

Docket No. 3125-4003US1

Express Mail No. EV 460 047 160 US

27123

↑CUSTOMER NUMBER↑

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

UTILITY APPLICATION AND FEE TRANSMITTAL §(1.53(B))

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

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s) names and addresses:

(1) Keith R. McNally
5104 Seagrove Cove
San Diego, CA 92130

(2) William H. Roof
13429 Luckett Court
San Diego, CA 92130

(3) Richard Bergfeld
20719 Nashville Street
Chatsworth, CA 91311

Additional inventors are listed on a separate sheet

For: INFORMATION MANAGEMENT AND SYNCHRONOUS COMMUNICATIONS SYSTEM WITH
MENU GENERATION, AND HANDWRITING AND VOICE MODIFICATION OF ORDERS

Enclosed Are:

- 30 page(s) of specification
- 1 page(s) of Abstract
- 6 page(s) of claims
- 8 sheets of Formal Informal drawings
- 6 page(s) of Declaration and Power of Attorney

- Unsigned
- Newly Executed
- Copy from prior application
- Deletion of inventors including Signed Statement under 37 C.F.R. §1.63(d)(2)

REQUEST AND CERTIFICATION UNDER 35 U.S.C. §122(b)(2)(B)(i) (form PTO/SB/35)
As indicated on the attached Request and Certification, Applicant(s) certify that the invention disclosed in the attached application HAS NOT and WILL NOT be the subject of an application filed in another



country, or under a multilateral agreement, that requires publication at eighteen months after filing.
Applicant(s) therefore request(s) that the attached application NOT be published under 35 U.S.C. §122(b).

- Incorporation by Reference:
 - The entire disclosure of the prior application, from which a copy of the combined Declaration and Power of Attorney is supplied herein, is considered as being part of the disclosure of the accompanying application and is incorporated herein by reference.
- Deletion of Inventors (37 C.F.R. §1.63(d) and §1.33(b)
Signed statement attached deleting inventor(s) named in the prior application serial no. _____, filed _____.
- Microfiche Computer Program (Appendix)
 - page(s) of Sequence Listing
 - computer readable disk containing Sequence Listing
 - Statement under 37 C.F.R. §1.821(f) that computer and paper copies of the Sequence Listing are the same
- Assignment Papers (assignment cover sheet and assignment documents)
 - A check in the amount of \$40.00 for recording the Assignment
 - Charge the Assignment Recordation Fee to Deposit Account No. 13-4500, Order No. _____.
 - Assignment Papers filed in the parent application Serial No. 09/400,413
- Certification of chain of title pursuant to 37 C.F.R. §3.73(b)
- Priority is claimed under 35 U.S.C. §119 for:
Application No(s). _____, filed _____, in _____ (country).
 - Certified Copy of Priority Document(s) [_____]
 - filed herewith
 - filed in application Serial No. _____, filed _____.
 - English translation document(s) [_____]
 - filed herewith
 - filed in application Serial No. _____, filed _____.
- Priority is claimed under 35 U.S.C. §119(e) for:
Provisional Application No. _____, filed _____.
- Information Disclosure Statement
 - Copy of [_____] cited references
 - PTO Form-1449
 - References cited in parent application Serial No. _____, filed _____.
- Related Case Statement under 37 C.F.R. §1.98(a)(2)(iii)
 - A copy of related pending U.S. Application(s) Serial No(s): _____, filed _____, respectively, is attached hereto.
 - A copy of related pending U.S. Application(s) entitled, _____, filed _____ to inventor(s) _____, respectively, is attached hereto.
 - A copy of each related application(s) was submitted in parent application serial no. _____, filed _____.
- Preliminary Amendment
- Return receipt postcard (MPEP 503)

- This is a continuation divisional continuation-in-part of prior application serial no. 10/016,517, filed November 1, 2001, which is a continuation-in-part of application serial no. 09/400,413, filed September 21, 1999, to which priority under 35 U.S.C. §120 is claimed.
- Cancel in this application original claims _____ of the parent application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- A Preliminary Amendment is enclosed. (Claims added by this Amendment have been properly numbered consecutively beginning with the number following the highest numbered original claim in the prior application).
- The status of the parent application is as follows:
- A Petition for Extension of Time and a Fee therefor has been or is being filed in the parent application to extend the term for action in the parent application until _____.
- A copy of the Petition for Extension of Time in the co-pending parent application is attached.
- No Petition for Extension of Time and Fee therefor are necessary in the co-pending parent application.
- Please abandon the parent application at a time while the parent application is pending or at a time when the petition for extension of time in that application is granted and while this application is pending has been granted a filing date, so as to make this application co-pending.
- Transfer the drawing(s) from the parent application to this application
- Amend the specification by inserting before the first line the sentence:
This is continuation divisional continuation-in-part of co-pending application Serial No. 10/016,517, filed November 1, 2001, which is a continuation-in-part of application serial no. 09/400,413, filed September 21, 1999.

I. CALCULATION OF APPLICATION FEE				
Basic Fee (\$300/\$150)				\$ 150.00
Examination Fee (\$200/\$100)				\$ 100.00
Search Fee (\$500/\$250)				\$ 250.00
	Number Filed	Number Extra	Rate	
Total Claims	102 - 20 =	82 x	(\$50/\$25)	\$ 2,050.00
Independent Claims	12 - 3 =	9 x	(\$200/\$100)	\$ 900.00
<input checked="" type="checkbox"/> Multiple Dependent Claims	If marked, add fee of \$360/\$180			\$ 180.00
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee	
38- 100 =	0/ 50 =	(round up to the whole number)	(\$250/\$125)	\$ 0.00
TOTAL:				\$ 3,630.00

- Small entity status is or has been claimed. Reduced fees under 37 C.F.R. §1.9 (f) paid herewith \$3,630.00.
- A check in the amount of \$3,630.00 in payment of the application filing fees is attached.
- Charge fee to Deposit Account No. 13-4500, Order No. _____. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

- The Commissioner is hereby authorized to charge any additional fees which may be required for filing this application pursuant to 37 CFR §1.16, **including all extension of time fees pursuant to 37 C.F.R. § 1.17 for maintaining copendency** with the parent application, or credit any overpayment to Deposit Account No. 13-4500, Order No. 3125-4003US1. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

Dated: April 22, 2005

By: 

Angus R. Gill
Registration No. 51,133

Correspondence Address:

MORGAN & FINNEGAN, L.L.P.
3 World Financial Center
New York, NY 10281-2101
(212) 415-8700 Telephone
(212) 415-8701 Facsimile

01576 U.S. PTO
04/22/05

Jacket No. 3125-4003US1
Serial No. Continuation of 10/016,517

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): McNally et al.
Group Art Unit: 2173 (parent case)
Serial No.: Continuation of 10/016,517
Examiner: Cao Nguyen (parent case)
Filed: HEREWITH
For: INFORMATION MANAGEMENT AND SYNCHRONOUS
COMMUNICATIONS SYSTEM WITH MENU GENERATION, AND
HANDWRITING AND VOICE MODIFICATION OF ORDERS

EXPRESS MAIL CERTIFICATE

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

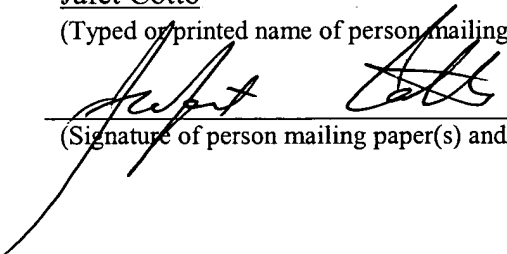
Express Mail Label No.: EV 460 047 160 US
Date of Deposit: April 22, 2005

I hereby certify that the following attached paper(s) and/or fee

1. Utility Application and Fee Transmittal - 4 pages (in duplicate)
2. Specification with Claims & Abstract - 37 pages
3. 8 Sheets of Formal Drawings (FIGS. 1-9)
4. Copy of executed Combined Declaration/Power of Attorney from Serial No. 09/400,413 - 6 pages
5. Preliminary Amendment - 29 pages (in duplicate)
6. Check for \$3,630.00 (filing fees)
7. Postcard for Receipt Acknowledgement

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Jafet Cotto
(Typed or printed name of person mailing papers(s) and/or fee)



(Signature of person mailing paper(s) and/or fee)

Correspondence Address:
MORGAN & FINNEGAN, L.L.P.
3 World Financial Center
New York, NY 10281-2101
(212) 415-8700 Telephone
(212) 415-8701 Facsimile

Docket No. 3125-4003US1

Express Mail No. EV 460 047 160 US

27123

↑CUSTOMER NUMBER↑

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

UTILITY APPLICATION AND FEE TRANSMITTAL §(1.53(B))

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

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s) names and addresses:

(1) Keith R. McNally
5104 Seagrove Cove
San Diego, CA 92130

(2) William H. Roof
13429 Luckett Court
San Diego, CA 92130

(3) Richard Bergfeld
20719 Nashville Street
Chatsworth, CA 91311

Additional inventors are listed on a separate sheet

For: INFORMATION MANAGEMENT AND SYNCHRONOUS COMMUNICATIONS SYSTEM WITH
MENU GENERATION, AND HANDWRITING AND VOICE MODIFICATION OF ORDERS

Enclosed Are:

- 30 page(s) of specification
- 1 page(s) of Abstract
- 6 page(s) of claims
- 8 sheets of Formal Informal drawings
- 6 page(s) of Declaration and Power of Attorney

- Unsigned
- Newly Executed
- Copy from prior application
- Deletion of inventors including Signed Statement under 37 C.F.R. §1.63(d)(2)

REQUEST AND CERTIFICATION UNDER 35 U.S.C. §122(b)(2)(B)(i) (form PTO/SB/35)
As indicated on the attached Request and Certification, Applicant(s) certify that the invention disclosed in the attached application HAS NOT and WILL NOT be the subject of an application filed in another



country, or under a multilateral agreement, that requires publication at eighteen months after filing.
Applicant(s) therefore request(s) that the attached application NOT be published under 35 U.S.C. §122(b).

- Incorporation by Reference:
 - The entire disclosure of the prior application, from which a copy of the combined Declaration and Power of Attorney is supplied herein, is considered as being part of the disclosure of the accompanying application and is incorporated herein by reference.
- Deletion of Inventors (37 C.F.R. §1.63(d) and §1.33(b)
Signed statement attached deleting inventor(s) named in the prior application serial no. _____, filed _____.
- Microfiche Computer Program (Appendix)
 - page(s) of Sequence Listing
 - computer readable disk containing Sequence Listing
 - Statement under 37 C.F.R. §1.821(f) that computer and paper copies of the Sequence Listing are the same
- Assignment Papers (assignment cover sheet and assignment documents)
 - A check in the amount of \$40.00 for recording the Assignment
 - Charge the Assignment Recordation Fee to Deposit Account No. 13-4500, Order No. _____.
 - Assignment Papers filed in the parent application Serial No. 09/400,413
- Certification of chain of title pursuant to 37 C.F.R. §3.73(b)
- Priority is claimed under 35 U.S.C. §119 for:
Application No(s). _____, filed _____, in _____ (country).
 - Certified Copy of Priority Document(s) [_____]
 - filed herewith
 - filed in application Serial No. _____, filed _____.
 - English translation document(s) [_____]
 - filed herewith
 - filed in application Serial No. _____, filed _____.
- Priority is claimed under 35 U.S.C. §119(e) for:
Provisional Application No. _____, filed _____.
- Information Disclosure Statement
 - Copy of [_____] cited references
 - PTO Form-1449
 - References cited in parent application Serial No. _____, filed _____.
- Related Case Statement under 37 C.F.R. §1.98(a)(2)(iii)
 - A copy of related pending U.S. Application(s) Serial No(s): _____, filed _____, respectively, is attached hereto.
 - A copy of related pending U.S. Application(s) entitled, _____, filed _____ to inventor(s) _____, respectively, is attached hereto.
 - A copy of each related application(s) was submitted in parent application serial no. _____, filed _____.
- Preliminary Amendment
- Return receipt postcard (MPEP 503)

- This is a continuation divisional continuation-in-part of prior application serial no. 10/016,517, filed November 1, 2001, which is a continuation-in-part of application serial no. 09/400,413, filed September 21, 1999, to which priority under 35 U.S.C. §120 is claimed.
- Cancel in this application original claims _____ of the parent application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- A Preliminary Amendment is enclosed. (Claims added by this Amendment have been properly numbered consecutively beginning with the number following the highest numbered original claim in the prior application).
- The status of the parent application is as follows:
- A Petition for Extension of Time and a Fee therefor has been or is being filed in the parent application to extend the term for action in the parent application until _____.
- A copy of the Petition for Extension of Time in the co-pending parent application is attached.
- No Petition for Extension of Time and Fee therefor are necessary in the co-pending parent application.
- Please abandon the parent application at a time while the parent application is pending or at a time when the petition for extension of time in that application is granted and while this application is pending has been granted a filing date, so as to make this application co-pending.
- Transfer the drawing(s) from the parent application to this application
- Amend the specification by inserting before the first line the sentence:
This is continuation divisional continuation-in-part of co-pending application Serial No. 10/016,517, filed November 1, 2001, which is a continuation-in-part of application serial no. 09/400,413, filed September 21, 1999.

I. CALCULATION OF APPLICATION FEE				
Basic Fee (\$300/\$150)				\$ 150.00
Examination Fee (\$200/\$100)				\$ 100.00
Search Fee (\$500/\$250)				\$ 250.00
	Number Filed	Number Extra	Rate	
Total Claims	102 - 20 =	82 x	(\$50/\$25)	\$ 2,050.00
Independent Claims	12 - 3 =	9 x	(\$200/\$100)	\$ 900.00
<input checked="" type="checkbox"/> Multiple Dependent Claims	If marked, add fee of \$360/\$180			\$ 180.00
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee	
38- 100 =	0/ 50 =	(round up to the whole number)	(\$250/\$125)	\$ 0.00
TOTAL:				\$ 3,630.00

- Small entity status is or has been claimed. Reduced fees under 37 C.F.R. §1.9 (f) paid herewith \$3,630.00.
- A check in the amount of \$3,630.00 in payment of the application filing fees is attached.
- Charge fee to Deposit Account No. 13-4500, Order No. _____. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

- The Commissioner is hereby authorized to charge any additional fees which may be required for filing this application pursuant to 37 CFR §1.16, **including all extension of time fees pursuant to 37 C.F.R. § 1.17 for maintaining copendency** with the parent application, or credit any overpayment to Deposit Account No. 13-4500, Order No. 3125-4003US1. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

Dated: April 22, 2005

By: 

Angus R. Gill
Registration No. 51,133

Correspondence Address:

MORGAN & FINNEGAN, L.L.P.
3 World Financial Center
New York, NY 10281-2101
(212) 415-8700 Telephone
(212) 415-8701 Facsimile

01576 U.S. PTO
04/22/05

Jocket No. 3125-4003US1
Serial No. Continuation of 10/016,517

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): McNally et al.

Group Art Unit: 2173 (parent case)

Serial No.: Continuation of 10/016,517

Examiner: Cao Nguyen (parent case)

Filed: HEREWITH

For: INFORMATION MANAGEMENT AND SYNCHRONOUS
COMMUNICATIONS SYSTEM WITH MENU GENERATION, AND
HANDWRITING AND VOICE MODIFICATION OF ORDERS

EXPRESS MAIL CERTIFICATE

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

Express Mail Label No.: EV 460 047 160 US

Date of Deposit: April 22, 2005

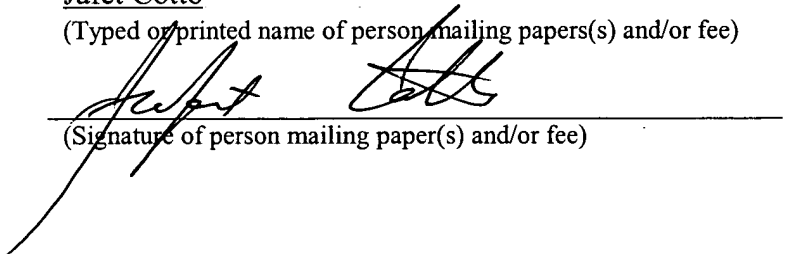
I hereby certify that the following attached paper(s) and/or fee

1. Utility Application and Fee Transmittal - 4 pages (in duplicate)
2. Specification with Claims & Abstract - 37 pages
3. 8 Sheets of Formal Drawings (FIGS. 1-9)
4. Copy of executed Combined Declaration/Power of Attorney from Serial No. 09/400,413 - 6 pages
5. Preliminary Amendment - 29 pages (in duplicate)
6. Check for \$3,630.00 (filing fees)
7. Postcard for Receipt Acknowledgement

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Jafet Cotto

(Typed or printed name of person mailing paper(s) and/or fee)



(Signature of person mailing paper(s) and/or fee)

Correspondence Address:

MORGAN & FINNEGAN, L.L.P.
3 World Financial Center
New York, NY 10281-2101
(212) 415-8700 Telephone
(212) 415-8701 Facsimile

1

UNITED STATES PATENT APPLICATION

2

For:

3

**INFORMATION MANAGEMENT AND SYNCHRONOUS COMMUNICATIONS
4 SYSTEM WITH MENU GENERATION, AND HANDWRITING AND VOICE
5 MODIFICATION OF ORDERS**

6

7

8

Inventors:

9

KEITH R. MCNALLY

10

WILLIAM H. ROOF

11

RICHARD BERGFELD

1 **UNITED STATES PATENT APPLICATION**

2
3 **OF: KEITH R. MCNALLY**
4 **WILLIAM H. ROOF**
5 **RICHARD BERGFELD**

6
7
8 **FOR: INFORMATION MANAGEMENT AND SYNCHRONOUS**
9 **COMMUNICATIONS SYSTEM WITH MENU**
10 **GENERATION, AND HANDWRITING AND VOICE**
11 **MODIFICATION OF ORDERS**

12
13 The present application is a continuation of Application Serial No. 10/016,517,
14 filed November 1, 2001, which is a continuation-in-part of Application Serial No. 09/400,413,
15 filed September 21, 1999 (now U.S. Patent No. 6,384,850). The contents of Application Serial
16 No. 10/016,517 and Application Serial No. 09/400,413 are incorporated herein by reference.

17 **FIELD OF THE INVENTION**

18 This invention relates to an information management and synchronous
19 communications system and method for generation of computerized menus for restaurants and
20 other applications with specialized display and synchronous communications requirements
21 related to, for example, the use of equipment or software with non-PC-standard graphical
22 formats, display sizes and/or applications for use in remote data entry, information management
23 and synchronous communication between host computer, digital input device or remote pager
24 via standard hardwired connection, the internet, a wireless link, smart phone or the like.

25 **BACKGROUND OF THE INVENTION**

26 While computers have dramatically altered many aspects of modern life, pen and
27 paper have prevailed in the hospitality industry, e.g., for restaurant ordering, reservations and

1 wait-list management, because of their simplicity, ease of training and operational speed. For
2 example, ordering prepared foods has historically been done verbally, either directly to a waiter
3 or over the telephone, whereupon the placed order is recorded on paper by the recipient or
4 instantly filled.

5 Although not previously adapted for wide-scale use in the hospitality industry,
6 various forms of digital wireless communication devices are in common use, e.g., digital
7 wireless messengers and pagers. Also in common use are portable laptop and handheld devices.
8 However, user-friendly information management and communication capability not requiring
9 extensive computer expertise has not heretofore been available for use in everyday life such as
10 for restaurant ordering, reservations and wait-list management. Hundreds of millions of dollars
11 have been spent on personal digital assistant (“PDA”) development seeking to produce a small,
12 light-weight and inexpensive device that could be adapted to such uses; yet none have yielded a
13 satisfactory solution.

14 One of the inherent shortcomings of PDA type devices is that, as they strive for
15 small size, low weight and low cost, they must compromise the size and clarity of the operator
16 display medium interface itself, which in most cases is one of a variety of LCD (liquid crystal
17 display) type devices. As the size of the display shrinks, the amount of information that may be
18 displayed at any one point or time is commensurately decreased, typically requiring multiple
19 screens and displays to display information to the operator. This reduces the overall utility of the
20 device. Additionally, the smaller display and keyboard results in a non-optimal operator
21 interface, which slows down operation and is thus unacceptable for the time criticality of
22 ordering, reservation and wait-list management and other similar applications. This necessitates

1 many design compromises which in the aggregate have resulted in limited acceptance of PDA
2 type devices in the restaurant and hospitality fields.

3 Many of the negatives prevalent in earlier devices have been eliminated, but, to
4 date, there is still no integrated solution to the ordering/waitlist/reservation problem discussed
5 above. With the advent of the Palm[®] and other handheld wireless devices, however, the efforts
6 to make such devices ubiquitous have begun to bear fruit at least in some areas, e.g., personal
7 calendars. However, substantial use of such devices in the restaurant and hospitality context has
8 not occurred to date. As discussed above, at least one of the reasons PDAs have not been
9 quickly assimilated into the restaurant and hospitality industries is that their small display sizes
10 are not readily amenable to display of menus as they are commonly printed on paper or displayed
11 on, e.g., large, color desktop computer screens. Another reason is that software for fully
12 realizing the potential for wireless handheld computing devices has not previously been
13 available. Such features would include fast and automatic synchronization between a central
14 database and multiple handheld devices, synchronization and communication between a World
15 Wide Web (“Web”) server and multiple handheld devices, a well-defined application program
16 interface (“API”) that enables third parties such as point of sale (“POS”) companies, affinity
17 program companies and internet content providers to fully integrate with computerized
18 hospitality applications, real-time communication over the internet with direct connections or
19 regular modem dialup connections and support for batch processing that can be done periodically
20 throughout the day to keep multiple sites in synch with the central database. A single point of
21 entry for all hospitality applications to communicate with one another wirelessly has also
22 previously been unavailable. Such a single point of entry would work to keep all wireless
23 handheld devices and linked Web sites in synch with the backoffice server (central database) so

1 that the different components are in equilibrium at any given time and an overall consistency is
2 achieved. For example, a reservation made online would be automatically communicated to the
3 backoffice server and then synchronized with all the wireless handheld devices wirelessly.
4 Similarly, changes made on any of the wireless handheld devices would be reflected
5 instantaneously on the backoffice server, Web pages and the other handheld devices.

6 For the foregoing reasons, paper-based ordering, waitlist and reservations
7 management have persisted in the face of widespread computerization in practically all areas of
8 commerce. At most, computerization of these functions has been largely limited to fixed
9 computer solutions, i.e., desktop or mainframe, because of the problems heretofore faced in
10 configuring wireless handheld devices and maintaining database synchronization for such
11 applications. Specifically, the unavailability of any simple technique for creating restaurant
12 menus and the like for use in a limited display area wireless handheld device or that is
13 compatible with ordering over the internet has prevented widespread adoption of
14 computerization in the hospitality industry. Without a viable solution for this problem,
15 organizations have not made the efforts or investments to establish automated interfaces to
16 handheld and Web site menus and ordering options.

17 A principal object of the present invention is to provide an improved information
18 management and synchronous communications system and method which facilitates user-
19 friendly and efficient generation of computerized menus for restaurants and other applications
20 that utilize equipment with non-PC-standard graphical formats, display sizes and/or applications.

21 A further object of the present invention is to provide an improved information
22 management and synchronous communications system and method which provides for entry,
23 management and communication of information from the operator as well as to and from another

1 computer, Web page menu, remote digital device using a standard hardwired connection, the
2 internet or a wireless link.

3 A further object of the present invention is to provide an improved information
4 management and synchronous communications system which is small, affordable and
5 lightweight yet incorporates a user-friendly operator interface and displays menus in a readily
6 comprehensible format.

7 A further object of the present invention is to provide a synchronous information
8 management and communications system which enables automatic updating of both wireless and
9 internet menu systems when a new menu item is added, modified or deleted from any element of
10 the system.

11 **SUMMARY OF THE INVENTION**

12 The foregoing and other objects of the present invention are provided by a
13 synchronous information management and communications system and method optimized for
14 simplicity of operation which incorporates menu generation for creation of menus to be used
15 with wireless remote handheld computer and PDA devices, the internet or any application where
16 simple and efficient generation of menus is appropriate. The menu generation approach of the
17 present invention includes a desktop software application that enables the rapid creation and
18 building of a menu and provides a means to instantly download the menu configuration onto,
19 e.g., a handheld device or Web page and to seamlessly interface with standard point of sale
20 (“POS”) systems to enable automatic database updates and communication exchanges when a
21 change or input occurs in any of the other system elements. To solve the above and other related
22 problems, an information management and communications system is provided which results in
23 a dramatic reduction in the amount of time, and hence cost, to generate and maintain

1 computerized menus for, e.g., restaurants and other related applications that utilize non-PC-
2 standard graphical formats, display sizes or applications.

3 The menu generation approach of the present invention has many advantages over
4 previous approaches in solving the problem of converting paper-based menus or Windows® PC-
5 based menu screens to small PDA-sized displays and Web pages. In one embodiment, the
6 present invention is a software tool for building a menu, optimizing the process of how the menu
7 can be downloaded to either a handheld device or Web page, and making manual or automatic
8 modifications to the menu after initial creation.

9 Manual modifications to the generated menus include handwritten screen captures
10 and/or voice recorded message captures coupled with the standard menus and modifiers
11 generated according to standard choices . Such manual modifications enable an extremely rapid
12 and intuitive interface to enhance operations and further optimize the overall operator interface.
13 This approach solves a long-standing, operational issue in restaurant/hotel/casino food/drink
14 ordering when customers want something unusual and not anticipated and available through
15 normal computerized selections. As seen in Figure 8, the operator screen on the hand-held can
16 capture handwritten information specific to a customers requests directly on the touch-sensitive
17 screen of the wireless computing device. This additional information can then be coupled with
18 the fixed menu and modifier information generated automatically from the hospitality
19 application software and the combined message can be sent to a restaurant point of sale (POS)
20 system, printer or/or display system. This unique operator interface enables universal languages
21 and an unlimited set of information to be manually communicated and exchanged. The resultant
22 combined message of one or more fixed indications selected from a menu of a device such as a

1 hand-held, and dynamic handwritten messages and/or data provides an even more powerful tool
2 than either modality used independently.

3 For example a restaurant server taking a drink order could select from a menu of
4 her hand-held device's screen "Iced Tea", and then manually write in the literal screen of her
5 hand-held "with lemon" as shown in Figure 8. The manually-written information could, for
6 example, be printed or displayed in front of a bartender preparing the drink order. The indication
7 "Iced Tea" as selected from a menu of the hand-held would also be presented to the bartender,
8 perhaps by printing and/or screen display. The server can also select any printer from within the
9 hospitality establishment directly from the operator interface on the screen of the hand-held and
10 have either the order or the receipt printed out where it is most convenient and efficient.

11 Similarly, a server taking a drink order could select from a menu of her hand-held
12 device's screen "Iced Tea", and then record the voice message "with lemon" using her hand-held
13 device integral microphone. The recorded information could, for example, be played on a
14 speaker attached to a computer, POS system, or the like located near the bartender or chef
15 preparing the order. The indication "Iced Tea" as selected from a menu of the hand-held would
16 also be presented to the bartender/chef, perhaps by printing and/or screen display. Both the literal
17 screen capture method and the voice recorded message method combine the power of automatic
18 fixed menu generation with the expanded flexibility to resolve operational issues that exist
19 throughout the hospitality market without this innovative solution. Additionally, in certain
20 embodiments, hand-writing and voice recognition technologies can be utilized to convert the
21 manual operator inputs into appropriate text messages which can be combined with the
22 computer generated menu options to convey the combined information to, for example, a
23 bartender or chef.

1 Similarly, hand-held devices can link the above innovations to individual
2 customers at specific tables through a graphical user interface on the hand-held screen that
3 assigns each customer a number within a table. For example, table 20 might have 6 customers (1-
4 6) and each customer has a different order, By enabling the linkage of the orders to specific
5 customer positions within the table and accessible from the hand-held screen, the servers can
6 easily track and link the specific orders to the specific customers.

7 The use of wireless handheld devices in the restaurant and hospitality industry is
8 becoming increasingly pervasive as restaurant owners and managers become more aware of the
9 benefits. With the proper wireless handheld system in place, restaurants can experience
10 increased table turns from improved server productivity and shorter order taking and check
11 paying times. Restaurants and POS companies seeking to provide a wireless handheld interface
12 to their desktop-based POS systems or a Web page equivalent face several challenges. These
13 challenges include building a menu using their existing database and transferring the menu onto
14 handheld devices or Web pages that will interface with servers wirelessly or to
15 restaurants/customers over the internet. The menu generation approach of the present invention
16 is the first coherent solution available to accomplish these objectives easily and allows one
17 development effort to produce both the handheld and Web page formats, link them with the
18 existing POS systems, and thus provides a way to turn a complicated, time-consuming task into a
19 simple process.

20 The information management and synchronous communications system of the
21 present invention features include fast synchronization between a central database and multiple
22 handheld devices, synchronization and communication between a Web server and multiple
23 handheld devices, a well-defined API that enables third parties such as POS companies, affinity

1 program companies and internet content providers to fully integrate with computerized
2 hospitality applications, real-time communication over the internet with direct connections or
3 regular modem dialup connections and support for batch processing that can be done periodically
4 throughout the day to keep multiple sites in synch with the central database.

5 The communication module also provides a single point of entry for all hospitality
6 applications, e.g., reservations, frequent customer ticketing, wait lists, etc. to communicate with
7 one another wirelessly and over the Web. This communication module is a layer that sits on top
8 of any communication protocol and acts as an interface between hospitality applications and the
9 communication protocol and can be easily updated to work with a new communication protocol
10 without modifying the core hospitality applications. An exemplary system diagram of such a
11 communications systemic relationship is shown in Figure 9 and serves as an example of the
12 power of the synchronization element of the invention through a common, linked solution. A
13 single point of entry works to keep all wireless handheld devices and linked web sites in synch
14 with the backoffice server applications so that the different components are in equilibrium at any
15 given time and an overall consistency is achieved. For example, a reservation made online can
16 be automatically communicated to the backoffice server and then synchronized with all the
17 wireless handheld devices wirelessly. Similarly, changes made on any of the wireless handheld
18 devices are reflected instantaneously on the backoffice server Web pages and the other handheld
19 devices.

20 **BRIEF DESCRIPTION OF THE DRAWINGS**

21 The foregoing features and advantages of the present invention can be appreciated
22 more fully from the following description, with references to the accompanying drawings in
23 which:

1 FIG. 1 is a schematic representation of a window displayed on a computer display
2 screen which shows a hierarchical tree menu, modifier window and sub-modifier window in
3 conformity with a preferred embodiment of the present invention.

4 FIG. 2 is a schematic representation of a modifier dialog box in conformity with a
5 preferred embodiment of the present invention.

6 FIG. 3 is a schematic representation of a menu category dialog box in conformity
7 with a preferred embodiment of the present invention.

8 FIG. 4 is a schematic representation of a menu item dialog box in conformity with
9 a preferred embodiment of the present invention.

10 FIG. 5 is a schematic representation of a display customization dialog box in
11 conformity with a preferred embodiment of the present invention.

12 FIG. 6 is a schematic representation of a communications control window in
13 conformity with a preferred embodiment of the present invention.

14 FIG. 7 is a schematic representation of a point of sale interface on a wireless
15 handheld device for use in displaying page menus created in conformity with a preferred
16 embodiment of the present invention.

17 FIG. 8 is an example of a literal, hand-written screen according to embodiments
18 of the present invention.

19 FIG. 9 is an exemplary system diagram relating to embodiments of the present
20 invention.

21 **DETAILED DESCRIPTION OF THE INVENTION**

22 Most personal computers today run under an operating system that provides a
23 graphical user interface ("GUI") for accessing user applications. A GUI is used in the preferred

1 embodiment of the present invention. Through an interface of windows, pull-down menus, and
2 toolbars, GUI operating systems have simplified PCs and have rendered computer technology
3 more user friendly by eliminating the need to memorize keyboard entry sequences. In addition,
4 GUIs allow users to manipulate their data as they would physical entities. For example, a
5 window can represent a file and the contents of the window can represent the records of the file.
6 The window can be opened, closed, or set aside on a desktop as if it were an actual object. The
7 records of the file can be created, deleted, modified and arranged in a drag-and-drop fashion as if
8 they also were physical objects. The most common GUI operating systems that provide this
9 “object-oriented” environment for personal computers are Microsoft Windows® systems,
10 including Windows CE® for handheld wireless devices and the like. Generally, a particular
11 application program presents information to a user through a window of a GUI by drawing
12 images, graphics or text within the window region. The user, in turn, communicates with the
13 application by “pointing” at graphical objects in the window with a pointer that is controlled by a
14 hand-operated pointing device, such as a mouse, or by pressing keys on a keyboard.

15 The use of menus is conventional in GUIs for software applications. Menus are
16 typically utilized to provide end users of applications with available choices or processing
17 options while using the applications. For example, in a typical desktop or interactive application,
18 selection of a “file” from a menu bar may cause display of a context menu which provides “file”
19 options. File options can have additional subordinate or child options associated with them. If a
20 file option having subordinate options is selected, the child options are displayed in context in a
21 child menu or submenu proximate to the selected parent option. One or more of the child
22 options provided in the child menu may have further subordinate options. Thus, such a menu
23 system comprises cascading sets of menus which are displayable in context to show the

1 parent/child relationships between options of the context menu. A menu system of this type is
2 incorporated into the preferred embodiment of the invention.

3 The preferred embodiment of the present invention uses typical hardware
4 elements in the form of a computer workstation, operating system and application software
5 elements which configure the hardware elements for operation in accordance with the present
6 invention. A typical workstation platform includes hardware such as a central processing unit
7 (“CPU”), e.g., a Pentium[®] microprocessor, RAM, ROM, hard drive storage in which are stored
8 various system and application programs and data used within the workstation, modem, display
9 screen, keyboard, mouse and optional removable storage devices such as floppy drive or a CD
10 ROM drive. The workstation hardware is configured by software including an operating system,
11 e.g., Windows[®] 95, 98, NT or CE, networking software (including internet browsing software)
12 and application software components. The preferred embodiment also encompasses a typical file
13 server platform including hardware such as a CPU, e.g., Pentium[®] microprocessor, RAM, ROM,
14 hard drive, modem, and optional removable storage devices, e.g., floppy or CD ROM drive. The
15 server hardware is configured by software including an operating system, e.g., Windows[®] 95, 98,
16 NT or CE, networking software (including Web server software) and database software.

17 A computer workstation for use in the preferred embodiment also includes a GUI.
18 As is conventional, the GUI is configured to present a graphical display on the display screen
19 arranged to resemble a single desktop. Execution of an application program involves one or
20 more user interface objects represented by windows and icons. Typically, there may be several
21 windows and icons simultaneously present on the desktop and displaying information that is
22 generated by different applications.

1 The window environment is generally part of the operating system software that
2 includes a collection of utility programs for controlling the operation of the computer system.
3 The computer system, in turn, interacts with application programs to provide higher level
4 functionality, including a direct interface with the user. Specifically, the application programs
5 make use of operating system functions by issuing task commands to the operating system which
6 then performs the requested task. For example, an application program may request that the
7 operating system display certain information on a window for presentation to the user.

8 An aspect of the preferred embodiment of the information management and
9 communications system of the invention is shown in FIG. 1. FIG. 1 shows an example of the
10 GUI provided by the operating system of the preferred embodiment of the present invention.
11 With reference to FIG. 1, the preferred embodiment includes an intuitive GUI 1 from which to
12 build a menu on a desktop or other computer. A hierarchical tree structure 2 is used to show the
13 different relationships between the menu categories 3 (e.g., soups, salads, appetizers, entrees,
14 deserts, etc.), menu items 4 (e.g., green salad, chicken caesar salad, etc.), menu modifiers 5 (e.g.,
15 dressing, meat temperature, condiments, etc.) and menu sub-modifiers 6 (e.g., Italian, French,
16 ranch, bleu cheese, etc.).

17 The procedure followed in configuring a menu on the desktop PC and then
18 downloading the menu configuration onto the POS interface on the handheld device in
19 conformance with the preferred embodiment is as follows.

20 The menu configuration application is launched by clicking on the appropriate
21 icon on the desktop display screen. FIG. 1 will then be displayed. There are three windows on
22 the screen shown in FIG. 1. The left window is the menu tree 7, also called the tree view. The
23 top right window is the Modifiers window 8 and the bottom right window is the Sub-Modifiers

1 window 9. The Sub-Modifiers window lists the sub-modifiers that correspond to the modifier
 2 that is selected. The views on the right are referred to as list views. There are several ways of
 3 invoking a command, including using the menu options; using the context menu (right mouse
 4 click); using the keyboard or using the toolbar icons. For example, if it is desired to add a
 5 category to the menu, the following four options are available: (1) clicking on Edit, Add
 6 Category; (2) right mouse clicking on Menu, then clicking on Add Category; (3) highlighting
 7 Menu, then typing Ctrl + T or (4) clicking on the Add Category icon on the toolbar. To add an
 8 item to a category, the following options are available: (1) highlighting the category to which it
 9 is desired to add an item and then clicking on Edit > Add Item; (2) right mouse clicking on the
 10 desired category and then clicking on Add Item; (3) highlighting the desired category, then
 11 typing Ctrl + N or (4) clicking on the Add icon on the toolbar.

12 When building a menu, it should be kept in mind that the menu items are stored
 13 using a tree metaphor similar to how files are stored on a PC with folders and subfolders. The
 14 menu structure is similar to the Windows® File Explorer in the way the items are organized
 15 hierarchically. Below is an example of how an item may be configured:

```

  16     Menu
  17     >>  Entrees
  18         >>  Red Meat
  19             >>  NY Strip
  20                 >>  Vegetables
  21                     >>  Tomato
  22                     >>  Lettuce
  23                     Meat Temperature
  24                         >>  Medium Rare
  25
  
```

26 In the above example, Menu is the root. Entrees is a menu category. Red Meat is an Entree
 27 category. NY Strip is a modifier. Vegetable is a modifier. Meat Temperature is a modifier.
 28 Medium Rare is a sub-modifier of Meat Temperature.

1 The steps taken in building a menu are as follows:

- 2 1. Add Modifiers;
 - 3 2. Add Sub-Modifiers and link them to the Modifiers;
 - 4 3. Create Menu categories;
 - 5 4. Add menu items to the categories;
 - 6 5. Assign Modifiers to the menu items;
 - 7 6. Preview the menu on the POS emulator on the desktop PC;
 - 8 7. Download the menu database to the handheld device.
- 9

10 To add modifiers, a user clicks on the inside of the Modifiers window, then (1)
11 clicks on Edit>Add Modifier; (2) Presses Ctrl + N; (3) right mouse clicks in the Modifiers
12 window, then clicks on Add Modifiers or (4) clicks on the Add icon from the toolbar. If a menu
13 is being built from scratch, the procedure is to enter the Long Name, Short Name, Code and
14 Price in the Modifier dialog box 10 shown in FIG. 2. The Long Name is the full descriptive
15 name of the item. The Short Name is the abbreviated name that will be displayed on the
16 handheld device. The Code is the numeric or alphanumeric code for the item. If there is an
17 existing database, the existing database can be browsed and menu items retrieved from the
18 database. Clicking on the Browse button will bring up the existing database of menu items. The
19 item to be added is then selected and "OK" is clicked. The fields will then be filled with the
20 information from the database. Clicking on OK again will add the item as a modifier. To delete
21 a modifier, the modifier is selected and the Delete key pressed on the keyboard. To edit a
22 modifier, either the modifier is double clicked or the Enter key is pressed.

23 Sub-modifiers represent the last level of modifiers that can be assigned to a menu
24 tree. To add sub-modifiers, the modifier to which sub-modifiers are to be assigned is selected.
25 Then, the focus is set on the sub-modifier window by clicking inside the Sub-Modifier window
26 as follows: (1) clicking on Edit>Add Sub-Modifier; (2) pressing Ctrl + N; (3) right mouse

1 clicking in the Sub-Modifiers window, then clicking on Add Sub-Modifiers or (4) clicking on the
2 Add icon from the toolbar. If a menu is being built from scratch, the procedure is to enter the
3 Long Name, Short Name, Code and Price in a Sub-Modifier dialog box similar to the Modifier
4 dialog box shown in FIG. 2. As with modifiers, the Long Name is the full descriptive name of
5 the item. The Short Name is the abbreviated name that will be displayed on the handheld device.
6 The Code is the numeric or alphanumeric code for the item. As before, if there is an existing
7 database, the existing database can be browsed and menu items retrieved from the database.
8 Clicking on the Browse button will bring up the existing database of menu items. The item to be
9 added is then selected and OK clicked. The fields will then be filled with the information from
10 the database. Clicking on OK again will add the item as a sub-modifier. To delete a sub-
11 modifier, the sub-modifier is selected and the Delete key depressed on the keyboard. To edit a
12 sub-modifier, either the sub-modifier is double clicked or the Enter key is pressed.

13 Menu categories are created from the root. Some examples of categories are
14 Appetizers, Soups, Salads, Entrees, Desserts, etc. The first step is to click on Menu in the menu
15 tree window. Categories are added by (1) clicking on the Add Category icon from the toolbar;
16 (2) clicking on Edit > Add Category or (3) pressing Ctrl + T. As shown in FIG. 3, Menu
17 Category dialog box 11 then appears in which to enter the Long and Short names for the menu
18 category.

19 To add menu items to categories, the menu category which is being built is
20 clicked. For example, if items are being added to Appetizers, the Appetizers branch is clicked
21 on. Then the Edit > Add Item is clicked on or Ctrl + N pressed. As before, if a menu is being
22 built from scratch, the procedure is to enter the Long Name, Short Name, Code, Prep Time,
23 Recipe and Price into the Menu Item dialog box 12 shown in FIG. 4. The Long Name is the full

1 descriptive name of the item. The Short Name is the abbreviated name that will be displayed on
2 the handheld device. The Code is the numeric or alphanumeric code for the item. Prep Time is
3 the time it takes to prepare the meal and Recipe would include preparation methods and
4 ingredients that are used in the preparation of the item. If there is an existing database, the
5 existing database can be browsed and menu items retrieved from the database. Clicking on the
6 Browse button will bring up the existing database of menu items. The item to be added is then
7 selected and OK is clicked. The fields will then be filled with the information from the database.
8 Clicking on OK again will add the item to the category.

9 Once the menu items have been entered, it may be desired to assign some
10 modifiers to the menu items. For example, it may be desired to assign meat temperature to a
11 steak order. To accomplish this, first the modifier to be assigned is selected, then the menu item
12 on the tree view that is to be assigned the modifier is clicked on and then Edit > Assign Modifier
13 is clicked on. Or, the modifier can simply be dragged and dropped onto the menu item to link
14 them. A dialog box is then displayed asking if this modifier is a required modifier. If it is a
15 required modifier, the display icon will be red but if it is a non-required modifier the display icon
16 will be green. As many modifiers as are applicable can be assigned. If any changes are made to
17 the modifiers, those changes will be automatically reflected throughout the menu tree.

18 Once the modifiers have been entered, it may be desired to assign sub-modifiers
19 to the modifiers items. For example, it may be desired to add Honey Mustard as a sub-modifier
20 to Dressing. To accomplish this, first the modifier to be assigned a sub-modifier is selected, then
21 the sub-modifier window is clicked on, then Edit > Add Sub Modifier is clicked on, Ctrl+N
22 entered or the Add icon from the toolbar is clicked on. Or, the sub-modifier can simply be
23 dragged and dropped onto the modifier to link them.

1 When the menu has been completely configured, it can be previewed on a POS
2 emulator on the desktop to verify that the menu is correctly configured before downloading it to
3 the handheld device. To preview, File > Preview Database is clicked on or the Preview Database
4 icon from the toolbar is clicked on. The handheld POS emulator on the desktop can then be run.
5 If the configuration is deemed acceptable, the handheld device is connected to the desktop PC to
6 ensure that a connection has been established; the POS application on the handheld device is
7 exited and File > Download Database is clicked on or the Download Database icon from the
8 toolbar is clicked on. If there is an existing menu database on the handheld device, the system
9 will ask if the existing database should be replaced. Yes is clicked if existing database
10 replacement is desired.

11 A database function enables the creation of, e.g., a breakfast menu, lunch menu
12 and dinner menu and downloading them to a handheld device. Functions available are (1)
13 creating a new database; (2) opening an existing database; (3) saving a database under a different
14 name. To access these functions, File is clicked on the menu bar.

15 The preferred embodiment encompasses customized layout, views and fonts. To
16 set the focus on the view it is desired to change, click inside the desired window. The main
17 customizing dialog box is accessed by clicking on View > Customize View. A dialog box 13, as
18 shown in FIG. 5, will be displayed including tabs that allow the following options: selection of
19 Columns to display in the list view by choosing and arranging the fields to display in the
20 Modifiers and Sub-Modifiers windows; formatting Columns by specifying the column widths
21 and justification; selecting Filter allows restricting the list to display only the items that meet
22 certain criteria. For example, display of modifiers with codes between 500 and 550. Selecting
23 Sort allows sorting the modifiers or sub-modifiers according to any of the available fields such as

1 Name, Code or Price. Selecting Style facilitates choice of font type, style, size, etc. To change
2 the font in a particular window, click on View > Fonts or right mouse click in the desired
3 window and then click on Fonts. To change the size of the windows, drag the borders of the
4 windows to expand or contract the size of the windows. To change the column widths, simply
5 drag the edge of the column headers to increase or decrease the column widths.

6 A communications control program monitors and routes all communications to
7 the appropriate devices. It continuously monitors the wireless network access point and all other
8 devices connected to the network such as pagers, remote devices, internet Web links and POS
9 software. Any message received is decoded by the software, and then routed to the appropriate
10 device. No user action is needed during operation of the software once the application has been
11 launched. To launch the communications control module, a Wireless Traffic icon is clicked on
12 the desktop PC. When the program loads, the screen shown in FIG. 6 appears. Messages
13 received are logged in the window 14 shown in FIG. 6 with a time stamp. The messages are also
14 logged to a file on the hard drive. This provides a mechanism to monitor all traffic across the
15 network (possibly useful for troubleshooting, or maintenance, but not necessary for normal
16 operation). The program may be minimized so the screen is not displayed on the desktop, but it
17 must be running for proper communications to exist between all devices on the network.

18 As stated, the preferred embodiment of the present invention includes the use of
19 and compatibility with GUI technology. A drag-and-drop approach is used for organizing the
20 tree structure 2 in the generated menu. Drag-and-drop is also used for assigning modifiers
21 (modifiers can be dragged from the modifiers window 5 and dropped onto the menu item 4 for
22 assignment). In-cell editing results in fast editing of items in building the menus. Customizable
23 fonts enable users to change font types, style and size. Customizable layouts enable users to

1 resize windows, change icons and display preferences. The inventive approach provides for
2 fully persistent storage between sessions, even if a session is improperly or abruptly terminated.
3 Font and the tree state (i.e., which nodes are expanded/collapsed) are stored between sessions.
4 Layout for modifiers and sub-modifiers list views (filter, columns, formatting, font, etc.) are
5 stored between sessions. The last database used is likewise stored between sessions. Splitter
6 views allow the user to see different views at the same time. Each view is displayed on its own
7 section of the screen. Views can be resized via the keyboard or a mouse by simply dragging the
8 splitter in the middle.

9 An automated function is provided to import existing POS databases into the
10 inventive menu generation system and, as discussed above with respect to the detailed example
11 of how to use the preferred embodiment, an automated download procedure is provided to
12 transfer the desktop database onto a handheld device and/or Web page. Also as discussed, the
13 preferred embodiment facilitates preview of the handheld device or Web page version of the
14 POS menu on the desktop before downloading and configuration. Customizable desktop menu
15 generation is contemplated, as discussed above, in the form of customizable fonts, columns,
16 layouts, etc. The inventive approach also includes templates for common modifiers that can be
17 assigned to similar menu items. The preferred embodiment also supports multiple databases,
18 thus providing for the creation and storing of different menu databases on handheld devices such
19 as breakfast, lunch or dinner menus. The user can then select the appropriate database to reflect
20 the time of day.

21 FIG. 7 is a schematic representation of a point of sale interface 15 for use in
22 displaying a page-type menu 16 created using the inventive menu generation approach. As can
23 be seen from FIG. 7, the page menu is displayed in a catalogue-like point-and-click format

1 whereas the master menu, FIG. 1, is displayed as a hierarchical tree structure. Thus, a person
2 with little expertise can “page through” to complete a transaction with the POS interface and
3 avoid having to review the entire menu of FIG. 1 to place an order. A PDA or Web page format
4 could appear like FIG. 7 or the display could be configured for particular requirements since
5 fully customizable menu generation and display are contemplated.

6 The POS interface on the handheld device supports pricing in the database or
7 querying prices from the POS server. The POS device also can be customized with respect to
8 “look and feel” for the particular version. As can be seen in FIG. 7, the POS interface provides
9 for billing, status and payment with respect to orders. A myriad of options can be provided
10 depending on the application.

11 Advanced database functions are provided in the preferred embodiment of the
12 invention, including an automated download process onto handheld devices and/or Web sites. In
13 the preferred embodiment, the menu generation system of the present invention uses an API
14 called ActiveX Data Objects (“ADO”) for database access. ADO is useful in a variety of
15 settings. It is built on top of OLE DB and can be used to talk to databases and, in the future, any
16 data source with any OLE DB driver. Advanced querying is supported. The database can be
17 queried on virtually all fields. Queries can be built using SQL syntax for experienced users or
18 can be created using a query builder which guides users through the creating process. Advanced
19 error handling is supported. Errors occurring at run time can be trapped. A descriptive message
20 is displayed to alert the user and provide error information. However, the application does not
21 terminate when the errors happen. The source code is easy to maintain and modify, thus
22 allowing for on time delivery of customized versions of the software. The advanced database
23 functions produce well-designed databases that accommodate growth and scalability

1 The inventive menu generation approach provides a solution for the pervasive
2 connectivity and computerization needs of the restaurant and related markets. The inventive
3 solution includes automatic database management and synchronization, PDA and handheld
4 wireless operating system integration and optimization, wireless communications and internet
5 connectivity, user interface design, and graphics design.

6 In the preferred embodiment, the menu generation approach of the present
7 invention uses Windows CE[®] as the operating system for the handheld devices. Windows CE[®]
8 provides the benefits of a familiar Windows 95/98/NT[®] look and feel, built-in synchronization
9 between handheld devices, internet and desktop infrastructure, compatibility with Microsoft
10 Exchange[®], Microsoft Office 9[®] and TCP/IP quick access to information with instant-on feature.

11 Windows CE[®] provides a basic set of database and communication tools for
12 developer use. However, interfacing with these tools to provide application specific results can
13 be a complex task. In addition to the menu generation described above, a set of software
14 libraries described herein in conformance with the present invention not only enhances the basic
15 Windows CE[®] functionality by adding new features but also maximizes the full potential of
16 wireless handheld computing devices. Such features include fast synchronization between a
17 central database and multiple handheld devices, synchronization and communication between a
18 Web server and multiple handheld devices, a well-defined API that enables third parties such as
19 POS companies, affinity program companies and internet content providers to fully integrate
20 with computerized hospitality applications, real-time communication over the internet with direct
21 connections or regular modem dialup connections and support for batch processing that can be
22 done periodically throughout the day to keep multiple sites in synch with the central database.

1 The synchronous communications control module discussed above provides a
2 single point of entry for all hospitality applications to communicate with one another wirelessly
3 or over the Web. This communications module is a layer that sits on top of any communication
4 protocol and acts as an interface between hospitality applications and the communication
5 protocol. This layer can be easily updated to work with a new communication protocol without
6 having to modify the core hospitality applications. The single point of entry works to keep all
7 wireless handheld devices and linked Web sites in synch with the backoffice server (central
8 database) so that the different components are in equilibrium at any given time and an overall
9 consistency is achieved. For example, a reservation made online is automatically communicated
10 to the backoffice server which then synchronizes with all the wireless handheld devices
11 wirelessly. Similarly, changes made on any of the wireless handheld devices will be reflected
12 instantaneously on the backoffice server and the other handheld devices.

13 The software applications for performing the functions falling within the
14 described invention can be written in any commonly used computer language. The discrete
15 programming steps are commonly known and thus programming details are not necessary to a
16 full description of the invention.

17 A simple point-to-point wireless capability is contemplated which permits simple
18 digital messages to be sent from the wireless handheld devices to a receiver in a beeper and/or
19 valet parking base-station. The POS interface of FIG. 7 is representative of the display on a
20 typical wireless device used in conformity with the invention. A simple protocol is used to
21 acknowledge receipt of the message and thus simultaneous communication is not necessary,
22 which reduces the cost of the wireless link. The range of the wireless link is determined by the
23 characteristics of the radio transceiver. Adding a wireless link allows paging of beeper equipped

1 customers directly from the operator interface on the wireless handheld devices and
2 communication to and from various input/output transmitters and receivers to update the status
3 of the order, reservation or other information and thus further reduce the workload on the
4 operator and enable operations to proceed much faster. This link could also be hardwired or
5 otherwise implemented using any two-way messaging transport.

6 A further aspect of the invention is the use of the menus generated in accordance
7 with the described technique to place orders from wireless remote handheld devices or from
8 remote locations through the internet. The World Wide Web is a distributed hypermedia
9 computer system that uses the internet to facilitate global hypermedia communication using
10 specified protocols. One such protocol is the Hypertext Transfer Protocol (“HTTP”), which
11 facilitates communication of hypertext. Hypertext is the combination of information and links to
12 other information. In the context of the Web, hypertext is defined by the Hypertext Mark-up
13 Language (“HTML”). The links or hyperlinks in a HTML document reference the locations of
14 resources on the Web, such as other HTML documents. Another language used in creating
15 documents for use on the Worldwide Web, to display on computer screens, or to create speech
16 style sheets for use in, e.g., telephones, is the Extensible Mark-Up Language (“XML”). XML is
17 a “metalanguage”, i.e., a language for describing languages which was developed to eliminate
18 the restrictions of HTML.

19 The Web is a client-server system. The HTML documents are stored on Web
20 server computers, typically in a hierarchical fashion with the root document being referred to as
21 the home page. The client specifies a HTML document or other source on the server by
22 transmitting a Uniform Resource Locator (“URL”) which specifies the protocol to use, e.g.,
23 HTTP, the path to the server directory in which the resource is located, and filename of the

1 resource. Users retrieve the documents via client computers. The software running on the user's
2 client computer that enables the user to view HTML documents on the computer's video monitor
3 and enter selections using the computer's keyboard and mouse is known as a browser. The
4 browser typically includes a window in which the user may type a URL. A user may cause a
5 URL to be transmitted by typing it in the designated window on the browser or by maneuvering
6 the cursor to a position on the displayed document that corresponds to a hyperlink to a resource
7 and actuating the mouse button. The latter method is commonly referred to simply as "clicking
8 on the hot-spot" or "clicking on the hyperlink". The hyperlink methodology is contemplated for
9 use in accordance with the preferred embodiment to transmit orders via the internet.

10 Web server application software exists that enables a user to shop for and order
11 merchandise. Such systems are sometimes referred to as electronic merchandising systems or
12 virtual storefronts. Systems that enable a user to choose among several retailers' goods are
13 sometimes referred to as electronic malls. An electronic retailer's or electronic mall operator's
14 Web server provides HTML forms that include images and descriptions of merchandise. The
15 user may conventionally search for an item by entering a key word search query in a box on a
16 form. When a user selects an item, the server may provide a linked form that describes that item
17 in further detail. The user may also conventionally enter ordering information into boxes on the
18 form, such as the type and quantity of the item desired. The information entered by the user is
19 transmitted to the server. The user may select multiple items in this manner and then enter a
20 credit card number to pay for the purchases. The retailer processes the transaction and ships the
21 order to the customer. As can be appreciated, ordering merchandise can also be done from
22 menus. The generation of menus of items or merchandise for sale over the internet is readily
23 accomplished by the menu generation approach of the present invention.

1 Searching for items that the user is interested in purchasing is insufficient in prior
2 merchandising systems. Database management programs use index searching to facilitate rapid
3 searching of large amounts of data. The creator of the database may instruct the program to use
4 specified fields in the database as indexed or key fields. The program locates all terms in the
5 database that appear in the indexed fields and stores them in an index table. Each entry in the
6 index table includes a term and corresponding pointer to the location in the database where the
7 term is found. If a user initiates a search for a term that is present in the index table, the program
8 can locate the instances of that term in the database with exceptional speed. Users who are
9 familiar with the particular database they are searching will generally know which fields are
10 indexed and will know the format of the data in those fields. For example, a user of a database
11 containing the inventory of a bookstore may know that users can search for the names of authors
12 of books and that a user who wishes to do so should enter the author's last name first. A user
13 having such knowledge will therefore be able to search efficiently. Users of electronic
14 merchandising systems, however, are generally end-consumers who have no knowledge of a
15 merchant's database. If, as is very likely, such a user initiates a search for a term that is not
16 present in the index table, the program must sequentially search through all records in the
17 database. Sequential records are typically linked by pointers. Using pointers in this manner is
18 very demanding on server resources, resulting not only in an exceptionally slow search, but also
19 creating a bottleneck for other processes that the server may be executing. The menu generation
20 approach of the present invention can be used to create customized menus from a database that
21 includes every item of merchandise the vendor has for sale. In this manner, customers can scan
22 the generated menu much more readily than they could view the entire database and the

1 necessity of having familiarity with the database is eliminated as well, reducing the need for
2 resource intensive pointers.

3 While the preferred embodiment of the invention is for the generation of
4 restaurant menus and the like, the broad scope of the invention is far greater. For example,
5 menus generated in accordance with the invention can be used in the desktop computing
6 environment in association with the operating system or application programs. One such use is
7 to facilitate the creation of user personalized file structures for general desktop use. Another use
8 is to facilitate the location of customized menus from master menus for use in association with
9 application software to make the execution of the application software more efficient by, e.g.,
10 eliminating the necessity of querying or checking every tree branch in the master menu file
11 structure in response to user input or other criteria and to create handheld/PDA compatible
12 versions of the software.

13 While the preferred embodiment of the invention includes the selection of items
14 from a master menu wherein the master menu is displayed using a graphical user interface, it is
15 to be appreciated that any means for displaying the master menu to the user and generating
16 another menu in response to and comprised of the selections made is encompassed by the
17 contemplated invention. The invention encompasses the selection of nontextual symbols,
18 characters, icons and the like, in addition to text, from a hierarchical tree menu or the like for
19 generation of another menu comprised of such items.

20 It is also within the scope of the invention to generate menus automatically in
21 response to predetermined criteria. For example, in the restaurant menu generation embodiment,
22 a modified menu can be generated to comply with a particular specification or group of criteria
23 such as, e.g., “dinner”, “low cholesterol”, “low fat”, “fish”, “chicken”, or “vegetarian”. In this

1 embodiment, only items from the master menu that satisfy specified parameters will be included
2 in the generated menu. The selection process could involve selection of master menu items
3 based on tags or identifiers associated with the items or by checking every master menu item
4 against a dictionary of items acceptable for inclusion in the modified menu. It should also be
5 appreciated that the invention encompasses any combination of automatic and manual user
6 selection of the items comprising the generated menu. For example, a user might specify criteria
7 which would further control automatic selection or the user could manually select some items
8 with automatic selection of others. The menu generation aspect of the invention is equally
9 applicable to table-based, drive-thru, internet, telephone, wireless or other modes of customer
10 order entry, as is the synchronous communications aspect of the invention.

11 The inventive concept encompasses the generation of a menu in any context
12 known to those skilled in the art where an objective is to facilitate display of the menu so as to
13 enable selection of items from that menu. The restaurant menu generation embodiment is but
14 one example of a use for the inventive concept. Likewise, displaying menus generated in
15 accordance with the invention on PDAs and Web pages to facilitate remote ordering are but a
16 few examples of ways in which such a menu might be used in practice. Any display and
17 transmission means known to those skilled in the art is equally usable with respect to menus
18 generated in accordance with the claimed invention.

19 In the more general situation, menus can be generated in accordance with the
20 present invention in a variety of situations. For example, the usable file structure for a particular
21 data processing application can be dictated by the user or an application program prior to or
22 during the execution of the application program. Efficiencies with respect to computational

1 speed and equipment, e.g., storage and processor, usage can thus be achieved along with the
2 facilitation of display of the generated menu.

3 While the best mode for carrying out the preferred embodiment of the invention
4 has been illustrated and described in detail, those familiar with the art to which the invention
5 relates will recognize various alternative designs and embodiments which fall within the spirit of
6 practicing the invention. The appended claims are intended to cover all those changes and
7 modifications falling within the true spirit and scope of the present invention.

1 That which is claimed is:

2 1. An information management and synchronous communications system for
3 generating and transmitting menus comprising:

4 a. a central processing unit,

5 b. a data storage device connected to said central processing unit,

6 c. an operating system including a graphical user interface,

7 d. a first menu consisting of menu categories, said menu categories
8 consisting of menu items, said first menu stored on said data storage device and displayable in a
9 window of said graphical user interface in a hierarchical tree format,

10 e. a modifier menu stored on said data storage device and displayable in a
11 window of said graphical user interface,

12 f. a sub-modifier menu stored on said data storage device and displayable in
13 a window of said graphical user interface, and

14 g. application software for generating a second menu from said first menu
15 and transmitting said second menu to a wireless handheld computing device or Web page,

16 wherein the application software facilitates the generation of the second menu by
17 allowing selection of categories and items from the first menu, addition of menu categories to the
18 second menu, addition of menu items to the second menu and assignment of parameters to items
19 in the second menu using the graphical user interface of said operating system, said parameters

1 being selected from the modifier and sub-modifier menus, wherein said second menu is manually
2 modified after generation.

3

4 2. An information management and synchronous communications system for
5 generating menus comprising:

6 a. a central processing unit,

7 b. a data storage device connected to said central
8 processing unit,

9 c. an operating system including a graphical user
10 interface,

11 d. a first menu stored on said data storage device,

12 e. application software for generating a second menu
13 from said first menu,

14 wherein the application software facilitates the generation of the second menu by
15 allowing selection of items from the first menu, addition of items to the second menu and
16 assignment of parameters to items in the second menu using the graphical user interface of said
17 operating system and wherein data comprising the second menu is synchronized between the
18 data storage device connected to the central processing unit and at least one other computing
19 device, wherein said second menu is manually modified by handwriting or voice recording after
20 generation.

21

1 3. An information management and synchronous communications system for
2 generating menus comprising:

- 3 a. a microprocessor,
- 4 b. a display device,
- 5 c. a data and instruction input device,
- 6 d. a data storage device for storing information and
7 instructions entered through said data and
8 instruction input means or information generated by
9 said microprocessor,
- 10 e. an operating system,
- 11 f. a master menu stored on said data storage device for
12 generating a modified menu, and
- 13 g. application software,

14 wherein said microprocessor, operating system and application software are operative to display
15 the master menu on the display device in response to instructions programmed into said
16 microprocessor, operating system, application software and information and instructions entered
17 through said data input device, and wherein said microprocessor, operating system and
18 application software are operative to create the modified menu from said master menu in
19 response to information and instructions entered through said data and instruction input device
20 and wherein data comprising the modified menu is synchronized between the data storage device

1 and at least one other computing device, wherein said modified menu is manually modified after
2 generation.

3

4 4. In a computer system having an input device, a storage device, a video display,
5 an operating system including a graphical user interface and application software, an information
6 management and synchronous communications method comprising the steps of:

7 a. outputting at least one window on the video display;

8 b. outputting a first menu in a window on the video
9 display;

10 c. displaying a cursor on the video display;

11 d. selecting items from the first menu with the input
12 device or the graphical user interface;

13 e. inserting the items selected from the first menu into
14 a second menu, the second menu being output in a
15 window;

16 f. optionally adding additional items not included in
17 the first menu to the second menu using the input
18 device or the graphical user interface;

19 g. storing the second menu on the storage device; and

1 synchronizing the data comprising the second menu between the storage device
2 and at least one other data storage medium, wherein the other data storage medium is connected
3 to or is part of a different computing device, and wherein said second menu is manually modified
4 after generation.

5
6 5. The information management and synchronous communications system of
7 claim 1, 2, or 3 wherein the manual modification involves handwriting capture.

8
9 6. The information management and synchronous communications
10 system of claim 1, 2, or 3 wherein the manual modification involves voice capture.

11
12 7. The method of claim 4 wherein the manual modification involves
13 handwriting capture.

14
15 8. The method of claim 4 wherein the manual modification involves voice
16 capture.

17
18 9. The system of claim 1 wherein the modified second menu can be
19 selectively printed on any printer directly from the graphical user interface of a hand-held device.

20
21 10. The system of claim 1 wherein the modified second menu can be linked to
22 a specific customer at a specific table directly from the graphical user interface of a hand-held
23 device.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

11. The system of claim 2 or 3 wherein the modified second menu can be selectively printed on any printer directly from the graphical user interface of said other computing device.

12. The system of claim 2 or 3 wherein the modified second menu can be linked to a specific customer at a specific table directly from the graphical user interface of said other computing device.

13. The system of claim 5 wherein the handwriting capture involves handwriting recognition and conversion to text.

14. The system of claim 6 wherein the voice capture involves voice recognition and conversion to text.

15. The method of claim 7 wherein the handwriting capture involves handwriting recognition and conversion to text.

16. The method of claim 8 wherein the voice capture involves voice recognition and conversion to text.

1 ABSTRACT

2 An information management and synchronous communications system and
3 method facilitates database equilibrium and synchronization with wired, wireless and Web-based
4 systems, user-friendly and efficient generation of computerized menus and reservations with
5 handwritten/voice modifications for restaurants and other applications that utilize equipment
6 with nonstandard graphical formats, display sizes and/or applications for use in remote data
7 entry, information management and communication with host computer, digital input device or
8 remote pager via standard hardwired connection, the internet, a wireless link, printer or the like.

9

1

POS - Menu Explorer
File Edit View Help

Menu
 ◊ Appetizers
 ◊ Desserts
 ◊ Drinks
 ◊ Entrees
 ◊ Chicken
 ◊ Red Meat
 ◊ BEEF TOURNEDO
 ◊ LAMB
 ◊ NY STRIP
 ◊ VEGETABLES
 ◊ MEAT TEMPERATURE
 ◊ MED RARE
 ◊ MED WELL
 ◊ MEDIUM
 ◊ RARE
 ◊ WELL
 ◊ VEAL SCALOPPINI
 ◊ Seafood
 ◊ Salads
 ◊ Sandwiches
 ◊ Soups

Modifier
 ◊ CHEESE
 ◊ CONDIMENTS
 ◊ DRESSING
 ◊ MEAT TEMPERATURE
 ◊ PREPARED
 ◊ QUANTITY
 ◊ VEGETABLES

Code
 1107
 3984
 1084
 4083
 3481
 1466
 3486

Price
 0
 0
 0
 0
 0
 0
 0

Sub Modifier
 ◊ NO
 ◊ EXTRA
 ◊ SIDE

Code
 3241
 3242
 3243

Display
 NO
 EXTRA
 SIDE

Ready

5

8

MODIFIERS WINDOW

6

9

SUB-MODIFIERS WINDOW

FIG. 1

MENU TREE

Best Available Copy

Modifier ✕

Long Name:

Short Name:

Code:

Price:

10

FIG.2

Menu Category ✕

Long Name:

Short Name:

11

FIG.3

Menu Item X

Long Name: Code:

Short Name: Price: Prep. Time:

Recipe

Flame broiled brandy marinated Tender Chicken Breast topped with a creamy cilantro sauce. Served with steamed broccoli, carrots and zucchini.

Spices include lemon pepper, paprika, ginger.

OK Cancel Browse

12

FIG. 4

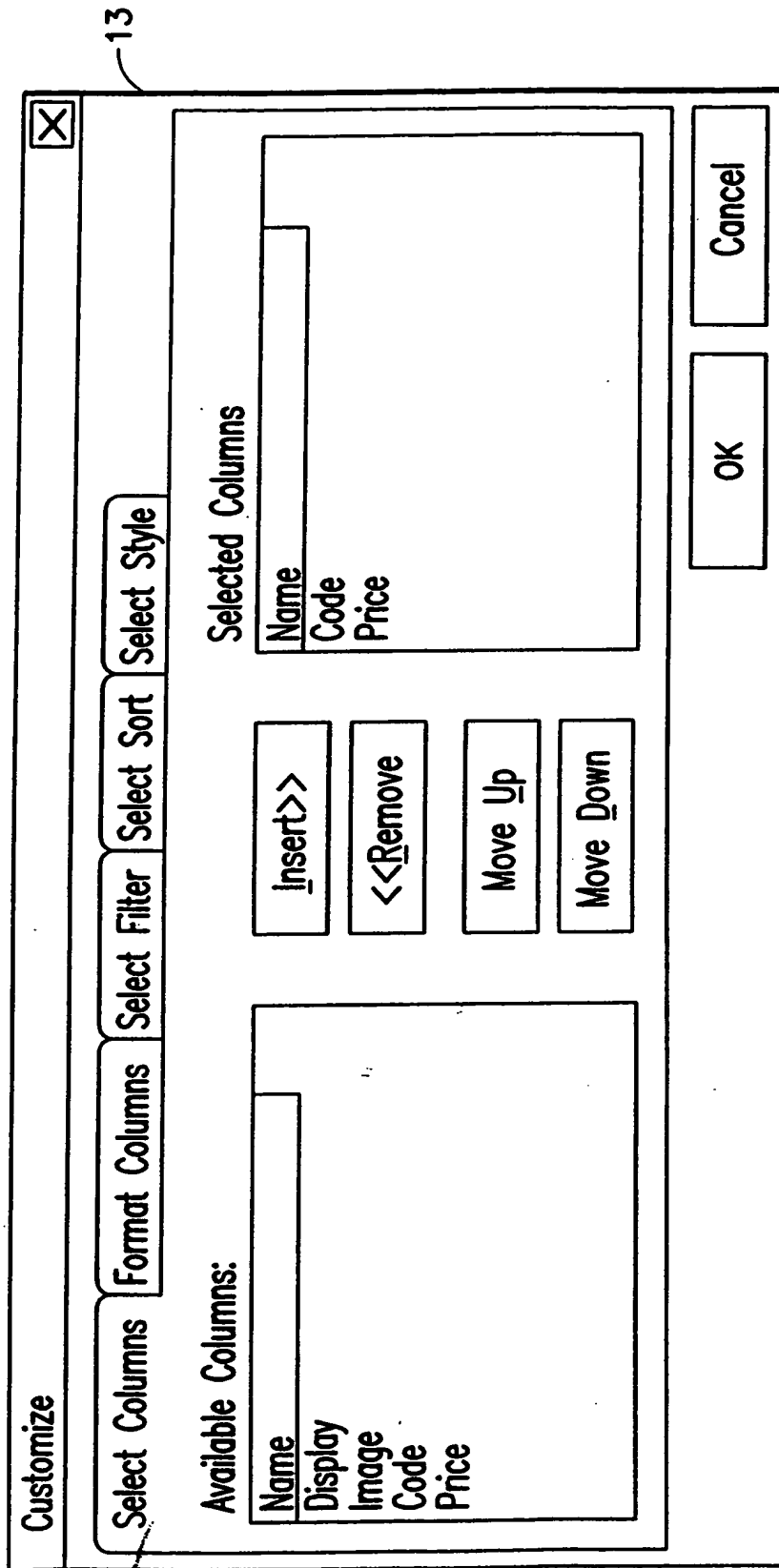


FIG.5

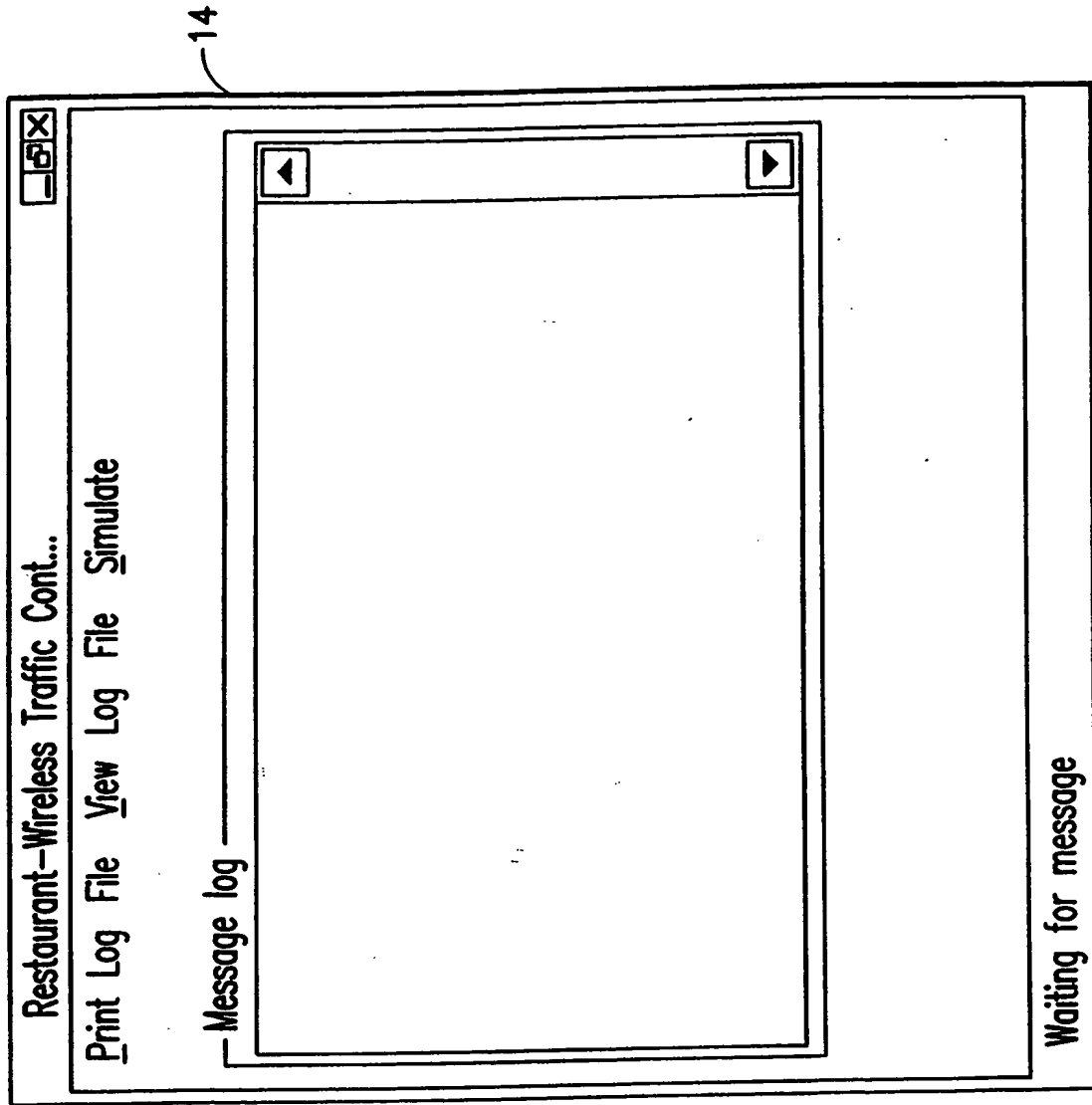


FIG.6

POScE-System

Login CHECKS ORDER VIEW PAY

Choose Item: Tbl67 5st 2

App	Dessert	Drinks	Entrees
Salads	Sdwch	Soups	

Direction:

MAIN PREV PAGE MODS

Select Guest to Order for:

1 2

Last Selection

REMOVE LAST

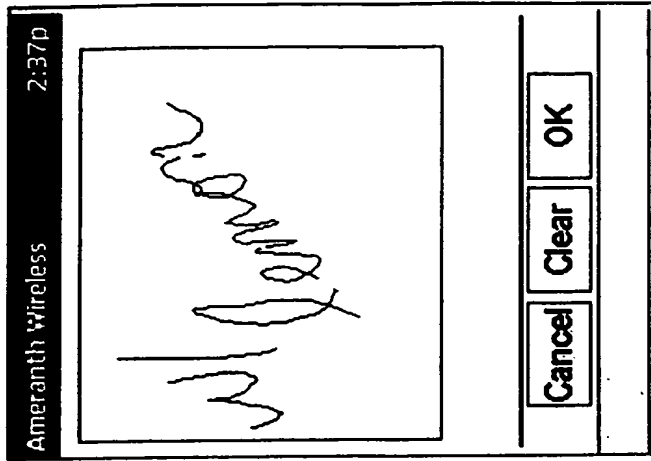
OK Cancel Browse

15

16

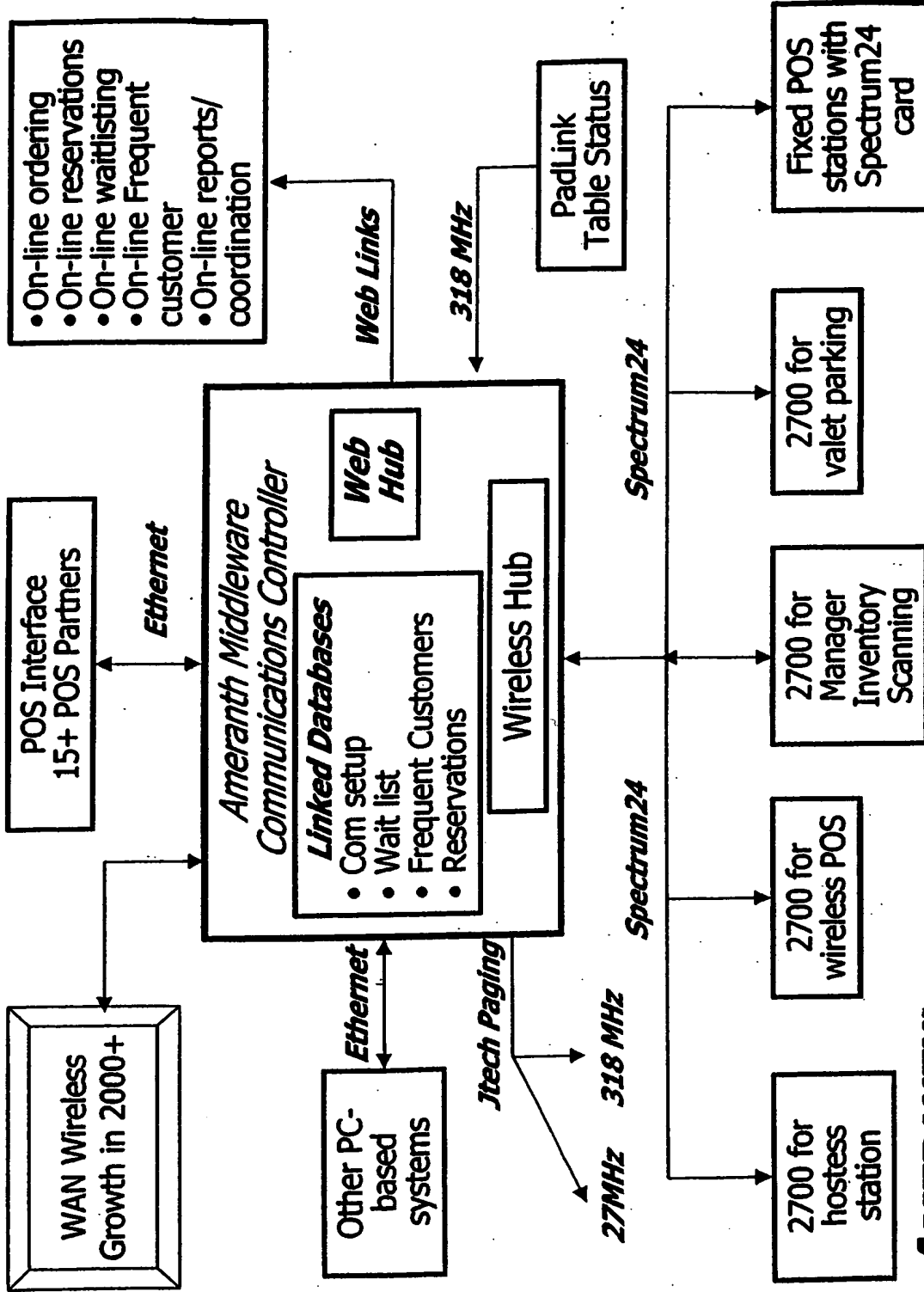
FIG. 7

FIG. 8



This is an example of the ordering
"Literal Screen".

Ameranth 21st Century Communications Integration



AMERANTH™ FIG. 9
WIRELESS SYSTEMS SOLUTIONS

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT OR DRAWING
- BLURRED OR ILLEGIBLE TEXT OR DRAWING
- SKEWED/SLANTED IMAGES
- COLOR OR BLACK AND WHITE PHOTOGRAPHS
- GRAY SCALE DOCUMENTS
- LINES OR MARKS ON ORIGINAL DOCUMENT
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

**COMBINED DECLARATION AND POWER OF ATTORNEY FOR
ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL
DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART APPLICATION**

As a below name inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

INFORMATION MANAGEMENT AND SYNCHRONOUS COMMUNICATIONS SYSTEM WITH MENU GENERATION

the specification of which

- a. is attached hereto
- b. was filed on September 21, 1999 as application Serial No. 09/400,413 and was amended on _____ (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

- c. was described and claimed in International Application No. _____ filed on _____ and as amended on _____ (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby specify the following as the correspondence address to which all communications about this application are to be directed:

SEND CORRESPONDENCE TO: **MORGAN & FINNEGAN, L.L.P**
 345 Park Avenue
 New York, N.Y. 10154

DIRECT TELEPHONE CALLS TO: _____
(212) 758-4800

I hereby claim foreign priority benefits under Title 35, United States Code § 119(a)-(d) or under § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the U.S. listed below and also identified below such foreign application(s) for patent or inventor's certificate or such PCT international application(s) filed by me on the same subject matter having a filing date within twelve (12) months before that of the application on which priority is claimed:

The attached 35 U.S.C. § 119 claim for priority for the application(s) listed below forms a part of this declaration.

<u>Country/PCT</u>	<u>Application Number</u>	<u>Date of filing (day, month, yr)</u>	<u>Date of Issue (day, month, yr)</u>	<u>Priority Claimed</u>
--------------------	---------------------------	--	---------------------------------------	-------------------------

[] YES [] NO

[] YES [] NO

[] YES [] NO

[] I hereby claim the benefit under 35 U.S.C. § 119(e) of any U.S. provisional application(s) listed below.

Provisional Application No.

Date of Filing (day, month, yr)

ADDITIONAL STATEMENTS FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART OR PCT INTERNATIONAL APPLICATION(S) (DESIGNATING THE U.S.)

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) or under § 365(c) of any PCT international application(s) designating the U.S. listed below.

<u>US/PCT Application Serial No.</u>	<u>Filing Date</u>	<u>Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)</u>
--------------------------------------	--------------------	---

<u>US/PCT Application Serial No.</u>	<u>Filing Date</u>	<u>Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)</u>
--------------------------------------	--------------------	---

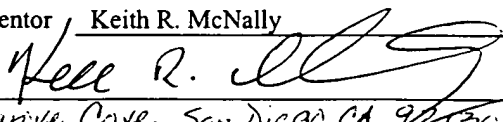
[] In this continuation-in-part application, insofar as the subject matter of any of the claims of this application is not disclosed in the above listed prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

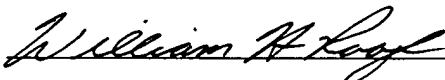
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or Imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

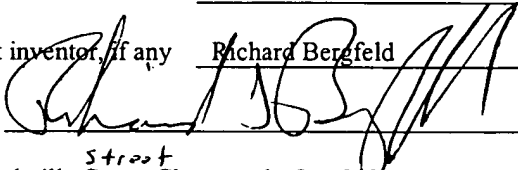
I hereby appoint the following attorneys and/or agents with full power of substitution and revocation, to prosecute this application, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith: John A. Diaz (Reg. No. 19,550), John C. Vassil (Reg. No. 19,098), Alfred P. Ewert (Reg. No. 19,887),

David H. Pfeffer (Reg. No. 19,825), Harry C. Marcus (Reg. No. 22,390), Robert E. Paulson (Reg. No. 21,046), Stephen R. Smith (Reg. No. 22,615), Kurt E. Richter (Reg. No. 24,052), J. Robert Dailey (Reg. No. 27,434), Eugene Moroz (Reg. No. 25,237), John F. Sweeney (Reg. No. 27,471), Arnold I. Rady (Reg. No. 26,601), Christopher A. Hughes (Reg. No. 26,914), William S. Feiler (Reg. No. 26,728), Joseph A. Calvaruso (Reg. No. 28,287), James W. Gould (Reg. No. 28,859), Richard C. Komson (Reg. No. 27,913), Israel Blum (Reg. No. 26,710), Bartholomew Verdirame (Reg. No. 28,483), Maria C.H. Lin (reg. No. 29,323), Joseph A. DeGirolamo (Reg. No. 28,595), Michael P. Dougherty (Reg. No. 32,730), Seth J. Atlas (Reg. No. 32,454), Andrew M. Riddles (Reg. No. 31,657), Bruce D. DeRenzi (Reg. No. 33,676), Michael M. Murray (Reg. No. 32,537), Mark J. Abate (Reg. No. 32,527), Alfred L. Haffner, Jr. (Reg. No. 18,919), Harold Haidt (Reg. No. 17,509), John T. Gallagher (Reg. No. 35,516), Steven F. Meyer (Reg. No. 35,613) and Kenneth H. Sonnenfeld (Reg. No. 33,285) of Morgan & Finnegan, L.L.P. whose address is: 345 Park Avenue, New York, New York, 10154; and Edward A. Pennington (Reg. No. 32,588), Michael S. Marcus (Reg. No. 31,727) and John E. Hoel (Reg. No. 26,279) of Morgan & Finnegan, L.L.P., whose address is 1775 Eye Street, Suite 400, Washington, D.C. 20006.

[] I hereby authorize the U.S. attorneys and/or agents named hereinabove to accept and follow instructions from _____ as to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and/or agents and me. In the event of a change in the person(s) from whom instructions may be taken I will so notify the U.S. attorneys and/or agents hereinabove.

Full name of sole or first inventor Keith R. McNally
Inventor's signature*  10/25/99
Residence 5104 Seagrave Cove, San Diego CA 92130 date
21567 Parvin Drive, Santa Clarita, CA 91350
Citizenship USA
Post Office Address _____

Full name of second joint inventor, if any William H. Roof
Inventor's signature*  10/25/99
Residence 13429 Luckett Court, San Diego, CA 92130 date
Citizenship USA
Post Office Address _____

Full name of third joint inventor, if any Richard Bergfeld
Inventor's signature*  10/25/99
Residence 20719 Nashville ^{Street} Court, Chatsworth, CA 91311 date
Citizenship USA

Post Office Address _____

[] ATTACHED IS/ARE ADDED PAGE(S) TO COMBINED DECLARATION AND POWER OF ATTORNEY FORM FOR SIGNATURE BY FOURTH AND SUBSEQUENT INVENTORS

* Before signing this declaration, each person signing must:

1. Review the declaration and verify the correctness of all information therein; and
2. Review the specification and the claims, including any amendments made to the claims.

After the declaration is signed, the specification and claims are not to be altered.

To the inventor(s):

The following are cited in or pertinent to the declaration attached to the accompanying application:

Title 37, Code of Federal Regulation, § 1.56

Duty to disclose information material to patentability.

(a) A patent by its very nature is affect with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

Title 35, U.S. Code § 101

Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Title 35 U.S. Code § 102

Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent,
- (b) the invention was patented or described in a printed publication in this or foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other ...

Title 35, U.S. Code § 103

Conditions for patentability; non-obvious subject matter

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 matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed

invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Title 35, U.S. Code § 112 (in part)

Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms also enable any person skilled in the art to which it pertains, or with which it is mostly nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Title 35, U.S. Code § 119

Benefit of earlier filing date in foreign country; right of priority

An application for patent for an invention filed in this country by any person who has, or whose legal representatives or assigns have, previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges in the case of applications filed in the United States or to citizens of the United States, shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application in this country is filed within twelve months from the earliest date on which such foreign application was filed; but no patent shall be granted on any application for patent for an invention which had been patented or described in a printed publication in any country more than one year before the date of the actual filing of the application in this country, or which had been in public use or on sale in this country more than one year prior to such filing.

Title 35, U.S. Code § 120

Benefit of earlier filing date in the United States

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

Please read carefully before signing the Declaration attached to the accompanying Application.

If you have any questions, please contact Morgan & Finnegan, L.L.P.

FORM:COMB-DEC.NY
Rev. 5/21/98

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT OR DRAWING
- BLURRED OR ILLEGIBLE TEXT OR DRAWING
- SKEWED/SLANTED IMAGES
- COLOR OR BLACK AND WHITE PHOTOGRAPHS
- GRAY SCALE DOCUMENTS
- LINES OR MARKS ON ORIGINAL DOCUMENT
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

04/26/2005 HGUTEMA1 00000031 134500 11112990

01 FC:2011		150.00	OP	
02 FC:2111		250.00	OP	
03 FC:2311		100.00	OP	
04 FC:2201		900.00	OP	
05 FC:2202		2075.00	OP	
06 FC:2203	25.00	DA	155.00	OP

PTO-1556
(5/87)

PATENT APPLICATION FEE DETERMINATION RECORD

Effective December 8, 2004

11112990

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	103	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	103 minus 20 =	83
INDEPENDENT CLAIMS	12 minus 3 =	9
MULTIPLE DEPENDENT CLAIM PRESENT <input checked="" type="checkbox"/>		

SMALL ENTITY TYPE

OR OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	150.00
X\$ 25=	2075
X100=	900
+180=	180
TOTAL	3155

RATE	FEE
BASIC FEE	300.00
X\$50=	
X200=	
+360=	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2

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\$ 25=	
X100=	
+180=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$50=	
X200=	
+360=	
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\$ 25=	
X100=	
+180=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$50=	
X200=	
+360=	
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\$ 25=	
X100=	
+180=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$50=	
X200=	
+360=	
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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) McNally et al.

Group Art Unit: 2173 (parent case)

Serial No.: Continuation of 10/016,517

Examiner: Cao Nguyen (parent case)

Filed: HEREWITH

For: INFORMATION MANAGEMENT AND SYNCHRONOUS
COMMUNICATIONS SYSTEM WITH MENU GENERATION, AND
HANDWRITING AND VOICE MODIFICATION OF ORDERS

PRELIMINARY AMENDMENT

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

Sir:

Prior to examination, please amend the Application as follows.

No fees are believed due in connection with this Amendment. However, in the event any fees are necessitated by this Amendment, the Commissioner is hereby authorized to charge our deposit account no. 13-4500, order no. 3125-4003US1.

Amendments to the Claims begin on page 2
Remarks begin on page 23

Amendments to the Claims

The following listing of claims replaces all prior versions of the claims in the Application. With this Amendment, claims 1-16 are cancelled without prejudice or disclaimer, and claims 17-102 are added. No new matter has been added.

Listing of Claims

1-16 (Cancelled)

17. (New) An information management and synchronous communications system for generating menus comprising:

- a. a central processing unit,
- b. a data storage device connected to said central processing unit,
- c. an operating system including a graphical user interface,
- d. a first menu stored on said data storage device,
- e. application software for generating a second menu from said first menu,

wherein the application software facilitates the generation of the second menu by allowing selection of items from the first menu, addition of items to the second menu and assignment of parameters to items in the second menu using the graphical user interface of said operating system and wherein data comprising the second menu is synchronized between the

data storage device connected to the central processing unit and at least one other computing device.

18. (New) An information management and synchronous communications system in accordance with claim 17, wherein the second menu is a restaurant menu.

19. (New) An information management and synchronous communications system in accordance with claim 17, wherein the second menu is capable of being displayed on the display screen of a wireless computing device.

20. (New) An information management and synchronous communications system in accordance with claim 19, wherein selections from the second menu are capable of being transmitted to a receiving computer by wireless link.

21. (New) An information management and synchronous communications system in accordance with claim 17, wherein the second menu is capable of being displayed on display screens of computers in a network.

22. (New) An information management and synchronous communications system in accordance with claim 21, wherein the computer network is the internet.

23. (New) An information management and synchronous communications system in accordance with claim 19, wherein selections from the second menu are capable of being transmitted to a

receiving computer via the internet.

24. (New) An information management and synchronous communications system in accordance with claim 17, wherein the second menu is created in conformity with hypertext markup language or extensible markup language.

25. (New) An information management and synchronous communications system in accordance with claim 17, wherein the second menu overwrites the first menu.

26. (New) The information management and synchronous communications system of claim 17, wherein the first menu and the second menu are both capable of being displayed in the same window on the display screen.

27. (New) The information management and synchronous communications system of claim 17, wherein the items comprising the second menu are a subset of the items comprising the first menu.

28. (New) An information management and synchronous communications system for generating menus comprising:

- a. a microprocessor,
- b. a display device,
- c. a data and instruction input device,

- d. a data storage device for storing information and instructions entered through said data and instruction input means or information generated by said microprocessor,
- e. an operating system,
- f. a master menu stored on said data storage device for generating a modified menu, and
- g. application software,

wherein said microprocessor, operating system and application software are operative to display the master menu on the display device in response to instructions programmed into said microprocessor, operating system, application software and information and instructions entered through said data input device, and wherein said microprocessor, operating system and application software are operative to create the modified menu from said master menu in response to information and instructions entered through said data and instruction input device and wherein data comprising the modified menu is synchronized between the data storage device and at least one other computing device.

29. (New) The information management and synchronous communications system of claim 28, further comprising means for transferring the modified menu to a digital computing device.

30. (New) The information management and synchronous communications system of claim 29, wherein the digital computing device is a wireless handheld device.

31. (New) The information management and synchronous communications system of claim 28, further comprising means for downloading the modified menu to the internet or a Web page.

32. (New) The information management and synchronous communications system of claim 31, further comprising means for converting the modified menu to hypertext markup language or extensible markup language.

33. (New) The information management and synchronous communications system of claim 31, wherein the items comprising the modified menu are a subset of the items comprising the master menu.

34. (New) An information management and synchronous communications system in accordance with claim 28, wherein said operating system includes a graphical user interface and wherein said microprocessor, operating system and application software are operative to generate the modified menu by facilitating selection of items from said master menu using the graphical user interface of said operating system.

35. (New) An information management and synchronous communications system in accordance with claim 28, wherein said master menu is organized in a hierarchical tree structure having branches comprising menu items and wherein the modified menu is at least partially generated by selecting items from the branches of the tree structure.

36. (New) In a computer system having an input device, a storage device, a video display, an

operating system including a graphical user interface and application software, an information management and synchronous communications method comprising the steps of:

- a. outputting at least one window on the video display;
- b. outputting a first menu in a window on the video display;
- c. displaying a cursor on the video display;
- d. selecting items from the first menu with the input device or the graphical user interface;
- e. inserting the items selected from the first menu into a second menu, the second menu being output in a window;
- f. optionally adding additional items not included in the first menu to the second menu using the input device or the graphical user interface;
- g. storing the second menu on the storage device; and
- h. synchronizing the data comprising the second menu between the storage device and at least one other data storage medium, wherein the other data storage medium is connected to or is part of a different computing device.

37. (New) The method of claim 36, further comprising the step of transferring data or instructions representative of the second menu to a remote digital device or Web page.

38. (New) The method of claim 37, wherein said data or instructions representative of the second menu are transferred by a wireless link.

39. (New) The method of claim 36, wherein the selected items and optional additional items are inserted into a second menu which is displayed in the same window as the first menu.

40. (New) The method of claim 37, comprising the further steps of selecting at least one item from the second menu and transmitting at least one item selected to another computer.

41. (New) The method of claim 40, wherein at least one item selected from the second menu is transmitted to another computer by wireless link or the internet.

42. (New) The method of claim 37, wherein the second menu is displayed on the remote digital device or Web page in page format.

43. (New) The method of claim 36, wherein the second menu overwrites the first menu.

44. (New) The method of claim 36, wherein the items comprising the second menu are a subset of the items comprising the first menu.

45. (New) An information management and synchronous communications system for use with wireless handheld computing devices and hospitality computing systems comprising:

- a. a central database containing hospitality applications and data,
- b. at least one wireless handheld computing device on which hospitality applications and data are stored or displayed,
- c. an application program interface, and
- d. a communications control module;

wherein applications or data are synchronized wirelessly between the central database and at least one wireless handheld computing device and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on the wireless handheld computing device.

46. (New) The information management and synchronous communications system of claim 45 wherein the communications control module and the application program interface enable the automatic generation of and updating of operator menus or screens on the handheld computer based on data from the central hospitality database.

47. (New) The information management and synchronous communications system of claim 46 wherein messaging formats are used which are in conformity with HTML or XML messaging formats.

48. (New) An information management and synchronous communications system for use with

wireless handheld computing devices and hospitality applications comprising:

- a. a central database containing hospitality applications and data,
- b. at least one wireless computing device,
- c. at least one wireless paging or beeper device,
- d. an applications program interface, and
- e. a communications control module;

wherein hospitality applications or data are synchronized between the central database, at least one wireless computing device and at least one wireless paging or beeper device and wherein messaging to the wireless paging or beeper device is enabled directly from the operator interface of the wireless computing device.

49. (New) An information management and synchronous communications system comprising:

- a. a central database containing applications and data,
- b. a first computing device associated with the central database,
- c. a second computing device associated with a second storage medium containing applications and data,
- d. an applications program interface, and
- e. a communications control module;

wherein applications or data are synchronized between the central database and the second storage medium and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on

the second storage medium.

50. (New) The information management and synchronous communications system of claim 49 wherein the communications control module and the applications program interface enable the automatic generation of and updating of operator menus or screens on the second computing device based on data from the central database.

51. (New) The information management and synchronous communications system of claim 17 wherein the second menu is generated by manually selecting items from the first menu, adding items to the second menu or assigning parameters to items in the second menu.

52. (New) The information management and synchronous communications system of claim 17 wherein the data is synchronized by digital transmission between the data storage device connected to the central processing unit and at least one other computing device.

53. (New) The information management and synchronous communications system of claim 28 wherein the modified menu is generated by manually selecting items from the master menu.

54. (New) The information management and synchronous communications system of claim 28 wherein the data is synchronized by digital transmission between the data storage device and at least one other computing device.

55. (New) The computer system of claim 36 wherein the data is synchronized by digital

transmission between the storage device and at least one other data storage medium.

56. (New) The information management and synchronous communications system of claim 45 wherein the applications or data are synchronized by digital data transmission between the central database and at least one wireless handheld computing device.

57. (New) The information management and synchronous communications system of claim 48 wherein the applications or data are synchronized by digital data transmission between the central database, at least one wireless computing device and at least one wireless paging or beeper device.

58. (New) The information management and synchronous communication system of claim 45, 48, or 49 wherein the synchronized data relates to orders.

59. (New) The information management and synchronous communication system of claim 45, 48, or 49 wherein the synchronized data relates to waitlists

60. (New) The information management and synchronous communication system of claim 45, 48, or 49 wherein the synchronized data relates to reservations.

61. (New) The information management and synchronous communication system of claim 45 or 48 wherein the synchronized data is sent from at least one of the wireless computing devices to a receiver at a valet parking base station.

62. (New) The information management and synchronous communication system of claim 45 or 48 wherein the synchronized data is sent from at least one of the wireless computing devices to a wireless paging device.

63. (New) The information management and synchronous communication system of claim 49 wherein the synchronized data is sent from said second computing device to a receiver at a valet parking base station.

64. (New) The information management and synchronous communication system of claim 49 wherein the synchronized data is sent from said second computing device to a wireless paging device.

65. (New) The information management and synchronous communication system of claim 17 wherein said application software acts to facilitate generation of the second menu such that the second menu is appropriate for a specified time of day.

66. (New) The information management and synchronous communication system of claim 17 wherein said application software further facilitates the generation of multiple menus, each of said multiple menus being appropriate for a particular time of day.

67. (New) The information management and synchronous communication system of claim 17 wherein the facilitation of second menu generation by said application software takes into

account specified parameters, such that the second menu so generated includes items that satisfy the specified parameters.

68. (New) The information management and synchronous communication system of claim 67 wherein the second menu so generated further includes manually selected items.

69. (New) The information management and synchronous communication system of claim 17 wherein the second menu is applicable to table-based customer ordering.

70. (New) The information management and synchronous communication system of claim 17 wherein the second menu is applicable to drive-through customer ordering.

71. (New) The information management and synchronous communication system of claim 17 wherein the second menu is applicable to customer ordering via internet.

72. (New) The information management and synchronous communication system of claim 17 wherein the second menu is applicable to customer ordering via telephone.

73. (New) The information management and synchronous communication system of claim 17 wherein the second menu is applicable to customer ordering via wireless device.

74. (New) The information management and synchronous communication system of claim 67 wherein said specified parameters involve recipe content.

75. (New) The information management and synchronous communication system of claim 28 wherein said microprocessor, operating system, and application software are further operative to create said modified menu such that the modified menu is appropriate for a specified time of day.

76. (New) The information management and synchronous communication system of claim 28 wherein said microprocessor, operating system, and application software are further operative to create multiple menus, each of said multiple menus being appropriate for a particular time of day.

77. (New) The information management and synchronous communication system of claim 28 wherein the creation of said modified menu by said microprocessor, operating system, and application software takes into account specified parameters, such that the modified menu so created includes items that satisfy the specified parameters.

78. (New) The information management and synchronous communication system of claim 77 wherein the modified menu so generated further includes manually selected items.

79. (New) The information management and synchronous communication system of claim 28 wherein the modified menu is applicable to table-based customer ordering.

80. (New) The information management and synchronous communication system of claim 28 wherein the modified menu is applicable to drive-through customer ordering.

81. (New) The information management and synchronous communication system of claim 28 wherein the modified menu is applicable to customer ordering via internet.

82. (New) The information management and synchronous communication system of claim 28 wherein the modified menu is applicable to customer ordering via telephone.

83. (New) The information management and synchronous communication system of claim 28 wherein the modified menu is applicable to customer ordering via wireless device.

84. (New) The information management and synchronous communication system of claim 77 wherein said specified parameters involve recipe content.

85. (New) The method of claim 36 wherein said application software acts to facilitate generation of the second menu such that the second menu is appropriate for a specified time of day.

86. (New) The method of claim 36 wherein said application software facilitates the generation of multiple menus, each of said multiple menus being appropriate for a particular time of day.

87. (New) The method of claim 36 wherein said application software acts to facilitate generation of the second menu, the taking into account specified parameters such that the second menu so generated includes items that satisfy the specified parameters.

88. (New) The method of claim 87 wherein the second menu so generated further includes manually selected items.

89. (New) The method of claim 36 wherein the second menu is applicable to table-based customer ordering.

90. (New) The method of claim 36 wherein the second menu is applicable to drive-through customer ordering.

91. (New) The method of claim 36 wherein the second menu is applicable to customer ordering via internet.

92. (New) The method of claim 36 wherein the second menu is applicable to customer ordering via telephone.

93. (New) The method of claim 36 wherein the second menu is applicable to customer ordering via wireless device.

94. (New) The information management and synchronous communication system of claim 61 wherein a non-simultaneous protocol is used to acknowledge receipt of the data at the valet parking base station.

95. (New) An information management and synchronous communications system for use with

wireless handheld computing devices and computing systems comprising:

- a. a central database containing gaming or casino applications and data,
- b. at least one wireless handheld computing device on which gaming or casino applications and data are stored or displayed,
- c. an application program interface, and
- d. a communications control module;

wherein gaming or casino applications or data are synchronized wirelessly between the central database and at least one wireless handheld computing device and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on the wireless handheld computing device.

96. (New) An information management and synchronous communications system comprising:

- a. a central database containing gaming or casino applications and data,
- b. a first computing device associated with the central database,
- c. a second computing device associated with a second storage medium containing gaming or casino applications and data,
- d. an applications program interface, and
- e. a communications control module;

wherein applications or data are synchronized between the central database and the second storage medium and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on the second storage medium.

97. (New) An information management and synchronous communications system for use with cell phones and computing systems comprising:

- a. a central database containing hair salon applications and data,
- b. at least one cell phone on which hair salon applications and data are stored or displayed,
- c. an application program interface, and
- d. a communications control module;

wherein hair salon applications or data are synchronized wirelessly between the central database and at least one cell phone and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on the cell phone.

98. (New) The information management and synchronous communications system of claim 97, wherein reservations data is synchronized.

99. (New) The information management and synchronous communications system of claim 97, wherein waitlist data is synchronized.

100. (New) An information management and synchronous communications system comprising:

- a. a central database containing gaming or casino applications and data,
- b. a first computing device associated with the central database,
- c. a second computing device associated with a second storage medium containing gaming or casino applications and data,
- d. at least one web server,
- e. an applications program interface, and
- f. a communications control module;

wherein applications or data are synchronized between the central database, the second storage medium, and the web server and wherein the applications program interface and communications control module establish a seamless link between the data in the central database, the data on the second storage medium, and data on the web server.

101. (New) An information management and synchronous communications system for use with wireless handheld computing devices, the internet, and computing systems comprising:

- a. a central database containing hair salon applications and data,

- b.** at least one wireless handheld computing device on which hair salon applications and data are stored or displayed,
- c.** at least one web server,
- d.** an application program interface, and
- e.** a communications control module;

wherein hair salon applications or data are synchronized wirelessly between the central database, the web server, and at least one wireless handheld computing device and wherein the applications program interface and communications control module establish a seamless link between the data in the central database, the data on the wireless handheld computing device, and data on the web server.

102. (New) An information management and synchronous communications system for use with wireless handheld computing devices and computing systems comprising:

- a.** a central database containing hair salon applications and data,
- b.** at least one wireless handheld computing device on which hair salon applications and data are stored or displayed,
- c.** an application program interface, and
- d.** a communications control module;

wherein hair salon applications or data are synchronized wirelessly between the central database and at least one wireless handheld computing device and wherein the applications program

interface and communications control module establish a seamless link between the data in the central database and the data on the wireless handheld computing device.

REMARKS

I. Status of the Claims

With this Amendment, claims 1-16 are cancelled without prejudice or disclaimer and claims 17-102 are added. Claims identical to claims 17-94 were previously pending in U.S. Patent Application Serial No. 10/015,729, filed November 1, 2001.

Claims identical to claims 17-35, 36-44, and 51-55 were previously rejected under 35 U.S.C. 102(e) as being anticipated by Cupps et al. (U.S. Patent No. 5,991,739).

Claims identical to claims 45-50 and 56-57 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Cupps in view of Behr (U.S. Patent No. 6,107,944).

Of the pending claims for which identical claims were previously rejected, claims 17, 28, 36, 45, 48, and 49 are independent.

II. Rejections Under 35 U.S.C. 102(e)

Claims identical to independent claims 17, 28, and 36 were previously rejected under 35 U.S.C. 102(e) as being anticipated by Cupps et al.

With regard to claims identical to independent claims 17, 28, and 36 of the present application, the Examiner argues that at lines 35-65 of column 9 and in figs. 2 and 3a-3f, Cupps discloses information synchronization involving a second or modified menu. However Applicants respectfully disagree.

The first section cited by the examiner, column 9 lines 35-65, fails to disclose information synchronization involving a second or modified menu, nor any other sort of information synchronization. This section instead discloses a customer providing to an online ordering machine registration information, location information, time of day information, and an

indication of the type of service sought (e.g., takeout or delivery).

The second section cited by the examiner, Fig. 2, is a system overview showing an online ordering machine component, a client machine component connected to the online ordering machine via a network, and telephone and fax components connected to the online ordering machine via standard telephone lines. Also shown are various elements of the online ordering machine and the client machine. However, nowhere in the figure or its corresponding disclosure is there any indication of synchronization involving a second or modified menu. More generally, there is no disclosure of information synchronization occurring between any components of the system, nor is there disclosure of any other sort of information synchronization.

The third section cited by the examiner, Figs. 3a-3f, fails to disclose synchronization involving a second or modified menu and instead discloses the “schema” – that is the organization and structure – of the order database 128 (see Cupps, Col. 5 Ln. 21). Nowhere in the figures or in the corresponding disclosure is there even any indication that the order database is involved in any sort of information synchronization. In fact, there is no disclosure of any sort of information synchronization in this section.

Furthermore, the remainder of the Cupps disclosure also fails to disclose synchronization involving a second or modified menu, nor any other sort of information synchronization.

Accordingly, Cupps fails to disclose at least the aspect of independent claim 17 wherein:

“... data comprising the second menu is synchronized between the data storage device connected to the central processing unit and at least one other computing device ...”
(emphasis added).

Similarly, Cupps also fails to disclose at least the aspect of independent claim 28

wherein:

“ ... data comprising the modified menu is synchronized between the data storage device and at least one other computing device...”
(emphasis added).

Furthermore, Cupps fails to disclose at least the aspect of independent claim 36

wherein:

“ ... synchronizing the data comprising the second menu between the storage device and at least one other data storage medium, wherein the other data storage medium is connected to or is part of a different computing device...”
(emphasis added).

The disclosure of the present invention explains that according to the claimed synchronization there is, for example:

“ ... fast synchronization between a central database and multiple handheld devices, synchronization and communication between a Web server and multiple handheld devices, a well-defined API that enables third parties such as POS companies, affinity program companies and internet content providers to fully integrate with computerized hospitality applications, real-time communication over the internet with direct connections or regular modem dialup connections and support for batch processing that can be done periodically throughout the day to keep multiple sites in synch with the central database”
(see disclosure, p. 9 ln. 21 – p. 10 ln. 4; emphasis added).

As another example, the disclosure of the present invention notes that according to such synchronization:

“ ... a reservation made online can be automatically communicated to the backoffice server and then synchronized with all the wireless handheld devices wirelessly. Similarly, changes made on any of the wireless handheld devices are reflected instantaneously on the backoffice server Web pages and the other handheld

devices”
(see disclosure, p. 10 ln. 15-19; emphasis added).

In light of the above, Applicants submit that independent claims 17, 28, and 36 are in condition for allowance. Those claims that depend therefrom, for at least the above-identified reasons, are also thought to be allowable.

III. Rejections Under 35 U.S.C. 103(a)

Claims identical to independent claims 45, 48, and 49 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over Cupps in view of Behr.

As explained above, Cupps fails to disclose any sort of information synchronization. Furthermore, Applicants find no disclosure in Behr of any sort of information synchronization, nor does the Examiner provide any reference to such disclosure in Behr.

Applicants therefore submit that Cupps and Behr, alone or in combination, fail to disclose, teach, or suggest at least the aspect of independent claim 45 wherein:

“... applications or data are synchronized wirelessly between the central database and at least one wireless handheld computing device and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on the wireless handheld computing device..”
(emphasis added).

Similarly, Cupps and Behr, alone or in combination, fail to disclose, teach, or suggest at least the aspect of independent claim 48 wherein:

“ ... hospitality applications or data are synchronized between the central database, at least one wireless computing device and at least one wireless paging or beeper device and wherein messaging to the wireless paging or beeper device is enabled directly from the operator interface of the wireless computing device”
(emphasis added).

Furthermore, Cups and Behr, alone or in combination, fail to disclose, teach, or suggest at least the aspect of independent claim 49 wherein:

“... applications or data are synchronized between the central database and the second storage medium and wherein the applications program interface and communications control module establish a seamless link between the data in the central database and the data on the second storage medium.”
(emphasis added).

The Examiner also states:

“Behr teaches wireless handheld computing device on which hospitality application (see col. 14, lines 1-57)”.

Applicants respectfully disagree. Behr discloses “a method of providing route guidance information and other information from a base unit to a mobile unit in response to a request from the mobile unit” (see Behr, Col. 4 Ln. 28-31). Behr explains that the mobile unit sends the request for route guidance as a “query message 120” including a “destination field 144” and a “destination type field 146”, and, for example, that the “destination type field 146 may be ‘restaurant’, and the destination field 144 may be ‘McDonald’s’” (see Behr, Col. 14 Ln. 37-44). Behr also discloses that other specifiable destinations include “airport[s]” and “museum[s]” (see Behr, Col. 14 Ln. 42).

However, Applicants submit that simply stating that a mobile unit may request from a navigation system directions to a restaurant does not constitute disclosure of a hospitality software application. As known in the art, a hospitality software application is, for example, a piece of software used to provide operational solutions in hospitality industries such as restaurants and hotels concerning, for example, food ordering, menus, wait-lists and reservations. Accordingly, Applicants submit that Behr fails to teach a “wireless handheld computing device on which hospitality application” as suggested by the Examiner.

In light of at least the above, Applicants submit that independent claims 45, 48, and 49 are in condition for allowance. Those claims that depend therefrom, for at least the above-identified reasons, are also thought to be allowable.

IV. New Claims 95-102

With this amendment, new claims 95-102 are added. No new matter has been added.

Applicants respectfully submit that these claims are allowable over the cited art and in condition for allowance.

V. Conclusion

No new matter is added by this Amendment. Entry hereof is respectfully requested prior to examination on the merits.

Applicants respectfully submit that this Application is in condition for allowance for which action is earnestly solicited.

If a telephone conference would facilitate prosecution of this Application in any way, the Examiner is invited to contact the undersigned at the number provided.

VI. Authorization

The Commissioner is hereby authorized to charge any fees which may be required for this amendment, or credit any overpayment to Deposit Account No. 13-4500, Order No. 3125-4003US1. **A DUPLICATE OF THIS DOCUMENT IS ATTACHED.**

Furthermore, in the event that an extension of time is required, the Commissioner is requested to grant a petition for that extension of time which is required to make this response

In light of at least the above, Applicants submit that independent claims 45, 48, and 49 are in condition for allowance. Those claims that depend therefrom, for at least the above-identified reasons, are also thought to be allowable.

IV. New Claims 95-102

With this amendment, new claims 95-102 are added. No new matter has been added.

Applicants respectfully submit that these claims are allowable over the cited art and in condition for allowance.

V. Conclusion

No new matter is added by this Amendment. Entry hereof is respectfully requested prior to examination on the merits.

Applicants respectfully submit that this Application is in condition for allowance for which action is earnestly solicited.

If a telephone conference would facilitate prosecution of this Application in any way, the Examiner is invited to contact the undersigned at the number provided.

VI. Authorization

The Commissioner is hereby authorized to charge any fees which may be required for this amendment, or credit any overpayment to Deposit Account No. 13-4500, Order No. 3125-4003US1. **A DUPLICATE OF THIS DOCUMENT IS ATTACHED.**

Furthermore, in the event that an extension of time is required, the Commissioner is requested to grant a petition for that extension of time which is required to make this response

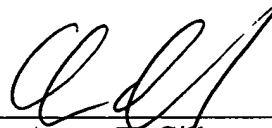
timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-noted Deposit Account and Order No.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: April 22, 2005

By:



Angus R. Gill
Registration No. 51,133

Mailing Address:
MORGAN & FINNEGAN, L.L.P.
3 World Financial Center
New York, New York 10281-2101
(212) 415-8746
(212) 415-8701 (Fax)

CLAIMS ONLY

SERIAL NO.

FLING DATE

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1ST AMENDMENT		AFTER 2ND AMENDMENT							
	IND	DEP	IND	DEP	IND	DEP						
1	X						51					
2	X						52					
3	X						53					
4	X						54					
5	X						55					
6	X						56					
7	X						57					
8	X						58					
9	X						59					
10	X						60					
11	X						61	2				
12	X						62					
13	X						63					
14	X						64					
15	X						65					
16	X						66					
17	1						67					
18							68					
19							69					
20							70					
21							71					
22							72					
23							73					
24							74					
25							75					
26							76					
27							77					
28	1						78					
29							79					
30							80					
31							81					
32							82					
33							83					
34							84					
35							85					
36	1						86					
37							87					
38							88					
39							89					
40							90					
41							91					
42							92					
43							93					
44							94					
45	1						95					
46							96					
47							97					
48	1						98					
49	1						99					
50							100					
TOTAL IND.	←	←	←				TOTAL IND.	←	←	←		
TOTAL DEP.	←	←	←				TOTAL DEP.	←	←	←		
TOTAL CLAIMS							TOTAL CLAIMS					

CLAIMS ONLY

SERIAL NO.

FILING DATE

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1ST AMENDMENT		AFTER 2ND AMENDMENT	
	IND	DEP	IND	DEP	IND	DEP
1	1					
2	1					
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						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
TOTAL IND.	12					
TOTAL DEP.	90					
TOTAL CLAIMS	102					

	IND	DEP	IND	DEP	IND	DEP
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						
TOTAL IND.						
TOTAL DEP.						
TOTAL CLAIMS						

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 06/16/2008

CBETANCO	SALE	#00000001	Mailroom Dt:	04/22/2005	134500	11112990
		01 FC : 2202		50.00 DA		