine SCOTT
Art Unit	2635
Examiner Name	John W. CABECA
Attorney Docket Number	16813-39US

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	Application Number	10/983 606
	Filing Date	11/09/2004
	First Named Inventor	Sherry Lee Lorraine Scott
	Art Unit	2635
Examiner Name	-	
Attorney Docket Number	16813-39US	

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.†	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number/Kind Code ² (if known)			
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/P.S./	1	EP	1434411 A1	06-30-2004	Sony Ericsson Mobile		
/P.S./	2	WO	03/100591 A	12-04-2003	Koninklijke Philips		

Examiner Signature	/Phenuel Salomon/	Date Considered	07/03/2007
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Notice of References Cited

Application/Control No. 10/983,606	Applicant(s)/Patent Under Reexamination SCOTT, SHERRYL LEE LORRA	
Examiner Phenuel S. Salomon	Art Unit 2178	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,047,197	04-2000	Jarrad, Salah Khalil	455/566
*	B	US-2003/0013483 A1	01-2003	Ausems et al.	455/556
*	C	US-6,211,858 B1	04-2001	Moon et al.	715/771
*	D	US-2004/0204133 A1	10-2004	Andrew et al.	455/566
*	E	US-2001/0029527 A1	10-2001	Goshen, Nadav	709/218
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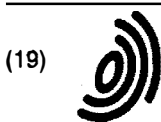
FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	WO 03/100591 A2	12-2003	Great Britain	Maass, Henning	G06F 3/033
	O	EP 1 434 411 A1	06-2004	Stockholm	Ogren, Per	H04M 1/725
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	Q					
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(11) EP 1 434 411 A1

(12) EUROPEAN PATENT APPLICATION

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(51) Int Cl.7: H04M 1/247, H04M 1/725,
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 IE IT LI LU MC NL PT SE SI SK TR
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 103 87 Stockholm (SE)

(71) Applicant: Sony Ericsson Mobile
 Communications AB
 221 88 Lund (SE)

(54) Mobile device providing detailed information about status icons

(57) The present invention is directed towards a method and a portable electronic device for providing further information relating to the status of a portable electronic device. The device comprises an information presentation unit (14), at least one first user input unit, and a control unit. The control unit provides an item of status information (32, 34, 35, 36, 38) relating to the performance of the portable electronic device or possibly

activated applications and functions in the device on the information presentation unit (14) and upon detecting a selection of further information via the user input unit simultaneously provides limited further information (40, 42, 44, 45, 46, 47, 48, 50, 52, 54) relating to said item of status information on the information presentation unit. With the invention further information related to icons shown in a status bar of the device can easily be accessed.

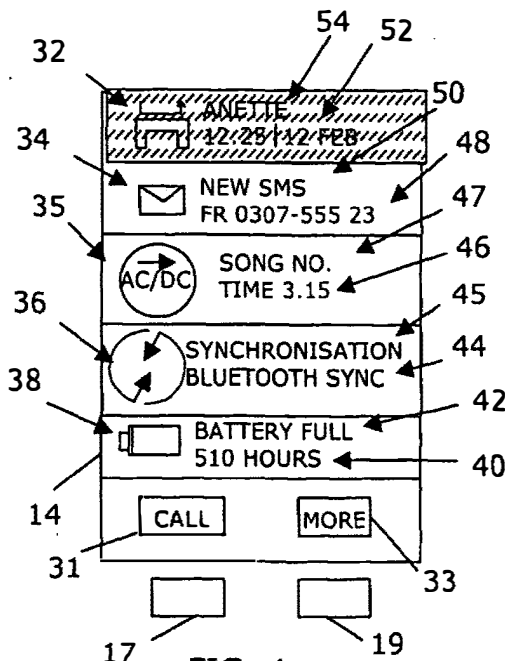


FIG. 4

EP 1 434 411 A1

Description**TECHNICAL FIELD OF THE INVENTION**

[0001] The present invention relates to the field of portable electronic devices and more particularly to a method and a portable electronic device for providing further information relating to the status of the device.

DESCRIPTION OF RELATED ART

[0002] The cellular phones of today have more and more different functions and applications in them. It is today normal to provide the phones with a status bar showing the status of the phone in the form of battery power level, signal strength information as well as status information relating to different functions and applications, like if a phone call has been missed or if there is an incoming electronic message in the form of SMS or e-mail. This information is furthermore normally displayed in the form of icons or symbols only giving general information about the status.

[0003] Further information relating to the information shown in these status bars is however not directly accessible to a user of the phone. Such information can be from who the missed call was and the remaining stand-by time for a battery. In order to get this information, the user has to navigate through a general menu in order to get to the function in question for finding out who called. It is furthermore possible to set short cuts through the menu system, but then these are fixed and not event driven. The user must know beforehand that he might be interested in the further information and program such a short-cut in advance in order to save some time in the navigation. In order to reach such a short cut the user furthermore has to start in the normal menu system, which thus also takes up valuable time.

[0004] There is thus a need for providing easily accessible further information that can be presented on a limited size information presentation unit in relation to status information.

SUMMARY OF THE INVENTION

[0005] The present invention is thus directed towards solving the problem of providing easily accessible further information related to status information that can be presented on a limited size information presentation unit.

[0006] This is achieved by providing further information about an item of status information shown to a user upon the detection of a selection of the further information from the user.

[0007] One object of the present invention is to provide a method enabling easy access to further information related to status information that can be presented on a limited size information presentation unit.

[0008] According to a first aspect of the present inven-

tion, the object is achieved by a method of providing further information relating to the status of a portable electronic device comprising the steps of:

5 providing an item of status information relating to the performance of a portable electronic device, possibly activated applications or functions in the device, and
10 upon detecting a selection of further information providing limited further information relating to said item.

[0009] A second aspect of the present invention is directed to a method including the features of the first aspect, wherein the step of providing includes providing at least two items of status information and the step of providing limited further information includes simultaneously providing said limited further information relating to the two items.

[0010] A third aspect of the present invention is directed towards a method including the features of the first aspect, wherein said further information comprises a link back to said item of status information such as through a "back"-key.

[0011] A fourth aspect of the present invention is directed towards a method including the features of the third aspect, further comprising the step of removing the further information upon detecting selection of the link back to said item of status information and again presenting said item of status information.

[0012] A fifth aspect of the present invention is directed towards a method including the features of the first aspect, wherein the further information provided related to an item of status information is a limited number of pieces of information.

[0013] A sixth aspect of the present invention is directed towards a method including the features of the first aspect, further including the step of detecting selection of an item of status information after providing limited further information and determining type of item selected.

[0014] A seventh aspect of the present invention is directed towards a method including the features of the sixth aspect, further including the step of: if the first item of status information relates to an application, determining if an action in relation to the application was selected and performing said action or providing a list of further possible actions and selections relating to the application in dependence of the determination.

[0015] An eighth aspect of the present invention is directed towards a method including the features of the sixth aspect, further comprising the step of: if the first item of status information relates to a function, determining if an action in relation to the function was selected and performing said action or providing a list of further possible actions and selections relating to the function in dependence of the determination.

[0016] A ninth aspect of the present invention is di-

rected towards a method including the features of the sixth aspect, further comprising the step of: if the first item of status information relates to the performance of the portable electronic device, providing a list of further possible actions and selections relating to the performance.

[0017] Another object of the present invention is to provide a portable electronic device, which enables easy access to further information related to status information that can be presented on a limited size information presentation unit.

[0018] According to a tenth aspect of the present invention, this object is achieved by a portable electronic device for providing further information relating to the status of said portable electronic device comprising:

an information presentation unit,
at least one first user input unit, and
a control unit arranged to:

provide an item of status information relating to the performance of the portable electronic device and possibly activated applications and functions in the device on the information presentation unit, and

upon detecting a selection of further information via the user input unit, provide limited further information relating to said item of status information on the information presentation unit.

[0019] An eleventh aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the control unit is arranged to provide at least two items of status information and to simultaneously provide limited further information relating to the two items.

[0020] A twelfth aspect of the present invention is directed towards a device including the features of the tenth aspect, further including a second user input unit for moving back to said item of status information.

[0021] A thirteenth aspect of the present invention is directed towards a device including the features of the twelfth aspect, wherein the control unit is further arranged to remove the further information from the information presentation unit upon detecting depression of the second user input and again present said item of status information on the information presentation unit.

[0022] A fourteenth aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the further information provided related to an item of status information is a limited number of pieces of information.

[0023] A fifteenth aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the first user input unit is provided as a button on the side of the portable communication device.

[0024] A sixteenth aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the control unit is arranged to detect selection of an item of status information after providing limited further information and to determine type of item selected.

[0025] A seventeenth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, wherein the control unit is further arranged to, if the first item of status information relates to an application, determine if an action in relation to the application was selected and then perform said action or provide a list of further possible actions and selections relating to the application.

[0026] An eighteenth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, wherein the control unit is further arranged to, if the first item of status information relates to a function, determine if an action in relation to the function was selected and then perform said action or provide a list of further possible actions and selections relating to the function.

[0027] A nineteenth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, wherein the control unit is further arranged to, if the first item of status information relates to the performance of the portable electronic device, provide a list of further possible actions and selections relating to the performance.

[0028] A twentieth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, further comprising a second user input unit in the form of at least one key on a keypad of the device, which second unit is used for any selections made in relation to the further information shown on the information presentation unit.

[0029] A twenty-first aspect of the present invention is directed towards a device including the features of the tenth aspect, further comprising a status information store, from which the control unit is arranged to retrieve said item of status information for provision on the information presentation unit.

[0030] A twenty-second aspect of the present invention is directed towards a device including the features of the tenth aspect, further comprising a further information store, from which the control unit is arranged to retrieve further information relating to said item of status information for provision on the information presentation unit.

[0031] A twenty-third aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the portable electronic device is a cellular phone.

[0032] The invention has the following advantages. It allows a user to directly get further information about items of information presented in a status bar in a portable electronic device. A user can then easily see further information of activated functions and applications as

well as the performance of the device. If the item is an icon, this is additionally advantageous when a user does not know what the item presented means.

[0033] The expression performance of a device is meant to include variable characteristics like battery energy level and signal strength, the expression function is intended to include functions set by a user of the device, like the time, date, ring signals and other settings possible to make. With an application unit is meant a unit providing a substantial amount of information to a user of the device, which unit also requires at least some activities by the user, like the making of phone calls, sending, receiving and reading electronic messages and playing music and games.

[0034] It should be emphasized that the term "comprises/comprising" when used in this specification is taken to specify the presence of stated features, integers, steps or components, but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[0035] The present invention will now be described in more detail in relation to the enclosed drawings, in which:

- fig. 1 shows a front view of a portable electronic device in the form of a cellular phone,
- fig. 2 shows a block schematic of the relevant parts of the invention inside the phone in fig. 1,
- fig. 3 shows a front view of the display in the phone from fig. 1 showing a status bar,
- fig. 4 shows a front view of the display in the phone from fig. 1 showing further information relating to the status bar,
- fig. 5A shows the first part of a method according to the invention, and
- fig. 5B shows a second part of the method according to the invention.

DETAILED DESCRIPTION OF EMBODIMENTS

[0036] A portable electronic device 10 according to the invention is shown in a front view in fig. 1. In the preferred embodiment the device is a cellular phone 10 having an antenna 12, a display 14, a first user input unit in the form of a button 16 provided on the side of the phone as well as a keypad 18 including a number of keys. The button 16 is a so called volume button, which can be used for adjusting the volume setting of the phone, but in the present invention it has one further function, which will be described in more detail later. Apart from making and receiving telephone calls, the keypad 18 is used for entering information such as selection of functions and applications and responding to prompts and the display 14 is used for displaying functions and prompts to a user of the phone. In order to do

this, the keys at the top of the keypad are navigation keys, of which a first pair at the top includes a first and second soft navigation key 17 and 19. The key pad 18 also includes a second pair of hard navigation keys including a "back"-key 13 and a cancellation key 15. The soft keys can be used for navigating in a menu system provided in the phone, and the "back"-key 13 is used for moving backwards in the menu system. The antenna 12 is used for communication with other users via a network. A cellular phone is just one example of a device in which the invention can be implemented. The invention can for instance also be used in a PDA (personal digital assistant), a palm top computer, a lap top computer and a smartphone.

[0037] Fig. 2 shows a block schematic of the different parts of the phone 10 relevant to the present invention. The display 14, the first input unit 16 and the keypad 18 are here shown as separate boxes connected to a control unit 20. The control unit 20 is furthermore connected to a status information store 22 and to a further information store 24 as well as to a first function unit 26, to a first application unit 28 and to a first performance determination unit 30. It should be realised that the control unit 20 can be connected to several application, function and performance determination units. Only three are however shown for better understanding of the present invention. A performance determination unit is a unit determining variable characteristics like one of battery energy level, signal strength or if the phone is synchronised with another device. A function unit is handling functions set by a user of the device, like the time, ring signals, ring signal volume or other settings possible to make in the device. An application unit handles activities by a user of the device in relation to the application, like the making of phone calls, sending, receiving and reading electronic messages, browsing using a Web or WAP browser and playing game or music or a camera. An application thus provides a user with a lot of information.

[0038] Fig. 3 shows a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call, a second icon 34 associated with the application SMS (Short Message Service) or e-mail application of the phone, a third icon 35 associated with an MP3-player, a fourth icon 36 associated with the performance of Bluetooth™ synchronisation and a fifth icon 38 associated with the performance of battery energy level of the phone. It should be realised that these are just a few of the possible performances, functions and applications for which an icon might be displayed. The display according to the preferred embodiment of the present invention can however only show five icons at one time in the status bar. It should furthermore be realised that some icons might be static,

i.e. might be present at all times, which normally includes at least some of the performance icons, while some might only be provided if the application or function related to the phone has been activated or invoked either by the user of the phone himself or by some other type of influence, for instance the influence from outside the phone like the reception of an e-mail or a phone call. Other possible applications are for instance WAP browser and a camera. An example of a function normally shown in a status bar is the clock. At the bottom of the display of fig. 3 there is shown first soft information 31 associated with the first soft key 17 and second soft information 33 associated with the second soft key. The first and second soft information shown in the figure is associated with the normal menu system of the phone, which menu system is not shown in the figure.

[0039] Fig. 4 shows a second view of the display 14 together with the first set of soft keys 17 and 19 of the keypad, where further information in relation to the icons in the status bar is shown next to the icons. The icons are the same as in fig. 3. First and second soft key information 31 and 33 is shown in the bottom of the display just above the soft keys 17 and 19 and now the first soft key information 31 shows "call", while the second soft key information 33 shows "more". The fifth icon 38 is shown just above this soft key information and has a first item of further information 42 indicating that the battery is fully loaded and a second item of further information 40 indicating how much standby time there is left for the battery, which is here indicated as 510 hours. For this icon the soft keys are disabled, because the fifth icon 38 is no active icon for which any further information might be obtained. Just above the fifth icon, the fourth icon 36 is provided. The fourth icon 36 has a first item of further information 45 saying that the performance relates to synchronisation and a second item of further information 44 informing the user of the fact that the synchronisation is Bluetooth synchronisation, i.e. synchronisation with another device using Bluetooth™. The third icon 35 is provided above the first icon and is provided with a first item of further information 47 informing that the MP3-player is playing a certain song and a second item of further information 46 informing about how long this song has been played. Above the third icon 35, the second icon 34 is provided. The second icon 34 has a first item of further information 50 indicating that the message relates to an SMS (Short Message Service) and a second item of further information 48, indicating the sender of the SMS with a phone number 0307 - 555 23. Above the second icon 34, the first icon 32 is provided. The first icon 32 has a first item 54 of further information indicating from whom the missed call was made, this is indicated by the name Anette and a second item of further information 52 indicating when the missed call was made by displaying the time 12:25 and the date 12 of February. It should be noted that the name of Anette is shown because the user of the phone has set his phone book to indicate this name for a given

number. If this is not the case the number of the person calling might be shown instead. The first icon 32 and the additional information 54 and 52 relating to it is highlighted. This highlighting indicates that a selection of this icon can be made. The highlighting is shown with short diagonally directed dotted lines. It should be realised that the display can show up to seven icons, which can be seen through scrolling.

[0040] Fig. 5A and 5B shows a flow chart of the method according to the invention.

[0041] A preferred embodiment of the present invention will now be explained with reference to fig. 1, 2, 3, 4, 5A and 5B. This embodiment is also believed to be the best mode of the invention at the moment. The control unit 20 retrieves the icons in the status bar from the status information store 22 and provides them on the display 14 for displaying to the user, step 56. An example of the icons displayed is shown in fig. 3. It should be known that an application, function, or performance determination unit 26, 28 or 30 might signal to the control unit 20, their activation and then the control unit selects the icons corresponding to the activated application, function or performance unit for displaying on the display. Other performance determination units or function units might be constantly activated. Then the control unit 20 awaits an input from the first user input unit or button 16 on the side of the phone, step 58. If no input from the button 16 is detected, the control unit 20 returns to step 58 and again awaits an input from the button 16. By using the button 16 instead of the keypad 18, it is ensured that the use of applications or functions in the phone are not hampered. If an input is detected, step 58, the control unit 20 retrieves further information from the further information store 24 and provides a limited number of pieces of further information related to each icon in the status bar for displaying to the user of the phone, step 60. At the same time the display 14 shows information of what will happen if the soft keys are used for selecting pieces of information. Fig. 4 shows an example of such further information related to the icons shown in fig. 3. Now the user can see different items of further information in relation to the icons. It is furthermore possible to show more icons and related further information than what is shown in fig. 4. If the display will get full the user can then scroll among the further information by using a scrolling function in the phone (not shown). A maximum of seven icons might here be present. Scrolling could be provided by using a joystick or operation of an arrow button on the keypad (not shown). The control unit 20 furthermore provides different first and second soft key information 31 and 33 in dependence of which icon and corresponding first and second piece of information is highlighted. In fig. 4 the first icon 32 a missed call together with the corresponding first and second piece of further information 54 and 52 is highlighted and the first soft key information 31 displays "call" and the second soft key information 33 displays "more". The control unit 20 monitors the soft keys 31 and 33 and detects if a se-

lection of further information relating to an active icon is made using these keys, step 64. With active icon is meant an icon for which there exists a menu or further information. The fifth icon 38 for the battery is not an active icon and therefore there is no possibility to select any further information relating to this icon. If a selection being made is not related to any further information of an icon, step 64, the control unit 20 does nothing and awaits a detection of another selection, step 62. It is furthermore possible to navigate backwards during this navigation, in which case the "back"-key 13 is used. If however a selection of further information in relation to an active icon is made, step 64, there are three different ways the control unit 20 can continue. If the selection of the further information concerned an application, step 68, the control unit 20 monitors which of the two soft keys have been depressed. If the user has selected an action by depressing the first soft navigation key 17, step 70, in this case by selecting to make a call, the action is performed, step 72, i.e. the call is being made and thereafter the display is made to show the original status bar again, step 56, after the call is ended. If the application was an SMS or e-mail application, the number or address of the sender can here be stored in the phone book. If the user did not select an action, step 70, i.e. by pressing the second soft navigation key 33, the control unit 20 connects the user to the main menu of the application in the menu system, step 74. If the selection of the further information was not related to an application, step 68, it is investigated if the icon is related to a function, step 76. If the icon is related to a function, step 76, the control unit 20 monitors which of the two soft keys have been depressed. If the user has selected an action, step 78, which might be to set the volume of an MP3-player, the action is performed, step 80, i.e. the setting is being made and thereafter the display is made to show the original status bar again, step 56, after the setting has been made. If the user did not select an action, step 78, the control unit 20 connects the user to the main menu of the function in the menu system, step 82. If the icon was not related to a function, step 76, it is related to some general status information of the phone. The control unit 20 therefore connects to the menu of the performance in the normal menu system of the phone, step 84. An example of this is Bluetooth™ synchronisation. As mentioned before, the user can at all times leave this further information by pressing the "back"-key 13 on the display, in which case he returns to the previous menu. In this way the user can go all the way back to the original status bar display.

[0042] The present invention has many advantages. It allows a user to directly obtain further information relating to an icon displayed in a status bar of the phone without having to do some lengthy navigation through the menu system of the phone. It also allows him to perform some actions in the functions or applications directly, which he otherwise would have to do by navigation in the menu system. Another advantage is that a user

might not really know what the icon used means, in which case he can get information about the meaning in an easy fashion. In case the user did not know what the icon means, he can in existing phones only find the related information by chance when searching through the menu system, which might take a very long time or which he might not find at all.

[0043] The present invention can be varied in many ways. The applications can as an alternative be set such that an active application cannot in itself be changed by the selection of a piece of further information, but is limited to actions not changing the information content of the application, i.e. if for instance there is a call ongoing it cannot be interrupted. The first user input unit does not have to be a button on the side of the phone, but can be any other key not occupied for other important functions. The navigation keys can furthermore be provided in a numerous different ways. What is important is that the existing input units are used for navigating. Keys can also be provided in the form of keys displayed on a touch screen. A further variation of user input units is to use voice control for selecting further information about the status bar.

[0044] The control unit and the different application units are normally provided in the form of one or more processors with corresponding program memories containing suitable software code. The two stores are also preferably provided in the form of memories.

Claims

1. Method of providing further information relating to the status of a portable electronic device (10) comprising the steps of:

providing an item of status information (32, 34, 35, 36, 38) relating to the performance of a portable electronic device, possibly activated applications or functions in the device, (step 56), and upon detecting a selection of further information (step 58) providing limited further information relating to said item, (step 60).

2. Method according to claim 1, wherein the step of providing includes providing at least two items of status information and the step of providing limited further information includes simultaneously providing said limited further information relating to the two items.
3. Method according to claim 1 or 2, wherein said further information comprises a link back to said item of status information such as through a "back"-key.
4. Method according to claim 3, further comprising the step of removing the further information upon detecting selection of the link back to said item of sta-

tus information and again presenting said item of status information.

5. Method according to any previous claim, wherein the further information provided related to an item of status information is a limited number of pieces of information (40, 42, 44, 45, 46, 47, 48, 50, 52, 54). 5
6. Method according to any previous claim, further including the step of detecting selection of an item of status information after providing limited further information, (step 62) and determining type of item selected (step 68, 76). 10
7. Method according to claim 6, further including the step of: if the first item of status information relates to an application, (step 68), determining if an action in relation to the application was selected, (step 70), and performing said action, (step 72) or providing a list of further possible actions and selections relating to the application (step 74) in dependence of the determination. 15 20
8. Method according to claim 6 or 7, further comprising the step of: if the first item of status information relates to a function, (step 76), determining if an action in relation to the function was selected, (step 78), and performing said action, (step 80) or providing a list of further possible actions and selections relating to the function (step 82) in dependence of the determination. 25 30
9. Method according to any of claims 6 - 8, further comprising the step of: if the first item of status information relates to the performance of the portable electronic device, (step 76), providing a list of further possible actions and selections relating to the performance (step 84). 35
10. Portable electronic device (10) for providing further information relating to the status of said portable electronic device comprising: 40

an information presentation unit (14),
at least one first user input unit (16), and
a control unit (20) arranged to: 45

provide an item of status information (32,
34, 35, 36, 38) relating to the performance
of the portable electronic device and possibly
activated applications and functions in the
device on the information presentation unit,
and 50

upon detecting a selection of further information
via the user input unit, provide limited further
information (40, 42, 44, 45, 46, 47, 48, 50,
52, 54) relating to said item of status information
on the information pres- 55

entation unit.

11. Portable electronic device (10) according to claim 10, wherein the control unit is arranged to provide at least two items of status information and to simultaneously provide limited further information relating to the two items. 5
12. Portable electronic device (10) according to claim 10 or 11, further including a second user input unit (13) for moving back to said item of status information. 10
13. Portable electronic device (10) according to claim 12, wherein the control unit (20) is further arranged to remove the further information from the information presentation unit upon detecting depression of the second user input unit (13) and again present said item of status information on the information presentation unit. 15 20
14. Portable electronic device (10) according to any of claims 10 - 13, wherein the further information provided related to an item of status information is a limited number of pieces of information. 25
15. Portable electronic device (10) according to any of claims 10 - 14, wherein the first user input unit (16) is provided as a button on the side of the portable communication device. 30
16. Portable electronic device (10) according to any of claims 10 - 15, wherein the control unit (20) is arranged to detect selection of an item of status information after providing limited further information and to determine type of item selected. 35
17. Portable electronic device (10) according to claim 16, wherein the control unit (20) is further arranged to, if the first item of status information relates to an application, determine if an action in relation to the application was selected and then perform said action or provide a list of further possible actions and selections relating to the application. 40 45
18. Portable electronic device (10) according to claim 16 or 17, wherein the control unit (20) is further arranged to, if the first item of status information relates to a function, determine if an action in relation to the function was selected and then perform said action or provide a list of further possible actions and selections relating to the function. 50
19. Portable electronic device (10) according to any of claims 16 - 18, wherein the control unit (20) is further arranged to, if the first item of status information relates to the performance of the portable electronic device, provide a list of further possible actions and 55

selections relating to the performance.

- 20. Portable electronic device (10) according to any of claims 16 - 19, further comprising a second user input unit in the form of at least one soft key (17, 19) on a keypad (18) of the device, which second unit is used for selections made in relation to the further information shown on the information presentation unit. 5
- 21. Portable electronic device (10) according to any of claims 10 - 20, further comprising a status information store (22), from which the control unit (20) is arranged to retrieve said item of status information for provision on the information presentation unit. 10 15
- 22. Portable electronic device (10) according to any of claims 10 - 21, further comprising a further information store (24), from which the control unit is arranged to retrieve further information relating to said item of status information for provision on the information presentation unit. 20
- 23. Portable electronic device according to any of claims 10 - 22, in which it is a cellular phone. 25

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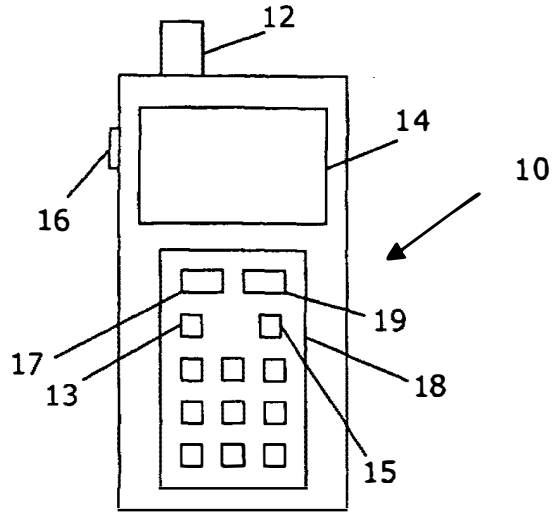


FIG. 1

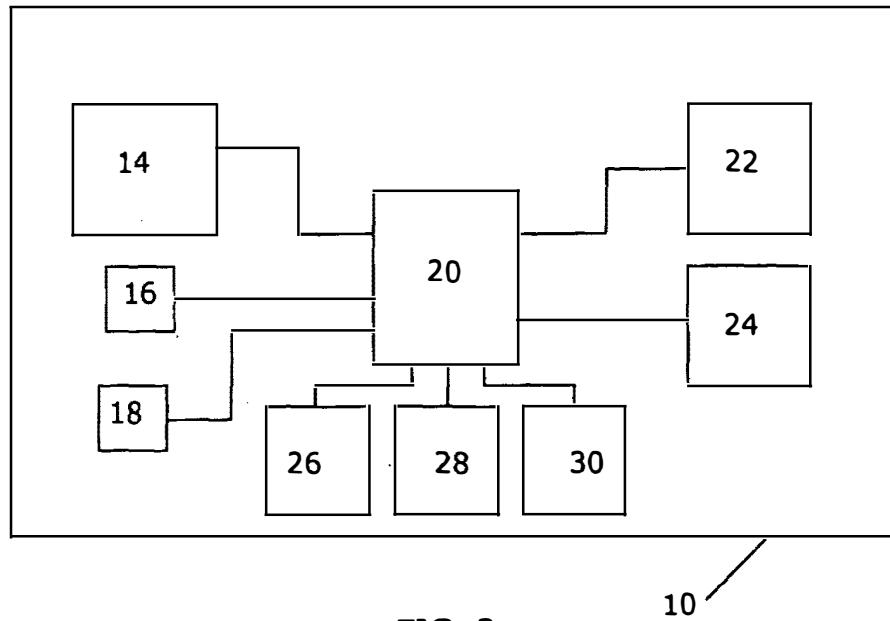
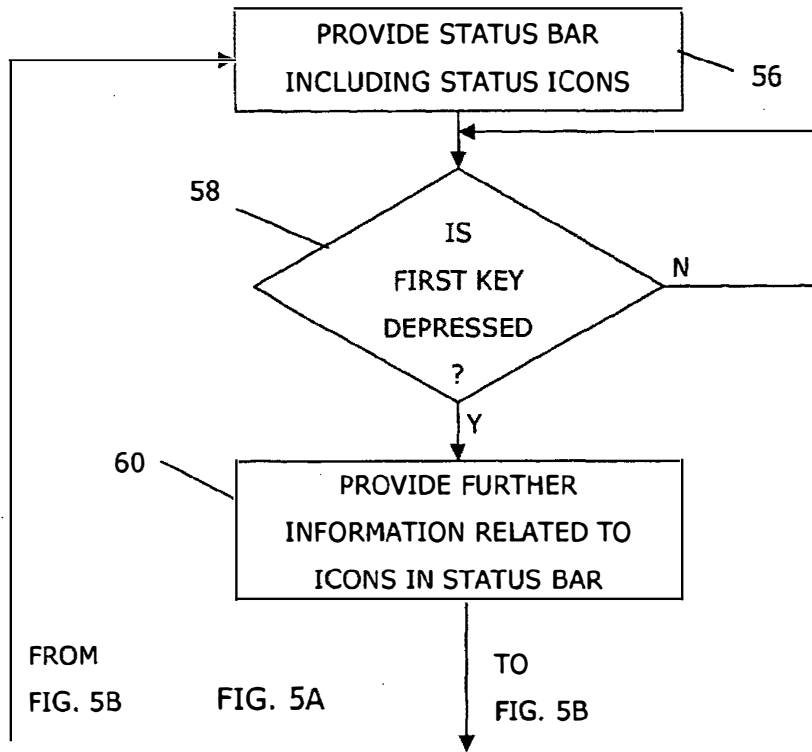
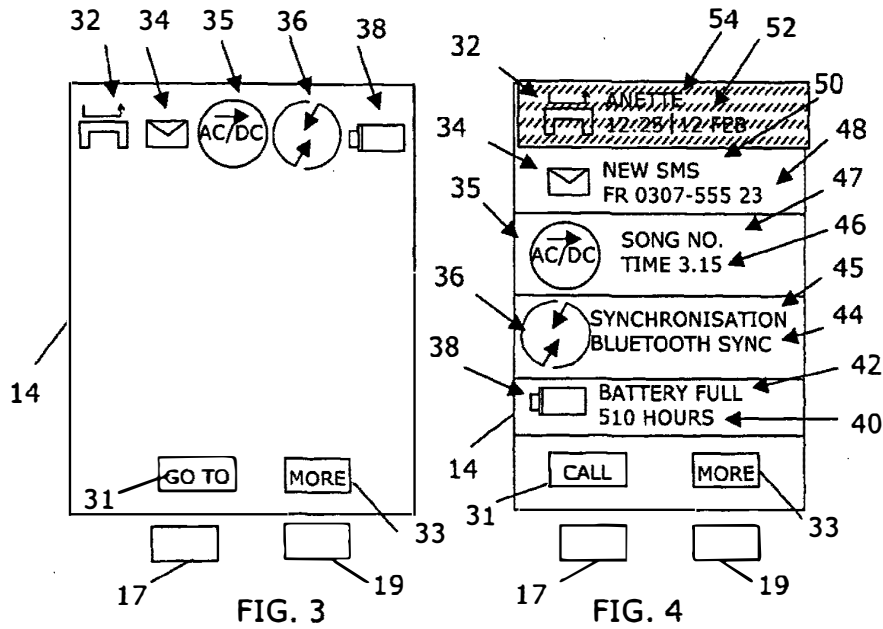


FIG. 2



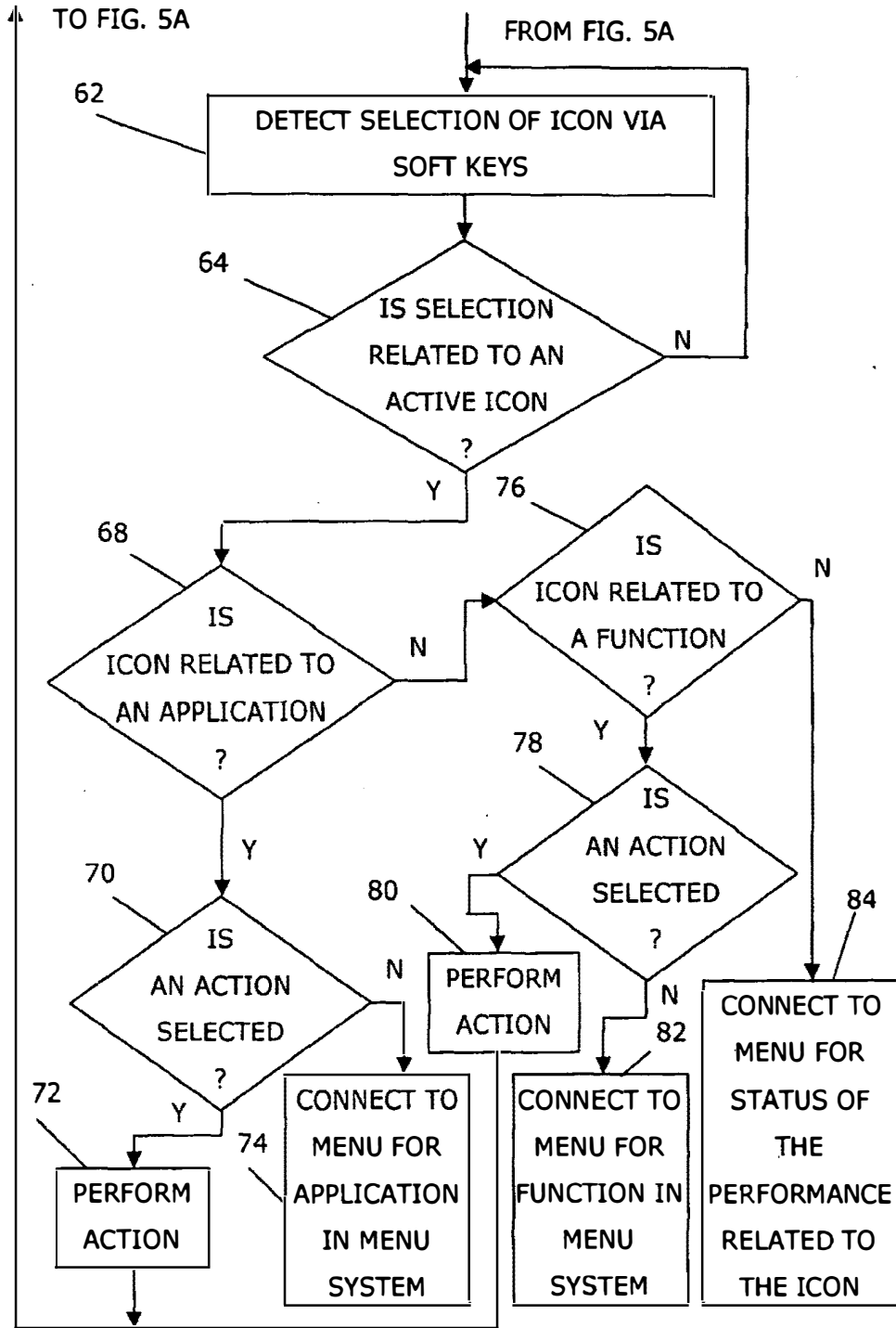


FIG. 5B



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 02 8890

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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 19 May 2003	Examiner Peller, I
CATEGORY OF CITED DOCUMENTS		T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document	
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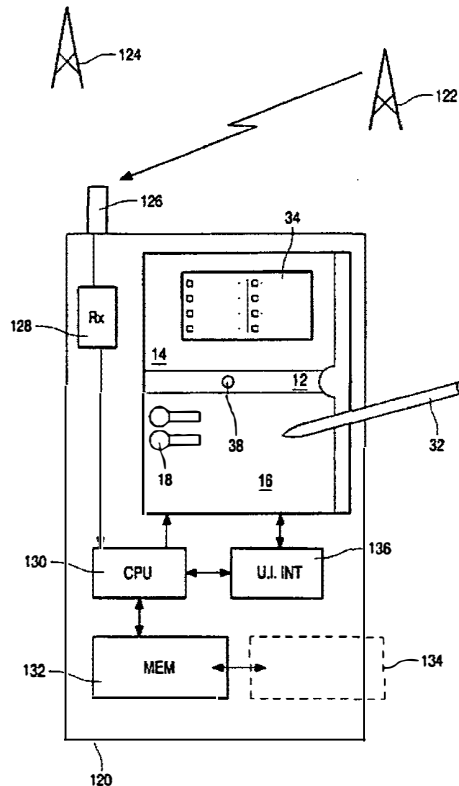
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[Continued on next page]

(54) Title: MANAGEMENT OF INTERACTION OPPORTUNITY DATA



(57) Abstract: A portable data processing apparatus (120) receives information identifying interaction opportunities for a user of the apparatus and presents them via a display (10). For each identified interaction opportunity, a processor (130) generates a respective display icon (38, 18). The processor generates a user interface having at least first (12), second (16) and third (14) display panes, with newly generated display icons (38) being initially displayed in the first display pane (12). Subsequently, icons (18) are moved to the second display pane (16) and arranged according to a predetermined prioritisation scheme. On user selection of a displayed icon, additional data associated with the selected icon is displayed in the third display pane (14).

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DESCRIPTION

MANAGEMENT OF INTERACTION OPPORTUNITY DATA

5 The present invention relates to apparatuses having display means operable to display data relating to interaction opportunities for a user of such apparatus. In particular, but not exclusively, the invention relates to apparatus displaying such data in display panels or windows (hereinafter generally referred to as panes) on a single screen or display device, and to methods for
10 managing the presentation and updating of such data displays.

 Recent years have seen a great increase in subscribers world-wide to mobile telephone networks and, through advances in technology and the addition of functionalities, cellular telephones have become personal, trusted
15 devices. A result of this is that a mobile information society is developing, with personalised and localised services becoming increasingly more important. Such "Context-Aware" (CA) mobile telephones are used with low power, short range base stations in places like shopping malls to provide location-specific information. This information might include local maps, information on nearby
20 shops and restaurants and so on. With other personal and portable devices, such as personal digital assistants (PDA's) and laptop computers, gaining the technical features also to support such interaction, the number of CA terminals is also beginning to increase.

 An example of a CA terminal is given in U.S. patent 5,835,861 which
25 discloses the use of wireless telephones within the context of advertisement billboards. The user of a wireless telephone obtains the telephone number of a vendor by activating his/her wireless telephone to transmit a prompt signal to an active advertisement source and to receive from the advertisement source a response signal containing the telephone number of the advertising vendor.
30 The telephone number can then be used to automatically place a call to that vendor via the public switched telephone network. Alternatively, the telephone number can be stored for use later on. This arrangement can be used to place

a call to a vendor without having to either memorise the telephone number or to write it down. The signals between the billboard and the caller can be transmitted as modulated infrared (IR) signals.

5 A problem that users are increasingly faced with is the volume of data relating to interaction opportunities that is available. The user's CA terminal may be equipped to filter the information received according to pre-stored user preferences, and the user only alerted if an item of data of particular interest has been received, but there is still a need to effectively manage the information that does pass the filter.

10

It is accordingly an object of the present invention to provide a means for presentation of interaction information to a user which gives improved utilisation of display capacity per unit area of display surface.

15 It is a further, subsidiary, object to provide such a system supporting improved indexing and access facilities for the user.

In accordance with a first aspect of the present invention there is provided a portable data processing apparatus being operable to receive information identifying interaction opportunities for a user of the apparatus and present the same to said user via a display, the apparatus comprising:

20 a processor coupled with data storage means and said display and programmed to generate a respective display icon for each identified interaction opportunity; and

user operable input means for selecting a displayed icon;

25 wherein the processor is arranged to generate a user interface having at least first, second and third display panes, with newly generated display icons being initially displayed in said first display pane and subsequently moved to said second display pane wherein other icons are displayed; wherein the processor is configured to arrange the icons in the second display pane according to a predetermined prioritisation scheme; and wherein on user selection of a displayed icon additional data associated with the selected icon is displayed in the third display pane. By the provision of the particular arrangement of panes, the user can quickly identify newly-arrived interaction

30

opportunities (first pane), more easily find those likely to be of interest (prioritised arrangement in the second pane), and call up further information (third pane) without obscuring the first two panes.

The apparatus may be arranged to determine from the information identifying interaction opportunities a respective priority for each, with the predetermined prioritisation scheme applied by the processor positioning those display icons in the second display pane in order of priority relative to the position of the first display pane. The predetermined prioritisation scheme applied by the processor may comprise complex schemes for evaluating and prioritising opportunities, or it may be as simple as temporal prioritisation with those display icons in the second display pane being displayed in the order they arrived in the first display pane.

For improved clarity, the processor may be configured to identify, from the received information, a plurality of different classes of interaction opportunity and to indicate the same to a user by the form of display icon presented for each identified interaction opportunity. Such different forms of icon may be determined at least partly by data held in the data storage means, and/or they may be delivered from a remote source with the interaction opportunity data.

The processor may be operable to receive additional information relating to an interaction opportunity for which an icon is already displayed in the second display pane: in such a case, the processor may indicate the arrival of said information to the user by altering the appearance of the respective display icon in the second display pane, rather than congesting the second pane by the addition of a further icon.

The apparatus may comprise means coupled with the processor and operable to receive said information identifying interaction opportunities from at least one remote source, preferably (though not essentially) by wireless download. To further facilitate interaction with remote sources, the processor may be further operable to generate in said third display pane a visual representation of the location of said at least one remote source relative to the

location of the apparatus and/or a representation of relative valuations for two or more remote sources to the apparatus.

In combination with the appearance of an icon in the first display pane, the apparatus may further comprise means controlled by the processor to
5 generate an alert to a user on the generation of a new icon in the first display pane (i.e. on the detection of a new interaction opportunity). Such means may suitably include sounders or vibration devices such that the user can be alerted even if not looking at the user interface at the time, as may be necessary when walking in a crowded environment, for example.

10 To identify to the user how recently a new opportunity has arisen, the processor may be arranged to scroll an icon in the first display pane from one edge of the pane to an opposite edge prior to moving such icon to the second display pane. With multiple opportunities being received close together, the first pane acts as a pipeline along which the icons pass before being arranged
15 in prioritised order in the second pane.

The apparatus may be further operable to facilitate user alteration of device settings through the same arrangement of user interface, with options for setting nested in menus with submenus for respective entries, with
20 respective icons in the first display pane representing menu items on selection of one of which icons are presented in the second display pane representing the respective submenu options, and on selection on one of the icons in the second display pane, the individual device setting options under that submenu are shown in the third display pane.

Also in accordance with the present invention there is provided a
25 method for managing the presentation of information identifying interaction opportunities to a user via a user interface, comprising the steps:

generating a user interface having at least first, second and third display panes;

30 generating a respective display icon for each identified interaction opportunity and initially displaying the same in said first display pane;

subsequently moving the icon from the first to the second display pane wherein other icons are displayed;

arranging the icons in the second display pane according to a predetermined prioritisation scheme; and

on user selection of a displayed icon, displaying additional data associated with the selected icon in the third display pane. The invention
5 further provides a computer readable storage medium containing executable instructions for performing the above method steps.

Further features and advantages of the present invention will become apparent from reading of the following description of preferred embodiments of the present invention, given by way of example only, and with reference to the
10 accompanying drawings, in which:

Figures 1 to 30 are images of a user interface presenting information identifying interaction opportunities; and

Figure 31 schematically represents a device embodying the invention in
15 conjunction with external sources of interaction opportunities.

In the following, interaction mechanisms are described to support a mobile device user's management of the activation of applications on the move. These mechanisms are illustrated in Figures 1 to 30 which show a user-
20 interface design in which:

- The mechanisms allow easy management of both user-initiated applications ('pull') as well as applications initiated automatically or externally ('push') by a new situation, device, network, time, place or social-context event.
- 25 • Both the management of opportunities for peer-to-peer and for client-server applications are unified under an easy-to-use user interface.
- The design has two modes – one for supporting the user on the move (Opportunity Management Mode), one for the user to configure a number of sets of personal preferences, filters and priorities for different
30 application opportunities they may encounter in different contexts (Personal Settings Mode).

Although the design is illustrated by the screen design of a PDA, other handset formats and devices, such as a mobile phone or a laptop, can implement the mechanisms.

5 Opportunity Management Mode

A simple example of an opportunity for interaction might be an incoming phone call or SMS message signalled by a ringing tone and the caller's ID. Alternatively, an opportunity might be for the user's wireless headset to receive audio privately when within range of TV, or a nearby computer projection
10 system to which the user could beam a presentation or a printer, or the proximity of a large public display which the user can appropriate temporarily. Such events might also include a reminder alert to make a phone call, triggered by the user's calendar system. Another example might be the event
15 of a user entering the coverage of a short-range RF beacon that offers local services or the pointers to wide-area network services. Yet another example might be coming within range of an IR signal transmitted from another user's handset offering wireless exchange of business cards.

Considering initially the sequence of Figures 1 to 18, the user interface screen 10 is divided by a central pane 12 into an upper part 14 for viewing and
20 interacting with an application, and lower part 16 for monitoring the current set and state of opportunities. The pane 12 acts as a 'pipeline' for the announcing the arrival of new opportunities/events that pass the user's current personal filter. These are signalled by icons 18 arriving on the pane from the right hand
25 side: the particular form of icon 18 represents the class of opportunity. The new event may also be signalled to a user by a special vibration pattern or accompanied by a signature sound indicating the event's category or class, for example.

These icons 18 trail an explanatory title 20 and possibly also further messages (22; Fig. 2) which scroll from right to left as with a ticker-tape. The
30 event shown in Figures 1 to 8 is an opportunity to interact with location-based services, as a result of a beacon signal that has been discovered or 'pushed'

to the user's handset from an RF or IR beacon which the user has just encountered.

The new opportunity for user interaction then moves down onto a 'rack' of opportunities maintained in a push-down stack in pane 16 (Figs. 2 and 3).
5 This stack may be ordered in different ways. The latest opportunities may be simply put at the top, so then the whole stack of events of the day or week can be reviewed by scrolling down through a long rack. Alternatively, the higher the priority that a new event or opportunity has for the user in their current context (priorities set for example by their current set of personal preferences),
10 the higher on the stack (i.e. closest to the first pane 12) that the event-icon 18 comes to rest. New high-priority events may therefore push down older events, whilst new low priority events will find their place lower in the stack. Thus the user can focus on highest priority events on bars (horizontal lines in the rack) closest to the centre of the screen. The rack can be scrolled up or down, for
15 example via the hotspot or control icon 24 at the right of the screen.

Each new opportunity, such as encountering a short-range RF beacon may offer a number of different applications. For example a beacon may offer (pointers to) services for navigation assistance, commercial offers or stored messages left in that place for the user to read. In this case, the horizontal bar
20 26 on the rack in the pane 16 will show:

- On the left an event-icon 18 identifying the source of the opportunity and its category (e.g. a RF beacon for location-based services). This icon allows the user to quickly assess some characteristics of the application source, such as the trustworthiness of services on offer, or
25 how well the user personally knows the sender of messages.
- To the right a number of icons (30; Fig. 4), one per possible application, again optionally with graphics/accompanying sounds indicating the category of service offered, and optionally also tagged by whether these are visible in the top pane (application space) 14, or are waiting for user
30 interaction (e.g. by the hand icon 30 as in Fig. 4) , or are now passive, or are non-interactive (e.g. one-way broadcast information).

Figure 4 shows the activation (using PDA pointer 32) of an application to provide a visitor's guide after encountering a RF beacon. The amount of handset screen space in the top pane 14 devoted to running and interacting with a specific application is manually or automatically adjustable, so more
5 screen area can be devoted to the application, or to the rack in the lower pane 16 monitoring different application opportunities: for example, the pipeline pane 12 might be dragged lower on the screen via a hotspot.

In an alternative arrangement, where the host device comprises (or has means for connection to) two display devices, the two screens might be
10 synchronised, one for the opportunity monitor, one for the application interaction.

On activating an application, then the application-interaction area 34 in top pane 14 scrolls upward from the centre pane 12 as in Figure 5 and interaction proceeds, for example with the user checking option boxes as in
15 Figure 6. The application is then closed by selecting a 'minimise' hotspot 36 in the upper right hand corner of the application interaction area 34, as in Figure 7. The application interaction area 34 then slides down to the centre pane and disappears, as in Figure 8.

Figure 9 shows the advent of a new opportunity-source, the handset's
20 RF unit having detected the nearby presence of a person, Mr. McPeterson. This event-icon 38 moves from right to left across the centre pane 12 and then down to form a second bar on the rack of currently-active opportunities for user interaction in the lower pane 16 (Figs. 10 and 11). As with the example in Figure 2, the icon 38 trails a further message 40 which scrolls across the
25 centre pane 12.

In Figure 12, the user activates one application that the source, Mr. McPeterson has on offer for interaction, and by pointer 32 selection of a hand icon 44. On activation, this application delivers a business card 46 for Mr McPeterson as seen in Figure 13.

30 So far in this description, the events have been triggered externally and opportunities for interaction have appeared spontaneously (pushed) to the user. The next sequence covering Figures 13 to 18 illustrates the user

manually activating an application (pull). By touching the icon 48 on the right hand of the centre pane 12 shown as 'me' in Figure 13, a set of pre-selected applications, or 'tools' that the user can activate in their currently active context emerge from right to left across the centre pane 12, as shown in Figure 14.

5 These tools may be for example a music player 50 or a calendar 52 as depicted by the icons on the first pane 12 in Figure 14. In Figure 15, a 'radar function' icon is selected. This application searches and alerts the user of the proximity of nearby people who are projecting an RF 'aura' that the handset can detect, or who have their locations tracked by an external infrastructure or

10 service provider, at the same time clearing the previous item (business card 46) from the upper pane 14, as shown in Figure 16.

The radar function visualises 56 how important or interesting nearby people are depending on the user's current context. Each nearby person is visualised with an icon inside the radar associated with a descriptive name

15 (e.g. Otto in Fig. 17). The more interesting or relevant that other people are, then the closer to the radar's centre they are drawn. Thereby the user can easily assess a large number of nearby people for interaction opportunities. The radar may also be extended to show the relevance of nearby devices, services, and places in addition to people. As an alternative (or additional

20 functionality) where positioning location is available for the remote sources, the relative positions on the radar of the radar icons may indicate their relative geographical positions to the user.

In Figure 18, the user then switches (by pointer selection of the vertical bar 60 at the edge of the upper pane 14) modes to view and adjust their

25 personal settings and possibly also to change their currently selected context and its filtering of incoming opportunity-events, as will be discussed in greater detail below.

The user suitably has a number of such opportunity-filters that both screen out and prioritise 'pushed' events and/or the applications they carry.

30 For instance, these filters may be for running in the user's contexts of:

- At home
- At work

- Doing sports
- Leisure Time
- On the Move

5 The icon 'me' 48 on the right hand of the first pane 12 in Figure 18 indicates that the 'On the Way' context (and its associated filtering and prioritisation) is currently active. In contrast, Fig 29 shows a 'house' icon on the right of the pipeline, indicating that the 'At Home' settings are currently active. Note that the current filter and settings may be influencing (invisible) programs
10 or remote applications with which the user does not directly or explicitly interact on the handset. For example, the 'At Work' context selection may influence the settings of their home heating, answering machine or security systems. Also note that the selection of which of the 'contexts' is active may be done explicitly by the user. Alternatively, however the user may decide to
15 delegate the context switching (and so the selection of active filters, priorities and application tools) to an externally detected event. This context-controlling event or situation may be the entry to a sports hall, shopping mall or work office (sensed by RF/IR beacons, RF-ID tags or GPS location) – or to the time of day, or indeed to the proximity of other people of a certain group. In
20 principle any automatically-detected change of state might be the trigger for an automatic context change.

Personal Settings Mode

In Figure 18, the user has activated a change of modes by clicking on
25 the right-hand bar 60. The personal-settings screen view 62 then scrolls out over the opportunity-event and application view as in Figure 19. The mode can be reversed again by selecting the arrows icon 64 on the right hand end of the pipeline in Figure 20, as is shown being done in Figure 26.

In the personal settings mode, the screen is again split into upper and
30 lower panes 14', 16', divided by a horizontal central pane 12', acting as the visual focus for the user. The lower part, 16' is for the main selections between different user contexts ('Home', 'Tourist', 'Business' etc) and the assignments

of their associated sets of applications. The upper part, 14' is for the detailed set-up of application preferences.

In Figure 20, four tools can be seen as currently available in the 'On the Way' context by the presence of icons on 12', representing the radar, calendar, music and information board applications. These are available in the context of 'On the Way' (the third-from-top icon 66 in the column on the right-hand side of 16' shown shaded to indicate that it is active).

In Figure 21, a change is made to the 'Business' context (the lowest icon 68 in the column on the right hand side of 16'). The old application-tool set slides away as shown and a new set appears from right to left on the pipeline. As with all other operations with the user-interface, feedback on such actions may optionally be reinforced by sounds, tunes or vibration patterns which can also be a channel to inform the user of other properties of the handset, situation, peer, opportunity source context or application.

In Figure 22 one of the 'Business context' tools 70 is selected for personal adjustment. The profile-settings view 72 for this information tool emerges scrolling upwards from the central pane 12' as in Figure 23. As with the other mode, the user can devote more screen space to view this application's settings via the scroll hotspot at 74, moving the central pane 12' down and leading to the view in Figure 24.

After the user has completed in this mode any personal preference and setting adjustments, plus their prioritisation of tool/applications/alerts for different contexts (see Fig. 25), then the user's activates the arrow hotspot 72 on the right hand end of the central pane 12'. This closes the settings view 72 (as in Fig. 26) and then slides the second mode's screens away (Fig. 27), returning to the opportunity-event manager of the first mode, with the radar application currently activated, as in Figure 28.

Returning to the Opportunity Management mode, a number of more sophisticated extensions are possible, as shown in Figures 29 and 30. As examples, the clock icon at 78 has a bubble 80 indicating that explanatory text is available. The heart 82 added to the event-icon 84 on the left of the bar indicates that this carries a trusted set of applications which are very personal

for the user. A heart added to an event-icon associated with a service indicates the user is a known subscriber to that service. A heart added to an event-icon representing a person indicates that this source is a trustworthy or known person (e.g. from earlier interactions or being a colleague or friend).

5 The downward pointing triangle 86 on the event-icon at 88 shows that this is from a cluster of applications that can be expanded further. (Note especially that one event may open up an hierarchy of groups of application opportunities of different types for the user.) The 'i' annotation 90 on icon 92 indicates that this application is waiting for interaction from the user.

10 In Figure 30 the states of a number of monitors running on the handset (or interrogated by the handset) are shown in the upper pane 14 when no other applications are using that screen area. For instance, in the left-most column, running top to bottom, icons indicate:

 at 94 that the house is currently locked;
15 at 96 that an alert has fired about the price of the user's stock;
 at 98 that handset sounds are activated (ear icon);
 at 100 that the screen is also turned on (eye icon);
 at 102 that the battery is getting low; and
 at 104 that there is a strong GSM network signal.

20 The second column of monitors suggests nutritional advice for the day (106), the current temperature (108), the current time (110), and at 112 the user's current location (determined by mobile cell ID, GPS, RF beacon or another manner).

 As mentioned above, the host apparatus of the interface may comprise
25 a PDA, mobile telephone, laptop or like device. Figure 31 shows the principal components of such a device 120 embodying the invention and with interaction opportunities from two remote sources, beacons 122, 124. Information about the interaction opportunities from beacon 122 is picked up
 by antenna 126 (which may be external or internal to the device 120) and, via
30 a receiver and decoder stage 128, the received data is passed to a central processor 130.

Coupled with the processor 130 is a data storage means 132, which may comprise both read-only and random access memory suitably linked to the processor by addressing and data buses. As indicated by the dashed line at 134, the memory 132 may be supplemented by removable storage means, such as floppy or optical disc, memory sticks, solid state memory cards and the like. The data storage includes the program instruction for controlling the processor to generate and manage the user interface as described hereinabove with reference to Figures 1 to 30.

Also coupled to the processor 130 is a display device 10 on which the user interface is presented. User input means are also coupled to the processor to support the user interaction with the detected interaction opportunities and also with the interface itself (for example in the Personal Settings mode). The form of user input device will be to some extent dictated by the form and function of the device 120 as a whole. For example, where the device is a laptop computer, the user input device will typically comprise a full alpha-numeric keyboard as well as an x/y cursor control (either integral or through a plugged in mouse or trackball device). Where the device is a mobile telephone, the number of keys for inputting data is likely to be greatly reduced, and mechanisms such as a touch sensitive screen coupled with option menu generation may be used. In the example shown, the device is a PDA (or similar) with a touch screen interface 136 coupled with the display device (typically a liquid crystal device) 10, with user selection of items displayed on the user interface being effected by use of a pointer device 32.

From reading the present disclosure, other variations will be apparent to persons skilled in the art. Such variations may involve other features which are already known in the field of apparatuses having graphical or screen display interfaces or component parts thereof and/or methods for control of the same and which may be used instead of or in addition to features already described herein.

CLAIMS

1. A portable data processing apparatus being operable to receive information identifying interaction opportunities for a user of the apparatus and present the same to said user via a display, the apparatus comprising:

5 a processor coupled with data storage means and said display and programmed to generate a respective display icon for each identified interaction opportunity; and

user operable input means for selecting a displayed icon;

10 wherein the processor is arranged to generate a user interface having at least first, second and third display panes, with newly generated display icons being initially displayed in said first display pane and subsequently moved to said second display pane wherein other icons are displayed; wherein the processor is configured to arrange the icons in the second display pane according to a predetermined prioritisation scheme; and wherein on user selection of a displayed icon additional data associated with the selected icon is displayed in the third display pane.

2. Apparatus as claimed in Claim 1, being arranged to determine from said information identifying interaction opportunities a respective priority for each, wherein said predetermined prioritisation scheme applied by the processor positions those display icons in the second display pane in order of priority relative to the position of the first display pane.

25 3. Apparatus as claimed in Claim 1, wherein said predetermined prioritisation scheme applied by the processor positions those display icons in the second display pane in the order they arrived in the first display pane.

30 4. Apparatus as claimed in any of Claims 1 to 3, wherein the processor is configured to identify, from said received information, a plurality of different classes of interaction opportunity and to indicate the same to a user

by the form of display icon presented for each identified interaction opportunity.

5 5. Apparatus as claimed in Claim 4, wherein the form of each display icon is determined at least partly by data held in said data storage means.

10 6. Apparatus as claimed in any of Claims 1 to 5, wherein the processor is operable to receive additional information relating to an interaction opportunity for which an icon is already displayed in the second display pane and to indicate the arrival of said information to the user by altering the appearance of the respective display icon in the second display pane.

15 7. Apparatus as claimed in any of Claims 1 to 6, comprising means coupled with said processor and operable to receive said information identifying interaction opportunities from at least one remote source.

20 8. Apparatus as claimed in Claim 7, wherein the processor is further operable to generate in said third display pane a visual representation of relative valuations for two or more remote sources to the apparatus.

 9. Apparatus as claimed in Claim 7 or Claim 8, wherein said means operable to receive said information is a wireless receiver.

25

 10. Apparatus as claimed in any of Claims 1 to 9, further comprising means controlled by the processor to generate an alert to a user on the generation of a new icon in the first display pane.

30 11. Apparatus as claimed in any preceding Claim, wherein the processor is arranged to scroll an icon in the first display pane from one edge

of the pane to an opposite edge prior to moving such icon to the second display pane.

12. Apparatus as claimed in any preceding Claim, wherein the first
5 display pane is positioned between the second and third display panes on the apparatus display.

13. Apparatus as claimed in any preceding Claim, being further
operable to facilitate user alteration of device settings through said user
10 interface, wherein options for setting are nested in menus with submenus for respective entries, with respective icons in the first display pane representing menu items on selection of one of which icons are presented in the second display pane representing the respective submenu options, and on selection on one of the icons in the second display pane, the individual device setting
15 options under that submenu are shown in the third display pane.

14. A method for managing the presentation of information identifying interaction opportunities to a user via a user interface, comprising the steps:
20 generating a user interface having at least first, second and third display panes;
generating a respective display icon for each identified interaction opportunity and initially displaying the same in said first display pane;
subsequently moving the icon from the first to the second display pane
25 wherein other icons are displayed;
arranging the icons in the second display pane according to a predetermined prioritisation scheme; and
on user selection of a displayed icon, displaying additional data associated with the selected icon in the third display pane.

30 15. A computer readable storage medium containing executable instructions for performing the method steps of Claim 14.

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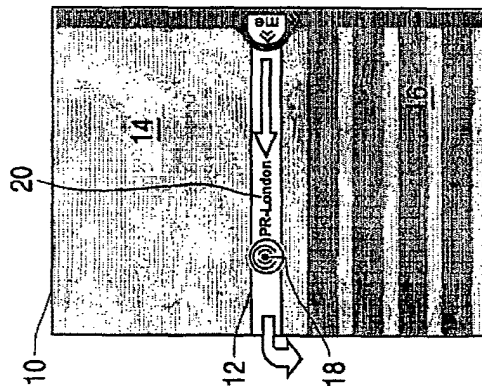
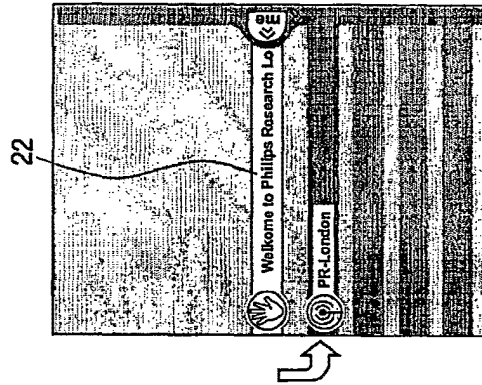
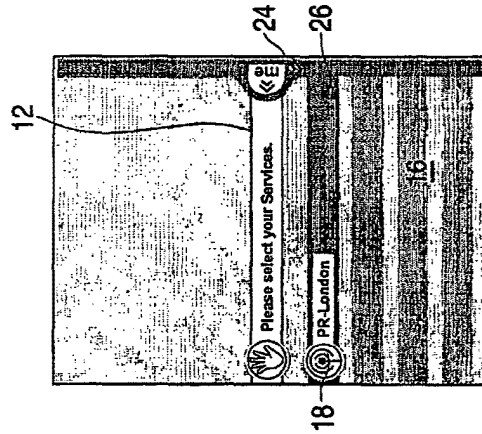


FIG. 1

FIG. 2

FIG. 3

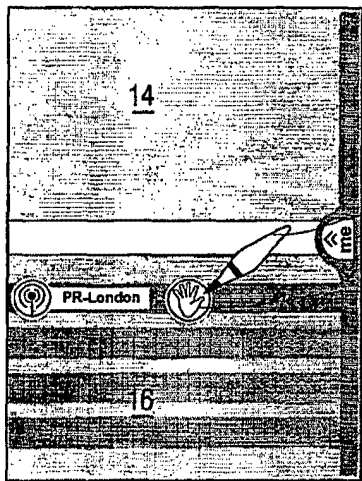


FIG. 4

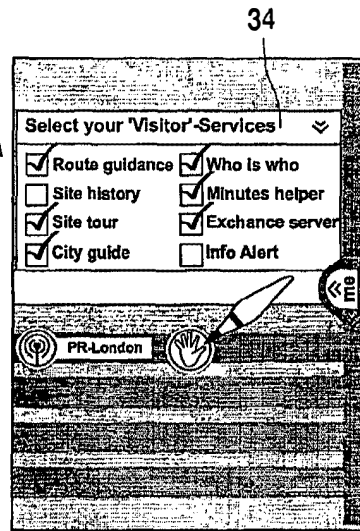


FIG. 5

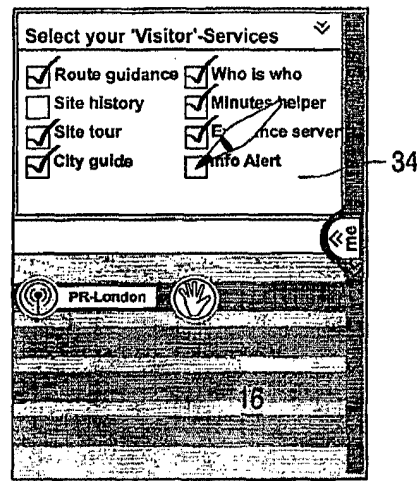


FIG. 6

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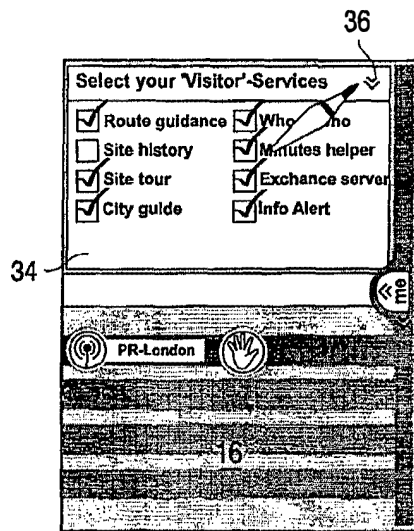


FIG. 7

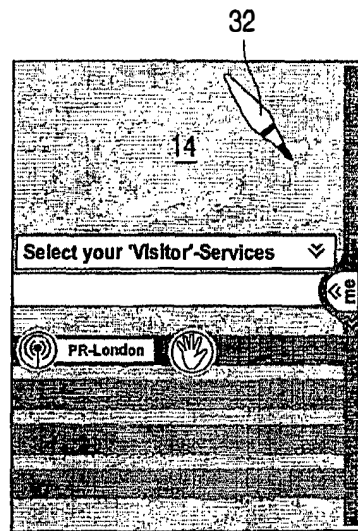


FIG. 8

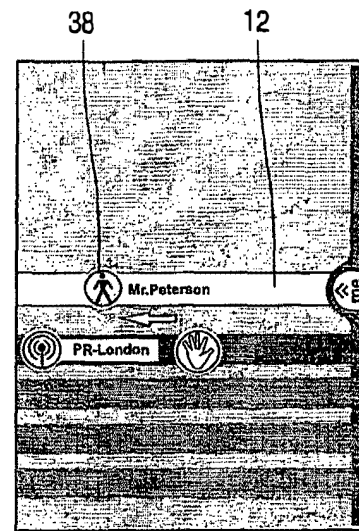


FIG. 9

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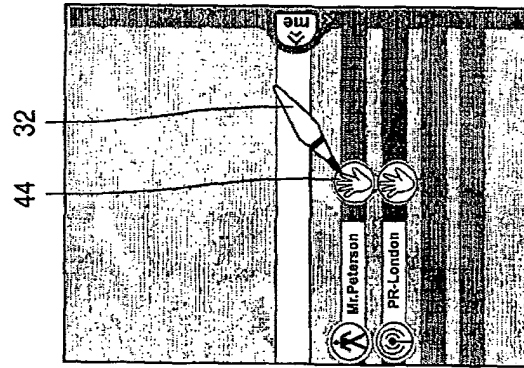


FIG.10

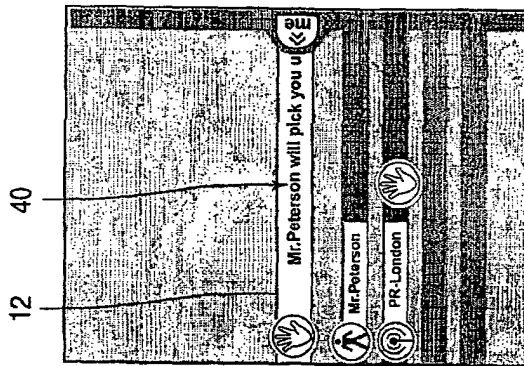


FIG. 11

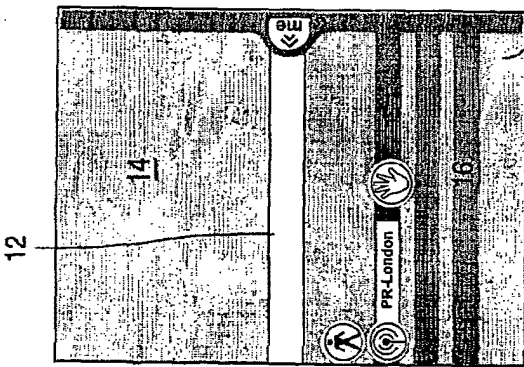


FIG. 12

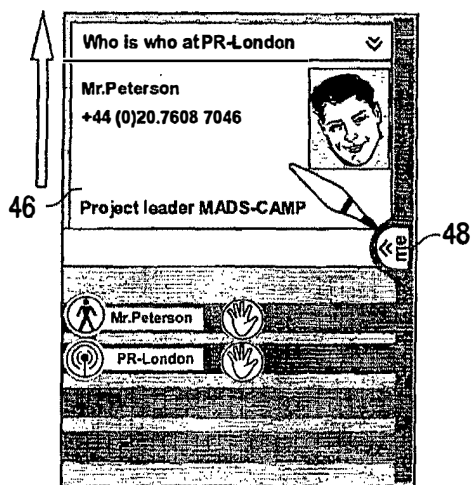


FIG. 13

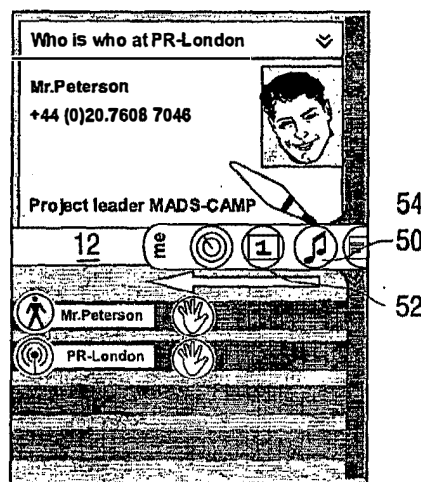


FIG. 14



FIG. 15

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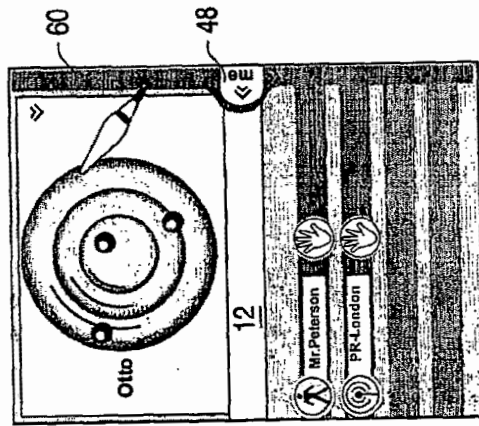


FIG. 16

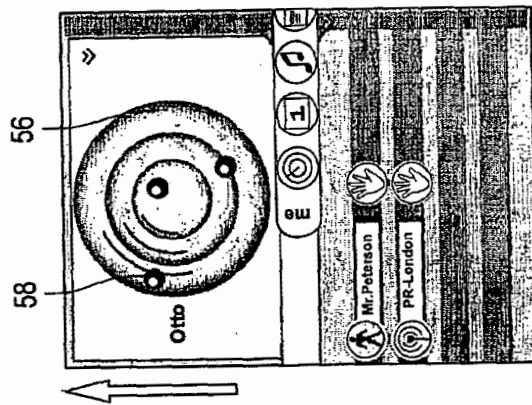


FIG. 17

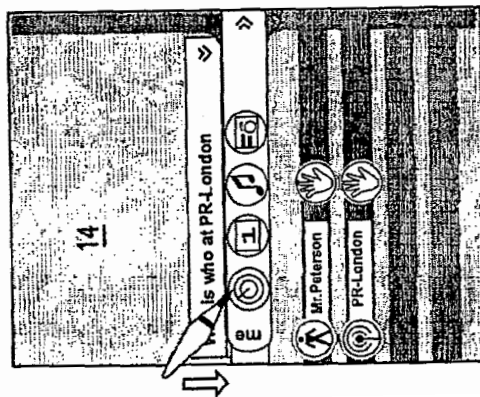


FIG. 18

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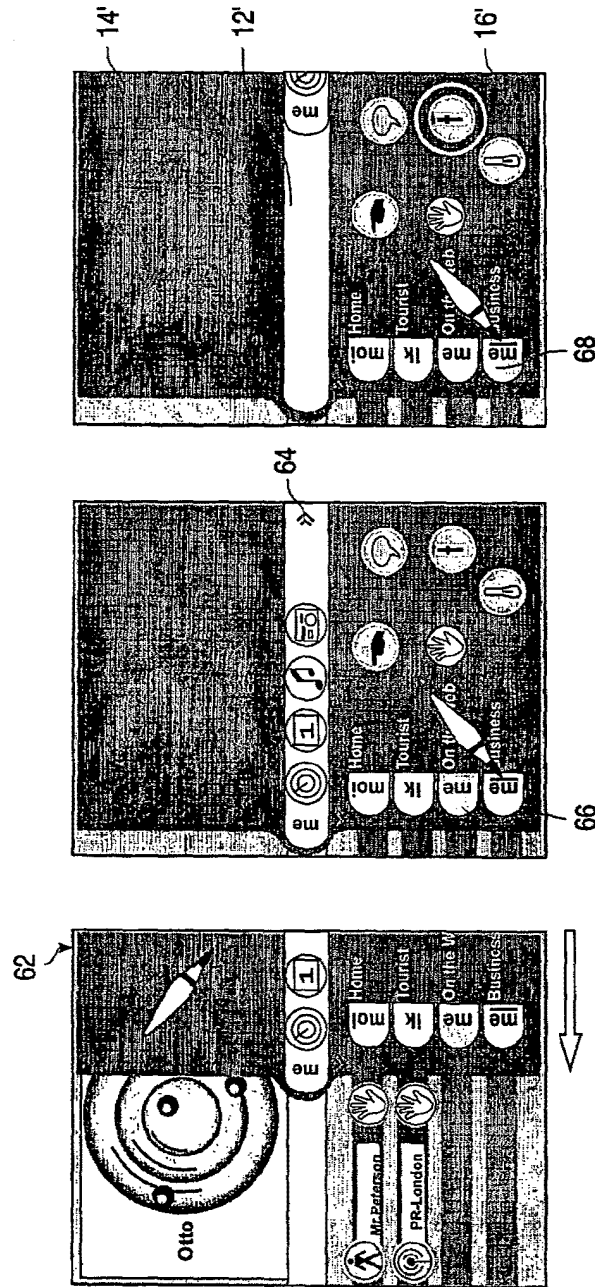


FIG. 21

FIG. 20

FIG. 19

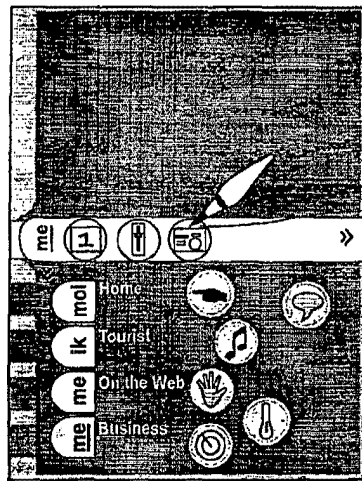


FIG. 22

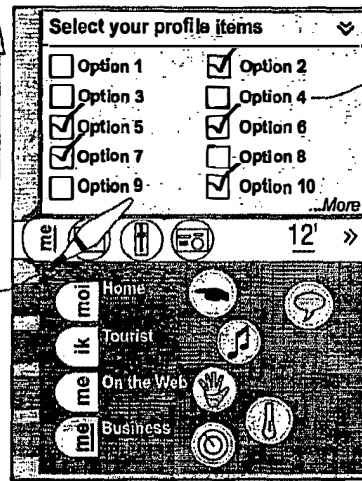


FIG. 23

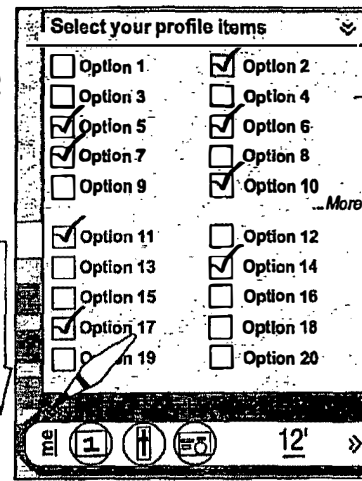


FIG. 24

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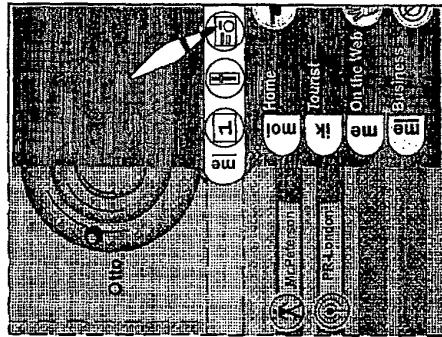


FIG. 27

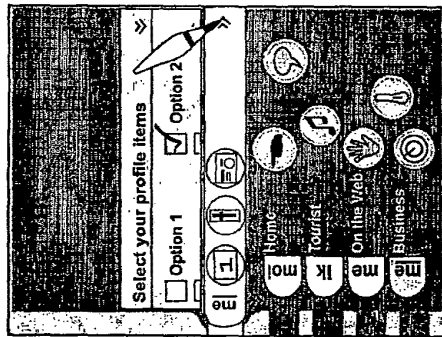


FIG. 26

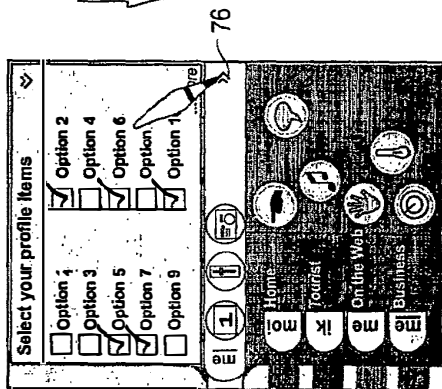


FIG. 25

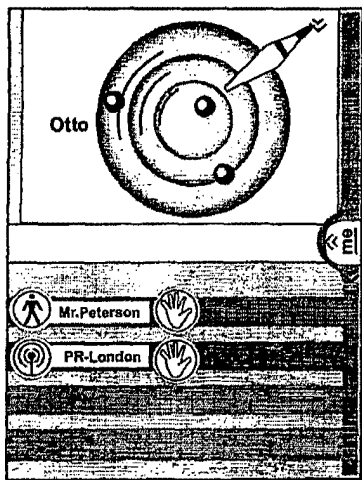


FIG. 28

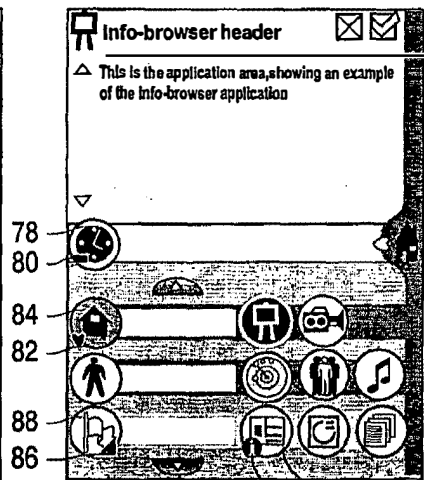


FIG. 29

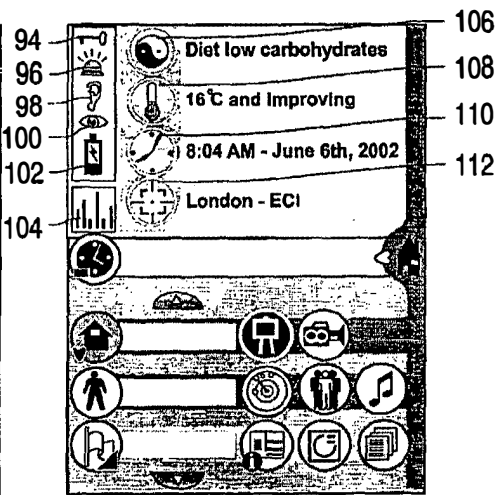


FIG. 30

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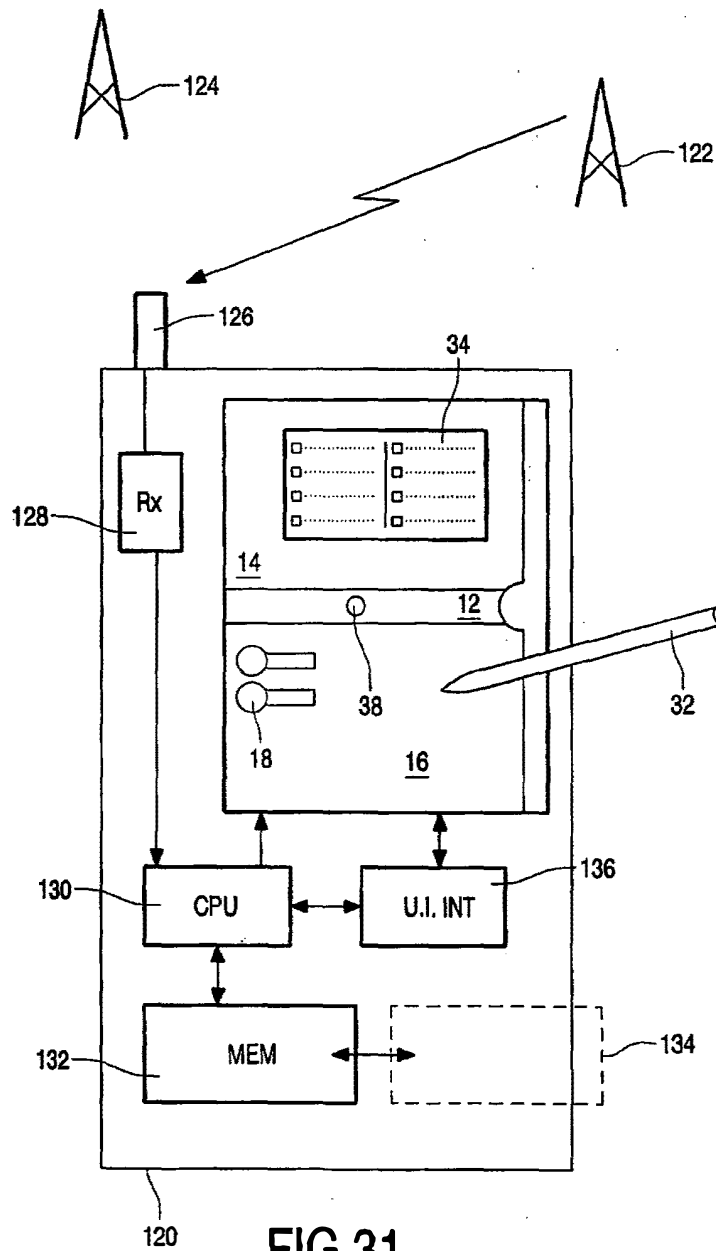


FIG.31



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Bib Data Sheet

CONFIRMATION NO. 2886

Table with 5 columns: SERIAL NUMBER (10/983,606), FILING OR 371(c) DATE (11/09/2004), CLASS (715), GROUP ART UNIT (2178), ATTORNEY DOCKET NO. (16813-39US)


APPLICANTS
Sherryl Lee Lorraine Scott, Toronto, CANADA;
** CONTINUING DATA *****
** FOREIGN APPLICATIONS *****
IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 01/26/2005

Table with 6 columns: Foreign Priority claimed (no), 35 USC 119 (a-d) conditions (no), STATE OR COUNTRY (CANADA), SHEETS DRAWING (11), TOTAL CLAIMS (25), INDEPENDENT CLAIMS (2). Includes Examiner's Signature and Initials.

ADDRESS
AIR MAIL
20988

TITLE
Dynamic bar oriented user interface


Table with 3 columns: FILING FEE RECEIVED (880), FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following: (checkboxes for All Fees, 1.16 Fees, 1.17 Fees, 1.18 Fees, Other, Credit)

Index of Claims 	Application/Control No. 10983606	Applicant(s)/Patent Under Reexamination SCOTT, SHERRYL LEE LORRAINE
	Examiner Salomon, Phenuel S	Art Unit 2178

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T
 R.1.47

CLAIM		DATE							
Final	Original	07/03/2007							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
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	19	✓							
	20	✓							
	21	✓							
	22	✓							
	23	✓							
	24	✓							
	25	✓							

Search Notes 	Application/Control No. 10983606	Applicant(s)/Patent Under Reexamination SCOTT, SHERRYL LEE LORRAINE
	Examiner Salomon, Phenuel S	Art Unit 2178

SEARCHED			
Class	Subclass	Date	Examiner
715	779,808,854,864	7/3/07	pss
455	566,564,556,557	7/3/07	pss

SEARCH NOTES			
Search Notes	Date	Examiner	
US-PGPUB,USPAT,USOCR,EPO,JPO,DERWENT,IBM_TDB	7/3/07	PSS	

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	6	((varying or varied or alter\$4 or dynamic or chang\$4) adj2 (userbar or toolbar or actionbar or infobar)) with ((interface or framework or region or area or space) near15 (application or function or action or command))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:02
S2	0	((varying or varied or alter\$4 or dynamic or chang\$4) adj2 (userbar or toolbar or actionbar or infobar)) same ((pop\$up or dropdown) adj1 (interface or framework or region or area or space) near15 (application or function or action or command))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 13:57
S3	0	((alter\$4 or dynamic or chang\$4) adj2 (userbar or toolbar or actionbar or infobar) same (pop\$up or drop\$down) adj1 (interface or framework or region or area or space))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 13:58
S4	23	((alter\$4 or dynamic or chang\$4) adj2 (userbar or toolbar or actionbar or (navigation adj1 bar) or infobar)) same ((interface or framework or region or area or space) near25 (application or function or action or command or link or icon))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:56
S5	84970	scott.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:18
S6	0	S2 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:18
S7	0	S4 and S5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:19

EAST Search History

S8	4	S5 and (dynamic adj1 bar)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:31
S9	0	EP1509835.AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:32
S10	0	EP01509835.AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:32
S11	0	wo-03100591-a.did.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:35
S12	0	wo-03100591-a1.did.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:35
S13	0	wo-03100591-a1.pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:36
S14	80	((dynamic or chang\$4) adj1 (userbar or toolbar or actionbar or (navigation adj1 bar) or infobar)) and (application or function or action or command or link or icon)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 14:59
S15	9445	((expand\$4 adj2 pop\$up) or drop\$down) and (interface or frame or gui)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/03 20:18

EAST Search History

S16	9244	S15 and (application or function or link or command)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 15:04
S17	121	S16 and (preview adj1 (information or content or data))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:30
S18	0	715/79.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:30
S19	168	715/779.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:30
S20	26	S16 and S19	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:56
S21	1324	715/808,854,864.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:56
S22	4	S17 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:59
S23	2	"6211858".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 16:59

EAST Search History

S24	9	("5239684" "5396264" "5420975" "5422656" "5634100" "5689654" "5821936" "5848356" "6144863").PN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/07/02 17:30
S25	1	"6211858".pn.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/07/02 17:31
S26	1	"6600936".pn.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/07/02 17:33
S27	1	"6332024".pn.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/07/02 17:33
S28	2	"20030013483"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 19:24
S29	2	"6047197".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/02 22:08
S30	4177	455/566,564,556,557.ccls. and (application or function or link or command)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/03 20:17
S31	15	S30 and ((expand\$4 adj2 pop\$up) or drop\$down) and (interface or frame or gui)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/07/03 20:18

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10983606	
	Filing Date		2004-11-09	
	First Named Inventor	Sherryl Lee Lorraine SCOTT		
	Art Unit		2635	
	Examiner Name	John W. CABECA		
	Attorney Docket Number		16813-39US	

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	Filing Date		2004-11-09
	First Named Inventor	Sherryl Lee Lorraine SCOTT	
	Art Unit		2635
	Examiner Name	John W. CABECA	
	Attorney Docket Number		16813-39US

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	10983606
	Filing Date	2004-11-09
	First Named Inventor	Sherryl Lee Lorraine SCOTT
	Art Unit	2635
	Examiner Name	John W. CABECA
	Attorney Docket Number	16813-39US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/sm/	Date (YYYY-MM-DD)	2006-12-01
Name/Print	Stephen Martin	Registration Number	56740

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Electronic Patent Application Fee Transmittal

Application Number:	10983606			
Filing Date:	09-Nov-2004			
Title of Invention:	Dynamic bar oriented user interface			
First Named Inventor/Applicant Name:	Sheryl Lee Lorraine Scott			
Filer:	Stephen Martin			
Attorney Docket Number:	16813-39US			
Filed as Large Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

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EFS ID:	1348345
Application Number:	10983606
International Application Number:	
Confirmation Number:	2886
Title of Invention:	Dynamic bar oriented user interface
First Named Inventor/Applicant Name:	Sherryl Lee Lorraine Scott
Customer Number:	20988
Filer:	Stephen Martin
Filer Authorized By:	
Attorney Docket Number:	16813-39US
Receipt Date:	01-DEC-2006
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Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed	IDS.PDF	660786	no	4

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	8158	no	2
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Warnings:

Information:

Total Files Size (in bytes):			668944		
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

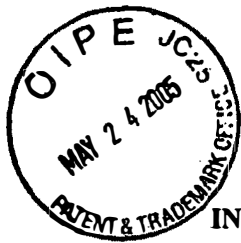
New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

Free



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Research In Motion Limited**

Attorney Docket No.: 16813-39US

Serial No.: 10/983,606

Group Art Unit: 2635

Filed: **November 9, 2004**

Examiner: --

For: **DYNAMIC BAR ORIENTED USER INTERFACE**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to the duty of disclosure under 37 CFR 1.56, Applicant submits an Information Disclosure Statement on the attached Form PTO-1449.

It is hereby certified in accordance with 37 CFR 1.97(e) that no item of information contained in this Information Disclosure Statement was known to the Applicant or any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this statement. The references were cited in the European Search Report by the European Patent Office in connection with the corresponding EP Application No. 04105647.4. A copy of the European Search Report mailed April 15, 2005 to the Applicant, is enclosed.

In accordance with 37 CFR 1.97(h), the submission of the present information is not to be construed as an admission that such information is, or is considered to be, material to patentability.

The Examiner is kindly requested to consider these references during the examination of the above-identified application, making the references of record, and to return an initialed copy of Form PTO-1449 to the undersigned agent. It is not believe that any fee is required in connection with the filing of this Information Disclosure Statement.

Respectfully submitted,
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Date: May 24, 2005



The examination is being carried out on the following application documents:

Description, Pages

1-16 as originally filed

Claims, Numbers

1-25 as originally filed

Drawings, Sheets

1/11-11/11 as originally filed

- 1 The following documents (Di) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP-A-1 434 411 (SONY ERICSSON MOBILE COMMUNICATIONS AB) 30 June 2004 (2004-06-30)

D2: WO 03/100591 A (KONINKLIJKE PHILIPS ELECTRONICS N.V; MAASS, HENNING; WEIDENHAUPT, KLAU) 4 December 2003 (2003-12-04)

- 2 The present application does not meet the requirements of Articles 52(1), because the subject-matter of claim 1 is not new, Article 54(1) and (2) EPC. Claim 1 is therefore not allowable.

- 2.1 The present broad formulation of independent method claim 1 is such that its subject matter can be read onto prior art document D1, which relates to a method for controlling an apparatus (abstract).

In particular, document D1 discloses a method comprising the steps of providing at least one dynamic bar displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for applications and/or functions provided by the apparatus (see paragraph 5-7, 32-33, 38; fig.3, #31, 32, 33, 34, 35, 36, 38; fig. 4), said each dynamic bar having an expandable pop-up interface for providing respective



preview information determined from information managed by the applications and/or functions and links to invoke said respective interfaces (paragraph 38, 39, 41; fig.4); and invoking said respective interfaces to control said apparatus in response to user input (paragraph 38, 39, 41, 42; fig.4).

Consequently, the features of independent claim 1 are already known from D1.

- 2.2 The present broad formulation of independent method claim 1 is such that its subject matter can additionally be read onto prior art document D2 (abstract; page 6 line 5 - page 9 line 22; fig.1-30).
- 2.3 The additional features of dependent claims 2-4, 7-8, 10-12 are either disclosed by D1 or D2:
claim 2 see D1: c.7 l.34-39; c.8 l.18-24; fig. 3, #36;
claim 3 see D1: c.7 l.2-7; c.8 l.18-24; fig. 3, #36;
claim 4 see D2: p.6 l.21-23;
claim 7 see D2: p.11 l.28 - p.12 l.9;
claim 8,10 see D1: c.8 l.25-39;
claim 11 see D1: c.9 l.12-49;
or seem to be implementation measures not involving any special technical effect. Hence, the additional features of said claims do either not add anything novel or inventive to claim 1.
- 3 The structural features of independent apparatus claims 13 and 25 correspond to the already discussed method steps of method claim 1. Claims 13 and 25 are, therefore, not novel.
- 3.1 The structural features of dependent claims 14-16, 19-20, 22-24 correspond to the already discussed method steps of claims 2-12. Hence, these claims do either not add anything novel or inventive to claim 13.
- 4 The technical meaning of the wording "... in response to logical relationships between the applications and/or functions." as part of dependent claim 5 is not clear. The first part of the claim until the above citation is understood as if the user can select the applications/functions which can notify the user by displaying some information in the dynamic bar. Therefore, the applicant is asked to explain the meaning of claim 5, specially the citation above and where to find support in the



description for this subject matter.

The same problem exists for corresponding claim 17.

4.1 The technical meaning of the wording "... in response to at least one of the logical relationships." as part of dependent claim 6 is not clear. The first part of the claim until the above citation is understood as if the bars can be labelled, but under which condition is not clear. Therefore, the applicant is asked to explain the meaning of claim 6, specially the citation above and where to find support in the description for this subject matter.

The same problem exists for corresponding claim 18.

4.2 Claim 17 lacks in its wording the part of all other claims 13-16, 18-24 "said programming instructions are designed to ...". Therefore, the category of the claim is not clear, Article 84 EPC; and further this renders claim 18 unclear, which refers back to claim 17.

5 Problems in the description:

- there seems to be something missing on p.11 l.31,32: "When expanded the bars and pop-ups of main screen 300 of Fig.10 are distinguished from the bar..."
- on p.12 l.27 the wording "of same may" should probably read "of game may"
- on p.14 l.14 "particular" -> "particular"
- on p.14 l.29 "my" -> "by"

6 When filing new claims, the applicant should also take into consideration the following points:

6.1 In order to meet the requirements of Rule 29(1) EPC, the independent claims should be cast in the two part form, with those features which in combination are disclosed by the closest prior art D1 placed in the preamble.

6.2 In order to meet the requirements of Rule 29(7) EPC, reference signs in parenthesis should be inserted in the claims.

6.3 The description (para. 7-10) should be brought into conformity with the new claims to be filed (Rule 27(1)(c) EPC).

6.4 In order to fulfil the requirements of Rule 27(1)(b) EPC, the documents D1 and D2



Bescheid/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

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Anmelde-Nr.:
Application No.: 04 105 647.4
Demande n°:

should be identified in the introductory part of the description and the relevant background art disclosed therein briefly discussed, preferably in such a way that the inventive merit of what is claimed can be readily understood.

- 6.5 The attention of the Applicant is drawn to the fact that the application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed (Article 123(2) EPC).

In order to ease the procedure of proving this, the Applicant should state, on which parts of the originally filed application the amendments by addition, replacement or deletion are based (Guidelines E-II-1).

Additionally, it would be appreciated, if the differences vis-à-vis the prior art and the special technical effects of said differences would be stated in the reply to this communication.

[Alternative]

In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the Applicants is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages in the application as filed on which these amendments are based (Guidelines E-II-1).



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 434 411 A (SONY ERICSSON MOBILE COMMUNICATIONS AB) 30 June 2004 (2004-06-30) * abstract; figures 1-4,5a,5b * * paragraphs [0002], [0004] - [0007], [0032], [0033], [0038] - [0042] * -----	1-3,8, 10,11, 13-15, 20,22, 23,25	H04M1/247
X	WO 03/100591 A (KONINKLIJKE PHILIPS ELECTRONICS N.V; MAASS, HENNING; WEIDENHAUPT, KLAU) 4 December 2003 (2003-12-04) * abstract; figures 1-30 * * page 5, line 17 - page 12, line 9 * -----	1,3,4, 6-8,10, 13,15, 16, 18-20, 22,25	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H04M G06F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 8 April 2005	Examiner Teiwes, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.02 (P/4/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 10 5647

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-04-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1434411 A	30-06-2004	EP 1434411 A1	30-06-2004
		WO 2004057845 A1	08-07-2004

WO 03100591 A	04-12-2003	AU 2003230141 A1	12-12-2003
		EP 1509835 A2	02-03-2005
		WO 03100591 A2	04-12-2003

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82



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Datum/Date

15.04.05

Zeichen/Ref./Réf. 1082-0126	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 04105647.4-2414-
Anmelder/Applicant/Demandeur/Propriétaire/Proprietary/Titulaire Research In Motion Limited	

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

abstract title

The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract: 10

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



BEST AVAILABLE COPY

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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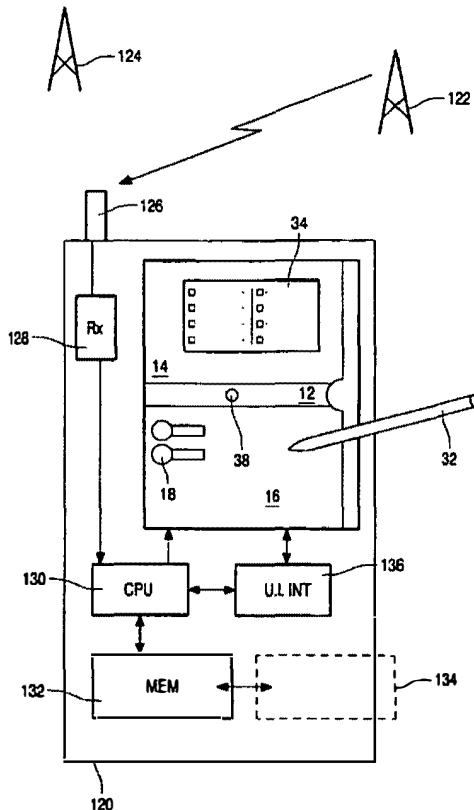
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- (30) Priority Data:
0211901.4 23 May 2002 (23.05.2002) GB
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[Continued on next page]

(54) Title: MANAGEMENT OF INTERACTION OPPORTUNITY DATA



(57) Abstract: A portable data processing apparatus (120) receives information identifying interaction opportunities for a user of the apparatus and presents them via a display (10). For each identified interaction opportunity, a processor (130) generates a respective display icon (38, 18). The processor generates a user interface having at least first (12), second (16) and third (14) display panes, with newly generated display icons (38) being initially displayed in the first display pane (12). Subsequently, icons (18) are moved to the second display pane (16) and arranged according to a predetermined prioritisation scheme. On user selection of a displayed icon, additional data associated with the selected icon is displayed in the third display pane (14).

WO 03/100591 A2



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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

DESCRIPTION

MANAGEMENT OF INTERACTION OPPORTUNITY DATA

5 The present invention relates to apparatuses having display means operable to display data relating to interaction opportunities for a user of such apparatus. In particular, but not exclusively, the invention relates to apparatus displaying such data in display panels or windows (hereinafter generally referred to as panes) on a single screen or display device, and to methods for
10 managing the presentation and updating of such data displays.

 Recent years have seen a great increase in subscribers world-wide to mobile telephone networks and, through advances in technology and the addition of functionalities, cellular telephones have become personal, trusted
15 devices. A result of this is that a mobile information society is developing, with personalised and localised services becoming increasingly more important. Such "Context-Aware" (CA) mobile telephones are used with low power, short range base stations in places like shopping malls to provide location-specific information. This information might include local maps, information on nearby
20 shops and restaurants and so on. With other personal and portable devices, such as personal digital assistants (PDA's) and laptop computers, gaining the technical features also to support such interaction, the number of CA terminals is also beginning to increase.

 An example of a CA terminal is given in U.S. patent 5,835,861 which
25 discloses the use of wireless telephones within the context of advertisement billboards. The user of a wireless telephone obtains the telephone number of a vendor by activating his/her wireless telephone to transmit a prompt signal to an active advertisement source and to receive from the advertisement source a response signal containing the telephone number of the advertising vendor.
30 The telephone number can then be used to automatically place a call to that vendor via the public switched telephone network. Alternatively, the telephone number can be stored for use later on. This arrangement can be used to place

a call to a vendor without having to either memorise the telephone number or to write it down. The signals between the billboard and the caller can be transmitted as modulated infrared (IR) signals.

5 A problem that users are increasingly faced with is the volume of data relating to interaction opportunities that is available. The user's CA terminal may be equipped to filter the information received according to pre-stored user preferences, and the user only alerted if an item of data of particular interest has been received, but there is still a need to effectively manage the information that does pass the filter.

10

It is accordingly an object of the present invention to provide a means for presentation of interaction information to a user which gives improved utilisation of display capacity per unit area of display surface.

15 It is a further, subsidiary, object to provide such a system supporting improved indexing and access facilities for the user.

In accordance with a first aspect of the present invention there is provided a portable data processing apparatus being operable to receive information identifying interaction opportunities for a user of the apparatus and present the same to said user via a display, the apparatus comprising:

20 a processor coupled with data storage means and said display and programmed to generate a respective display icon for each identified interaction opportunity; and

user operable input means for selecting a displayed icon;

25 wherein the processor is arranged to generate a user interface having at least first, second and third display panes, with newly generated display icons being initially displayed in said first display pane and subsequently moved to said second display pane wherein other icons are displayed; wherein the processor is configured to arrange the icons in the second display pane according to a predetermined prioritisation scheme; and wherein on user selection of a displayed icon additional data associated with the selected icon
30 is displayed in the third display pane. By the provision of the particular arrangement of panes, the user can quickly identify newly-arrived interaction

opportunities (first pane), more easily find those likely to be of interest (prioritised arrangement in the second pane), and call up further information (third pane) without obscuring the first two panes.

The apparatus may be arranged to determine from the information identifying interaction opportunities a respective priority for each, with the predetermined prioritisation scheme applied by the processor positioning those display icons in the second display pane in order of priority relative to the position of the first display pane. The predetermined prioritisation scheme applied by the processor may comprise complex schemes for evaluating and prioritising opportunities, or it may be as simple as temporal prioritisation with those display icons in the second display pane being displayed in the order they arrived in the first display pane.

For improved clarity, the processor may be configured to identify, from the received information, a plurality of different classes of interaction opportunity and to indicate the same to a user by the form of display icon presented for each identified interaction opportunity. Such different forms of icon may be determined at least partly by data held in the data storage means, and/or they may be delivered from a remote source with the interaction opportunity data.

The processor may be operable to receive additional information relating to an interaction opportunity for which an icon is already displayed in the second display pane: in such a case, the processor may indicate the arrival of said information to the user by altering the appearance of the respective display icon in the second display pane, rather than congesting the second pane by the addition of a further icon.

The apparatus may comprise means coupled with the processor and operable to receive said information identifying interaction opportunities from at least one remote source, preferably (though not essentially) by wireless download. To further facilitate interaction with remote sources, the processor may be further operable to generate in said third display pane a visual representation of the location of said at least one remote source relative to the

location of the apparatus and/or a representation of relative valuations for two or more remote sources to the apparatus.

In combination with the appearance of an icon in the first display pane, the apparatus may further comprise means controlled by the processor to
5 generate an alert to a user on the generation of a new icon in the first display pane (i.e. on the detection of a new interaction opportunity). Such means may suitably include sounders or vibration devices such that the user can be alerted even if not looking at the user interface at the time, as may be necessary when walking in a crowded environment, for example.

10 To identify to the user how recently a new opportunity has arisen, the processor may be arranged to scroll an icon in the first display pane from one edge of the pane to an opposite edge prior to moving such icon to the second display pane. With multiple opportunities being received close together, the first pane acts as a pipeline along which the icons pass before being arranged
15 in prioritised order in the second pane.

The apparatus may be further operable to facilitate user alteration of device settings through the same arrangement of user interface, with options for setting nested in menus with submenus for respective entries, with respective icons in the first display pane representing menu items on selection
20 of one of which icons are presented in the second display pane representing the respective submenu options, and on selection on one of the icons in the second display pane, the individual device setting options under that submenu are shown in the third display pane.

Also in accordance with the present invention there is provided a
25 method for managing the presentation of information identifying interaction opportunities to a user via a user interface, comprising the steps:

generating a user interface having at least first, second and third display panes;

30 generating a respective display icon for each identified interaction opportunity and initially displaying the same in said first display pane;

subsequently moving the icon from the first to the second display pane wherein other icons are displayed;

arranging the icons in the second display pane according to a predetermined prioritisation scheme; and

on user selection of a displayed icon, displaying additional data associated with the selected icon in the third display pane. The Invention
5 further provides a computer readable storage medium containing executable instructions for performing the above method steps.

Further features and advantages of the present invention will become apparent from reading of the following description of preferred embodiments of
10 the present invention, given by way of example only, and with reference to the accompanying drawings, in which:

Figures 1 to 30 are images of a user interface presenting information identifying interaction opportunities; and

Figure 31 schematically represents a device embodying the invention in
15 conjunction with external sources of interaction opportunities.

In the following, interaction mechanisms are described to support a mobile device user's management of the activation of applications on the move. These mechanisms are illustrated in Figures 1 to 30 which show a user-
20 interface design in which:

- The mechanisms allow easy management of both user-initiated applications ('pull') as well as applications initiated automatically or externally ('push') by a new situation, device, network, time, place or social-context event.
- 25 • Both the management of opportunities for peer-to-peer and for client-server applications are unified under an easy-to-use user interface.
- The design has two modes – one for supporting the user on the move (Opportunity Management Mode), one for the user to configure a number of sets of personal preferences, filters and priorities for different
30 application opportunities they may encounter in different contexts (Personal Settings Mode).

Although the design is illustrated by the screen design of a PDA, other handset formats and devices, such as a mobile phone or a laptop, can implement the mechanisms.

5 Opportunity Management Mode

A simple example of an opportunity for interaction might be an incoming phone call or SMS message signalled by a ringing tone and the caller's ID. Alternatively, an opportunity might be for the user's wireless headset to receive audio privately when within range of TV, or a nearby computer projection
10 system to which the user could beam a presentation or a printer, or the proximity of a large public display which the user can appropriate temporarily. Such events might also include a reminder alert to make a phone call, triggered by the user's calendar system. Another example might be the event of a user entering the coverage of a short-range RF beacon that offers local
15 services or the pointers to wide-area network services. Yet another example might be coming within range of an IR signal transmitted from another user's handset offering wireless exchange of business cards.

Considering initially the sequence of Figures 1 to 18, the user interface screen 10 is divided by a central pane 12 into an upper part 14 for viewing and
20 interacting with an application, and lower part 16 for monitoring the current set and state of opportunities. The pane 12 acts as a 'pipeline' for the announcing the arrival of new opportunities/events that pass the user's current personal filter. These are signalled by icons 18 arriving on the pane from the right hand side: the particular form of icon 18 represents the class of opportunity. The
25 new event may also be signalled to a user by a special vibration pattern or accompanied by a signature sound indicating the event's category or class, for example.

These icons 18 trail an explanatory title 20 and possibly also further messages (22; Fig. 2) which scroll from right to left as with a ticker-tape. The
30 event shown in Figures 1 to 8 is an opportunity to interact with location-based services, as a result of a beacon signal that has been discovered or 'pushed'

to the user's handset from an RF or IR beacon which the user has just encountered.

The new opportunity for user interaction then moves down onto a 'rack' of opportunities maintained in a push-down stack in pane 16 (Figs. 2 and 3).

5 This stack may be ordered in different ways. The latest opportunities may be simply put at the top, so then the whole stack of events of the day or week can be reviewed by scrolling down through a long rack. Alternatively, the higher the priority that a new event or opportunity has for the user in their current context (priorities set for example by their current set of personal preferences),
10 the higher on the stack (i.e. closest to the first pane 12) that the event-icon 18 comes to rest. New high-priority events may therefore push down older events, whilst new low priority events will find their place lower in the stack. Thus the user can focus on highest priority events on bars (horizontal lines in the rack) closest to the centre of the screen. The rack can be scrolled up or down, for
15 example via the hotspot or control icon 24 at the right of the screen.

Each new opportunity, such as encountering a short-range RF beacon may offer a number of different applications. For example a beacon may offer (pointers to) services for navigation assistance, commercial offers or stored messages left in that place for the user to read. In this case, the horizontal bar
20 26 on the rack in the pane 16 will show:

- On the left an event-icon 18 identifying the source of the opportunity and its category (e.g. a RF beacon for location-based services). This icon allows the user to quickly assess some characteristics of the application source, such as the trustworthiness of services on offer, or
25 how well the user personally knows the sender of messages.
- To the right a number of icons (30; Fig. 4), one per possible application, again optionally with graphics/accompanying sounds indicating the category of service offered, and optionally also tagged by whether these are visible in the top pane (application space) 14, or are waiting for user
30 interaction (e.g. by the hand icon 30 as in Fig. 4) , or are now passive, or are non-interactive (e.g. one-way broadcast information).

Figure 4 shows the activation (using PDA pointer 32) of an application to provide a visitor's guide after encountering a RF beacon. The amount of handset screen space in the top pane 14 devoted to running and interacting with a specific application is manually or automatically adjustable, so more
5 screen area can be devoted to the application, or to the rack in the lower pane 16 monitoring different application opportunities: for example, the pipeline pane 12 might be dragged lower on the screen via a hotspot.

In an alternative arrangement, where the host device comprises (or has means for connection to) two display devices, the two screens might be
10 synchronised, one for the opportunity monitor, one for the application interaction.

On activating an application, then the application-interaction area 34 in top pane 14 scrolls upward from the centre pane 12 as in Figure 5 and interaction proceeds, for example with the user checking option boxes as in
15 Figure 6. The application is then closed by selecting a 'minimise' hotspot 36 in the upper right hand corner of the application interaction area 34, as in Figure 7. The application interaction area 34 then slides down to the centre pane and disappears, as in Figure 8.

Figure 9 shows the advent of a new opportunity-source, the handset's
20 RF unit having detected the nearby presence of a person, Mr. McPeterson. This event-icon 38 moves from right to left across the centre pane 12 and then down to form a second bar on the rack of currently-active opportunities for user interaction in the lower pane 16 (Figs. 10 and 11). As with the example in Figure 2, the icon 38 trails a further message 40 which scrolls across the
25 centre pane 12.

In Figure 12, the user activates one application that the source, Mr. McPeterson has on offer for interaction, and by pointer 32 selection of a hand icon 44. On activation, this application delivers a business card 46 for Mr McPeterson as seen in Figure 13.

30 So far in this description, the events have been triggered externally and opportunities for interaction have appeared spontaneously (pushed) to the user. The next sequence covering Figures 13 to 18 illustrates the user

manually activating an application (pull). By touching the icon 48 on the right hand of the centre pane 12 shown as 'me' in Figure 13, a set of pre-selected applications, or 'tools' that the user can activate in their currently active context emerge from right to left across the centre pane 12, as shown in Figure 14.

5 These tools may be for example a music player 50 or a calendar 52 as depicted by the icons on the first pane 12 in Figure 14. In Figure 15, a 'radar function' icon is selected. This application searches and alerts the user of the proximity of nearby people who are projecting an RF 'aura' that the handset can detect, or who have their locations tracked by an external infrastructure or

10 service provider, at the same time clearing the previous item (business card 46) from the upper pane 14, as shown in Figure 16.

The radar function visualises 56 how important or interesting nearby people are depending on the user's current context. Each nearby person is visualised with an icon inside the radar associated with a descriptive name

15 (e.g. Otto in Fig. 17). The more interesting or relevant that other people are, then the closer to the radar's centre they are drawn. Thereby the user can easily assess a large number of nearby people for interaction opportunities. The radar may also be extended to show the relevance of nearby devices, services, and places in addition to people. As an alternative (or additional

20 functionality) where positioning location is available for the remote sources, the relative positions on the radar of the radar icons may indicate their relative geographical positions to the user.

In Figure 18, the user then switches (by pointer selection of the vertical bar 60 at the edge of the upper pane 14) modes to view and adjust their

25 personal settings and possibly also to change their currently selected context and its filtering of incoming opportunity-events, as will be discussed in greater detail below.

The user suitably has a number of such opportunity-filters that both screen out and prioritise 'pushed' events and/or the applications they carry.

30 For instance, these filters may be for running in the user's contexts of:

- At home
- At work

- Doing sports
- Leisure Time
- On the Move

5 The icon 'me' 48 on the right hand of the first pane 12 in Figure 18
Indicates that the 'On the Way' context (and its associated filtering and
prioritisation) is currently active. In contrast, Fig 29 shows a 'house' icon on the
right of the pipeline, indicating that the 'At Home' settings are currently active.
Note that the current filter and settings may be influencing (invisible) programs
10 or remote applications with which the user does not directly or explicitly
interact on the handset. For example, the 'At Work' context selection may
influence the settings of their home heating, answering machine or security
systems. Also note that the selection of which of the 'contexts' is active may
be done explicitly by the user. Alternatively, however the user may decide to
15 delegate the context switching (and so the selection of active filters, priorities
and application tools) to an externally detected event. This context-controlling
event or situation may be the entry to a sports hall, shopping mall or work
office (sensed by RF/IR beacons, RF-ID tags or GPS location) – or to the time
of day, or indeed to the proximity of other people of a certain group. In
20 principle any automatically-detected change of state might be the trigger for an
automatic context change.

Personal Settings Mode

In Figure 18, the user has activated a change of modes by clicking on
25 the right-hand bar 60. The personal-settings screen view 62 then scrolls out
over the opportunity-event and application view as in Figure 19. The mode can
be reversed again by selecting the arrows icon 64 on the right hand end of the
pipeline in Figure 20, as is shown being done in Figure 26.

In the personal settings mode, the screen is again split into upper and
30 lower panes 14', 16', divided by a horizontal central pane 12', acting as the
visual focus for the user. The lower part, 16' is for the main selections between
different user contexts ('Home', 'Tourist', 'Business' etc) and the assignments

of their associated sets of applications. The upper part, 14' is for the detailed set-up of application preferences.

In Figure 20, four tools can be seen as currently available in the 'On the Way' context by the presence of icons on 12', representing the radar, calendar, music and information board applications. These are available in the context of 'On the Way' (the third-from-top icon 66 in the column on the right-hand side of 16' shown shaded to indicate that it is active).

In Figure 21, a change is made to the 'Business' context (the lowest icon 68 in the column on the right hand side of 16'). The old application-tool set slides away as shown and a new set appears from right to left on the pipeline. As with all other operations with the user-interface, feedback on such actions may optionally be reinforced by sounds, tunes or vibration patterns which can also be a channel to inform the user of other properties of the handset, situation, peer, opportunity source context or application.

In Figure 22 one of the 'Business context' tools 70 is selected for personal adjustment. The profile-settings view 72 for this information tool emerges scrolling upwards from the central pane 12' as in Figure 23. As with the other mode, the user can devote more screen space to view this application's settings via the scroll hotspot at 74, moving the central pane 12' down and leading to the view in Figure 24.

After the user has completed in this mode any personal preference and setting adjustments, plus their prioritisation of tool/applications/alerts for different contexts (see Fig. 25), then the user's activates the arrow hotspot 72 on the right hand end of the central pane 12'. This closes the settings view 72 (as in Fig. 26) and then slides the second mode's screens away (Fig. 27), returning to the opportunity-event manager of the first mode, with the radar application currently activated, as in Figure 28.

Returning to the Opportunity Management mode, a number of more sophisticated extensions are possible, as shown in Figures 29 and 30. As examples, the clock icon at 78 has a bubble 80 indicating that explanatory text is available. The heart 82 added to the event-icon 84 on the left of the bar indicates that this carries a trusted set of applications which are very personal

for the user. A heart added to an event-icon associated with a service indicates the user is a known subscriber to that service. A heart added to an event-icon representing a person indicates that this source is a trustworthy or known person (e.g. from earlier interactions or being a colleague or friend).

5 The downward pointing triangle 86 on the event-icon at 88 shows that this is from a cluster of applications that can be expanded further. (Note especially that one event may open up an hierarchy of groups of application opportunities of different types for the user.) The 'i' annotation 90 on icon 92 indicates that this application is waiting for interaction from the user.

10 In Figure 30 the states of a number of monitors running on the handset (or interrogated by the handset) are shown in the upper pane 14 when no other applications are using that screen area. For instance, in the left-most column, running top to bottom, icons indicate:

at 94 that the house is currently locked;
15 at 96 that an alert has fired about the price of the user's stock;
at 98 that handset sounds are activated (ear icon);
at 100 that the screen is also turned on (eye icon);
at 102 that the battery is getting low; and
at 104 that there is a strong GSM network signal.

20 The second column of monitors suggests nutritional advice for the day (106), the current temperature (108), the current time (110), and at 112 the user's current location (determined by mobile cell ID, GPS, RF beacon or another manner).

As mentioned above, the host apparatus of the interface may comprise
25 a PDA, mobile telephone, laptop or like device. Figure 31 shows the principal components of such a device 120 embodying the invention and with interaction opportunities from two remote sources, beacons 122, 124. Information about the interaction opportunities from beacon 122 is picked up by antenna 126 (which may be external or internal to the device 120) and, via
30 a receiver and decoder stage 128, the received data is passed to a central processor 130.

Coupled with the processor 130 is a data storage means 132, which may comprise both read-only and random access¹ memory suitably linked to the processor by addressing and data buses. As indicated by the dashed line at 134, the memory 132 may be supplemented by removable storage means, such as floppy or optical disc, memory sticks, solid state memory cards and the like. The data storage includes the program instruction for controlling the processor to generate and manage the user interface as described hereinabove with reference to Figures 1 to 30.

Also coupled to the processor 130 is a display device 10 on which the user interface is presented. User input means are also coupled to the processor to support the user interaction with the detected interaction opportunities and also with the interface itself (for example in the Personal Settings mode). The form of user input device will be to some extent dictated by the form and function of the device 120 as a whole. For example, where the device is a laptop computer, the user input device will typically comprise a full alpha-numeric keyboard as well as an x/y cursor control (either integral or through a plugged in mouse or trackball device). Where the device is a mobile telephone, the number of keys for inputting data is likely to be greatly reduced, and mechanisms such as a touch sensitive screen coupled with option menu generation may be used. In the example shown, the device is a PDA (or similar) with a touch screen interface 136 coupled with the display device (typically a liquid crystal device) 10, with user selection of items displayed on the user interface being effected by use of a pointer device 32.

From reading the present disclosure, other variations will be apparent to persons skilled in the art. Such variations may involve other features which are already known in the field of apparatuses having graphical or screen display interfaces or component parts thereof and/or methods for control of the same and which may be used instead of or in addition to features already described herein.

30

CLAIMS

1. A portable data processing apparatus being operable to receive information identifying interaction opportunities for a user of the apparatus and
5 present the same to said user via a display, the apparatus comprising:
a processor coupled with data storage means and said display and programmed to generate a respective display icon for each identified interaction opportunity; and
user operable input means for selecting a displayed icon;
10 wherein the processor is arranged to generate a user interface having at least first, second and third display panes, with newly generated display icons being initially displayed in said first display pane and subsequently moved to said second display pane wherein other icons are displayed; wherein the processor is configured to arrange the icons in the second display pane
15 according to a predetermined prioritisation scheme; and wherein on user selection of a displayed icon additional data associated with the selected icon is displayed in the third display pane.
2. Apparatus as claimed in Claim 1, being arranged to determine
20 from said information identifying interaction opportunities a respective priority for each, wherein said predetermined prioritisation scheme applied by the processor positions those display icons in the second display pane in order of priority relative to the position of the first display pane.
- 25 3. Apparatus as claimed in Claim 1, wherein said predetermined prioritisation scheme applied by the processor positions those display icons in the second display pane in the order they arrived in the first display pane.
- 30 4. Apparatus as claimed in any of Claims 1 to 3, wherein the processor is configured to identify, from said received information, a plurality of different classes of interaction opportunity and to indicate the same to a user

by the form of display icon presented for each identified Interaction opportunity.

5 5. Apparatus as claimed in Claim 4, wherein the form of each display icon is determined at least partly by data held in said data storage means.

10 6. Apparatus as claimed in any of Claims 1 to 5, wherein the processor is operable to receive additional information relating to an interaction opportunity for which an icon is already displayed in the second display pane and to indicate the arrival of said information to the user by altering the appearance of the respective display icon in the second display pane.

15 7. Apparatus as claimed in any of Claims 1 to 6, comprising means coupled with said processor and operable to receive said information identifying interaction opportunities from at least one remote source.

20 8. Apparatus as claimed in Claim 7, wherein the processor is further operable to generate in said third display pane a visual representation of relative valuations for two or more remote sources to the apparatus.

25 9. Apparatus as claimed in Claim 7 or Claim 8, wherein said means operable to receive said information is a wireless receiver.

 10. Apparatus as claimed in any of Claims 1 to 9, further comprising means controlled by the processor to generate an alert to a user on the generation of a new icon in the first display pane.

30 11. Apparatus as claimed in any preceding Claim, wherein the processor is arranged to scroll an icon in the first display pane from one edge

of the pane to an opposite edge prior to moving such icon to the second display pane.

12. Apparatus as claimed in any preceding Claim, wherein the first
5 display pane is positioned between the second and third display panes on the apparatus display.

13. Apparatus as claimed in any preceding Claim, being further
operable to facilitate user alteration of device settings through said user
10 interface, wherein options for setting are nested in menus with submenus for respective entries, with respective icons in the first display pane representing menu items on selection of one of which icons are presented in the second display pane representing the respective submenu options, and on selection on one of the icons in the second display pane, the individual device setting
15 options under that submenu are shown in the third display pane.

14. A method for managing the presentation of information identifying interaction opportunities to a user via a user interface, comprising the steps:

20 generating a user interface having at least first, second and third display panes;

generating a respective display icon for each identified interaction opportunity and initially displaying the same in said first display pane;

25 subsequently moving the icon from the first to the second display pane wherein other icons are displayed;

arranging the icons in the second display pane according to a predetermined prioritisation scheme; and

on user selection of a displayed icon, displaying additional data associated with the selected icon in the third display pane.

30

15. A computer readable storage medium containing executable instructions for performing the method steps of Claim 14.

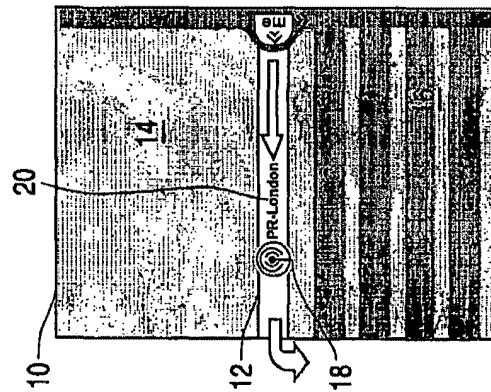
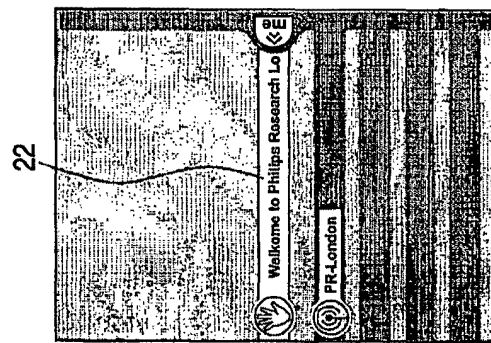
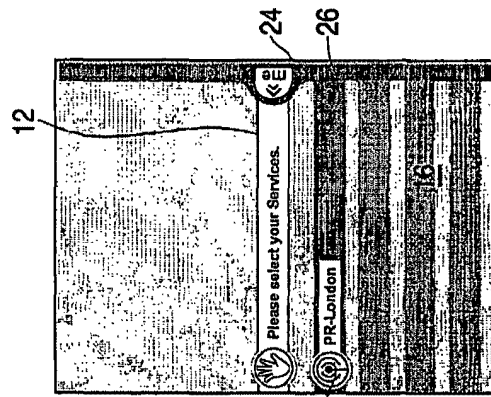


FIG. 1

FIG. 2

FIG. 3

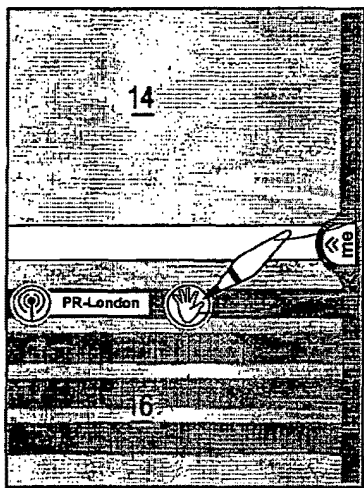


FIG. 4

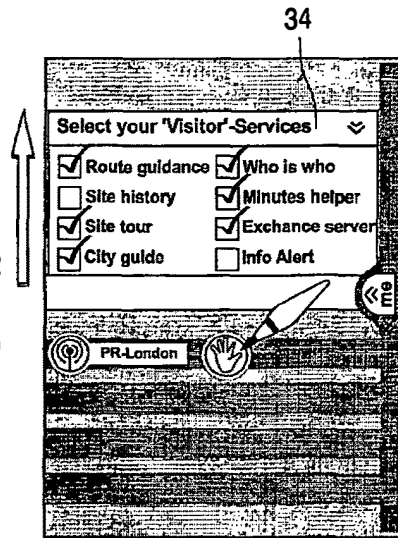


FIG. 5

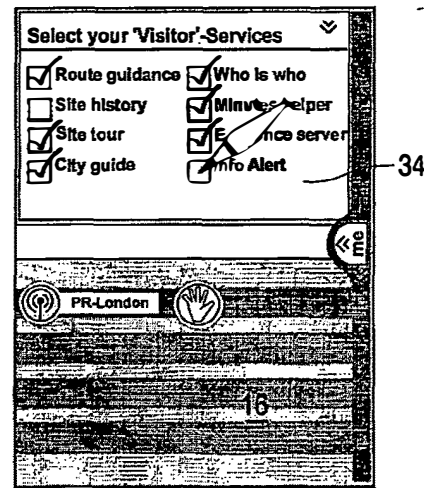


FIG. 6

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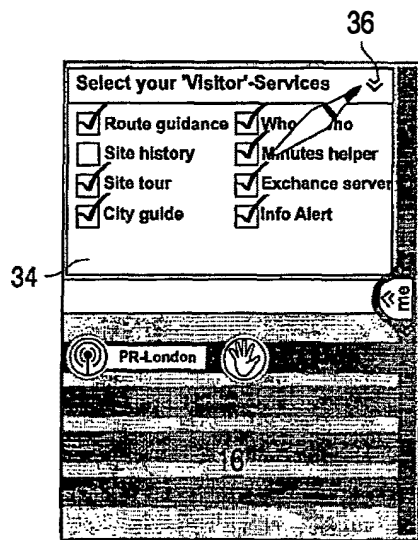


FIG. 7

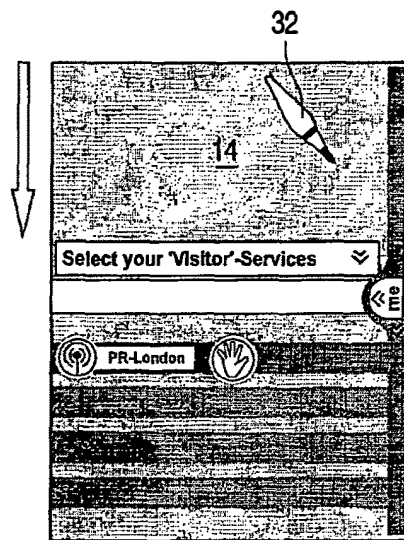


FIG. 8

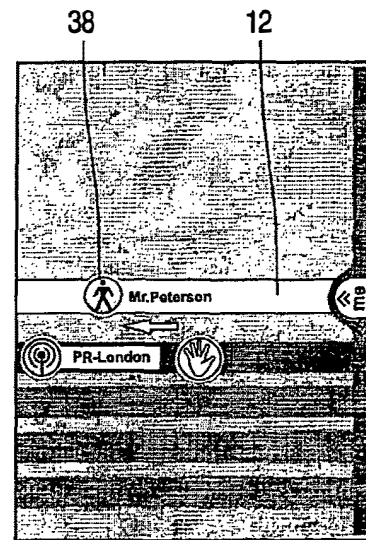


FIG. 9

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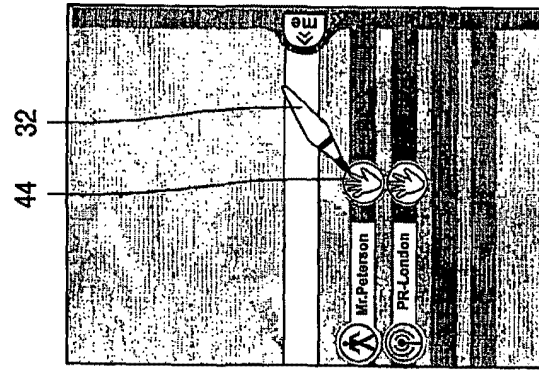


FIG. 10

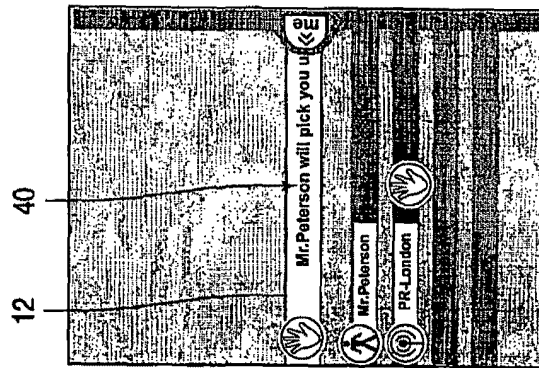


FIG. 11

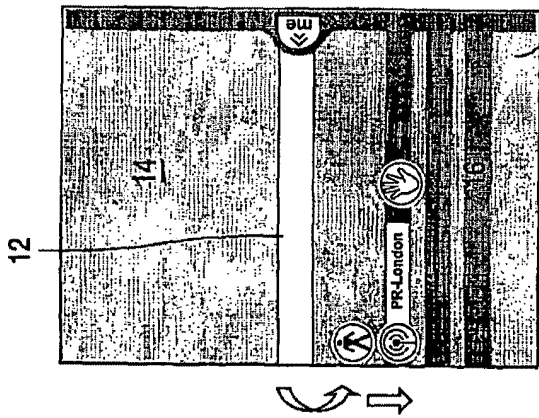


FIG. 12

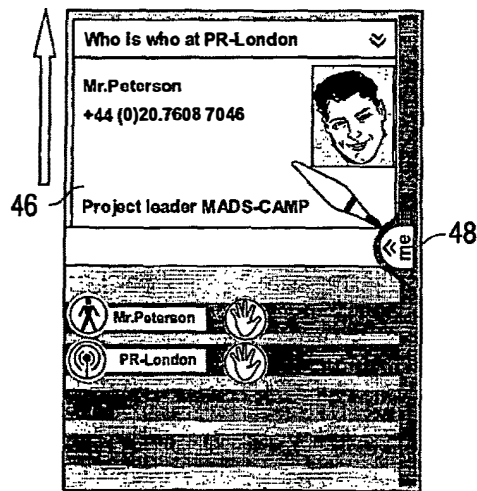


FIG. 13

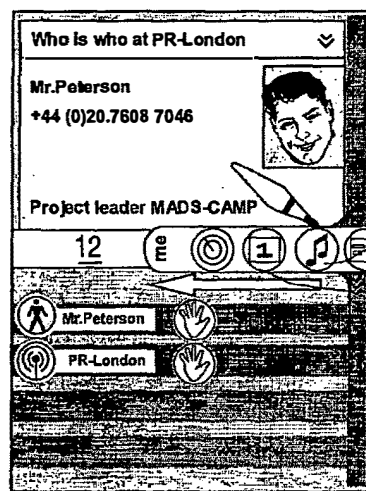


FIG. 14

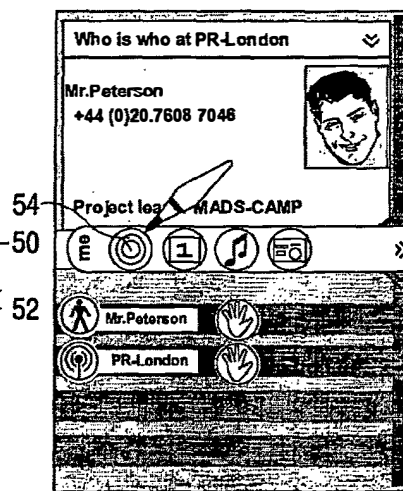


FIG. 15

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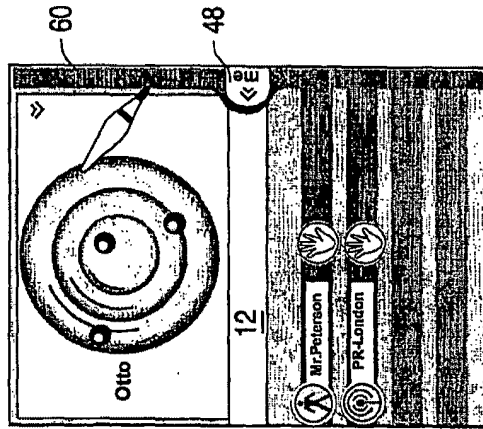


FIG. 16

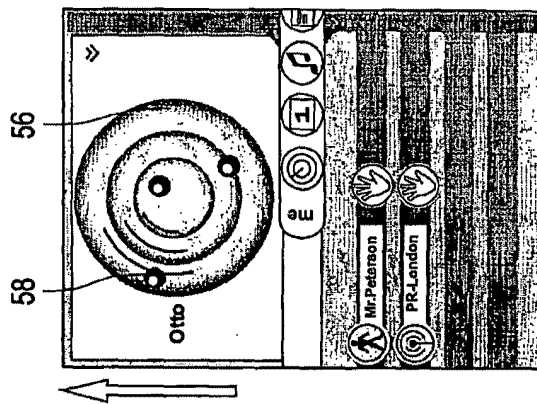


FIG. 17

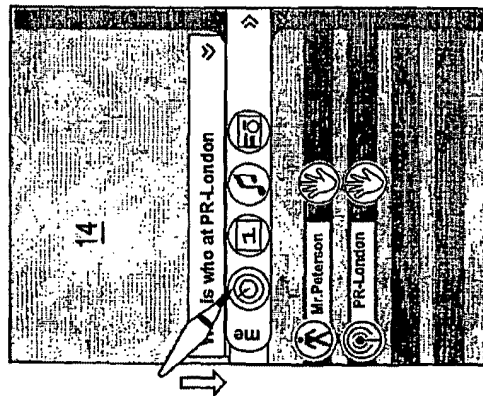


FIG. 18

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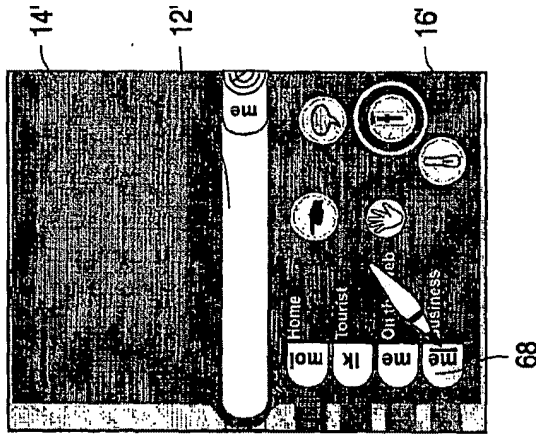


FIG. 19

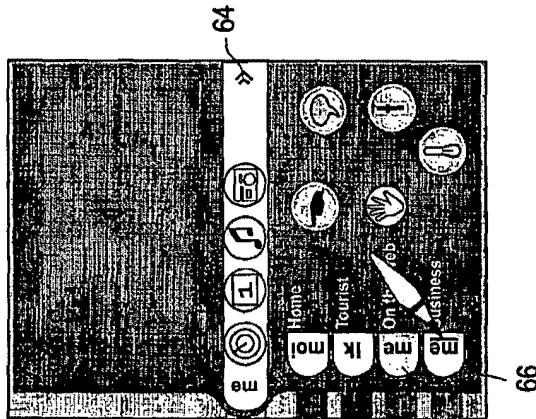


FIG. 20

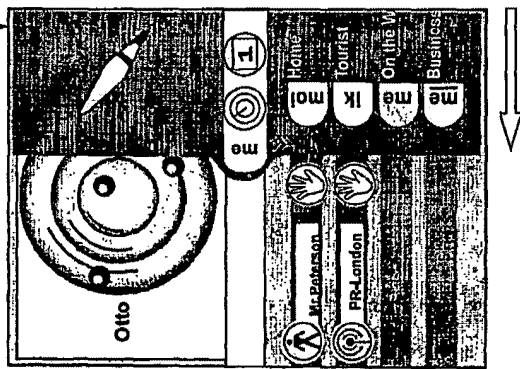


FIG. 21

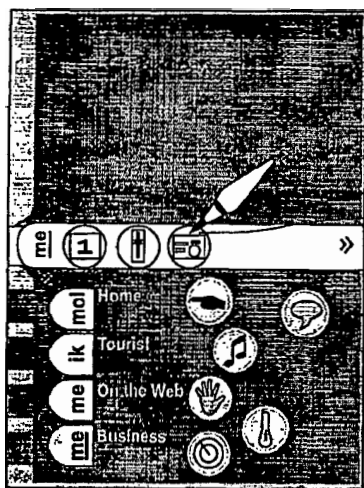


FIG. 22

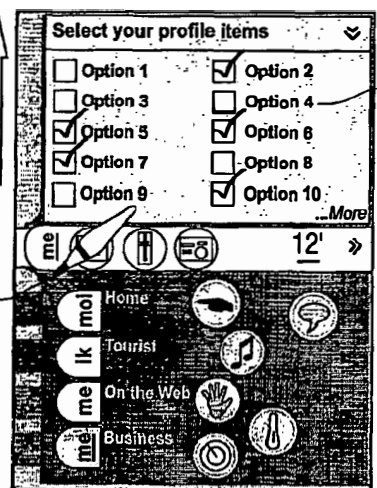


FIG. 23

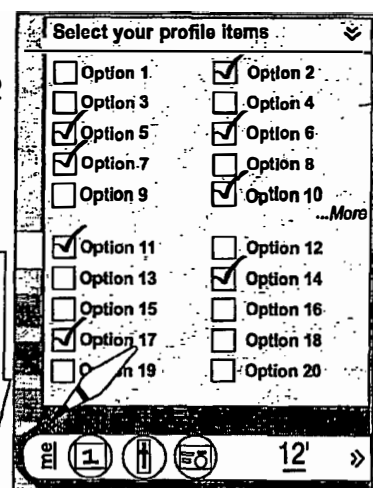


FIG. 24

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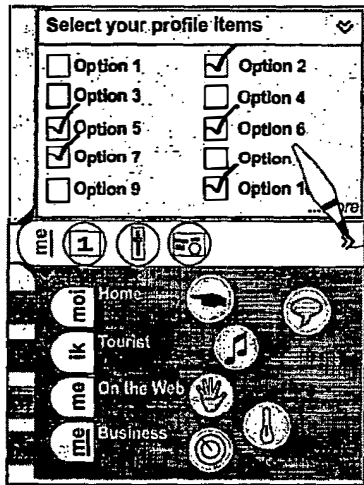


FIG. 25

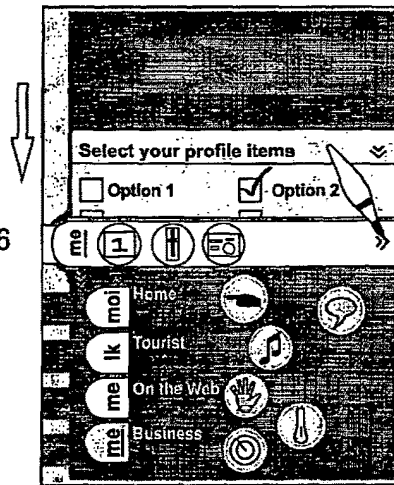


FIG. 26

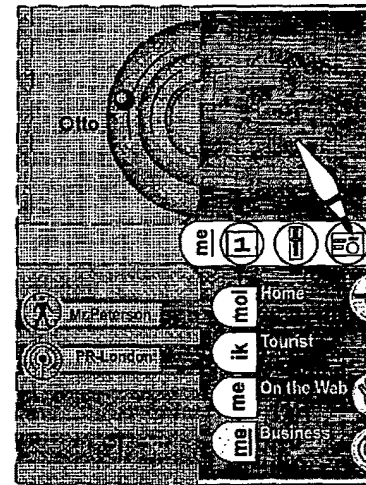


FIG. 27

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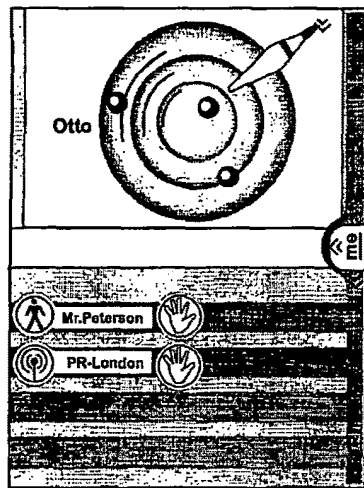


FIG. 28

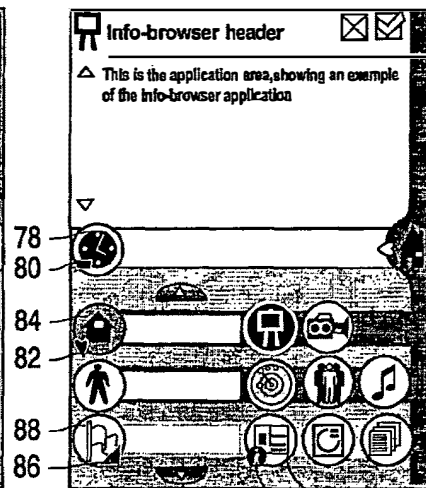


FIG. 29

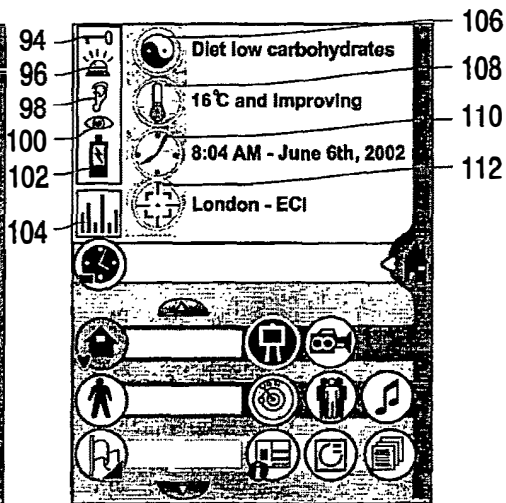


FIG. 30

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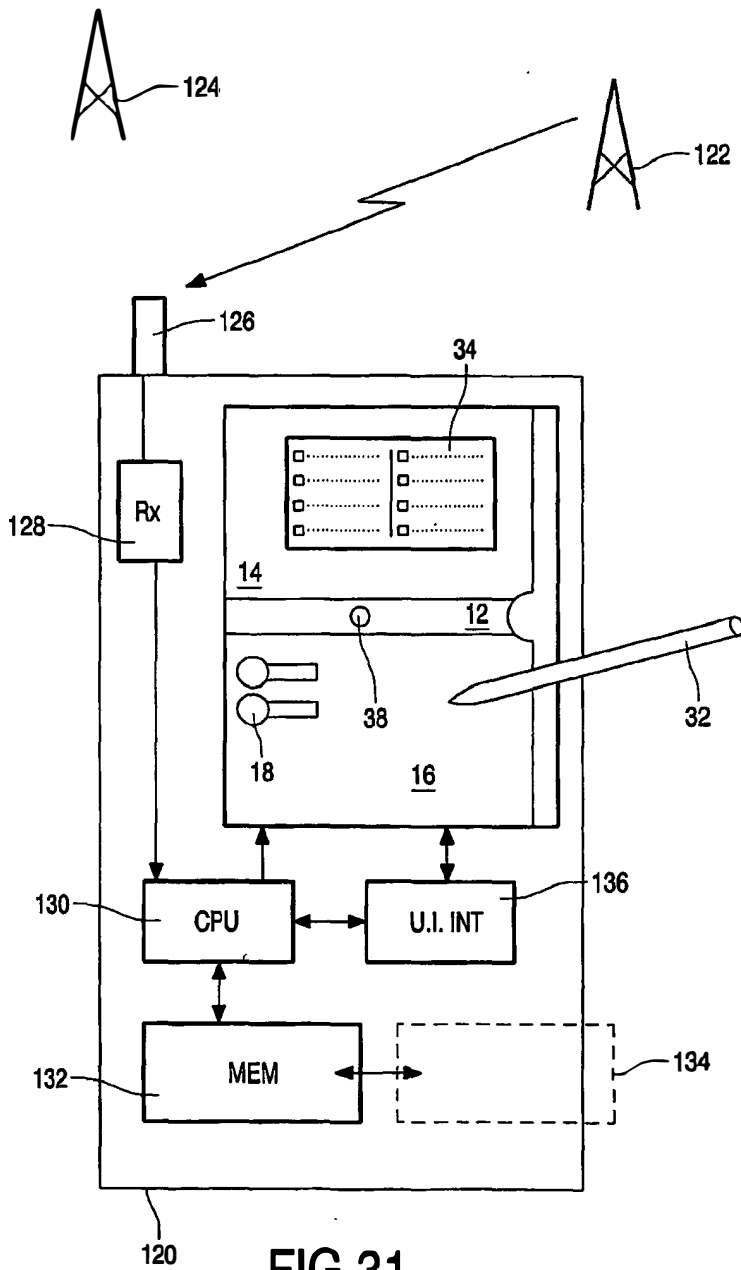


FIG.31

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(54) **Mobile device providing detailed information about status icons**

(57) The present invention is directed towards a method and a portable electronic device for providing further information relating to the status of a portable electronic device. The device comprises an information presentation unit (14), at least one first user input unit, and a control unit. The control unit provides an item of status information (32, 34, 35, 36, 38) relating to the performance of the portable electronic device or possibly

activated applications and functions in the device on the information presentation unit (14) and upon detecting a selection of further information via the user input unit simultaneously provides limited further information (40, 42, 44, 45, 46, 47, 48, 50, 52, 54) relating to said item of status information on the information presentation unit. With the invention further information related to icons shown in a status bar of the device can easily be accessed.

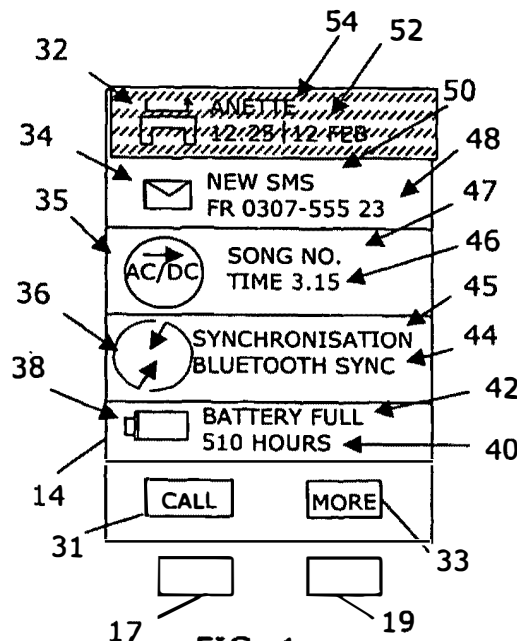


FIG. 4

EP 1 434 411 A1

Description**TECHNICAL FIELD OF THE INVENTION**

[0001] The present invention relates to the field of portable electronic devices and more particularly to a method and a portable electronic device for providing further information relating to the status of the device.

DESCRIPTION OF RELATED ART

[0002] The cellular phones of today have more and more different functions and applications in them. It is today normal to provide the phones with a status bar showing the status of the phone in the form of battery power level, signal strength information as well as status information relating to different functions and applications, like if a phone call has been missed or if there is an incoming electronic message in the form of SMS or e-mail. This information is furthermore normally displayed in the form of icons or symbols only giving general information about the status.

[0003] Further information relating to the information shown in these status bars is however not directly accessible to a user of the phone. Such information can be from who the missed call was and the remaining stand-by time for a battery. In order to get this information, the user has to navigate through a general menu in order to get to the function in question for finding out who called. It is furthermore possible to set short cuts through the menu system, but then these are fixed and not event driven. The user must know beforehand that he might be interested in the further information and program such a short-cut in advance in order to save some time in the navigation. In order to reach such a short cut the user furthermore has to start in the normal menu system, which thus also takes up valuable time.

[0004] There is thus a need for providing easily accessible further information that can be presented on a limited size information presentation unit in relation to status information.

SUMMARY OF THE INVENTION

[0005] The present invention is thus directed towards solving the problem of providing easily accessible further information related to status information that can be presented on a limited size information presentation unit.

[0006] This is achieved by providing further information about an item of status information shown to a user upon the detection of a selection of the further information from the user.

[0007] One object of the present invention is to provide a method enabling easy access to further information related to status information that can be presented on a limited size information presentation unit.

[0008] According to a first aspect of the present inven-

tion, the object is achieved by a method of providing further information relating to the status of a portable electronic device comprising the steps of:

5 providing an item of status information relating to the performance of a portable electronic device, possibly activated applications or functions in the device, and
10 upon detecting a selection of further information providing limited further information relating to said item.

[0009] A second aspect of the present invention is directed to a method including the features of the first aspect, wherein the step of providing includes providing at least two items of status information and the step of providing limited further information includes simultaneously providing said limited further information relating to the two items.

[0010] A third aspect of the present invention is directed towards a method including the features of the first aspect, wherein said further information comprises a link back to said item of status information such as through a "back"-key.

[0011] A fourth aspect of the present invention is directed towards a method including the features of the third aspect, further comprising the step of removing the further information upon detecting selection of the link back to said item of status information and again presenting said item of status information.

[0012] A fifth aspect of the present invention is directed towards a method including the features of the first aspect, wherein the further information provided related to an item of status information is a limited number of pieces of information.

[0013] A sixth aspect of the present invention is directed towards a method including the features of the first aspect, further including the step of detecting selection of an item of status information after providing limited further information and determining type of item selected.

[0014] A seventh aspect of the present invention is directed towards a method including the features of the sixth aspect, further including the step of: if the first item of status information relates to an application, determining if an action in relation to the application was selected and performing said action or providing a list of further possible actions and selections relating to the application in dependence of the determination.

[0015] An eighth aspect of the present invention is directed towards a method including the features of the sixth aspect, further comprising the step of: if the first item of status information relates to a function, determining if an action in relation to the function was selected and performing said action or providing a list of further possible actions and selections relating to the function in dependence of the determination.

[0016] A ninth aspect of the present invention is di-

rected towards a method including the features of the sixth aspect, further comprising the step of: if the first item of status information relates to the performance of the portable electronic device, providing a list of further possible actions and selections relating to the performance.

[0017] Another object of the present invention is to provide a portable electronic device, which enables easy access to further information related to status information that can be presented on a limited size information presentation unit.

[0018] According to a tenth aspect of the present invention, this object is achieved by a portable electronic device for providing further information relating to the status of said portable electronic device comprising:

an information presentation unit,
at least one first user input unit, and
a control unit arranged to:

provide an item of status information relating to the performance of the portable electronic device and possibly activated applications and functions in the device on the information presentation unit, and

upon detecting a selection of further information via the user input unit, provide limited further information relating to said item of status information on the information presentation unit.

[0019] An eleventh aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the control unit is arranged to provide at least two items of status information and to simultaneously provide limited further information relating to the two items.

[0020] A twelfth aspect of the present invention is directed towards a device including the features of the tenth aspect, further including a second user input unit for moving back to said item of status information.

[0021] A thirteenth aspect of the present invention is directed towards a device including the features of the twelfth aspect, wherein the control unit is further arranged to remove the further information from the information presentation unit upon detecting depression of the second user input and again present said item of status information on the information presentation unit.

[0022] A fourteenth aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the further information provided related to an item of status information is a limited number of pieces of information.

[0023] A fifteenth aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the first user input unit is provided as a button on the side of the portable communication device.

[0024] A sixteenth aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the control unit is arranged to detect selection of an item of status information after providing limited further information and to determine type of item selected.

[0025] A seventeenth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, wherein the control unit is further arranged to, if the first item of status information relates to an application, determine if an action in relation to the application was selected and then perform said action or provide a list of further possible actions and selections relating to the application.

[0026] An eighteenth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, wherein the control unit is further arranged to, if the first item of status information relates to a function, determine if an action in relation to the function was selected and then perform said action or provide a list of further possible actions and selections relating to the function.

[0027] A nineteenth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, wherein the control unit is further arranged to, if the first item of status information relates to the performance of the portable electronic device, provide a list of further possible actions and selections relating to the performance.

[0028] A twentieth aspect of the present invention is directed towards a device including the features of the sixteenth aspect, further comprising a second user input unit in the form of at least one key on a keypad of the device, which second unit is used for any selections made in relation to the further information shown on the information presentation unit.

[0029] A twenty-first aspect of the present invention is directed towards a device including the features of the tenth aspect, further comprising a status information store, from which the control unit is arranged to retrieve said item of status information for provision on the information presentation unit.

[0030] A twenty-second aspect of the present invention is directed towards a device including the features of the tenth aspect, further comprising a further information store, from which the control unit is arranged to retrieve further information relating to said item of status information for provision on the information presentation unit.

[0031] A twenty-third aspect of the present invention is directed towards a device including the features of the tenth aspect, wherein the portable electronic device is a cellular phone.

[0032] The invention has the following advantages. It allows a user to directly get further information about items of information presented in a status bar in a portable electronic device. A user can then easily see further information of activated functions and applications as

well as the performance of the device. If the item is an icon, this is additionally advantageous when a user does not know what the item presented means.

[0033] The expression performance of a device is meant to include variable characteristics like battery energy level and signal strength, the expression function is intended to include functions set by a user of the device, like the time, date, ring signals and other settings possible to make. With an application unit is meant a unit providing a substantial amount of information to a user of the device, which unit also requires at least some activities by the user, like the making of phone calls, sending, receiving and reading electronic messages and playing music and games.

[0034] It should be emphasized that the term "comprises/comprising" when used in this specification is taken to specify the presence of stated features, integers, steps or components, but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[0035] The present invention will now be described in more detail in relation to the enclosed drawings, in which:

- fig. 1 shows a front view of a portable electronic device in the form of a cellular phone,
- fig. 2 shows a block schematic of the relevant parts of the invention inside the phone in fig. 1,
- fig. 3 shows a front view of the display in the phone from fig. 1 showing a status bar,
- fig. 4 shows a front view of the display in the phone from fig. 1 showing further information relating to the status bar,
- fig. 5A shows the first part of a method according to the invention, and
- fig. 5B shows a second part of the method according to the invention.

DETAILED DESCRIPTION OF EMBODIMENTS

[0036] A portable electronic device 10 according to the invention is shown in a front view in fig. 1. In the preferred embodiment the device is a cellular phone 10 having an antenna 12, a display 14, a first user input unit in the form of a button 16 provided on the side of the phone as well as a keypad 18 including a number of keys. The button 16 is a so called volume button, which can be used for adjusting the volume setting of the phone, but in the present invention it has one further function, which will be described in more detail later. Apart from making and receiving telephone calls, the keypad 18 is used for entering information such as selection of functions and applications and responding to prompts and the display 14 is used for displaying functions and prompts to a user of the phone. In order to do

this, the keys at the top of the keypad are navigation keys, of which a first pair at the top includes a first and second soft navigation key 17 and 19. The key pad 18 also includes a second pair of hard navigation keys including a "back"-key 13 and a cancellation key 15. The soft keys can be used for navigating in a menu system provided in the phone, and the "back"-key 13 is used for moving backwards in the menu system. The antenna 12 is used for communication with other users via a network. A cellular phone is just one example of a device in which the invention can be implemented. The invention can for instance also be used in a PDA (personal digital assistant), a palm top computer, a lap top computer and a smartphone.

[0037] Fig. 2 shows a block schematic of the different parts of the phone 10 relevant to the present invention. The display 14, the first input unit 16 and the keypad 18 are here shown as separate boxes connected to a control unit 20. The control unit 20 is furthermore connected to a status information store 22 and to a further information store 24 as well as to a first function unit 26, to a first application unit 28 and to a first performance determination unit 30. It should be realised that the control unit 20 can be connected to several application, function and performance determination units. Only three are however shown for better understanding of the present invention. A performance determination unit is a unit determining variable characteristics like one of battery energy level, signal strength or if the phone is synchronised with another device. A function unit is handling functions set by a user of the device, like the time, ring signals, ring signal volume or other settings possible to make in the device. An application unit handles activities by a user of the device in relation to the application, like the making of phone calls, sending, receiving and reading electronic messages, browsing using a Web or WAP browser and playing game or music or a camera. An application thus provides a user with a lot of information.

[0038] Fig. 3 shows a status bar displayed on the display of the phone together with the first set of soft keys 17 and 19 of the keypad, which status bar here include a number of icons, each associated with the status of either an application, a function or a performance of the phone. In fig. 3 there is shown a first icon 32 associated with the application of making phone calls and here indicating a missed phone call, a second icon 34 associated with the application SMS (Short Message Service) or e-mail application of the phone, a third icon 35 associated with an MP3-player, a fourth icon 36 associated with the performance of Bluetooth™ synchronisation and a fifth icon 38 associated with the performance of battery energy level of the phone. It should be realised that these are just a few of the possible performances, functions and applications for which an icon might be displayed. The display according to the preferred embodiment of the present invention can however only show five icons at one time in the status bar. It should furthermore be realised that some icons might be static,

i.e. might be present at all times, which normally includes at least some of the performance icons, while some might only be provided if the application or function related to the phone has been activated or invoked either by the user of the phone himself or by some other type of influence, for instance the influence from outside the phone like the reception of an e-mail or a phone call. Other possible applications are for instance WAP browser and a camera. An example of a function normally shown in a status bar is the clock. At the bottom of the display of fig. 3 there is shown first soft information 31 associated with the first soft key 17 and second soft information 33 associated with the second soft key. The first and second soft information shown in the figure is associated with the normal menu system of the phone, which menu system is not shown in the figure.

[0039] Fig. 4 shows a second view of the display 14 together with the first set of soft keys 17 and 19 of the keypad, where further information in relation to the icons in the status bar is shown next to the icons. The icons are the same as in fig. 3. First and second soft key information 31 and 33 is shown in the bottom of the display just above the soft keys 17 and 19 and now the first soft key information 31 shows "call", while the second soft key information 33 shows "more". The fifth icon 38 is shown just above this soft key information and has a first item of further information 42 indicating that the battery is fully loaded and a second item of further information 40 indicating how much standby time there is left for the battery, which is here indicated as 510 hours. For this icon the soft keys are disabled, because the fifth icon 38 is no active icon for which any further information might be obtained. Just above the fifth icon, the fourth icon 36 is provided. The fourth icon 36 has a first item of further information 45 saying that the performance relates to synchronisation and a second item of further information 44 informing the user of the fact that the synchronisation is Bluetooth synchronisation, i.e. synchronisation with another device using Bluetooth™. The third icon 35 is provided above the first icon and is provided with a first item of further information 47 informing that the MP3-player is playing a certain song and a second item of further information 46 informing about how long this song has been played. Above the third icon 35, the second icon 34 is provided. The second icon 34 has a first item of further information 50 indicating that the message relates to an SMS (Short Message Service) and a second item of further information 48, indicating the sender of the SMS with a phone number 0307 - 555 23. Above the second icon 34, the first icon 32 is provided. The first icon 32 has a first item 54 of further information indicating from whom the missed call was made, this is indicated by the name Anette and a second item of further information 52 indicating when the missed call was made by displaying the time 12:25 and the date 12 of February. It should be noted that the name of Anette is shown because the user of the phone has set his phone book to indicate this name for a given

number. If this is not the case the number of the person calling might be shown instead. The first icon 32 and the additional information 54 and 52 relating to it is highlighted. This highlighting indicates that a selection of this icon can be made. The highlighting is shown with short diagonally directed dotted lines. It should be realised that the display can show up to seven icons, which can be seen through scrolling.

[0040] Fig. 5A and 5B shows a flow chart of the method according to the invention.

[0041] A preferred embodiment of the present invention will now be explained with reference to fig. 1, 2, 3, 4, 5A and 5B. This embodiment is also believed to be the best mode of the invention at the moment. The control unit 20 retrieves the icons in the status bar from the status information store 22 and provides them on the display 14 for displaying to the user, step 56. An example of the icons displayed is shown in fig. 3. It should be known that an application, function, or performance determination unit 26, 28 or 30 might signal to the control unit 20, their activation and then the control unit selects the icons corresponding to the activated application, function or performance unit for displaying on the display. Other performance determination units or function units might be constantly activated. Then the control unit 20 awaits an input from the first user input unit or button 16 on the side of the phone, step 58. If no input from the button 16 is detected, the control unit 20 returns to step 58 and again awaits an input from the button 16. By using the button 16 instead of the keypad 18, it is ensured that the use of applications or functions in the phone are not hampered. If an input is detected, step 58, the control unit 20 retrieves further information from the further information store 24 and provides a limited number of pieces of further information related to each icon in the status bar for displaying to the user of the phone, step 60. At the same time the display 14 shows information of what will happen if the soft keys are used for selecting pieces of information. Fig. 4 shows an example of such further information related to the icons shown in fig. 3. Now the user can see different items of further information in relation to the icons. It is furthermore possible to show more icons and related further information than what is shown in fig. 4. If the display will get full the user can then scroll among the further information by using a scrolling function in the phone (not shown). A maximum of seven icons might here be present. Scrolling could be provided by using a joystick or operation of an arrow button on the keypad (not shown). The control unit 20 furthermore provides different first and second soft key information 31 and 33 in dependence of which icon and corresponding first and second piece of information is highlighted. In fig. 4 the first icon 32 a missed call together with the corresponding first and second piece of further information 54 and 52 is highlighted and the first soft key information 31 displays "call" and the second soft key information 33 displays "more". The control unit 20 monitors the soft keys 31 and 33 and detects if a se-

lection of further information relating to an active icon is made using these keys, step 64. With active icon is meant an icon for which there exists a menu or further information. The fifth icon 38 for the battery is not an active icon and therefore there is no possibility to select any further information relating to this icon. If a selection being made is not related to any further information of an icon, step 64, the control unit 20 does nothing and awaits a detection of another selection, step 62. It is furthermore possible to navigate backwards during this navigation, in which case the "back"-key 13 is used. If however a selection of further information in relation to an active icon is made, step 64, there are three different ways the control unit 20 can continue. If the selection of the further information concerned an application, step 68, the control unit 20 monitors which of the two soft keys have been depressed. If the user has selected an action by depressing the first soft navigation key 17, step 70, in this case by selecting to make a call, the action is performed, step 72, i.e. the call is being made and thereafter the display is made to show the original status bar again, step 56, after the call is ended. If the application was an SMS or e-mail application, the number or address of the sender can here be stored in the phone book. If the user did not select an action, step 70, i.e. by pressing the second soft navigation key 33, the control unit 20 connects the user to the main menu of the application in the menu system, step 74. If the selection of the further information was not related to an application, step 68, it is investigated if the icon is related to a function, step 76. If the icon is related to a function, step 76, the control unit 20 monitors which of the two soft keys have been depressed. If the user has selected an action, step 78, which might be to set the volume of an MP3-player, the action is performed, step 80, i.e. the setting is being made and thereafter the display is made to show the original status bar again, step 56, after the setting has been made. If the user did not select an action, step 78, the control unit 20 connects the user to the main menu of the function in the menu system, step 82. If the icon was not related to a function, step 76, it is related to some general status information of the phone. The control unit 20 therefore connects to the menu of the performance in the normal menu system of the phone, step 84. An example of this is Bluetooth™ synchronisation. As mentioned before, the user can at all times leave this further information by pressing the "back"-key 13 on the display, in which case he returns to the previous menu. In this way the user can go all the way back to the original status bar display.

[0042] The present invention has many advantages. It allows a user to directly obtain further information relating to an icon displayed in a status bar of the phone without having to do some lengthy navigation through the menu system of the phone. It also allows him to perform some actions in the functions or applications directly, which he otherwise would have to do by navigation in the menu system. Another advantage is that a user

might not really know what the icon used means, in which case he can get information about the meaning in an easy fashion. In case the user did not know what the icon means, he can in existing phones only find the related information by chance when searching through the menu system, which might take a very long time or which he might not find at all.

[0043] The present invention can be varied in many ways. The applications can as an alternative be set such that an active application cannot in itself be changed by the selection of a piece of further information, but is limited to actions not changing the information content of the application, i.e. if for instance there is a call ongoing it cannot be interrupted. The first user input unit does not have to be a button on the side of the phone, but can be any other key not occupied for other important functions. The navigation keys can furthermore be provided in a numerous different ways. What is important is that the existing input units are used for navigating. Keys can also be provided in the form of keys displayed on a touch screen. A further variation of user input units is to use voice control for selecting further information about the status bar.

[0044] The control unit and the different application units are normally provided in the form of one or more processors with corresponding program memories containing suitable software code. The two stores are also preferably provided in the form of memories.

Claims

1. Method of providing further information relating to the status of a portable electronic device (10) comprising the steps of:
 - providing an item of status information (32, 34, 35, 36, 38) relating to the performance of a portable electronic device, possibly activated applications or functions in the device, (step 56), and upon detecting a selection of further information (step 58) providing limited further information relating to said item, (step 60).
2. Method according to claim 1, wherein the step of providing includes providing at least two items of status information and the step of providing limited further information includes simultaneously providing said limited further information relating to the two items.
3. Method according to claim 1 or 2, wherein said further information comprises a link back to said item of status information such as through a "back"-key.
4. Method according to claim 3, further comprising the step of removing the further information upon detecting selection of the link back to said item of sta-

- tus information and again presenting said item of status information.
5. Method according to any previous claim, wherein the further information provided related to an item of status information is a limited number of pieces of information (40, 42, 44, 45, 46, 47, 48, 50, 52, 54).
 6. Method according to any previous claim, further including the step of detecting selection of an item of status information after providing limited further information, (step 62) and determining type of item selected (step 68, 76).
 7. Method according to claim 6, further including the step of: if the first item of status information relates to an application, (step 68), determining if an action in relation to the application was selected, (step 70), and performing said action, (step 72) or providing a list of further possible actions and selections relating to the application (step 74) in dependence of the determination.
 8. Method according to claim 6 or 7, further comprising the step of: if the first item of status information relates to a function, (step 76), determining if an action in relation to the function was selected, (step 78), and performing said action, (step 80) or providing a list of further possible actions and selections relating to the function (step 82) in dependence of the determination.
 9. Method according to any of claims 6 - 8, further comprising the step of: if the first item of status information relates to the performance of the portable electronic device, (step 76), providing a list of further possible actions and selections relating to the performance (step 84).
 10. Portable electronic device (10) for providing further information relating to the status of said portable electronic device comprising:
 - an information presentation unit (14),
 - at least one first user input unit (16), and
 - a control unit (20) arranged to:
 - provide an item of status information (32, 34, 35, 36, 38) relating to the performance of the portable electronic device and possibly activated applications and functions in the device on the information presentation unit, and
 - upon detecting a selection of further information via the user input unit, provide limited further information (40, 42, 44, 45, 46, 47, 48, 50, 52, 54) relating to said item of status information on the information pres-
- entation unit.
11. Portable electronic device (10) according to claim 10, wherein the control unit is arranged to provide at least two items of status information and to simultaneously provide limited further information relating to the two items.
 12. Portable electronic device (10) according to claim 10 or 11, further including a second user input unit (13) for moving back to said item of status information.
 13. Portable electronic device (10) according to claim 12, wherein the control unit (20) is further arranged to remove the further information from the information presentation unit upon detecting depression of the second user input unit (13) and again present said item of status information on the information presentation unit.
 14. Portable electronic device (10) according to any of claims 10 - 13, wherein the further information provided related to an item of status information is a limited number of pieces of information.
 15. Portable electronic device (10) according to any of claims 10 - 14, wherein the first user input unit (16) is provided as a button on the side of the portable communication device.
 16. Portable electronic device (10) according to any of claims 10 - 15, wherein the control unit (20) is arranged to detect selection of an item of status information after providing limited further information and to determine type of item selected.
 17. Portable electronic device (10) according to claim 16, wherein the control unit (20) is further arranged to, if the first item of status information relates to an application, determine if an action in relation to the application was selected and then perform said action or provide a list of further possible actions and selections relating to the application.
 18. Portable electronic device (10) according to claim 16 or 17, wherein the control unit (20) is further arranged to, if the first item of status information relates to a function, determine if an action in relation to the function was selected and then perform said action or provide a list of further possible actions and selections relating to the function.
 19. Portable electronic device (10) according to any of claims 16 - 18, wherein the control unit (20) is further arranged to, if the first item of status information relates to the performance of the portable electronic device, provide a list of further possible actions and

selections relating to the performance.

20. Portable electronic device (10) according to any of claims 16 - 19, further comprising a second user input unit in the form of at least one soft key (17, 19) on a keypad (18) of the device, which second unit is used for selections made in relation to the further information shown on the information presentation unit. 5
- 10
21. Portable electronic device (10) according to any of claims 10 - 20, further comprising a status information store (22), from which the control unit (20) is arranged to retrieve said item of status information for provision on the information presentation unit. 15
22. Portable electronic device (10) according to any of claims 10 - 21, further comprising a further information store (24), from which the control unit is arranged to retrieve further information relating to said item of status information for provision on the information presentation unit. 20
23. Portable electronic device according to any of claims 10 - 22, in which it is a cellular phone. 25
- 30
- 35
- 40
- 45
- 50
- 55
- 8

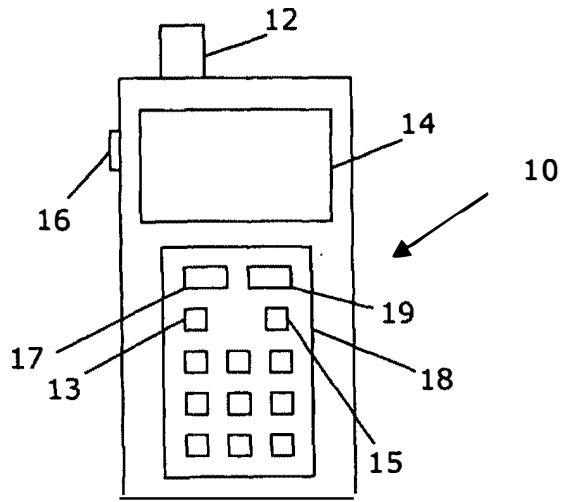


FIG. 1

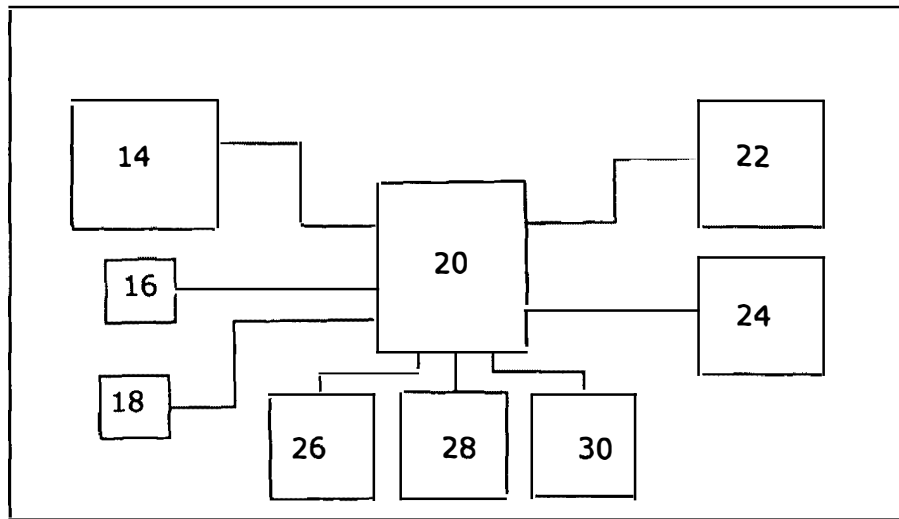


FIG. 2

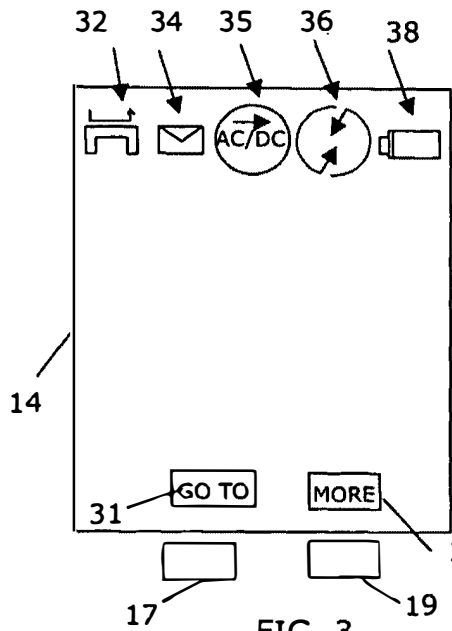


FIG. 3

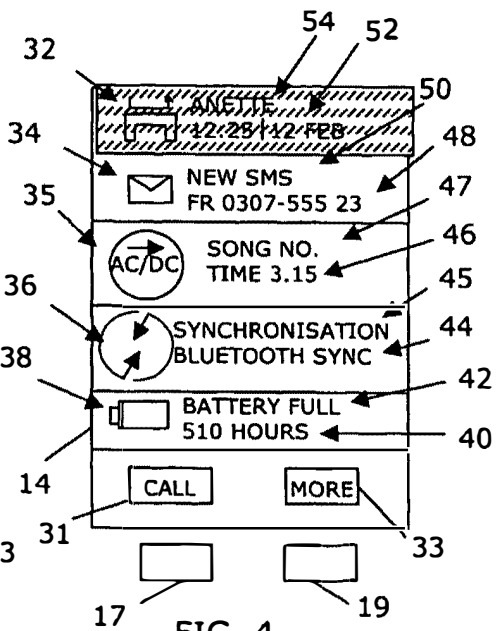


FIG. 4

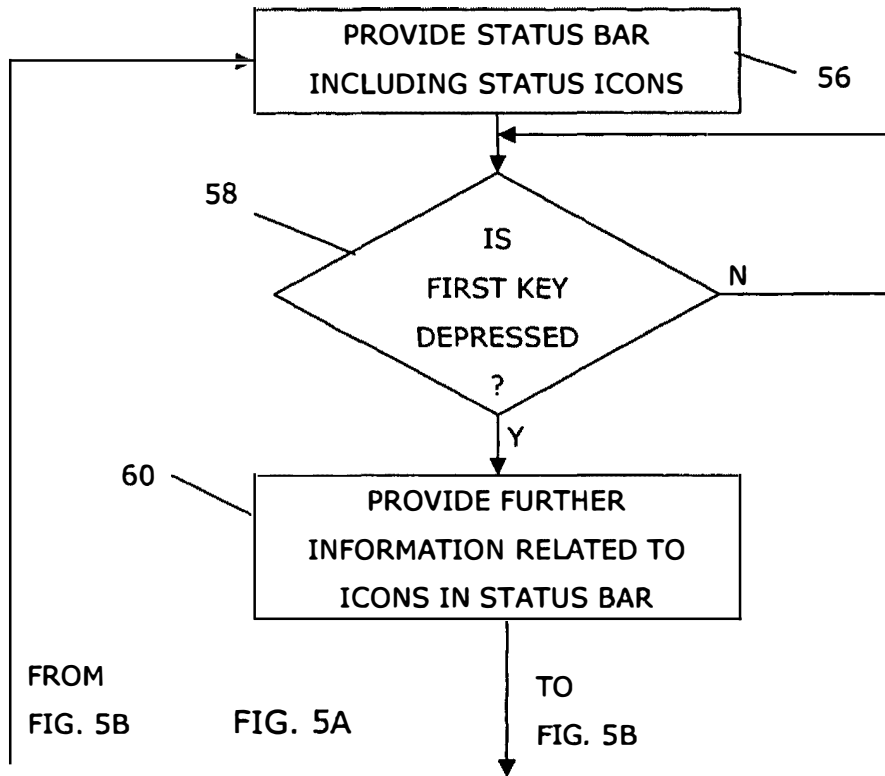


FIG. 5A

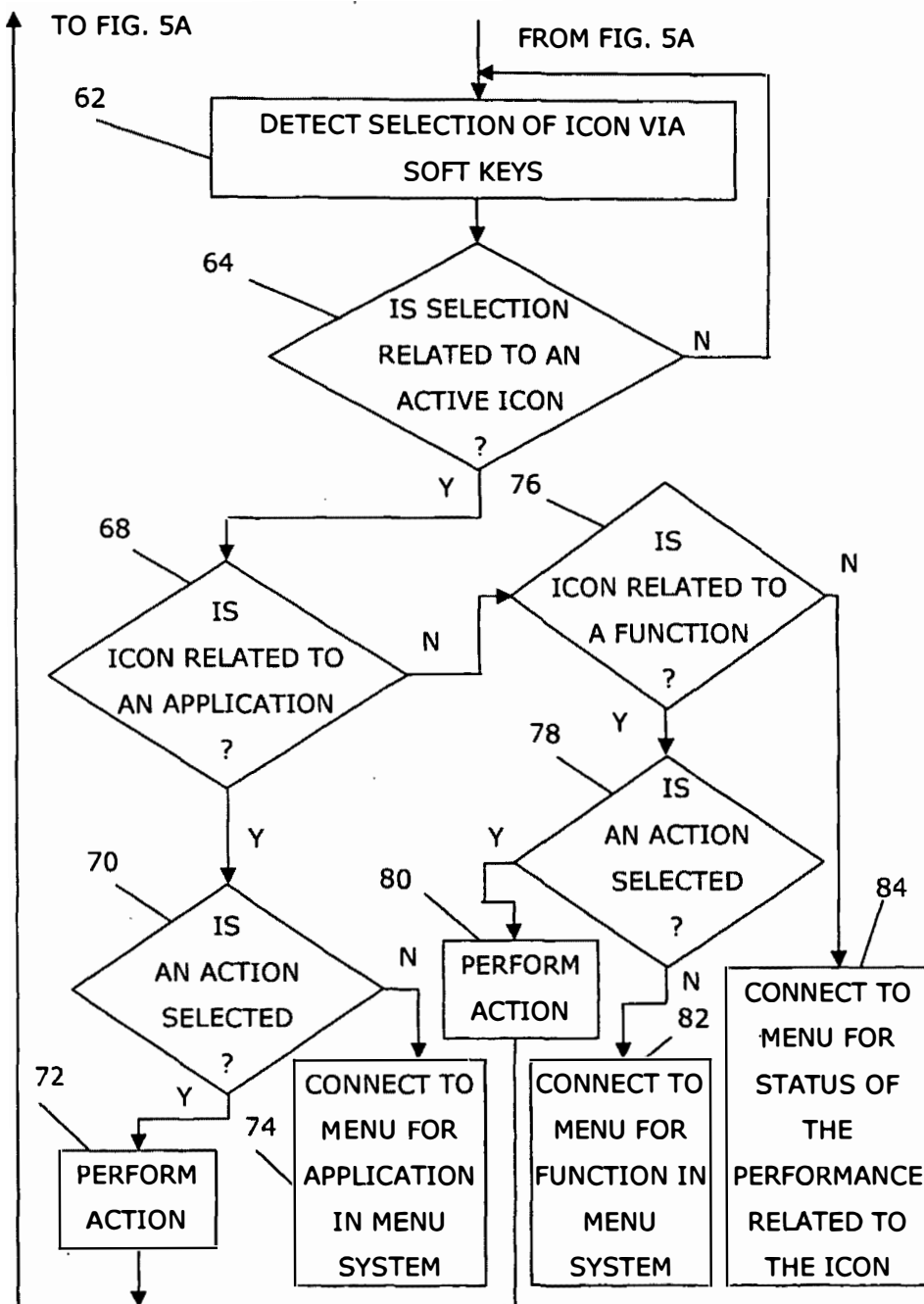


FIG. 5B



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 02 02 8890

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 104 151 A (NOKIA MOBILE PHONES LTD) 30 May 2001 (2001-05-30) * abstract * * page 2, line 40 - page 3, line 7 * * page 4, line 12 - line 36 * * page 5, line 1 - line 36 * * page 9, line 5 - line 32 * * figures 2,4,5,8-10 * ---	1-23	H04M1/247 H04M1/725 G06F3/033
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 19 May 2003	Examiner Peller, I
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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Approved for use through 07/31/2006. OMB 0651-0032
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UTILITY PATENT APPLICATION TRANSMITTAL <small>(Only for new nonprovisional applications under 37 CFR 1.53(b))</small>	Attorney Docket No.	16813-39US
	First Inventor	SCOTT, Sherryl Lee Lorraine
	Title	DYNAMIC BAR ORIENTED USER INTERFACE
	Express Mail Label No.	

APPLICATION ELEMENTS <small>See MPEP chapter 600 concerning utility patent application contents.</small>	ADDRESS TO: Mail Stop Patent Application Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450
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<p>1. <input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17) <i>(Submit on original and a duplicate for fee processing)</i></p> <p>2. <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p>3. <input checked="" type="checkbox"/> Specification [Total Pages: <u>32</u>] <i>(preferred arrangement set forth below)</i></p> <ul style="list-style-type: none"> - Descriptive title of the invention - Cross Reference to Related Applications - Statement Regarding Fed sponsored R & D - Reference to sequence listing, a table, or a computer program listing appendix - Background of the invention - Brief Summary of the invention - Brief Description of the Drawings <i>(if filed)</i> - Detailed Description - Claim(s) - Abstract of the Disclosure <p>4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets: <u>11</u>]</p> <p>5. Oath or Declaration [Total Sheets: <u>1</u>]</p> <p>a. <input checked="" type="checkbox"/> Newly executed (original or copy)</p> <p>b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d)) <i>(for continuation/divisional with Box 18 completed)</i></p> <p>i. <input type="checkbox"/> DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).</p> <p>6. <input checked="" type="checkbox"/> Application Data Sheet, See 37 CFR 1.76</p>	<p>7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or Computer Program <i>(Appendix)</i></p> <p>8. Nucleotide and/or Amino Acid Sequence Submission <i>(if applicable, all necessary)</i></p> <p>a. <input type="checkbox"/> Computer Readable Form (CRF)</p> <p>b. Specification Sequence Listing on:</p> <p>i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or</p> <p>ii. <input type="checkbox"/> Paper</p> <p>c. <input type="checkbox"/> Statements verifying identity of above copies</p>
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ACCOMPANYING APPLICATION PARTS	
9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s))	
10. <input checked="" type="checkbox"/> 37 CFR 3.73(b) Statement <input checked="" type="checkbox"/> Power of Attorney <i>(when there is an assignee)</i>	
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16. <input type="checkbox"/> Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.	
17. <input type="checkbox"/> Other:	

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

Continuation Divisional Continuation-in-part (CIP) of prior application No.:

Prior application information: Examiner: _____ Art Unit: _____
 For CONTINUATION OR DIVISIONAL APPS only; The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

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Name (Print/Type)	Joseph CONNEELY	Registration No. (Attorney/Agent)	54883
Signature	<i>J. Conneely</i>	Date	November 9, 2004

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

Complete if Known

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TOTAL AMOUNT OF PAYMENT (\$)		Filing Date	November 9, 2004
(\$)		First Named Inventor	SCOTT, Sherryl Lee Lorraine
		Examiner Name	
		Art Unit	
		Attorney Docket No.	16813-39US

METHOD OF PAYMENT (check all that apply) <input type="checkbox"/> Check <input type="checkbox"/> Credit card <input type="checkbox"/> Money Order <input type="checkbox"/> Other <input type="checkbox"/> None <input checked="" type="checkbox"/> Deposit Account: Deposit Account Number: 195113 Deposit Account Name: OGILVY RENAULT The Director is authorized to: (check all that apply) <input checked="" type="checkbox"/> Charge fee(s) indicated below <input checked="" type="checkbox"/> Credit any overpayments <input checked="" type="checkbox"/> Charge any additional fee(s) or any underpayment of fee(s) <input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.		FEE CALCULATION (continued)																																																																																																																																																					
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SUBMITTED BY		(Complete if applicable)	
Name (Print/Type)	Joseph CONNEELY	Registration No. (Attorney/Agent)	54883
Signature	<i>J. Conneely</i>	Telephone	416.216.2993
		Date	November 9, 2004

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17691 U.S. PTO
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UTILITY PATENT APPLICATION TRANSMITTAL <small>(Only for new nonprovisional applications under 37 CFR 1.53(b))</small>	Attorney Docket No.	16813-39US
	First Inventor	SCOTT, Sherryl Lee Lorraine
	Title	DYNAMIC BAR ORIENTED USER INTERFACE
	Express Mail Label No.	

APPLICATION ELEMENTS <small>See MPEP chapter 600 concerning utility patent application contents.</small>	ADDRESS TO: Mail Stop Patent Application Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450
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Continuation Divisional Continuation-in-part (CIP) of prior application No.:

Prior application information: Examiner: _____ Art Unit: _____
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<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Application Number	
TOTAL AMOUNT OF PAYMENT (\$)		Filing Date	November 9, 2004
(\$)		First Named Inventor	SCOTT, Sherryl Lee Lorraine
		Examiner Name	
		Art Unit	
		Attorney Docket No.	16813-39US

METHOD OF PAYMENT (check all that apply) <input type="checkbox"/> Check <input type="checkbox"/> Credit card <input type="checkbox"/> Money Order <input type="checkbox"/> Other <input type="checkbox"/> None <input checked="" type="checkbox"/> Deposit Account: Deposit Account Number: 195113 Deposit Account Name: OGILVY RENAULT The Director is authorized to: (check all that apply) <input checked="" type="checkbox"/> Charge fee(s) indicated below <input checked="" type="checkbox"/> Credit any overpayments <input checked="" type="checkbox"/> Charge any additional fee(s) or any underpayment of fee(s) <input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.		FEE CALCULATION (continued) 3. ADDITIONAL FEES Large Entity / Small Entity																																																																																																																																																					
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DYNAMIC BAR ORIENTED USER INTERFACE

Field of the Invention

[0001] The present invention relates generally to communication devices, and more particularly to a graphical user interface for controlling such devices.

Description of the Related Art

[0002] With the proliferation of communications services available on wireless mobile devices, it becomes increasingly complex to create a single device that can excel at many different functions. Many critics claim that a wireless telephone device can never make a good handheld personal digital assistant (PDA) device and a handheld PDA device will never make a good wireless telephone. It is also said that only teenagers are using Instant Messaging (IM) services or Short Message Services (SMS) to exchange messages with friends and acquaintances and that such users should get an entirely different wireless mobile device. However, many users of wireless handheld devices desire to have multiple services and functionality on a single device.

[0003] Representing multiple services and functions to a user on a single wireless mobile device presents a number of challenges to the designer of a user interface, particularly a graphical user interface (GUI), for controlling the device. Wireless devices are usually small relative to less portable computing devices such as laptops and desktop computers.

Inherently then, a visual display such as an LCD or other screen component of the wireless mobile device has a small display area.

[0004] Typically, GUIs for wireless mobile devices comprise a main or home screen and one or more sub-screens that may be navigated from the main screen. Notification icons are often rendered on a portion of the main screen to indicate a new event such as the receipt of a new IM message, electronic mail (e-mail) or other service events such as a calendar reminder or alarm and other status information such as time, date and battery life. For each type of service or function available via the device, a graphical image or icon is often rendered on a major portion of the main screen, which icon may be selected by moving a focus or cursor about the interface and selecting the desired item to launch a specific GUI for the selected service or function.

[0005] There is a demand to have information made available to a user quicker than previously available in order to optimize the control of the wireless device. An application icon or information or text (e.g. name or title) describing the application is generally static and as such is not particularly useful for representing changing information associated with the application activated by the icon. Representing current information to a user via a predominantly iconic GUI is difficult. Further, organizing such information in a useful manner to permit a user to better control the device is also problematic.

[0006] Accordingly, there is a resulting need for a method and apparatus that addresses one or more of these shortcomings.

SUMMARY

[0007] The invention relates to a method, graphical user interface and apparatus for controlling an apparatus.

[0008] In accordance with a first aspect of the invention, there is provided a method for controlling an apparatus comprising: providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for applications and/or functions provided by the apparatus, said each dynamic bar having an pop-up interface for providing at least one of preview information determined from information managed by the applications and/or functions and links to invoke said respective interfaces; and invoking said respective interfaces to control said apparatus in response to user input.

[0009] In accordance with a second aspect of the invention, there is provided an apparatus comprising: a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to: provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for applications and/or functions provided by the apparatus, said each dynamic bar having an pop-up

interface for providing at least one of preview information determined from information managed by the applications and/or functions and links to invoke said respective interfaces; and invoke said respective interfaces to control said apparatus in response to user input; and a processor coupled to the storage medium to execute the programming instructions.

[0010] These and other aspects will be apparent to persons of ordinary skill in the art including a computer program product such as a machine readable medium storing computer program code executable to perform a method aspect of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Embodiments of present invention will now be described by way of example with reference to attached figures, wherein:

[0012] Fig. 1 is a block diagram which illustrates pertinent components of a wireless communication device which communicates within a wireless communication network in accordance with the prior art;

[0013] Fig. 2 is a more detailed diagram of a preferred wireless communication device of Fig. 1 in accordance with the prior art;

[0014] Fig. 3 is an illustration of an example of a main screen of a graphical user interface, in accordance with an embodiment of the invention, for a wireless communication device such as the devices of Figs. 1 and 2;

[0015] Fig. 4 is an illustration of the main screen of Fig. 3 following a user action;

[0016] Fig. 5 is an illustration of an example of a main screen of a graphical user interface, in accordance with a further embodiment of the invention;

[0017] Fig. 6 is an illustration of the main screen of Fig. 5 following a user action;

[0018] Fig. 7 is an illustration of an example of a main screen, in accordance with another embodiment of the invention, for a wireless communication device such as the devices of Figs. 1 and 2;

[0019] Figs. 8 and 9 are illustrations of the main screen of Fig. 7 following respective user actions; and

[0020] Fig. 10 is an illustration of an example of a main screen, in accordance with another embodiment of the invention, for a wireless communication device such as the devices of Figs. 1 and 2;

[0021] Figs. 11A to 11D are illustrations of particular views of the main screen of Fig. 10;

[0022] Figs. 12A to 12D are detailed illustrations of the screen of Fig. 11D in accordance with an embodiment of the invention;

[0023] Figs. 13A to 13C are respective illustrations of Figs. 11A to 11C following user action in accordance with an embodiment of the invention;

[0024] Fig. 14 is an illustration of an example of a main screen, in accordance with another embodiment of the

invention, for a wireless communication device such as the devices of Figs. 1 and 2;

[0025] Figs. 15A to 15C are illustrations of particular views of the main screen of Fig. 14 in accordance with an embodiment of the invention;

[0026] Figs. 16 and 17 are flowcharts for operations of a user interface in accordance with embodiments of the invention.

DETAILED DESCRIPTION

[0027] Fig. 1 is a block diagram of a communication system 100 which includes a mobile station 102 which communicates through a wireless communication network 104 symbolized by a station. Mobile station 102 preferably includes a visual display 112, a keyboard 114, and perhaps one or more auxiliary user interfaces (UI) 116, each of which are coupled to a controller 106. Controller 106 is also coupled to radio frequency (RF) transceiver circuitry 108 and an antenna 110.

[0028] Typically, controller 106 is embodied as a central processing unit (CPU) which runs operating system software in a memory component (not shown). Controller 106 will normally control overall operation of mobile station 102, whereas signal processing operations associated with communication functions are typically performed in RF transceiver circuitry 108. Controller 106 interfaces with device display 112 to display received information, stored information, user inputs, and the like. Keyboard 114, which may be a telephone type keypad, full alphanumeric keyboard or full or condensed QWERTY keypad, is normally provided for entering data for

storage in mobile station 102, information for transmission to network 104, a telephone number to place a telephone call, commands to be executed on mobile station 102, and possibly other or different user inputs.

[0029] Mobile station 102 sends communication signals to and receives communication signals from the wireless network 104 over a wireless link via antenna 110. RF transceiver circuitry 108 performs functions similar to those of a base station and a base station controller (BSC) (not shown), including for example modulation/demodulation and possibly encoding/decoding and encryption/decryption. It is also contemplated that RF transceiver circuitry 108 may perform certain functions in addition to those performed by a BSC. It will be apparent to those skilled in art that RF transceiver circuitry 108 will be adapted to particular wireless network or networks in which mobile station 102 is intended to operate.

[0030] Mobile station 102 includes a battery interface (IF) 134 for receiving one or more rechargeable batteries 132. Battery 132 provides electrical power to electrical circuitry in mobile station 102, and battery IF 132 provides for a mechanical and electrical connection for battery 132. Battery IF 132 is coupled to a regulator 136 which regulates power to the device. When mobile station 102 is fully operational, an RF transmitter of RF transceiver circuitry 108 is turned on only when it is sending to network, and is otherwise turned off or placed in a low-power mode to conserve power. Similarly, an RF receiver of RF transceiver circuitry 108 is typically periodically turned off to

conserve power until it is needed to receive signals or information (if at all) during designated time periods.

[0031] Mobile station 102 operates using a Subscriber Identity Module (SIM) 140 which is connected to or inserted in mobile station 102 at a SIM interface (IF) 142. SIM 140 is one type of a conventional "smart card" used to identify an end user (or subscriber) of mobile station 102 and to personalize the device, among other things. Without SIM 140, the mobile station terminal is not fully operational for communication through the wireless network. By inserting SIM 140 into mobile station 102, an end user can have access to any and all of his/her subscribed services. SIM 140 generally includes a processor and memory for storing information. Since SIM 140 is coupled to SIM IF 142, it is coupled to controller 106 through communication lines 144. In order to identify the subscriber, SIM 140 contains some user parameters such as an International Mobile Subscriber Identity (IMSI). An advantage of using SIM 140 is that end users are not necessarily bound by any single physical mobile station. SIM 140 may store additional user information for the mobile station as well, including date book (or calendar) information and recent call information.

[0032] Mobile station 102 may consist of a single unit, such as a data communication device, a multiple-function communication device with data and voice communication capabilities, a personal digital assistant (PDA) enabled for wireless communication, or a computer incorporating an internal modem. Alternatively, mobile station 102 may be a multiple-module unit comprising a plurality of separate

components, including but in no way limited to a computer or other device connected to a wireless modem. In particular, for example, in the mobile station block diagram of Fig. 1, RF transceiver circuitry 108 and antenna 110 may be implemented as a radio modem unit that may be inserted into a port on a laptop computer. In this case, the laptop computer would include display 112, keyboard 114, one or more auxiliary UIs 116, and controller 106 embodied as the computer's CPU. It is also contemplated that a computer or other equipment not normally capable of wireless communication may be adapted to connect to and effectively assume control of RF transceiver circuitry 108 and antenna 110 of a single-unit device such as one of those described above. Such a mobile station 102 may have a more particular implementation as described later in relation to mobile station 202 of Fig. 2.

[0033] Fig. 2 is a detailed block diagram of a preferred mobile station 202. Mobile station 202 is preferably a two-way communication device having at least voice and advanced data communication capabilities, including the capability to communicate with other computer systems. Depending on the functionality provided by mobile station 202, it may be referred to as a data messaging device, a two-way pager, a cellular telephone with data messaging capabilities, a wireless Internet appliance, or a data communication device (with or without telephony capabilities). Mobile station 202 may communicate with any one of a plurality of fixed transceiver stations 200 within its geographic coverage area.

[0034] Mobile station 202 will normally incorporate a communication subsystem 211, which includes a receiver, a transmitter, and associated components, such as one or more (preferably embedded or internal) antenna elements and, local oscillators (LOs), and a processing module such as a digital signal processor (DSP) (all not shown). Communication subsystem 211 is analogous to RF transceiver circuitry 108 and antenna 110 shown in Fig. 1. As will be apparent to those skilled in field of communications, particular design of communication subsystem 211 depends on the communication network in which mobile station 202 is intended to operate.

[0035] Network access is associated with a subscriber or user of mobile station 202 and therefore mobile station 202 requires a Subscriber Identity Module or "SIM" card 262 to be inserted in a SIM IF 264 in order to operate in the network. SIM 262 includes those features described in relation to Fig. 1. Mobile station 202 is a battery-powered device so it also includes a battery IF 254 for receiving one or more rechargeable batteries 256. Such a battery 256 provides electrical power to most if not all electrical circuitry in mobile station 202, and battery IF 254 provides for a mechanical and electrical connection for it. The battery IF 254 is coupled to a regulator (not shown) which provides power V+ to all of the circuitry.

[0036] Mobile station 202 includes a microprocessor 238 (which is one implementation of controller 106 of Fig. 1) which controls overall operation of mobile station 202. Communication functions, including at least data and voice communications, are performed through communication subsystem

211. Microprocessor 238 also interacts with additional device subsystems such as a display 222, a flash memory 224, a random access memory (RAM) 226, auxiliary input/output (I/O) subsystems 228, a serial port 230, a keyboard 232, a speaker 234, a microphone 236, a short-range communications subsystem 240, and any other device subsystems generally designated at 242. Some of the subsystems shown in Fig. 2 perform communication-related functions, whereas other subsystems may provide "resident" or on-device functions. Notably, some subsystems, such as keyboard 232 and display 222, for example, may be used for both communication-related functions, such as entering a text message for transmission over a communication network, and device-resident functions such as a calculator or task list. Operating system software used by microprocessor 238 is preferably stored in a persistent store such as flash memory 224, which may alternatively be a read-only memory (ROM) or similar storage element (not shown). Those skilled in the art will appreciate that the operating system, specific device applications, or parts thereof, may be temporarily loaded into a volatile store such as RAM 226.

[0037] Microprocessor 238, in addition to its operating system functions, preferably enables execution of software applications on mobile station 202. A predetermined set of applications which control basic device operations, including at least data and voice communication applications, will normally be installed on mobile station 202 during its manufacture. A preferred application that may be loaded onto mobile station 202 may be a personal information manager

(PIM) application having the ability to organize and manage data items relating to the user such as, but not limited to, instant messaging (IM), e-mail, calendar events, voice mails, appointments, and task items. Naturally, one or more memory stores are available on mobile station 202 and SIM 262 to facilitate storage of PIM data items and other information.

[0038] The PIM application preferably has the ability to send and receive data items via the wireless network. In a preferred embodiment, PIM data items are seamlessly integrated, synchronized, and updated via the wireless network, with the mobile station user's corresponding data items stored and/or associated with a host computer system thereby creating a mirrored host computer on mobile station 202 with respect to such items. This is especially advantageous where the host computer system is the mobile station user's office computer system. Additional applications may also be loaded onto mobile station 202 through network 200, an auxiliary I/O subsystem 228, serial port 230, short-range communications subsystem 240, or any other suitable subsystem 242, and installed by a user in RAM 226 or preferably a non-volatile store (not shown) for execution by microprocessor 238. Such flexibility in application installation increases the functionality of mobile station 202 and may provide enhanced on-device functions, communication-related functions, or both. For example, secure communication applications may enable electronic commerce functions and other such financial transactions to be performed using mobile station 202.

[0039] In a data communication mode, a received signal such as a text message, an e-mail message, or web page download will be processed by communication subsystem 211 and input to microprocessor 238. Microprocessor 238 will preferably further process the signal for output to display 222, to auxiliary I/O device 228 or both as described further herein below with reference to Figs. 3-9. A user of mobile station 202 may also compose data items, such as e-mail messages, for example, using keyboard 232 in conjunction with display 222 and possibly auxiliary I/O device 228. Keyboard 232 is preferably a telephone type keypad, full alphanumeric keyboard or full or condensed QWERTY keypad. These composed items may be transmitted over a communication network through communication subsystem 211.

[0040] For voice communications, the overall operation of mobile station 202 is substantially similar, except that the received signals would be output to speaker 234 and signals for transmission would be generated by microphone 236. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, may also be implemented on mobile station 202. Although voice or audio signal output is preferably accomplished primarily through speaker 234, display 222 may also be used to provide an indication of the identity of a calling party, duration of a voice call, or other voice call related information, as some examples.

[0041] Serial port 230 in Fig. 2 is normally implemented in a personal digital assistant (PDA)-type communication device for which synchronization with a user's desktop computer is a desirable, albeit optional, component. Serial

port 230 enables a user to set preferences through an external device or software application and extends the capabilities of mobile station 202 by providing for information or software downloads to mobile station 202 other than through a wireless communication network. The alternate download path may, for example, be used to load an encryption key onto mobile station 202 through a direct and thus reliable and trusted connection to thereby provide secure device communication.

[0042] Short-range communications subsystem 240 of Fig. 2 is an additional optional component which provides for communication between mobile station 202 and different systems or devices, which need not necessarily be similar devices. For example, subsystem 240 may include an infrared device and associated circuits and components, or a Bluetooth™ communication module to provide for communication with similarly-enabled systems and devices. Bluetooth™ is a registered trademark of Bluetooth SIG, Inc.

[0043] In accordance with an embodiment of the invention, mobile station 202 is configured for sending and receiving data items and includes a PIM for organizing and managing data items relating to the user such as, but not limited to, instant messaging (IM), e-mail, calendar events, calendar appointments, and task items, etc. By way of example, mobile station 202 is configured for voice (which may include push to talk over cellular (POC)) and data services, voice mail service, e-mail service, SMS and chat services to which the user subscribes. To provide a user-friendly environment to control the operation of mobile station 202, PIM together

with the operation system and various software applications resident on the station 202 provides a GUI having a main screen from which to access various services via applications stored on said device or available to it.

[0044] Referring now to Fig. 3, there is an illustration of an exemplary main screen 300, in accordance with an embodiment of the invention, for display 222 of mobile station 202 providing a graphical user interface for controlling mobile station 202. Main screen 300 is divided into three main portions, namely an application portion 302 for displaying and manipulating icons (e.g. 312) for various software applications and functions enabled by mobile station 202 and a mobile station status portion 306 for displaying status information such as time, date, battery and signal strength, etc. Main screen 300 may not represent all application icons at once in application portion 302. A user may be required to navigate or scroll through the icons of application portion 302 to view additional application icons.

[0045] In accordance with a first embodiment of the invention, Fig. 3 includes a third portion 304 comprising a dynamic bar for controlling device 202. Dynamic bar 304 stretches horizontally across the main screen between portions 302 and 306. Persons skilled in the art will appreciate that such portions may be arranged differently about screen 300. For example, dynamic bar 304 may lie horizontally across the bottom of screen 300 or vertically. Dynamic bar 304 need not extend fully from one margin of the screen to another.

[0046] Dynamic Bar 304 includes a label portion 308 which in the present embodiment comprises a date reference and an expansion icon (downward pointing arrowhead) 310. A user may click on the dynamic bar (e.g. using a point device, such as a thumb wheel) and expand the dynamic bar to preview items associated with the bar 304. In the present embodiment, dynamic bar 304 is associated with an email application to preview email messages. Fig. 4, in accordance with an embodiment of the invention, illustrates Fig. 3 following a user action to expand the dynamic bar 304. In Fig. 4, mobile station status portion 306 includes a new email count 402 indicating 30 unread emails. Dynamic bar 304 is expanded via a drop down or pop-up interface 407 overlaying a portion of screen 300. Therein, there is displayed a count of available and unread messages 404 and a preview of recent new emails 406 preferably filtered relative to the date shown in the label portion 308 of the dynamic bar as described further below. Optionally, a user may scroll through the list of recent emails. Clicking on the list will automatically invoke the email application, preferably at a view showing the selected email. Cancelling (e.g. via an escape or other key or click) closes the expansion pop-up 407.

[0047] Figs. 5 and 6 illustrate similar main screens 300 as shown in Figs. 3 and 4 but with a dynamic bar and expansion pop-up interface in accordance with a further embodiment of the invention. Dynamic bar 304 of Figs. 5 and 6 includes counts of new events 502 (e.g. new voice mail messages, email messages, SMS messages or contacts online with which to chat). As such, mobile stations status portion

306 need not display such dynamic preview information. Other events types may be counted and displayed such as available friends or groups for Push-to-Talk over Cellular (POC) calls etc. The dynamic preview information need not be limited to a count. For example, the information may include some details of a recent event which may be displayed temporarily for example. One such example is information about a missed call (e.g. "Missed call from NNN...") which may be temporarily displayed. Thereafter, count or other preview information may be displayed.

[0048] Expansion pop-up 602 in the present embodiment does not preview a content of the new event but lists particular services 604 associated with the dynamic bar 304 such as voice mail, email, SMS and chat including an iconic representation of the service 606 and preview information comprising a count 608 as similarly displayed by bar 304 and a link 610 to invoke the associated application user interface for the service. Preview information may thus comprise information maintained by the associated applications and/or functions as well as information determined from this managed information.

[0049] Figs. 7 and 8 illustrate a similar dynamic bar and expansion pop-up 602 as shown in Figs. 5 and 6 but with a difference appearance to application portion 302. Rather than presenting icons for invoking respective interfaces to various applications or functions, application portion 302 presents a list of bars 702 which may be navigated and selected to invoke an associated interface. Mobile station status portion 306 also has an alternative look from that

shown in Figs. 3-6. Fig. 9 illustrates a search or filter function having a dialog screen 902 which may be invoked from dynamic bar 304. Label portion 308 may be clicked for editing to select a different date 904. This date is then used to filter the associated events such that some or all of the counts 502 and 608 may be determined relative to the new date. For example, a count of friends on-line available to chat is not particularly relevant except in relation to the current date/time. In the embodiment of the dynamic bar and expansion pop-up of Fig. 4, such a date may filter the new messages for previewing, for example. As seen below and with reference to Figs. 10 and 11B, a dynamic bar may be associated with other services or applications including a calendar application and the date may be useful for searching or filter calendar events and entries or a particular view.

[0050] Figs. 10 and 11A to 11D illustrate yet a further embodiment of a main screen user interface of the present invention. Fig. 10 illustrates a user interface main screen 300 comprising a plurality of dynamic bars 1004, 1008, 1012, 1016 and 1020 each with respective label portions 1002, 1007, 1011, 1015 and 1019 and expansion pop-ups 1006, 1010, 1014, 1018 and 1022. When expanded the bars and pop-ups of main screen 300 of Fig. 10 are distinguished from the bar and pop-up of main screen 300 of earlier figures in that they cannot all be displayed on the display device at one time below mobile station status portion 1002. The remaining portion of display device 222 is denoted by box 1001. As such a user may navigate the main screen, scrolling up or down as necessary to display the desired dynamic bar and expansion screen of

interest. Figs. 11A to 11D illustrate respective views of main screen 300 of Fig. 10 visible within the dimensions of display device 222. A user may navigate from bar to bar such as by using a thumb wheel to position the desired bar at the top of portion 302.

[0051] In the present embodiment, the dynamic bars 1004, 1008, 1012, 1016 and 1020 and expansion pop-ups 1006, 1010, 1014, 1018 and 1022 are associated with various applications and services and/or device functions in accordance with a contextual view of how the mobile station may be used by a user. For example, the label portions 1002, 1007, 1011, 1015 and 1019 denote activities such as "communicate", "plan", "entertain" "configure" and "extra". Communicate bar 1004 and expansion pop-up 1006 is similar to the dynamic bar 304 and associated pop-up 602 of earlier embodiments. With reference to Fig. 11B, plan bar 1008 and expansion pop-up 1010 are associated with calendar and task functions 1102 previewing items (e.g. 1006) for the current day 1004 and additional upcoming days 1008 and 1110. A user may navigate the expansion pop-up and select an item or day to invoke the associated application's interface, preferably jumping to the item within the application. As discussed with reference to Fig. 9, a search or filter interface may be incorporated into a dynamic bar (e.g. in association with the label portion or in another manner) to define a filter with which to determine preview information to be displayed.

[0052] Entertain bar 1012 and expansion pop-up 1014 is associated with applications for gaming, or presenting or working with media such as a browser, audio application or

camera etc. Window 1014 may include links to web pages (e.g. 1112). Entertain bar 1012 may be associated with events, similar to communicate bar 1004, which events may include the availability of new items to download 1114. A count 1113 of same may be displayed in entertain bar 1012 as well. More than one different event type may be monitored and counted as per communicate bar 1004.

[0053] Expansion pop-up 1018 of configure bar illustrates a further optional user interface arrangement whereby associated functions are invoked via an icon based interface comprising a plurality of respective icons 1116 (Fig. 11C) and optional labels 1118. Expansion pop-up 1022 for extras bar 1020 comprises a list of links to respective miscellaneous applications or functions provided by device 202.

[0054] Figs. 12A to 12D further illustrate features of expansion pop-up 1018 for configure bar 1016. A user may navigate expansion pop-up 1018 moving among the icons 1116 (e.g. 1202, 1206, 1210 and 1214). Selecting an icon invokes a dialog (e.g. 1204, 1208, 1212 and 1216) to configure options associated with the function represented by the particular icon. For example, icon 1202 relates to wireless networking functions, particularly, turning communication subsystem 211 on or off. Dialog 1204 may be opened (e.g. by moving the focus to the icon 1202 and clicking an enter key or pointing device, etc.) Options may then be reviewed and/or changed and saved. Dialog 1204 may be positioned over a portion of the screen 300 below the associated bar. Preferably a dialog is displayed in association with its respective icon, such as,

with the icon visible at a margin of the dialog. Once an option is defined and its value saved, the associated icon may be changed (in whole or in part) to reflect the value of the option. For example, if the wireless communication system is set to off, icon 1202 may change to include an X through the icon or the icon changed to another image completely such as an airplane image. As shown in dialog 1216 (Edit profiles...), links to additional dialogs or other interfaces/function activations may be included.

[0055] Figs. 13A, 13B and 13C show examples 1302, 1304 and 1306 of an additional dynamic bar interface expansion element for respective dynamic bars 1004, 1008 and 1012. Each expansion element 1302, 1304 and 1306 is a drop down list comprising particular functions or features of the application(s) associated with the respective dynamic bar which may be invoked from the dynamic bar interface as well as dynamic bar features (e.g. search) or other configurable options (e.g. view agenda, week, month of list 1304) for configuring the dynamic bar or its associated expansion pop-up (e.g. the view of 1010). The expansion element may be invoked by moving a focus to the label portion (e.g. 1003, 1007 or 1011) and hovering for short period of a few seconds or by other well known manners. The expansion element may be closed by click an escape or other cancel key. Though a drop down list is shown, the expansion element may take other forms such as a pop-up. Preferably the element overlays only a portion of the screen 300, leaving the associated dynamic bar and a portion of its expansion pop-up viewable.

[0056] Figs. 14 and 15A to 15C illustrate yet another embodiment of the user interface main screen. The present embodiment is similar to the embodiment of Fig. 10. However the dynamic bars are functionally oriented rather than contextually. Screen 300 of Fig. 14 includes a calendar bar 1402, messages bar 1404, browser bar 1406, configure bar 1408 and extras bar 1410 with respective labels 1403, 1405, 1407, 1409 and 1411. Configure bar 1408 is associated with expansion pop-up 1412 including a list of links (as distinguished from the icons 1116 of Fig. 11C) to invoke interfaces for configuring mobile station 202. Figs. 15A, 15B and 15C illustrate views of the main screen 300 of Fig. 14 as would appear on a display device 222 as a user navigated the dynamic bars as per similar views in Figs. 11A to 11D.

[0057] Note that while not shown, the expansion pop-ups could be selectively individually closed and the plurality of dynamic bars rendered in a list of bars. Like Fig. 3, an application portion of screen 300 may be present to render application icons. Alternative embodiments of the dynamic bar interface, such as the embodiments of Fig. 10 and Fig. 14 may be available for selection by a user of mobile station 202. Alternatively, a mobile station may be configured to store only one embodiment. The dynamic bars may be configurable or shown in different order. Particular applications and functions may be selected by a user to be associated to a particular dynamic bar.

[0058] Figs. 16 and 17 illustrate operations of a dynamic bar user interface in accordance with embodiments of the invention. With reference to Figs. 3-9 and 16, operations

1600 commence at start 1602, typically following power-up of mobile station 202 and a rendering of a default or initial view of main screen 300. A user may select the dynamic bar (e.g. using a thumb wheel device or other pointer to move a focus about the screen 300) at step 1604. The view of main screen 300 may require updating and redisplay (steps 1605 and 1606) for example to indicate the change to the focus. If a user cancels the selection (step 1608) operations may close (as necessary) at end steps 1610. A new message or other event occurrence, as represented by a count displayed on the dynamic bar, may be received (step 1614) and the view updated and output (steps 1616 and 1606).

[0059] The dynamic bar interface may be extended to view an associated expansion pop-up (e.g. Figs. 4, 6 and 8). At steps 1622-1624, the pop-up interface is invoked in response to user input and the pop-up IF view output. Thereafter, the user may take action such as moving the thumb wheel or pressing an arrow key on the device to move the focus about the pop-up (step 1626) and in response, the focus is logically moved (step 1628) and the appropriate view determined (step 1630) and output (step 1624). The focus may move to the dynamic bar itself. New events, etc. may be received (step 1632) as described above and the appropriate view (count) determined and output (steps 1630, 1624).

[0060] A user may wish to filter the events or other items previewed via the dynamic bar. An editing sequence may commence to select a date (step 1634) and a search or filtering is performed (step 1636). The view is updated and displayed accordingly (steps 1630 and 1624).

[0061] An item in the pop-up may be selected, such as a new message (step 1640) and the selection invoked (step 1642) such as by invoking the user interface to the message application. Thereafter operations 1600 may close and end at steps 1610 and 1612 following decision step 1643. Alternatively, depending on the selection invoked, for example, operations may continue via steps 1630 and 1624 to update the view and output same.

[0062] Window IF display (e.g. step 1624) may be closed such as by a cancel input (step 1644). In response, the view is updated and output (steps 1616 and 1606) and operations continue from the dynamic bar interface.

[0063] Operations for the embodiments of user interface of Figs. 10-15 are quite similar to those described. With reference to fig 17, operations 1700 are similar but include steps 1702-1716 for invoking the expansion element (i.e. menu list), and, variously, navigating by moving the focus (steps 1706, 1708, 1710 and 1704 as similarly described with reference to 1626, 1628, 1630 and 1624), selecting and invoking an item from the list (steps 1712 and 1714) and canceling the display of the list (1716, 1616 and 1606). Following the invocation of a selection from the menu list (step 1714) operations may close at end step 1610 in response to decision step 1715. Some selected invocations may continue operations via update view step 1616 and output step 1606

[0064] Persons of ordinary skill in the art will appreciate that there may be differences in implementing certain steps of the operations described depending on the configuration of the specific dynamic bar and its associated

pop-up interface. For example, a dynamic bar not representing a count of associated events will not require steps 1614 et seq. or 1632 et seq. Moving the focus and updating the view within expansion pop-up 1014 may be different than similar operations about pop-up 1018.

[0065] Though described with reference to a mobile station device, persons of ordinary skill in the art will appreciate that the user interface and methods herein described may be usefully incorporated into other computing devices which may not be mobile such as personal computers, workstations, telephone handsets and the like.

[0066] The above-described embodiments of the present application are intended to be examples only. Those of skill in the art may effect alterations, modifications and variations to the particular embodiments without departing from the scope of the application. The invention described herein in the recited claims intends to cover and embrace all suitable changes in technology.

CLAIMS

What is claimed is:

1. A method for controlling an apparatus comprising:

providing at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for at least one of applications and functions provided by the apparatus, said each dynamic bar having an expandable pop-up interface for providing at least one of respective preview information determined from information managed by the at least one of applications and functions and links to invoke said respective interfaces; and

invoking said respective interfaces to control said apparatus in response to user input.
2. The method of claim 1 comprising associating with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective applications and functions associated with the some of the dynamic bars and displaying the respective dynamic preview information within the associated dynamic bar.

3. The method of claim 2 including updating the display of the at least some dynamic bars in response to a change to the respective dynamic preview information.
4. The method of claim 2 comprising providing a filter defining interface for defining a filter with which to determine the preview information.
5. The method of claim 1 comprising selecting particular applications and functions for associating with the at least one dynamic bar in response to logical relationships between the applications and functions.
6. The method of claim 5 including labeling the dynamic bars in response to the logical relationship.
7. The method of claim 1 wherein providing at least one dynamic bar includes displaying said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for at least one of applications and functions provided by the apparatus.
8. The method of claim 1 comprising at least one of expanding and collapsing a respective pop-up interface associated with a dynamic bar in response to respective user input.
9. The method of claim 1 including associating a respective menu interface with at least some of the dynamic bars, said respective menu interface

displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and interfaces to configure options for controlling the operation of the respective dynamic bar.

10. The method of claim 1 wherein at least some of the links to invoke respective interfaces are represented by respective icons.
11. The method of claim 10 wherein an icon is associated with a respective dialog interface for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.
12. The method of claim 10 including selecting the icon for representing with a respective link in response to a value of said one or more options.
13. An apparatus comprising:
 - a storage medium having stored therein a plurality of programming instructions designed to enable the apparatus to:
 - provide at least one dynamic bar for displaying on a main screen of a graphical user interface for controlling the apparatus, each dynamic bar associated with respective one or more interfaces for at least one of applications and functions provided by the apparatus, said

each dynamic bar having an pop-up interface for providing at least one of preview information determined from information managed by the at least one of applications and functions and links to invoke said respective interfaces; and

invoke said respective interfaces to control said apparatus in response to user input; and

a processor coupled to the storage medium to execute the programming instructions.

14. The apparatus of claim 13 wherein said programming instructions are designed to associate with at least some of the dynamic bars respective dynamic preview information determined from information managed by at least one of the respective at least one of applications and functions associated with the some of the dynamic bars and to display the dynamic preview information.
15. The apparatus of claim 14 wherein said programming instructions are designed to update the display of the at least some dynamic bars in response to a change to the respective dynamic preview information.
16. The apparatus of claim 14 wherein said programming instructions are designed to provide a filter defining interface for defining a filter with which to determine the dynamic preview information.

17. The apparatus of claim 13 wherein particular applications and functions are selected for associating with the at least one dynamic bar in response to logical relationships between the applications and functions.
18. The apparatus of claim 17 wherein said programming instructions are designed to label the dynamic bars in response to the logical relationship.
19. The apparatus of claim 13 wherein said programming instructions are designed to display said at least one dynamic bar in a main screen of a user interface for controlling the apparatus, the main screen including a plurality of icons for activating respective interfaces for at least one of applications and functions provided by the apparatus.
20. The apparatus of claim 13 wherein said programming instructions are designed to at least one of expand and collapse a respective pop-up interface associated with a dynamic bar in response to respective user input.
21. The apparatus of claim 13 wherein said programming instructions are designed to provide a respective menu interface in association with at least some of the dynamic bars, said respective menu interface displayable to provide links to invoke at least one of interfaces for the applications and functions associated with the respective dynamic bar and

interfaces to configure options for controlling the operation of the respective dynamic bar.

22. The apparatus of claim 13 wherein said programming instructions are designed to represent at least some of the links to invoke respective interfaces with respective icons.
23. The apparatus of claim 22 wherein said programming instructions are designed to provide a respective dialog interface in association with an icon for configuring one of more options for controlling the operation of the apparatus, said dialog interface displayed in association with the icon.
24. The apparatus of claim 22 wherein said programming instructions are designed to select the icon for representing with a respective link in response to a value of said one or more options.
25. A machine readable medium comprising program code executable on a processor for implementing the method of claim 1.

DYNAMIC BAR ORIENTED USER INTERFACE

Abstract

Method and user interface for controlling an apparatus are provided. At least one dynamic bar is provided for displaying on a main screen of a graphical user interface for controlling the apparatus. Each dynamic bar is associated with respective one or more interfaces for applications and/or functions provided by the apparatus and each dynamic bar has a pop-up interface for providing at least one of preview information determined from information managed by the applications and/or functions and links to invoke said respective interfaces.

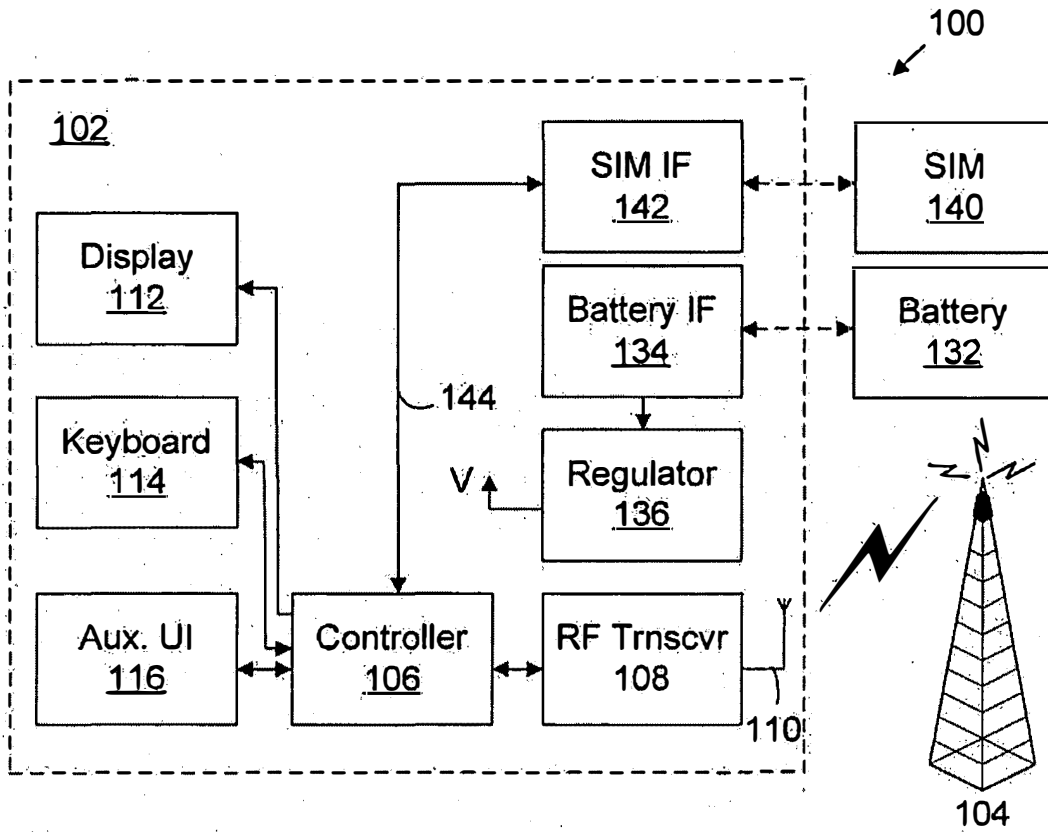


FIG. 1

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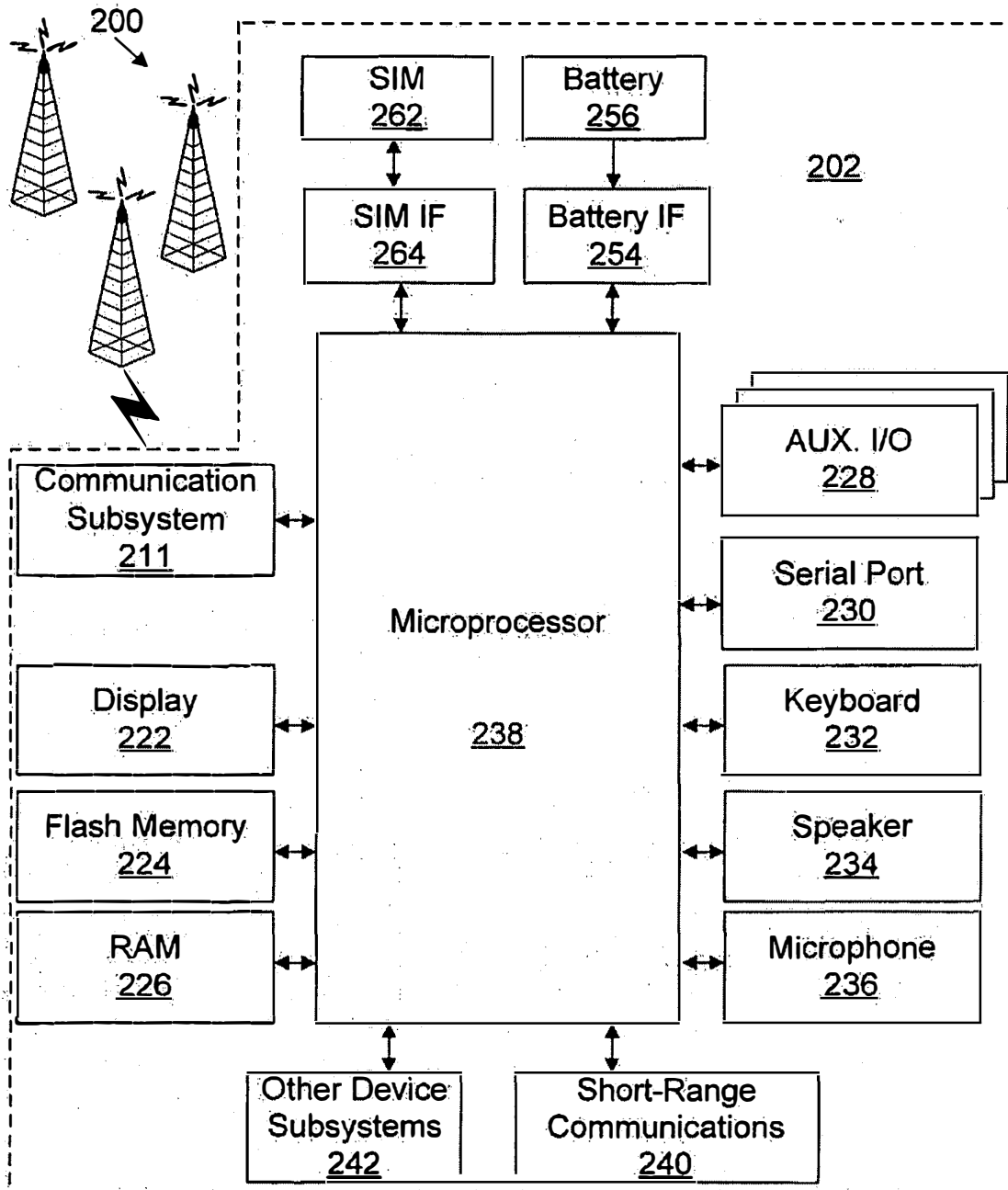
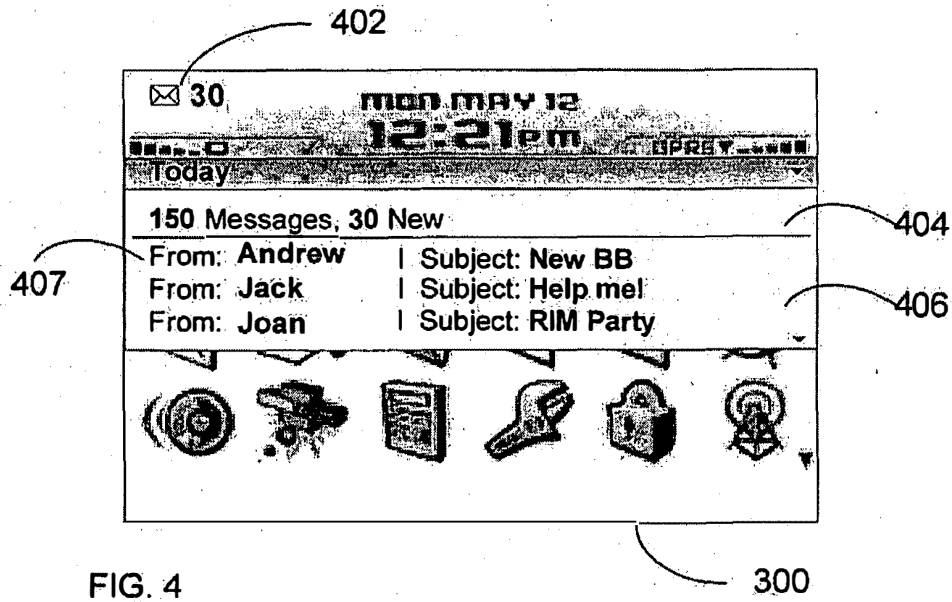
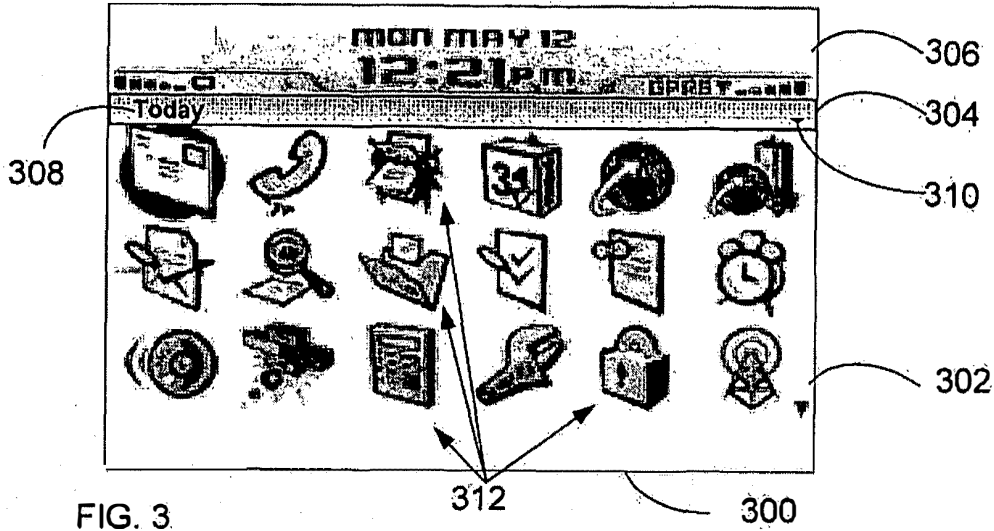


FIG. 2

3/11



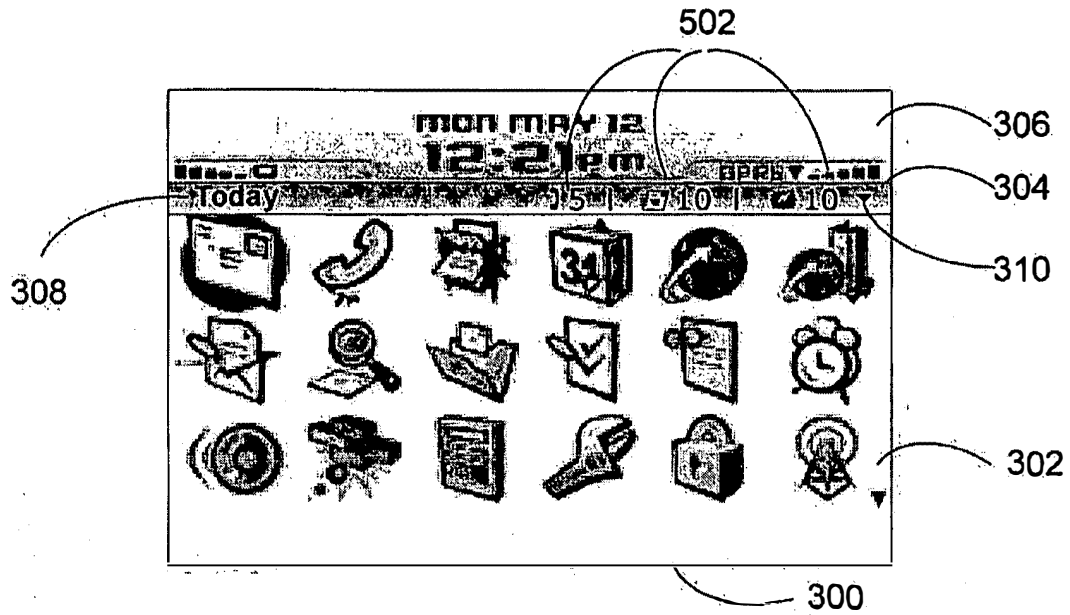


FIG. 5

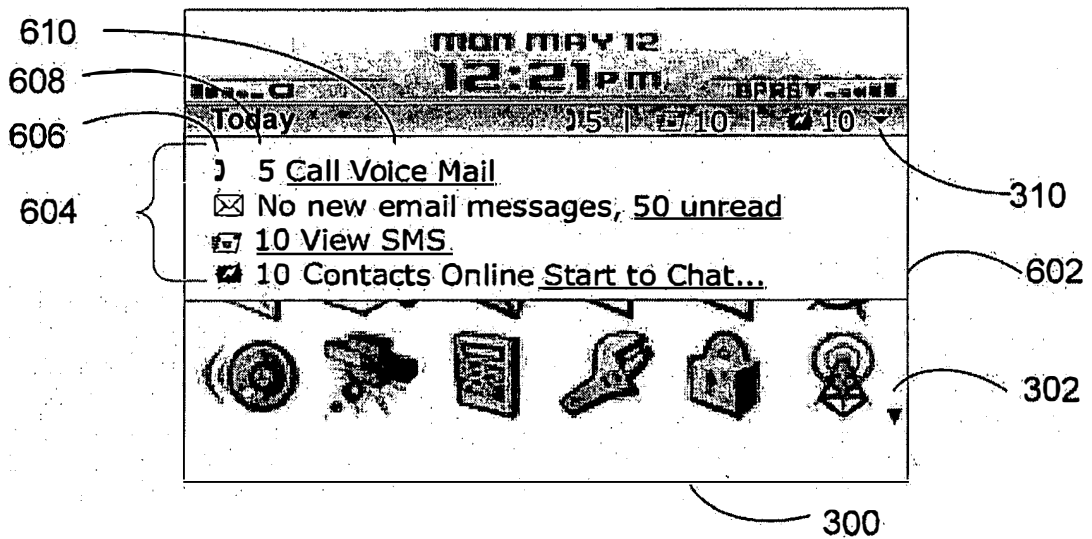
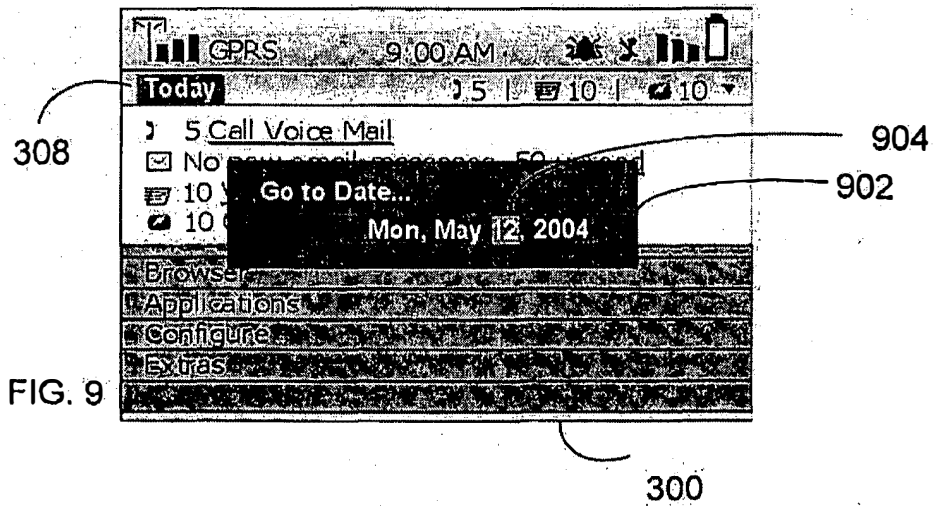
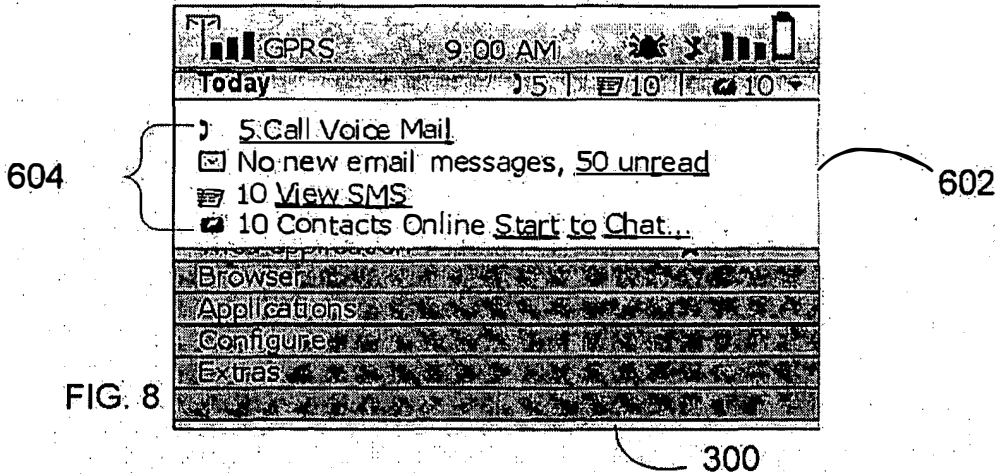
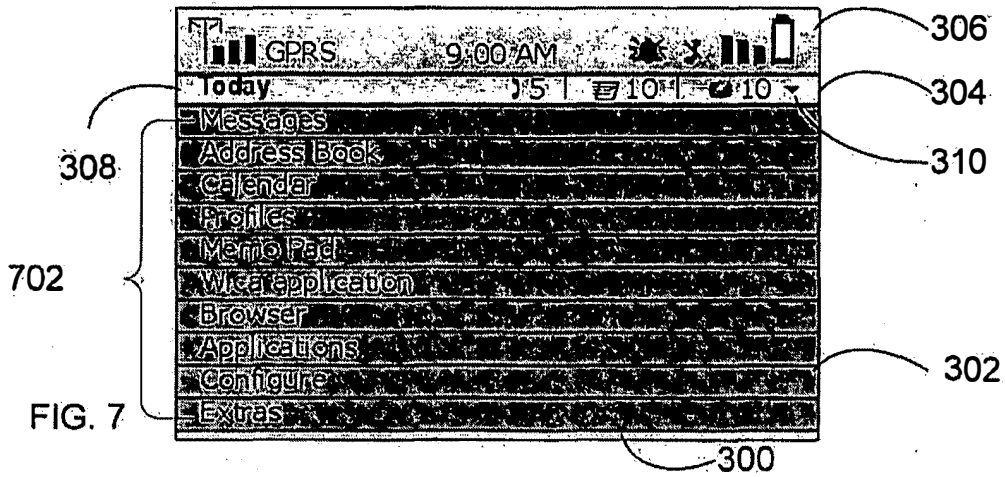


FIG. 6

5/11



6/11

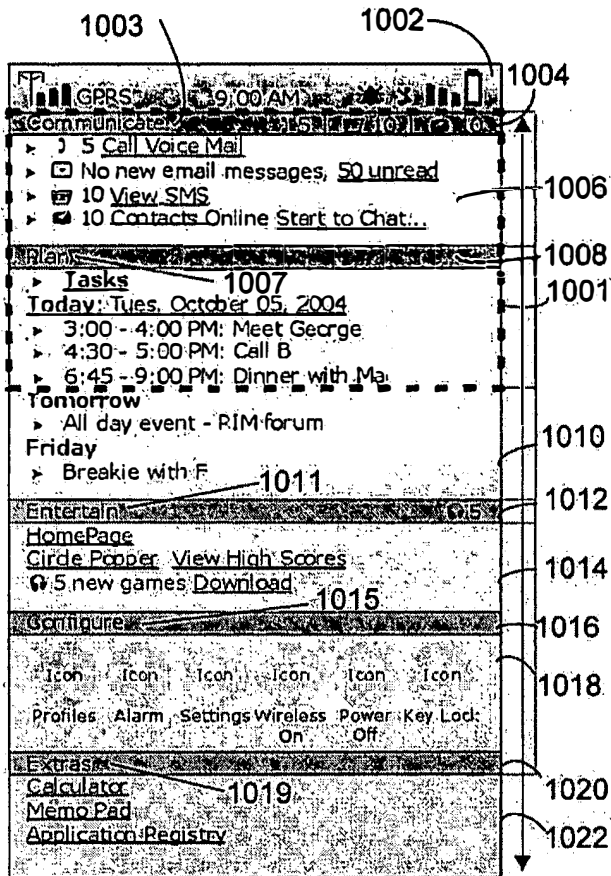


FIG. 10

300

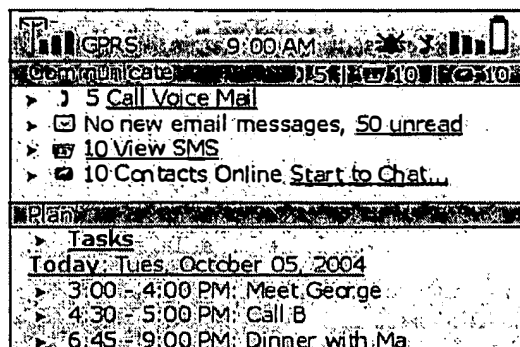


FIG. 11A

300

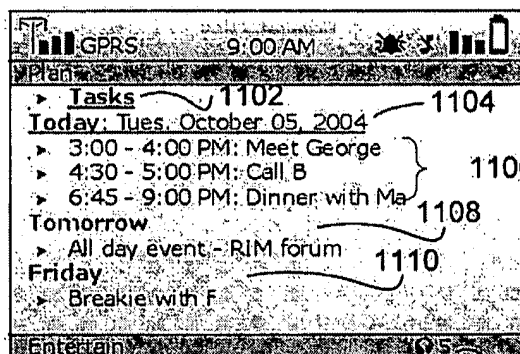


FIG. 11B

300

1113

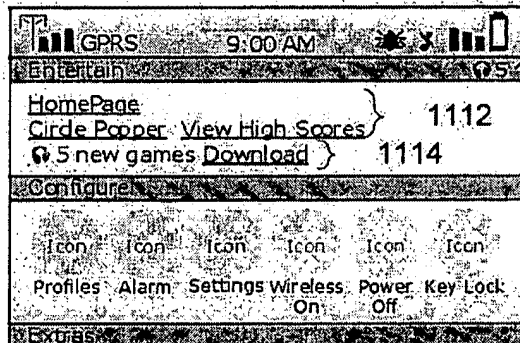


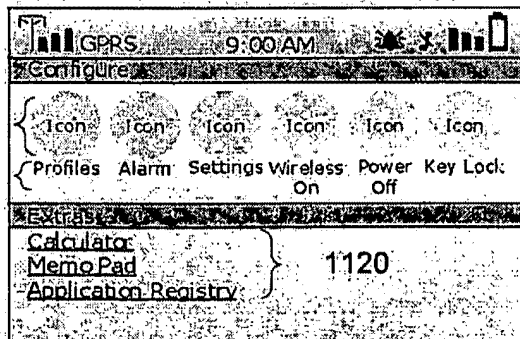
FIG. 11C

300

1116

1118

FIG. 11D



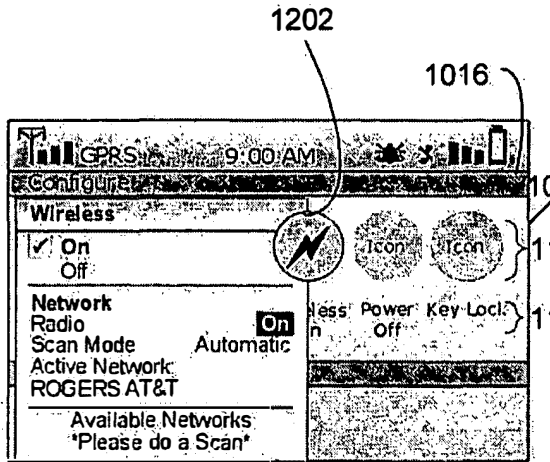


FIG. 12A 1210

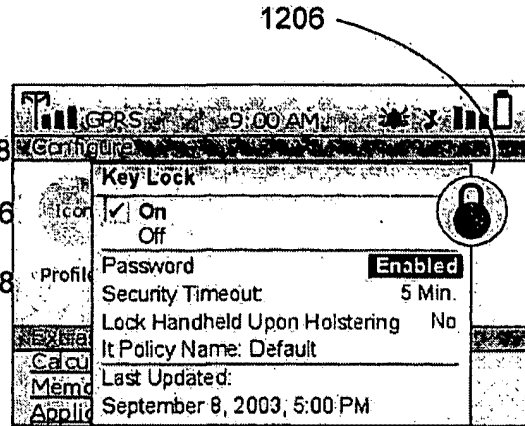


FIG. 12B

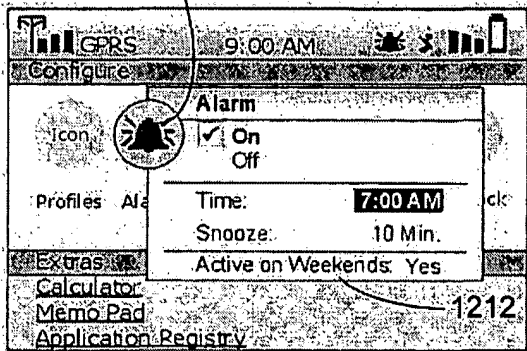


FIG. 12C

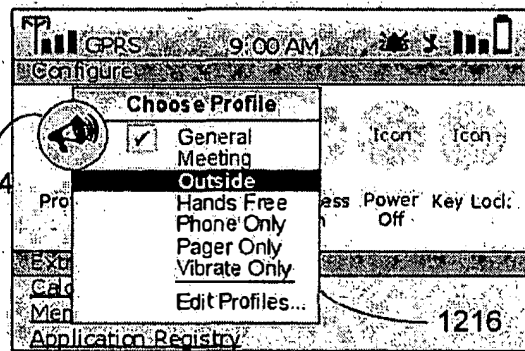


FIG. 12D

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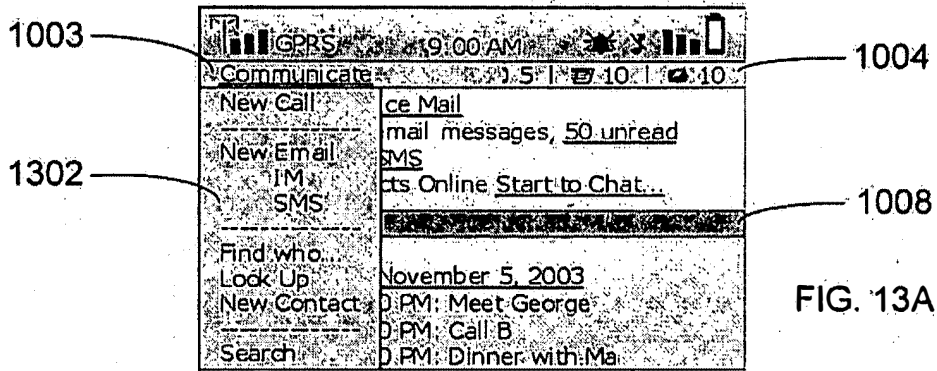


FIG. 13A

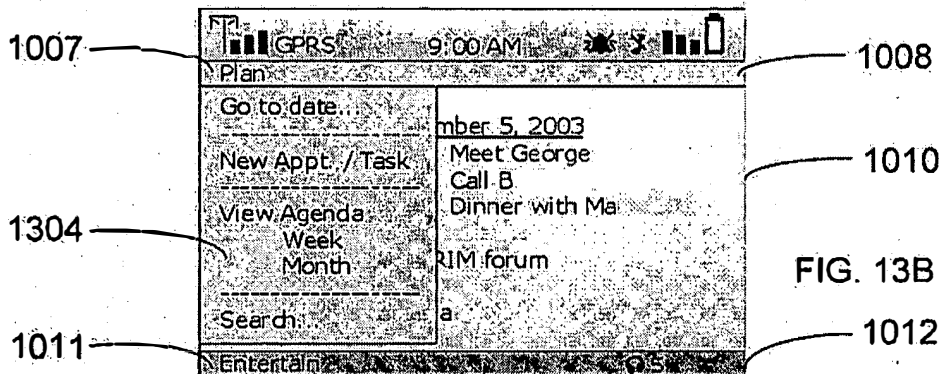


FIG. 13B

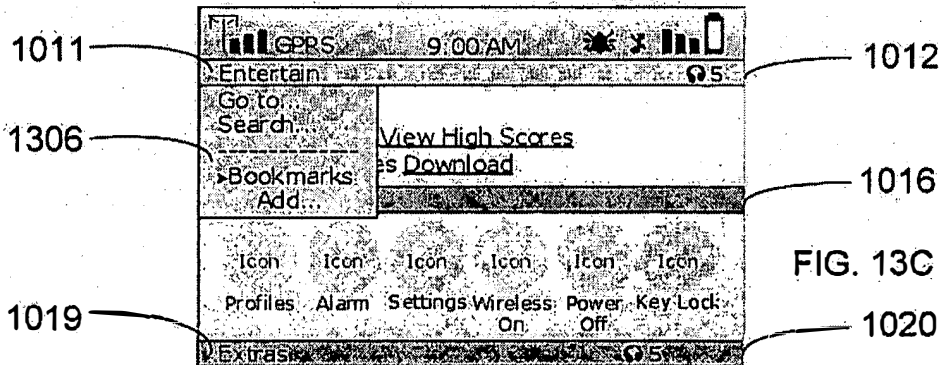


FIG. 13C

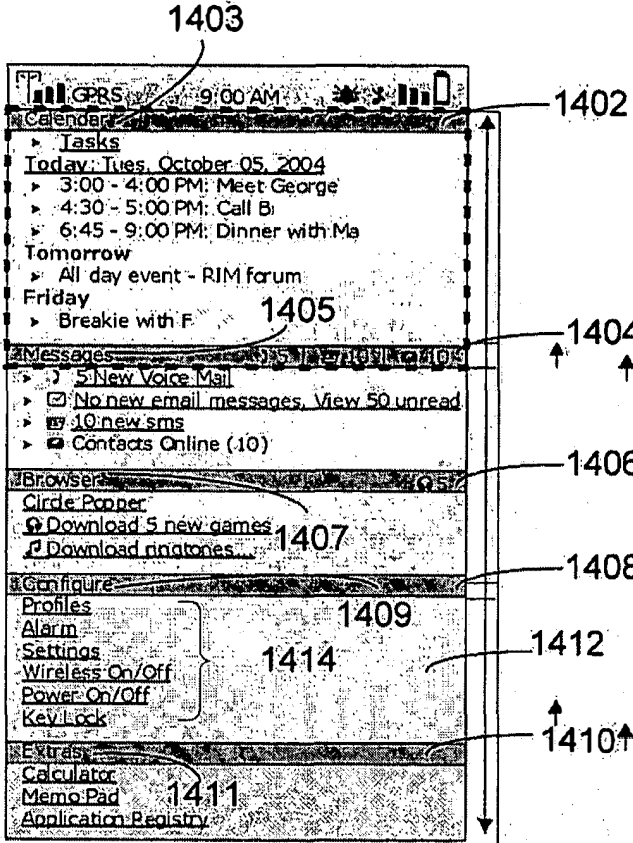


FIG. 14 300

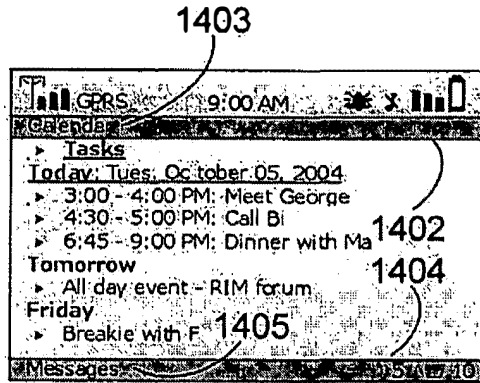


FIG. 15A 300

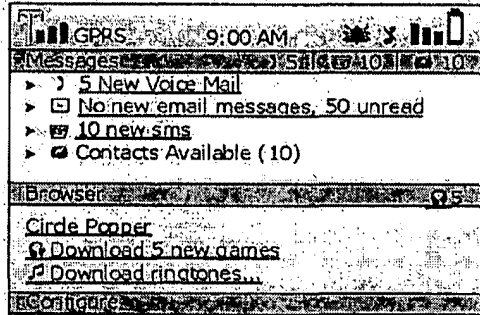


FIG. 15B 300

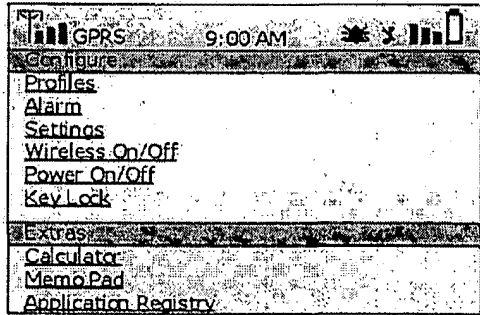


FIG. 15C 300

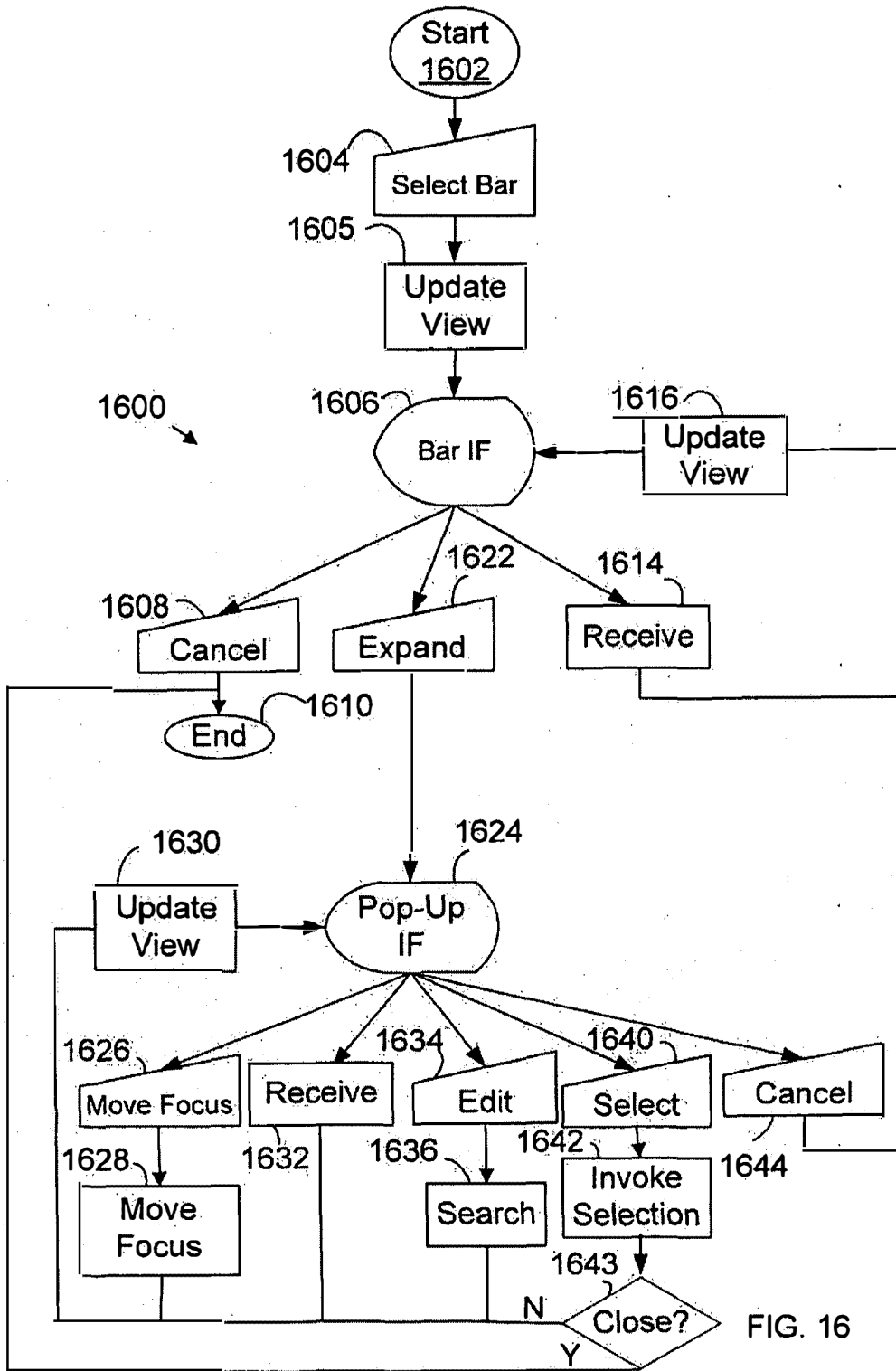


FIG. 16

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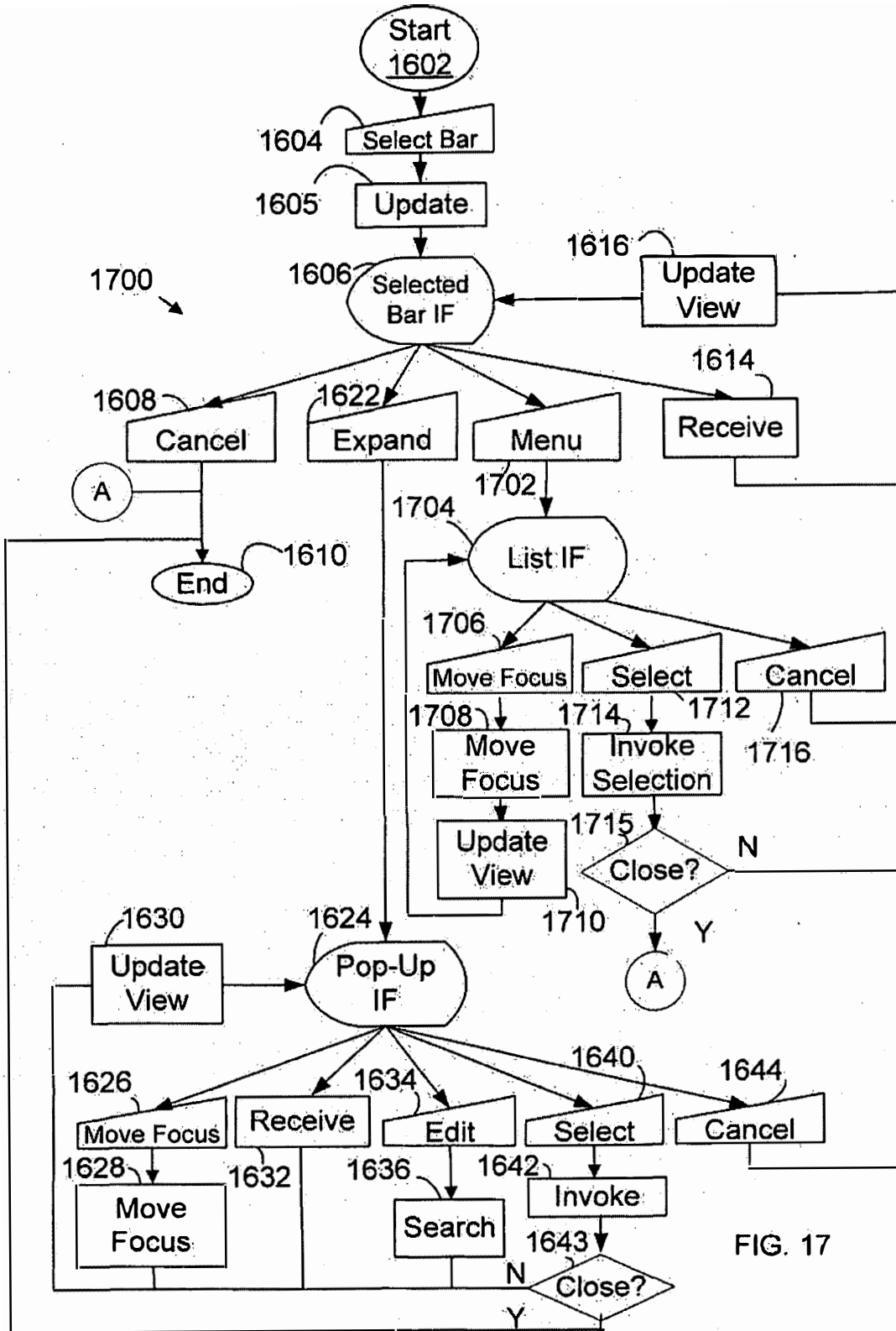


FIG. 17

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	DYNAMIC BAR ORIENTED USER INTERFACE
<p>As the below named inventor(s), I/we declare that:</p> <p>This declaration is directed to:</p> <p><input checked="" type="checkbox"/> The attached application, or</p> <p><input type="checkbox"/> Application No. _____, filed on _____,</p> <p><input type="checkbox"/> as amended on _____ (if applicable);</p> <p>I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;</p> <p>I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;</p> <p>I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.</p> <p>All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.</p>	

FULL NAME OF INVENTOR(S)	
Inventor one: <u>Sherryl Lee Lorraine SCOTT</u>	
Signature: <u><i>Sherryl Scott</i></u>	Citizen of: <u>Canada</u>
Inventor two: _____	
Signature: _____	Citizen of: _____
Inventor three: _____	
Signature: _____	Citizen of: _____
Inventor four: _____	
Signature: _____	Citizen of: _____
<input type="checkbox"/> Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby appoint:

Practitioners associated with the Customer Number: 020988

OR

Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Assignee Name and Address:

Research In Motion Limited
 295 Phillip Street
 Waterloo, Ontario, Canada N2L 3W8

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
 The individual whose signature and title is supplied below is authorized to act on behalf of the assignee:

Name	Mihail Kazandis		
Signature		Date	16 Feb 2004
Title	President & Co-CEO	Telephone	519-888-7465

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 9 minutes to complete, including copying, preparing, and submitting the completed Application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1460, Alexandria, VA 22313-1460.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(b)Applicant/Patent Owner: Sherryl Lee Lorraine SCOTTApplication No./Patent No.: _____ Filed/Issue Date: November 9, 2004Entitled: DYNAMIC BAR ORIENTED USER INTERFACEResearch in Motion Limited _____ a corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. the assignee of the entire right, title, and interest; or
2. an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____ %
in the patent application/patent identified above by virtue of either:

A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.
2. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.
3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet.

Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP.302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

November 9, 2004

Date:

416.216.2993

Telephone number

Joseph CONNEELY

Typed or printed name

J. Conneely

Signature

Patent Agent (Regn. No. 54683)

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

WORLDWIDE ASSIGNMENT

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)");

Sherryl Lee Lorraine SCOTT, 1-185 Beverley St., Toronto, Ontario M5T 1Y9, Canada

has/have invented certain new and useful improvements in an invention entitled DYNAMIC BAR ORIENTED USER INTERFACE for which an application for United States Letters Patent will be filed, and as further identified by Docket No. 16813-39US and RIM Reference No. 0989; and

WHEREAS, RESEARCH IN MOTION LIMITED, (hereinafter referred to as the "ASSIGNEE"), a corporation organized under the laws of the Province of Ontario, CANADA, having a place of business at 295 Phillip Street, Waterloo, Ontario, CANADA, N2L 3W8, is desirous of acquiring the full and exclusive right, title and interest in and to said application inclusive of any and all priority rights derived therefrom and the inventions therein disclosed, and in and to all Letters Patent, both United States and foreign, to be granted for said inventions;

NOW, THEREFORE, for a valuable consideration, the receipt whereof is hereby acknowledged, I/WE, ASSIGNOR(S) does/do hereby confirm sale, assignment, transfer, and set over, and hereby sell, assign, transfer, and set over unto the ASSIGNEE, its successors and assigns, the full and exclusive right, title and interest in and to the aforesaid application for United States Letters Patent inclusive of any and all priority rights derived therefrom, and the inventions therein disclosed, and in and to all Letters Patent and issues thereof which may be granted upon said application and in and to all Letters Patent which may be issued upon any substitutes, divisions, or continuations of said application, and in and to any and all Letters Patent which may be granted for said inventions in any foreign country or countries; the same to be held and enjoyed by the ASSIGNEE for its own use and behoof, and for the use and behoof of its successors and assigns, to the full end of the term or terms for which said Letters Patent and reissues thereof may be granted as fully and entirely as the same would have been held and enjoyed by them had this assignment and sale not been made;

AND I/WE, ASSIGNOR(S) hereby agrees/agree to execute, upon request, any and all further papers which may be necessary or desirable to enable the ASSIGNEE, its successors and assigns, to file and prosecute said application, and any and all substitutes, divisions, or continuations thereof, and any and all reissues of the Letters Patent granted upon said application, or upon any substitutes, divisions, or continuations thereof, and any and all applications for foreign Letters Patent on said inventions; and ASSIGNOR(S) further agrees/agree to execute any and all further papers which may be necessary or desirable to vest or perfect the title of ASSIGNEE, its successors and assigns, in and to said application and the inventions therein disclosed, and in and to any and all Letters Patent and reissues thereof, both United States and foreign, which may be granted upon said application; and any substitutes, divisions, or continuations thereof, and upon any foreign applications.

AND I/WE, ASSIGNOR(S) hereby authorizes/authorize and requests/request The Commissioner of Patents to issue each and every Letters Patent to be granted upon the aforesaid application for United States Letters Patent, and upon any and all substitutes, divisions, and continuations of said application, and each and every reissue of said Letters Patent, to the ASSIGNEE, its successors and assigns, as the assignee of the entire right, title and interest therein, in accordance with this assignment.

IN WITNESS WHEREOF, this assignment has been executed below by the undersigned:

Inventor 1:

Date: Nov. 5, 2004

Sherryl Lee Lorraine SCOTT
Sherryl Lee Lorraine SCOTT

STATEMENT BY WITNESS

I, Katherine Kehoe, whose full Post Office address is 2480 Newcastle Crescent, Oakville, ON, L6M 4P3
(Address of Witness)

hereby declare that I was personally present and did see the above named person, personally known to me to be the person named in the assignment, duly sign and execute the same.

Date: Nov. 5, 2004

Katherine Kehoe
(Signature of Witness)

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

11/10/2004 AOSMAN1 00000018 195113 10983606

01 FC:1001	790.00 DA
02 FC:1202	90.00 DA

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2004

Application or Docket Number

10983606

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	25	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	25 minus 20 = *	5
INDEPENDENT CLAIMS	2 minus 3 = *	<i>[Signature]</i>
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE

OR OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	395.00
X\$ 9=	
X44=	
+150=	
TOTAL	

RATE	FEE
BASIC FEE	790.00
X\$18=	90
X88=	
+300=	
TOTAL	880

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X44=	
+150=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X88=	
+300=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE
X\$ 9=	
X44=	
+150=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X88=	
+300=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total *	Minus **	=
	Independent *	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE
X\$ 9=	
X44=	
+150=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X88=	
+300=	
TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

APPLICATION DATA SHEET

APPLICATION INFORMATION

Application Type::	Regular
Subject Matter::	Utility
Suggested Classification::	
Suggested Group Art Unit::	
CD-ROM or CD-R?::	None
Sequence submission?::	None
Title::	DYNAMIC BAR-ORIENTED USER INTERFACE
Attorney Docket Number::	16813-39US
Request for Early Publication?::	No
Request for Non-Publication?::	No
Suggested Drawing Figure::	10
Total Drawing Sheets::	11
Small Entity?::	No
Petition included?::	No
Secrecy Order in Parent Appl.?::	No

APPLICANT INFORMATION

Applicant Authority Type::	Inventor
Primary Citizenship Country::	Canada
Status::	Full capacity
Given name::	Sherryl
Middle name::	Lee Lorraine
Family name::	SCOTT
City of Residence::	Toronto
State or Province of Residence::	Ontario
Country of Residence::	Canada
Street of mailing address::	1-185 Beverley St.
City of mailing address::	Toronto
State or Province of mailing address::	Ontario
Postal or Zip Code of mailing address::	M5T 1Y9

CORRESPONDENCE INFORMATION

Correspondence Customer Number::	020988
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REPRESENTATIVE INFORMATION

Representative Customer Number::	020988
----------------------------------	--------

ASSIGNEE INFORMATION

Assignee name:: Research In Motion Limited
Street of mailing address:: 295 Phillip Street
City of mailing address:: Waterloo
State or Province of mailing address:: Ontario
Country of Residence:: Canada
Postal or Zip Code of mailing address:: N2L 3W8