# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Christopher J. Desmond, et al.
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Title: METHOD AND APPARATUS FOR MANAGING DIGITAL FILES

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## PETITION FOR *INTER PARTES* REVIEW OF UNITED STATES PATENT NO. 10,621,228 PURSUANT TO 35 U.S.C. §§ 311–319, 37 C.F.R. § 42

**TABLE OF CONTENTS**

**EXHIBITS**

SAMSUNG-1001 U.S. Patent No. 10,621,228 to Christopher J. Desmond, et al. ("the '228 patent")

SAMSUNG-1002 Excerpts from the Prosecution History of the '228 Patent ("the Prosecution History")

SAMSUNG-1003 Declaration of Dr. Philip Greenspun

SAMSUNG-1004 Curriculum Vitae of Dr. Philip Greenspun

SAMSUNG-1005 U.S. Patent App. Pub. No. 2011/0122153 A1 ("Okamura")

SAMSUNG-1006 U.S. Patent App. Pub. No. 2010/0058212 A1 ("Belitz")

SAMSUNG 1007-SAMSUNG 1019   RESERVED

SAMSUNG-1020 Tim Grey, Adobe Photoshop Lightroom Workflow: The Digital Photographer's Guide (2007)

SAMSUNG-1021 U.S. Patent App. Pub. No. 2011/0074811 A1 ("Hanson")

SAMSUNG-1022 Stephen Shankland, "What's the best Web site for geotagged photos?," CNET (Mar. 18, 2009), available at https://www.cnet.com/tech/computing/whats-the-best-web-site-for-geotagged-photos/

SAMSUNG-1023 Panoramio, "Embedding a Panoramio map into your web page" (Archive.org: Mar. 28, 2010), available at https://web.archive.org/web/20100328215828/http://www.panoramio.com:80/help/embedding

SAMSUNG-1024 Shu-Wai Chow, PHP Web 2.0 Mashup Projects, Packt Publishing (2007)

SAMSUNG-1025  Complaint for Declaratory Judgment, *MyHeritage (USA), Inc. et al. v. MemoryWeb, LLC*, Case No. 1:21-cv-02666, Dkt. 1 (N.D. Ill. May 17, 2021)

SAMSUNG-1026  U.S. Patent App. Pub. No. 2009/0113350 A1 ("Hibino")

SAMSUNG-1027  U.S. Patent App. Pub. No. 2006/0165380 A1 ("Tanaka")

SAMSUNG-1028  Complaint for Infringement, *MemoryWeb, LLC v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.,* Case No. 21-cv-411 (W.D. Tex.)

SAMSUNG-1029  Plaintiff MemoryWeb, LLC's First Supplemental Initial Infringement Contentions, *MemoryWeb, LLC v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, Case No. 21-cv-411-ADA (W.D. Tex. Nov. 24, 2021)

SAMSUNG-1030  Agreed Scheduling Order, *MemoryWeb, LLC v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.*, Case No. 21-cv-411-ADA (W.D. Tex. Nov. 23, 2021)

SAMSUNG-1031  U.S. Patent No. 6,215,523 ("Anderson")

SAMSUNG-1032  U.S. Patent App. Pub. No. 2008/0133526 ("Haitani")

SAMSUNG-1033  U.S. Patent App. Pub. No. 2008/0306921 ("Rothmuller")

SAMSUNG-1034  U.S. Patent App. Pub. No. 2013/0198602 ("Kokemohr")

SAMSUNG-1035  U.S. Patent App. Pub. No. 2013/0326338 ("Secord")

SAMSUNG-1036  U.S. Patent App. Pub. No. 2007/0016575 ("Hurst-Hiller")

SAMSUNG-1037  Stipulation Letter

**LISTING OF CHALLENGED CLAIMS**

| Claim 1 | |
|---|---|
| [1pre] | A method comprising: |
| [1a] | responsive to a first input, causing a map view to be displayed on an interface, the map view including: |
| [1b] | an interactive map; |
| [1c] | a first location selectable thumbnail image at a first location on the interactive map; and |
| [1d] | a second location selectable thumbnail image at a second location on the interactive map; |
| [1e] | responsive to an input that is indicative of a selection of the first location selectable thumbnail image, causing a first location view to be displayed on the interface, the first location view including (i) a first location name associated with the first location and (ii) a representation of at least a portion of one digital file in a first set of digital files, each of the digital files in the first set of digital files being produced from outputs of one or more digital imaging devices, the first set of digital files including digital files associated with the first location; |
| [1f] | responsive to an input that is indicative of a selection of the second location selectable thumbnail image, causing a second location view to be displayed on the interface, the second location view including (i) a second location name associated with the second location and (ii) a representation of at least a portion of one digital file in a second set of digital files, each of the digital files in the second set of digital files being produced from outputs of the one or more digital imaging devices, the second set of digital files including digital files associated with the second location; and |
| [1g] | responsive to a second input that is subsequent to the first input, causing a people view to be displayed on the interface, the people view including: |

| | |
|---|---|
| [1h] | a first person selectable thumbnail image including a representation of a face of a first person, the first person being associated with a third set of digital files including digital photographs and videos; |
| [1i] | a first name associated with the first person, the first name being displayed adjacent to the first person selectable thumbnail image; |
| [1j] | a second person selectable thumbnail image including a representation of a face of a second person, the second person being associated with a fourth set of digital files including digital photographs and videos; and |
| [1k] | a second name associated with the second person, the second name being displayed adjacent to the second person selectable thumbnail image. |
| **Claim 2** | |
| [2] | The method of claim 1, wherein the map view further includes a first indication feature associated with the first location selectable thumbnail image, the first indication feature being based on a number of digital files in the first set of digital files. |
| **Claim 3** | |
| [3] | The method of claim 2, wherein the first indication feature is connected to the first location selectable thumbnail image. |
| **Claim 4** | |
| [4] | The method of claim 2, wherein the first indication feature includes a first number indicative of the number of digital files in the first set of digital files. |
| **Claim 5** | |
| [5] | The method of claim 2, wherein the map view further includes a second indication feature associated with the second location selectable thumbnail image, the second indication feature being based on a number of digital files in the second set of digital files. |

| Claim 6 | |
|---|---|
| [6] | The method of claim 5, wherein the second indication feature is connected to the second location selectable thumbnail image. |
| **Claim 7** | |
| [7] | The method of claim 5, wherein the second indication feature includes a second number indicative of the number of digital files in the second set of digital files. |
| **Claim 8** | |
| [8] | The method of claim 2, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming in on the interactive map, modifying the first indication feature. |
| **Claim 9** | |
| [9] | The method of claim 2, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of zooming out on the interactive map, modifying the first indication feature. |
| **Claim 10** | |
| [10] | The method of claim 2, further comprising, subsequent to the map view being displayed on the interface, responsive to an input that is indicative of a filter selection, modifying the first indication feature. |
| **Claim 11** | |
| [11] | The method of claim 1, wherein the first location selectable thumbnail image is a first collection cover image and wherein the second location selectable thumbnail image is a second collection cover image that is different than the first collection cover image. |

| Claim 12 | |
|---|---|
| [12] | The method of claim 1, wherein the first location selectable thumbnail image includes a representation of at least one of the digital files in the first set of digital files, and wherein the second location selectable thumbnail image includes a representation of at least one of the digital files in the second set of digital files. |
| **Claim 13** | |
| [13] | The method of claim 12 wherein the representation of the at least a portion of the one digital file in the first set of digital files is not overlaid on the interactive map, and wherein the representation of the at least a portion of the one digital file in the second set of digital files is not overlaid on the interactive map. |
| **Claim 14** | |
| [14] | The method of claim 1, wherein the first location view includes a representation of at least a portion of all of the digital files in the first set of digital files and the second location view includes a representation of at least a portion of all of the digital files in the second set of digital files. |
| **Claim 15** | |
| [15pre] | The method of claim 1, further comprising |
| [15a] | responsive to an input that is indicative of a selection, in the first location view, of the representation of the at least a portion of the one digital file in the first set of digital files, causing a first digital file to be displayed on the interface; and |
| [15b] | responsive to an input that is indicative of a selection, in the second location view, of the representation of the at least a portion of the one digital file in the second set of digital filed, causing a second digital file to be displayed on the interface. |
| **Claim 16** | |
| [16pre] | The method of claim 1, further comprising: |

| [16a] | receiving alphanumeric text as a tag; |
|---|---|
| [16b] | associating the tag with a first digital file in the first set of digital files; |
| [16c] | receiving a request to export the first digital file; and |
| [16d] | responsive to receiving the request to export, exporting the first digital file by causing the first digital file to be communicated along with the tag. |
| **Claim 17** | |
| [17] | The method of claim 1, further comprising, prior to receiving the first input, causing the interface to display a plurality of selectable elements, the plurality of selectable elements including a location selectable element and a people selectable element, wherein the first input is indicative of a selection of the location selectable element, and wherein the second input is indicative of a selection of the people selectable element. |
| **Claim 18** | |
| [18] | The method of claim 1, further comprising responsive to an input that is indicative of a selection of the first person selectable thumbnail image, causing a first person view to be displayed on the interface, the first person view including (i) the first name and (ii) a representation of each digital file in the third set of digital files. |
| **Claim 19** | |
| [19] | The method of claim 18, further comprising responsive to an input that is indicative of a selection of the second person selectable thumbnail image, causing a second person view to be displayed on the interface, the second person view including (i) the second name and (ii) a representation of each digital file in the fourth set of digital files. |

Samsung Electronics Co., Ltd. ("Petitioner") petitions for *inter partes*

review ("IPR") of claims 1-19 ("Challenged Claims") of U.S. Patent No.

10,621,228 ("'228 patent").

## I.      REQUIREMENTS FOR IPR

### A.      Grounds for Standing

Samsung certifies that the '228 patent is available for IPR.  This petition is

being filed within one year of service of a complaint against Samsung.

SAMSUNG-1028.  Samsung is not barred or estopped from requesting review of

the Challenged Claims on the below-identified ground.

### B.      Challenge and Relief Requested

Samsung requests IPR of the Challenged Claims on the ground in the table

below.  Additional explanation is provided in SAMSUNG-1003 (Declaration of

Dr. Philip Greenspun).

| Ground | Claims | Basis |
|---|---|---|
| 1 | 1-19 | §103: Okamura, Belitz |

### C.      Claim Construction

Because the evidence and the prior art's description of the claimed elements

are similar to the '228 patent specification, no formal claim constructions are

necessary in this proceeding.[1]  *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d

1355, 1361 (Fed. Cir. 2011).

### D.  Level of Ordinary Skill

A person of ordinary skill in the art ("POSITA") relating to the subject

matter of the '228 patent would have had (1) a bachelor's degree in computer

science, computer engineering, electrical engineering, or a related field, and (2) at

least one year of experience designing graphical user interfaces for applications

such as photo organization systems.  SAMSUNG-1003, [27].  Additional graduate

education could substitute for professional experience, or significant experience in

the field could substitute for formal education.  *Id*.

## II.  SUMMARY OF THE '228 PATENT

### A.  Brief Description

The '228 patent describes displaying digital files using a "map view" or a

"people view."  SAMSUNG-1001, 22:59-23:11, 34:16-54, 29:41-64, FIGS. 32, 34,

41; SAMSUNG-1003, [47]-[55].  For example, the '228 patent provides a map

view (shown in FIG. 41 below) that displays an interactive map with location

selectable thumbnail images.  SAMSUNG-1001, 29:51-57.

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[1] Petitioner is not conceding that each claim satisfies all statutory requirements, such

as §§ 101 and 112, nor is Petitioner waiving any arguments concerning claim scope

or grounds that can only be raised in district court.
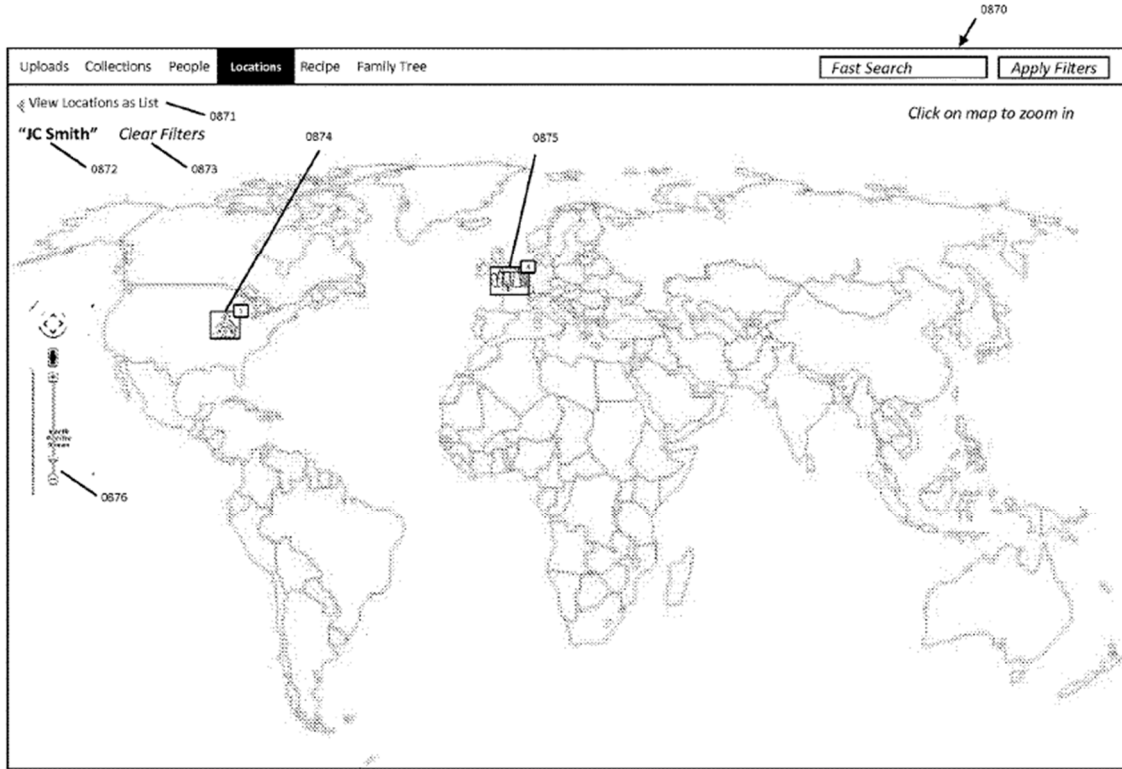
SAMSUNG-1001, FIG. 41

When the user selects a thumbnail, the user interface displays a location

view (shown in FIG. 34 below).  SAMSUNG-1001, 6:20.
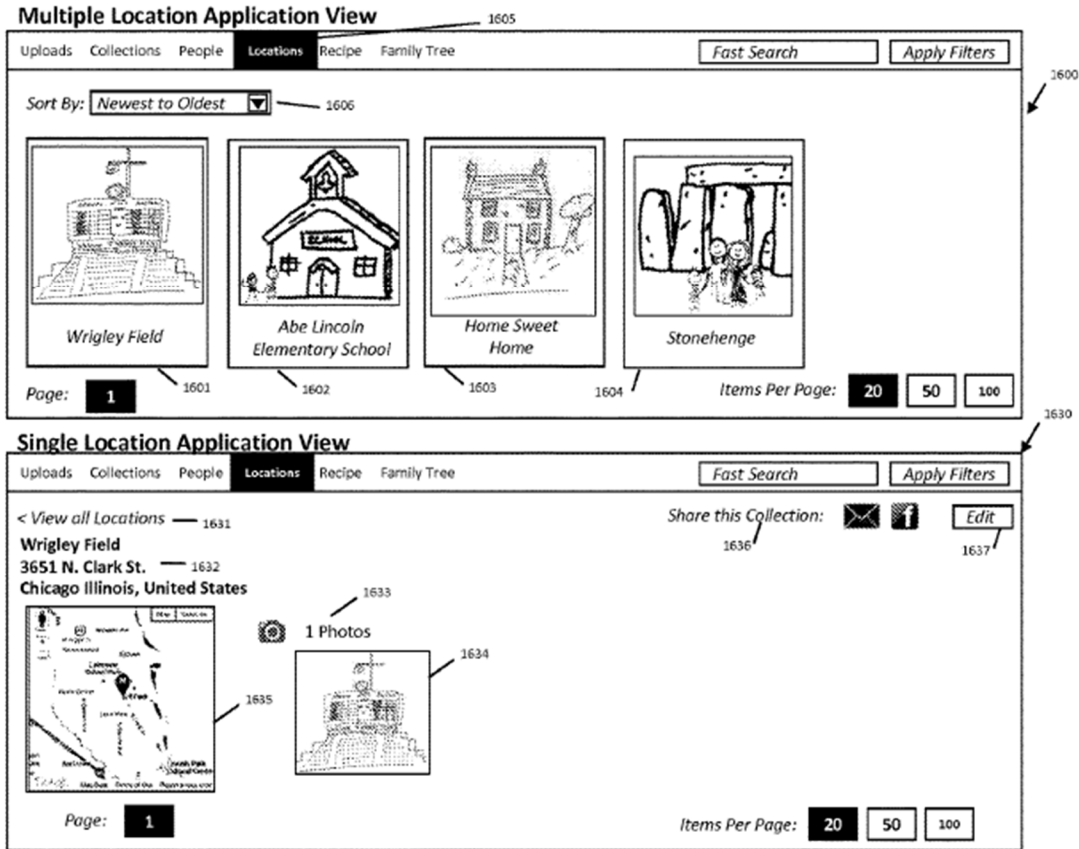
SAMSUNG-1001, FIG. 34

As shown in FIG. 32 below, the '228 patent also provides a people view (upper) that displays "person selectable" thumbnail images and, responsive to selection of a person thumbnail, the user interface displays a single person view (lower).  SAMSUNG-1001, 23:1-24.
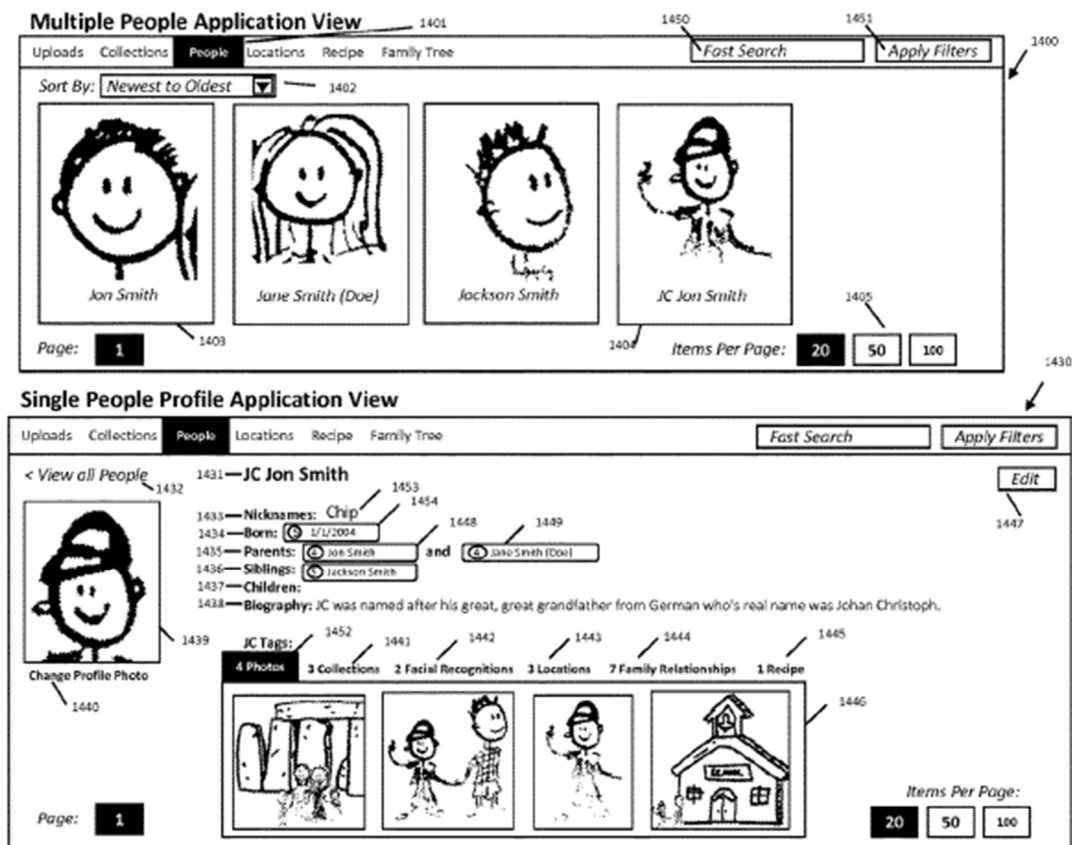
SAMSUNG-1001, FIG. 32

## B. Prosecution History

The '228 patent was allowed without a rejection on the merits. The Examiner provided only a cursory discussion of how the allowed claims were patentable in that the Examiner summarized the interview that led to allowance as "Allowable Subject Matter was discussed. … Examiner's amendment was authorized to advance the case" and only stated that "people view" features in claim 1 were missing from two references: Hibino and Tanaka. SAMSUNG-1002, 42-44. Okamura and Belitz were not considered during prosecution and demonstrate that the "people view" features of claim 1 were well-known.

SAMSUNG-1003, [56].

###    C.    Priority Date

The earliest priority claim of the '228 patent is June 9, 2011.  SAMSUNG-1001, Cover.  In litigation, MemoryWeb identified a priority date of February 28, 2014.  SAMSUNG-1029, 2.  The applied references pre-date June 9, 2011 and are prior art regardless of whether the '228 patent is entitled to its earliest claimed priority.  The level of skill would have been similar and the analysis presented in this petition applies equally whether June 9, 2011 or February 28, 2014 is used as the Critical Date.

| Reference | Filing Date | Publication Date | Section |
|---|---|---|---|
| Okamura | October 20, 2010 | May 26, 2011 | Pre-AIA 102(a), (b), (e) AIA 102(a)(1), (a)(2) |
| Belitz | August 28, 2008 | March 4, 2010 | Pre-AIA 102(a), (b), (e) AIA 102(a)(1), (a)(2) |

### III.    Application of Prior Art[2]

#### A.    [GROUND 1] – Claims 1-19 are rendered obvious by Okamura in view of Belitz

##### 1.    Overview of Okamura[3]

Okamura discloses a user interface for "managing contents such as image files" based on locations and people associated with the content. SAMSUNG-1005, Abstract, [0091], [0110], [0313], FIG. 21, FIG. 41.

As shown in FIG. 41 (below), Okamura discloses "a map view screen" that displays location-based clusters in an overlaid manner on an interactive map, where the user can select a cluster to view thumbnail images belonging to the cluster (as well as the number of digital files associated with the cluster), change the scale of the map (e.g., by adjusting the scale changing bar 781), and switch to a different screen (including a face-based index screen as described below). SAMSUNG-1005, [0215], [0354]-[0359], [0430]-[0431], FIG. 41; SAMSUNG-1003, [79]-[80]. As illustrated in FIG. 50 (below), selecting a location-based

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[2] Dr. Greenspun provides a technology background at SAMSUNG-1003, [57]-[78].

[3] Descriptions provided for the references and combination thereof are incorporated into each mapping that includes citations to these references. All emphasis is added unless otherwise indicated.

cluster causes the user interface to display "contents belonging to the

corresponding cluster" that are not overlaid on the interactive map. SAMSUNG-

1005, [0439]-[0444].
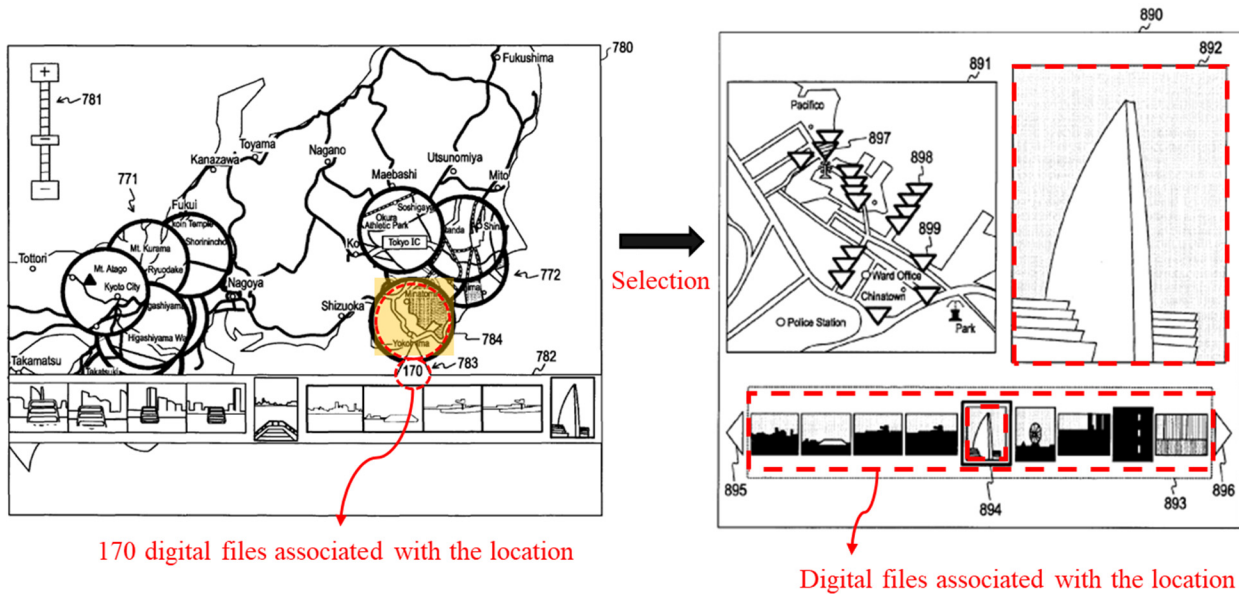


SAMSUNG-1005, FIG. 41 (left), FIG. 50 (right)

In addition to its map view, Okamura discloses a people view for content

that includes an index screen displaying "index images generated on the basis of

face information." SAMSUNG-1005, [0234]. The index screen includes an

"image representing a face cluster, for example, a thumbnail image of each of [the]

faces included in contents belonging to the face cluster" and "the pieces of

information 433 related to the thumbnail image 432 []." SAMSUNG-1005,

[0246]-[0247], *see also* [0099], [0110], [0139], [0234], [0248]-[0260], [0267],

FIG. 21; SAMSUNG-1003, [81]. As illustrated FIGS. 21 and 24 (below), selecting

a face-based thumbnail image causes the user interface to display "contents included in the face cluster []." SAMSUNG-1005, [0261].
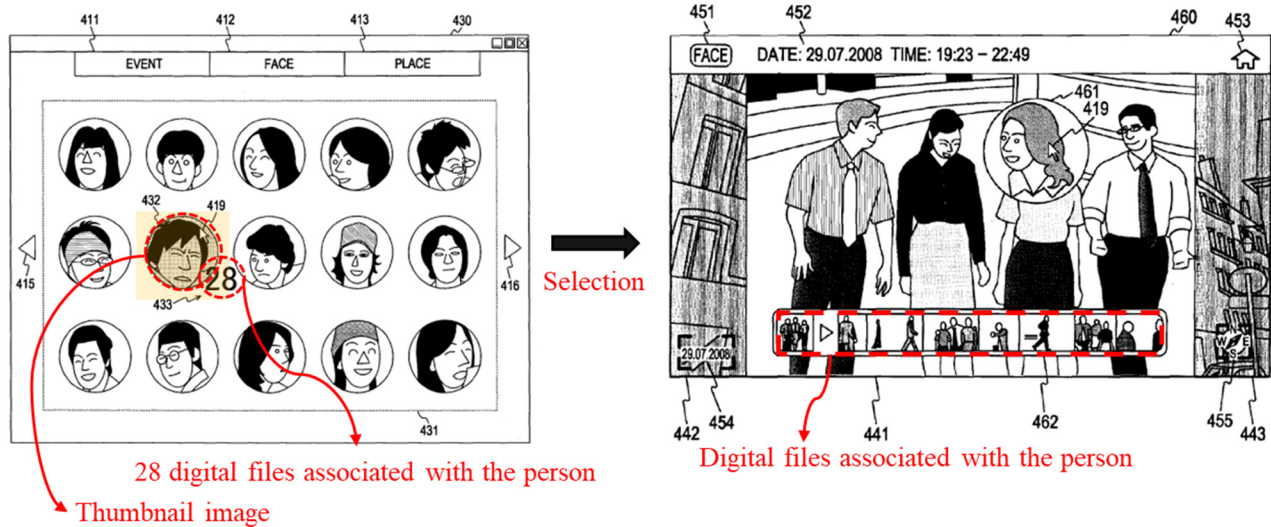


SAMSUNG-1005, FIG. 21 (left), FIG. 24 (right)

## 2. Overview of Belitz

Belitz describes a "user interface…configured to display a map and to display at least one marked location on said map." SAMSUNG-1006, Abstract, [0001]-[0006], [0039], [0050]-[0052]. Belitz's user interface displays map 409 (*see* FIG. 4 below) with thumbnail images at various locations. *Id*. Map 409 "display[s] all or a selected number of photographs stored in a device." SAMSUNG-1006, [0016]. Belitz's map 409 is interactive including features of "zooming in" and user operations, such as "placing a cursor above [a graphical object] and clicking it." SAMSUNG-1006, [0054]-[0056], [0060]; SAMSUNG-1003, [82].

Fig. 4a    Fig. 4b    Interactive map

Fig. 4c

Count value    Thumbnails
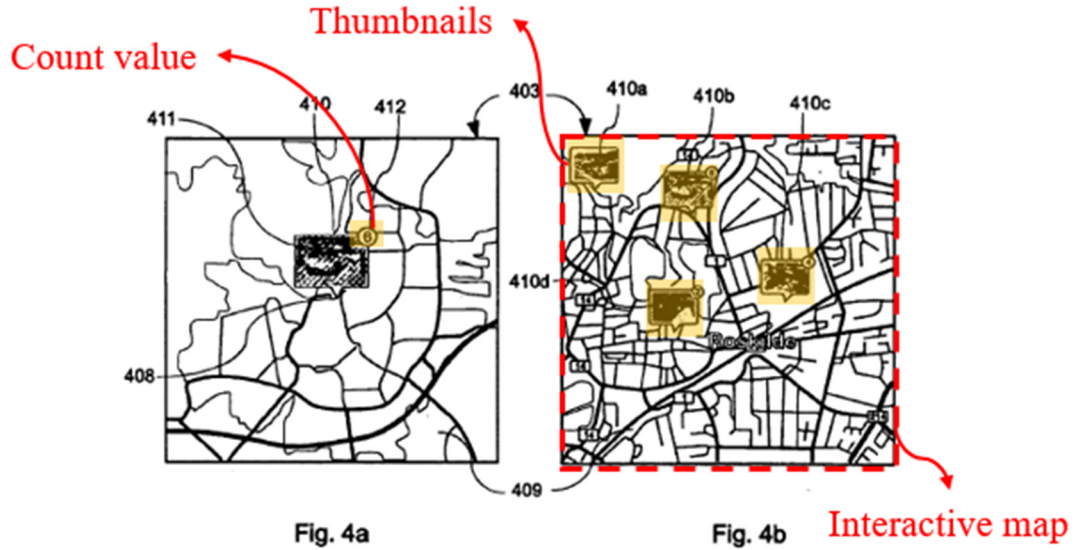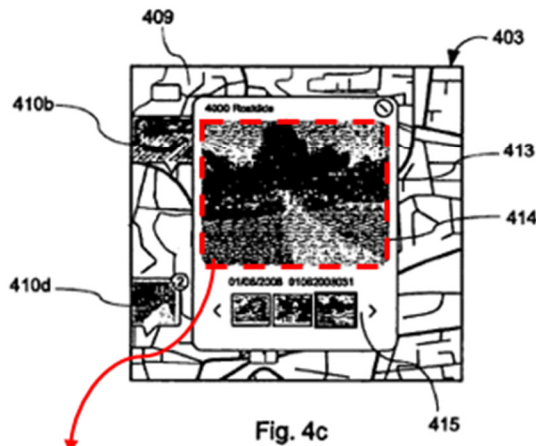
Visual representation of a selected thumbnail

SAMSUNG-1006, FIGS. 4a-c

Each thumbnail (e.g., thumbnails 410a-d in FIG. 4b) is associated with a location, and "examples of associations are photographs that have been taken at those coordinates." SAMSUNG-1006, [0052], [0062]. Belitz also displays a count value partially overlapping the right corner of each thumbnail image (e.g., "6" for thumbnail 410 in FIG. 4a). SAMSUNG-1006, [0052]; SAMSUNG-1003, [83]-[84].

Responsive to selection of a thumbnail (e.g., thumbnail 410c), Belitz's user interface displays visual representations associated with the selected thumbnail on a pop-up window 413 (illustrated in FIG. 4c). SAMSUNG-1006, [0057], [0060], [0062]; SAMSUNG-1003, [85]. The user "can easily scroll back and forth among these associated images and preview them in the popup window 413." *Id*.

### 3.     Combination of Okamura and Belitz

As Dr. Greenspun explains, a POSITA would have found it obvious to combine Okamura and Belitz ("Okamura-Belitz"). SAMSUNG-1003, [86]. Both references (and the '228 patent) come from the same field of endeavor: "managing and using digital files such as photographs." SAMSUNG-1001, 1:21-24; SAMSUNG-1005, [0002], [0091]; SAMSUNG-1006, [0001], [0062]. Further, Okamura and Belitz address the same problem (also purportedly solved by the '228 patent): allowing "people to organize, view, preserve and share" their digital photographs. SAMSUNG-1001, 1:61-67; SAMSUNG-1005, [0007]-[0013]; SAMSUNG-1006, [0002]-[0005]. Okamura and Belitz also describe analogous techniques—both describe use of an interactive map with user-selectable markers (clusters or thumbnail images) specifying the locations of photos and/or videos, and use of those markers to retrieve the digital photos and/or videos linked to those locations. SAMSUNG-1005, Abstract, [0091], [0110], [0313], FIGS. 18-21, FIG. 41; SAMSUNG-1006, [0039], [0050]-[0055], [0062]. With this background, a

POSITA would have readily turned to Belitz when reviewing Okamura and would have found it obvious to incorporate features of Belitz in Okamura. SAMSUNG-1003, [86].

As Dr. Greenspun explains, a POSITA would have combined Okamura and Belitz in two, alternative ways. SAMSUNG-1003, [87]. First, a POSITA would have found it obvious to replace the location-based clusters used in Okamura's map view (shown in FIG. 41) with the thumbnail images used in Belitz's map view. *Id.* With this replacement, Okamura's map view would function as described in Okamura, except that it would display, on the map view, thumbnail images as described by Belitz, instead of Okamura's location-based clusters. *Id.* Second, as an alternative way of viewing the combination of Okamura and Belitz, a POSITA would have found it obvious to replace Okamura's map-related views (e.g., cluster map view shown in FIG. 18 or map view shown in FIG. 41) with Belitz's map view. *Id.* In this alternative, when a user provides input to display a map-related view in Okamura, the combined system would display Belitz's map view, instead of Okamura's. *Id.* As discussed below, both of these alternatives for combining Okamura and Belitz would have been obvious to a POSITA and independently render the Challenged Claims obvious.

As to the first way of combining Okamura and Belitz, as discussed in Section III.A.1, Okamura discloses a map view (shown in FIG. 41) that displays

location-based clusters over an interactive map. Although Okamura describes its clusters as "thumbnail" images of a portion of a map (SAMSUNG-1005, [0135], [0221]-[0223], [0229]-[0231]), to the extent that the location-based clusters in Okamura's map view are not "thumbnail image[s]" as claimed, a POSITA would have been motivated to combine Okamura and Belitz such that Okamura's map view displays selectable thumbnail images as disclosed in Belitz to obtain the additional benefits as outlined below. SAMSUNG-1003, [88]. Below, Okamura's FIG. 41 has been modified to provide an example of how a POSITA would have replaced Okamura's location-based clusters with Belitz's thumbnail images:

SAMSUNG-1006, FIG. 4a-b (top); SAMSUNG-1005, FIG. 41 (bottom)

A POSITA would have found it obvious that the above-described way of organizing digital files using location selectable thumbnails would achieve Okamura's objective of "managing contents." SAMSUNG-1005, [0091]. Specifically, as discussed in Belitz, the combination enhances a user's experience of "discern[ing] between the various objects" by providing "a good view of what

location is associated with what." SAMSUNG-1006, [0002]. This teaching by

Belitz is consistent with Okamura's objective, which is also to improve the user

experience: "each of contents belonging to each cluster can be also easily grasped

by the user." SAMSUNG-1005, [0215]. Okamura and Belitz also describe

analogous methods of displaying an interactive map with user-selectable elements

(e.g., Belitz's thumbnail images and Okamura's clusters) and retrieving digital files

(e.g., photos and videos) associated with a given location. SAMSUNG-1003, [89].

A POSITA would have understood that Belitz's thumbnail images displayed

on the interactive map are functionally equivalent to Okamura's location-based

clusters (at least because (1) both Belitz's thumbnail images and Okamura's

clusters are associated with a given location, (2) both are displayed on the

interactive map, and (3) both are dynamically generated/modified based on user

interaction including zooming in/out on the map) and could be used as an

alternative to the clusters on Okamura's map view screen. SAMSUNG-1003, [90].

It would have been obvious to a POSITA to incorporate Belitz's thumbnail images

(including a count indicator) to provide added functionality that allows a user to

preview pictures associated with a given location as taught by Belitz. SAMSUNG-

1006, [0004]; SAMSUNG-1003, [90].

A POSITA would have been motivated to make this modification because

Belitz teaches that "it would be useful to be able to present a user with an overview

of associated images to special locations which enables [the] user to clearly see the associations." SAMSUNG-1006, [0004], [0015]. A POSITA also would have considered Belitz's thumbnail technique to be a known and predictable alternative to Okamura's clusters, and that using thumbnails could appeal to certain users, thereby improving usability for such users. SAMSUNG-1003, [91]. For example, a POSITA would have known, before 2010, that certain users preferred interactive maps that used thumbnails to identify the locations of photos. *Id.* (citing SAMSUNG-1022, 4 ("Where Picasa has the edge over Flickr and SmugMug is in showing thumbnails of each image on the map.")).

Indeed, contemporaneous evidence shows that a POSITA would have understood that selectable graphical clusters would have been obvious to replace with "smaller versions of the captured images (e.g., thumbnail images)." SAMSUNG-1021, [0030]. The well-known nature of using location selectable thumbnails and a POSITA's understanding of location selectable thumbnails as an obvious option for presenting digital files is further demonstrated by multiple applications (e.g., Picasa, Panoramio; shown below) that displayed thumbnail images on a map. SAMSUNG-1022; SAMSUNG-1023; SAMSUNG-1024, 239, 243; SAMSUNG-1003, [92].

Selectable thumbnail image (left)    Selectable thumbnail image (right)
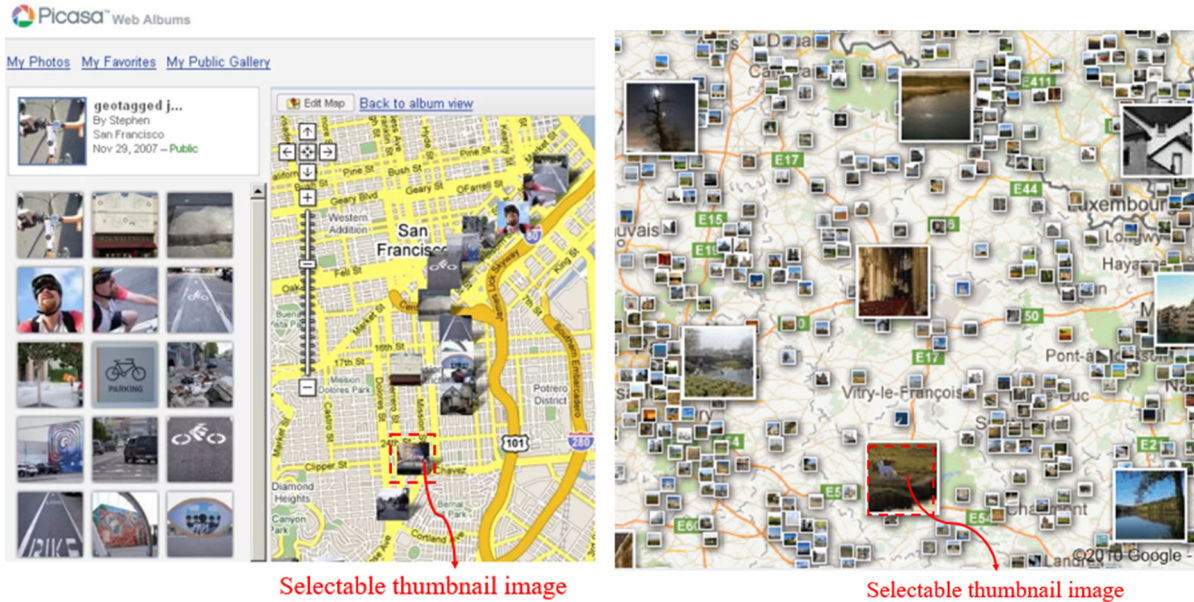
SAMSUNG-1022 (left); SAMSUNG-1023 (right)

Alternatively, in the second way of combining Okamura and Belitz discussed above, a POSITA would have found it obvious to substitute Okamura's map-related views (including the interactive map and selectable location-based clusters) with Belitz's interactive map (including selectable thumbnail images), for at least the same reasons described above including the user's increased awareness of the digital files associated with the various locations. SAMSUNG-1005, [0354]-[0356], [0430], FIG. 49; SAMSUNG-1006, [0051]-[0053], [0055], [0062], FIG. 4; SAMSUNG-1003, [93]. For example, a POSITA would have been motivated to combine Okamura and Belitz such that, when a user selects the "PLACE" tab 413 shown in Okamura's FIG. 18, Okamura's cluster map display area 414 would be replaced with Belitz's geographic map view, where digital content is indicated at various locations on Belitz's interactive map by Belitz's

17

thumbnail images. SAMSUNG-1003, [93]. A POSITA would have been

motivated to combine Okamura and Belitz in this manner because the combination

enhances how Okamura displays content associated with various locations by

using Belitz's scalable geographic map with thumbnail images, which improves

user experience and content awareness by providing the user with a preview (e.g.,

thumbnail) of the digital photographs and/or videos associated with the

corresponding location. *Id.* Belitz's interface for displaying thumbnails where

content has been captured on a scalable map allows a user to more quickly view

the content captured at specific locations, thereby providing a user with improved

awareness of content available at relevant locations because the user is able to

perceive a thumbnail of the available content without having to click on a cluster,

as described by Okamura. *Id.* Below, an example of the second way of combining

Okamura and Belitz is shown with a combination of Okamura's FIG. 18 and

Belitz's FIG. 4b:

SAMSUNG-1006, FIG. 4b (left), SAMSUNG-1005, FIG. 18 (right)

A POSITA also would have found it obvious to replace Okamura's map view screen shown in FIG. 41 with Belitz's geographic map view for the same reasons discussed above. SAMSUNG-1003, [94]. Below, another example of the second way of combining Okamura and Belitz is shown with a combination of Okamura's FIG. 41 and Belitz's FIG. 4b:
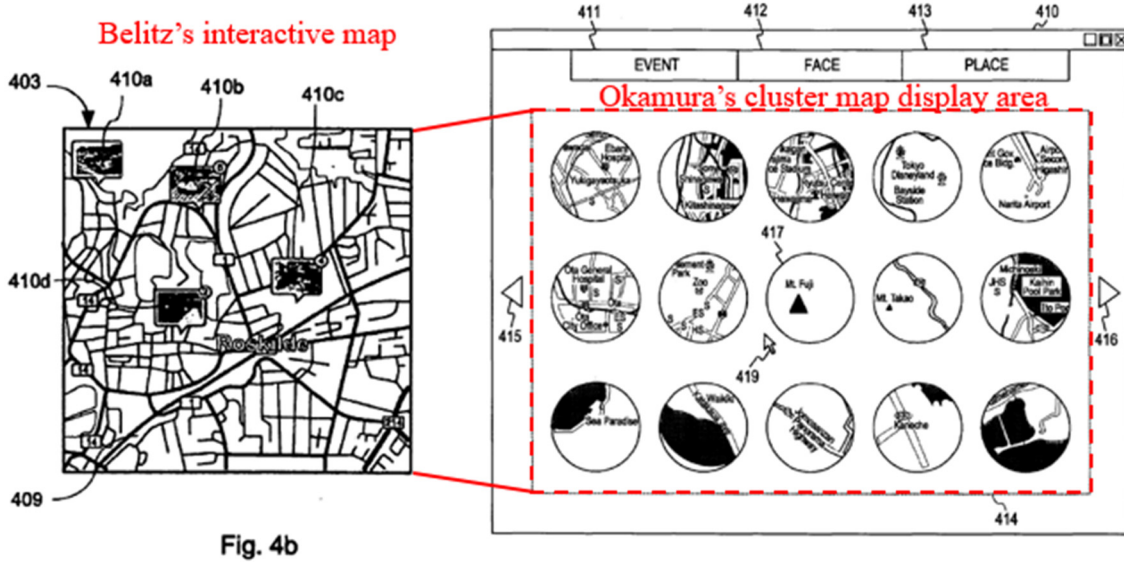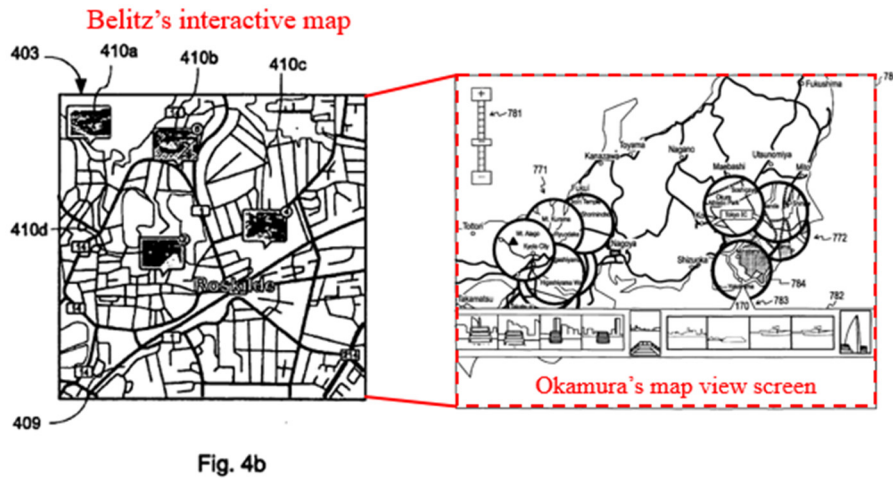


SAMSUNG-1006, FIG. 4b (left), SAMSUNG-1005, FIG. 41 (right)

19

Relevant to both ways of combining Okamura and Belitz, the above-described modifications (either (1) displaying Belitz's thumbnails on Okamura's map or (2) substituting Okamura's map with Belitz's map) would require only routine knowledge of software technologies (e.g., application programming interfaces and/or substituting one known graphical element or interface for another), which were well within the skill of a POSITA prior to the Critical Date. SAMSUNG-1003, [95]. A POSITA would have viewed the implementation of (1) Okamura's map view screen in a manner that applied Belitz's selectable thumbnail images and (2) substituting Okamura's map views with Belitz's map view as merely the predictable result (e.g., using Belitz's thumbnail images 410a-410d to display Okamura's content on the interactive map) of combining known prior art elements according to known methods. *Id.* The resulting Okamura-Belitz combination does not change the hallmark aspects of either of these references because the resulting combination provides a photo/video management system designed to enable a user to efficiently find photos/videos of interest, for example, based on location. Indeed, the combination retains an interactive map with user-selectable markers specifying the locations of photos and/or videos, and use of those markers to retrieve the digital photos and/or videos linked to those locations. SAMSUNG-1005, Abstract, [0091], [0110], [0313], FIGS. 18-21, FIG. 41; SAMSUNG-1006, [0039], [0050]-[0055], [0062].

Moreover, Okamura's map view screen already provides location-based selectable clusters (e.g., cluster map 784) that can be readily replaced with Belitz's thumbnail images (or entire map). SAMSUNG-1005, FIGS. 18 and 41. In short, the respective teachings of Okamura and Belitz would work together in combination to achieve enhanced functionality, with Belitz's suggestions merely improving/adding to Okamura. SAMSUNG-1003, [96]. For example, in the first way of combining Okamura and Belitz, Okamura's clusters are replaced by Belitz's thumbnail images. *Id.* This change involves the simple substitution of one known user interface element (Okamura's clusters) with another known user interface element (Belitz's thumbnails), which would have been routine for a POSITA. *Id.* In the second way of combining Okamura and Belitz, Okamura's map views are replaced by Belitz's map view where Belitz's map view operates as described by Belitz in the context of Okamura's application framework. *Id.* This change involves the simple substitution of one known user interface view (Okamura's map view) with another known user interface view (Belitz's map view), which would have been routine for a POSITA. *Id.* A POSITA would have combined Okamura and Belitz using known programming techniques, adjusting the software of Okamura (1) to implement Belitz's thumbnails in place of Okamura's clusters or (2) to implement Belitz's map view in place of Okamura's map views. *Id.*

In summary, to achieve Okamura's and Belitz's shared goal of conveniently presenting and managing digital files, a POSITA would have been motivated to modify Okamura's user interface to include additional features as discussed in Belitz with a high expectation of success. SAMSUNG-1003, [97]. Because both references relate to organizing content according to the location associated with the content, a POSITA would have seen the combination as predictable and involve relatively simple software modifications to implement. *Id.* Specifically, a POSITA would have considered (1) the use of the Belitz thumbnails in the Okamura interactive map or (2) the use of Belitz's map view in place of Okamura's map views to be nothing more than the predictable substitution of known and equivalent interface elements. *Id.* Such implementations would have been the product of ordinary skill and common sense—as explained above, the use of maps with photo thumbnails was conventional by early 2010—and would have been obvious to try because a POSITA would have had good reason to pursue the known options within his or her technical grasp. *Id.* (citing SAMSUNG-1022; SAMSUNG-1023).

Finally, Okamura describes two different embodiments for displaying clusters of files (e.g., images and videos) based on location. SAMSUNG-1005, [0088]-[0089]. In the first embodiment, Okamura displays cluster maps as an index screen where files are clustered together based on location and presented as an

index or listing of cluster maps.  SAMSUNG-1005, [0234]-[0241], FIGS. 18-19.

For the second embodiment, Okamura displays clusters on a map to provide users

with a visual representation of the geographic relationship between the different

clusters.  SAMSUNG-1005, [0354]-[0359], FIG. 41.  Okamura explains that some

users may prefer a location view where clusters are displayed on a map, instead of

viewing them as an index or listing.  SAMSUNG-1005, [0312]; SAMSUNG-1003,

[98].

In describing the second embodiment, Okamura focuses its discussion on as-

pects of the second embodiment that are different than the first embodiment;

namely, the aspects of the location view.  SAMSUNG-1003, [99].  With this focus,

Okamura does not repeat details described with respect to the first embodiment

that are unrelated to the changes made in the second embodiment.  *Id.*  For exam-

ple, Okamura explains that, "since the content storing section 210, the map infor-

mation storing section 220, and the cluster information storing section 240 are sub-

stantially the same as those described above in the first embodiment of the present

invention, these components are denoted by the same reference numerals, and their

description is omitted."  SAMSUNG-1005, [0313].  Okamura also explains that, in

the second embodiment, "cluster information generated by the cluster information

generating section 170 shown in FIG. 1 is stored in the cluster information

st[o]ring section 240."  *Id.*

Based on this description, a POSITA would have understood or found obvious that details from Okamura's first embodiment that are not described as being changed in Okamura's second embodiment were included in the second embodiment by reference without repetition. SAMSUNG-1003, [100]. This includes details related to presentation of Okamura's face and event clusters. *Id.* For instance, as described in the first embodiment, Okamura's cluster information generating section 170 "records information related to clusters outputted from the ***event*** cluster generating section 130 and the ***face*** cluster generating section 140, to the cluster information storing section 240 as cluster information." SAMSUNG-1005, [0102], [0098], [0099] ("outputs information related to the generated face clusters to the cluster information generating section 170"), [0246] ("face clusters…stored in the cluster information storing section 240"). Because Okamura confirms that the second embodiment stores cluster information generated by the cluster information generating section 170 and the cluster information storing section 240 is substantially the same in both embodiments, a POSITA would have understood or found obvious that Okamura contemplates display of event and face clusters in the second embodiment. SAMSUNG-1003, [100].

As Dr. Greenspun explains, a POSITA would have understood or found obvious that Okamura's second embodiment merely presents Okamura's place view with a map interface (as shown in FIG. 41) instead of an index view (as shown in

FIGS. 18-19). SAMSUNG-1003, [101]. Because the modifications in Okamura's second embodiment are related to how location-based clusters are displayed, a POSITA would have understood or found obvious that the location-related display elements generated in Okamura's second embodiment (e.g., map view in FIG. 41) merely replace the location-related display elements in Okamura's second embodiment (e.g., index views in FIGS. 18-19). *Id.* Indeed, a POSITA would have found the benefits of Okamura's face and event views equally applicable to Okamura's second embodiment and would have found it obvious to include these benefits in Okamura's second embodiment, particularly since Okamura references applicability of components used to store face and event clusters in the second embodiment, as discussed above. *Id.* For these reasons, a POSITA would have understood or found obvious that Okamura's map view (as shown in FIG. 41) would be displayed in response to selection of the PLACE tab 413 shown in FIGS. 18-21 and a user would have been able to select between EVENT 411, FACE 412, and PLACE 413 views as described with respect to FIGS. 18-21, just with Okamura's map view (as shown in FIG. 41) being displayed as the PLACE view. *Id.* Thus, the use of Okamura's map view from FIG. 41 in conjunction with Okamura's face view from FIG. 21 in the below analysis is appropriate and obvious.

### 4.     Analysis

**[1pre]:**

To the extent the preamble is limiting, Okamura-Belitz renders obvious

[1pre].  For example, Okamura describes a "***method*** of generating a map

associated with each [of the] clusters generated []."  SAMSUNG-1005, [0098],

[0102], [0135], [0213]-[0215], [0232]-[0248], FIG. 41, FIG. 50; SAMSUNG-1003,

[103]-[109].

**[1a]:**

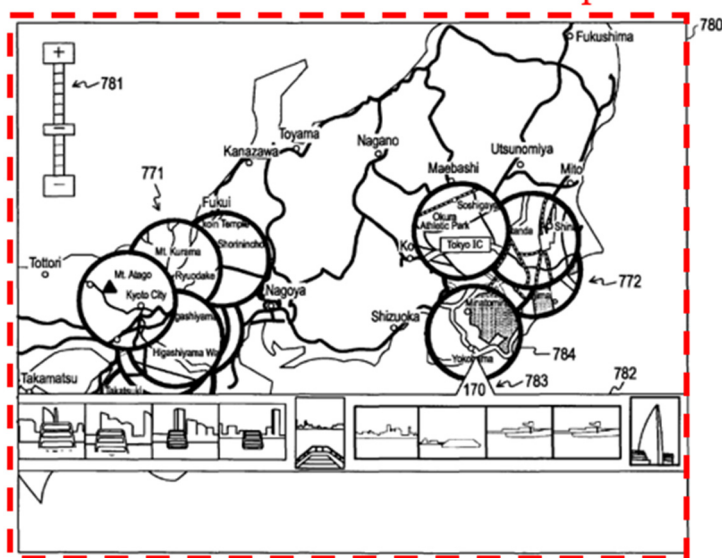Okamura discloses a map view that is displayed responsive to a first input:

"when an ***operational input*** for activating a content playback application is

accepted by the operation accepting section 690 in the information processing

apparatus 600, the display control section 670 displays a ***map view screen 811*** on

the display section 680."  SAMSUNG-1005, [0429]-[0438], [0447]-[0451];

SAMSUNG-1003, [104].
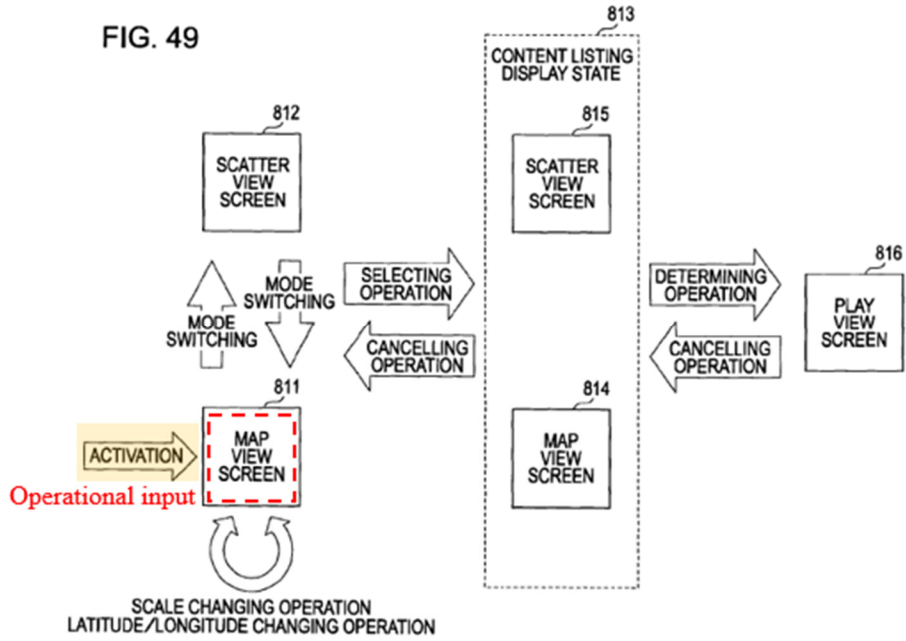
SAMSUNG-1005, FIG. 49

Okamura describes that the map view screen 811 can be, for instance, "a display screen that displays cluster maps in an overlaid manner on a map, and corresponds to the map view screen 780 shown in FIG. 41." SAMSUNG-1005, [0431]; SAMSUNG-1003, [105].

SAMSUNG-1005, FIG. 41

In the first way of combining Okamura and Belitz discussed above in Section III.A.3, Okamura's map view shown in FIG. 41 (above) is the claimed map view.

Belitz also describes a map view that is displayed responsive to a first input because Belitz describes "a device configured to render graphical objects associated with a geographical location on a map []."  SAMSUNG-1006, [0005], [0051]-[0062], FIG. 4; SAMSUNG-1003, [107].  In the second way of combining Okamura and Belitz discussed above in Section III.A.3, Belitz's map view shown in FIG. 4 (below) replaces Okamura's map view and represents the claimed map view in the combination.

To the extent that the first input is not expressly taught in Belitz, a POSITA would have found it obvious that starting the user interface would serve as the first input, because Belitz's application is operating on "a mobile phone" or "navigation devices such as hand held GPS" that present displays responsive to user input. SAMSUNG-1006, [0050]. As Dr. Greenspun notes, a common goal of a POSITA would have been to reduce the number of clicks required for a user to get the information sought, particularly when running Okamura on a device with a high-resolution screen. SAMSUNG-1003, [108]. Also, in the combination of Okamura and Belitz, Okamura's inputs that display map views (e.g., selection of the "PLACE" tab 413 in Okamura's FIG. 18 or Okamura's operational input) would cause display of Belitz's map view. *Id.*
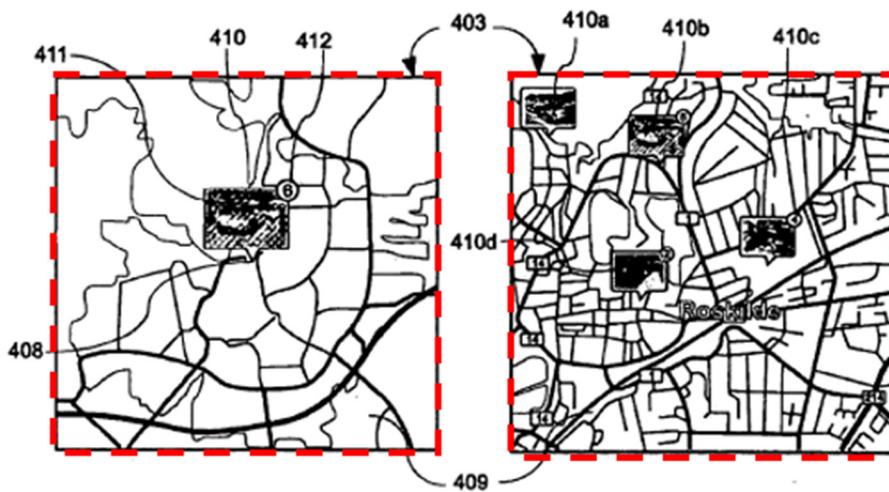


Fig. 4a    Belitz's map view    Fig. 4b

SAMSUNG-1006, FIG. 4a-4b

In both ways of combining Okamura and Belitz, the map view is displayed on an interface, as discussed above.  The '228 patent describes "various 'User Interfaces' including Personal Computers (e.g., Macs, Windows, etc.), Personal Digital Assistants (PDA) (e.g., iPhones) and Tablets (e.g., iPad)."  SAMSUNG-1001, 12:39-42, 13:36-40 ("User Interface such as a phone, tablet, computer or other internet based user device").  Okamura and Belitz both display content on these same types of interfaces, which are used to display all of the screens referenced throughout this petition.  SAMSUNG-1005, [0502]; SAMSUNG-1006, [0002], [0030], [0039], [0070], [0074]; SAMSUNG-1003, [109].

**[1b]:**

As described in Section III.A.1 and [1a], Okamura discloses an interactive map in the form of ***map view screen*** 780.  SAMSUNG-1005, [0431], FIG. 41; SAMSUNG-1003, [110]-[111].

The map view screen 780 is ***interactive***.  For example, "the user can change the scale of a map displayed on the map view screen 780" by adjusting "a scale-changing bar 781."  SAMSUNG-1005, [0355].  Additionally, the map view screen 780 accepts "a user operation" such as selecting a desired cluster map.  SAMSUNG-1005, [0356].
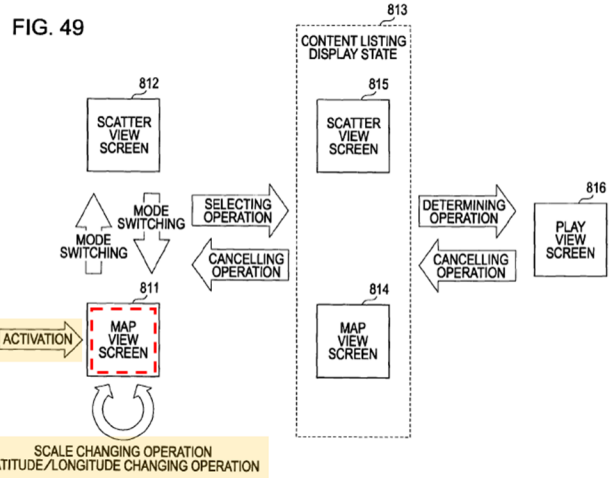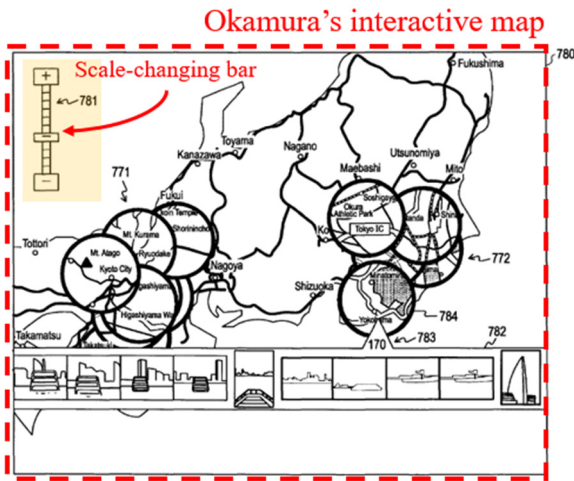
SAMSUNG-1005, FIG. 41 (left), FIG. 49 (right)

In the first way of combining Okamura and Belitz discussed above in Section III.A.3, Okamura's map view provides the claimed interactive map.

As described in Section III.A.2 and [1a], Belitz also discloses an interactive map, e.g., a map 409.  SAMSUNG-1006, [0055], [0060], FIG. 4; SAMSUNG-1003, [112].  The map 409 is interactive, because the user can zoom in/out of the map ("the map 408 has been zoomed in") and select the thumbnail images ("a graphical object 410c has been selected by a user").  *Id.*  In the second way of combining Okamura and Belitz discussed above in Section III.A.3, Belitz's map view provides the claimed interactive map.
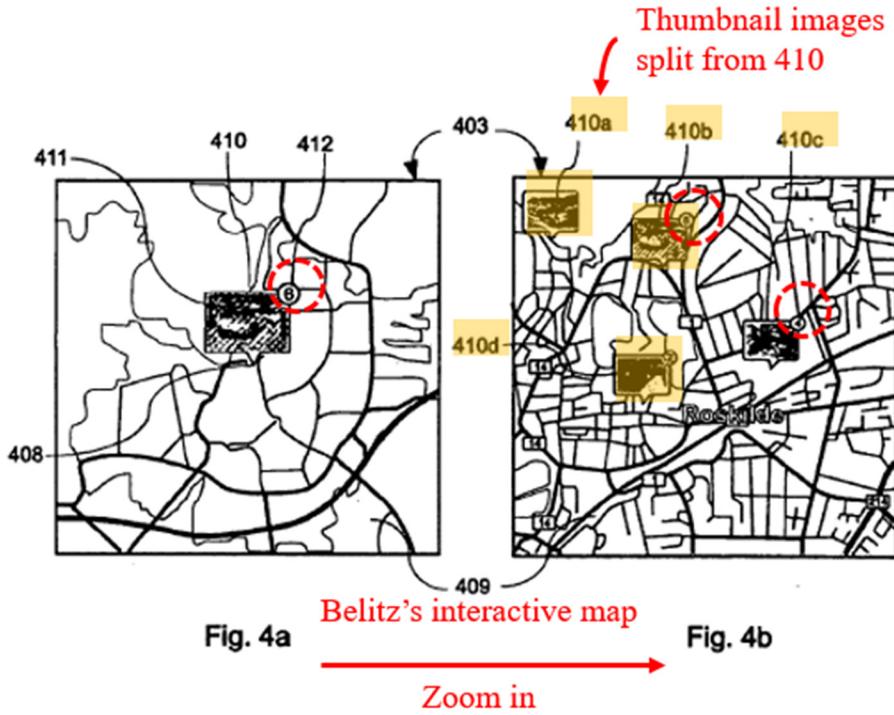
SAMSUNG-1006, FIG. 4a-4b

**[1c]:**

While Okamura's clusters are not thumbnails of images within the clusters,
Belitz discloses displaying location selectable thumbnail images (e.g., thumbnails
410a-d) at different locations of an interactive map as shown in FIGS. 4a and 4b
(below):
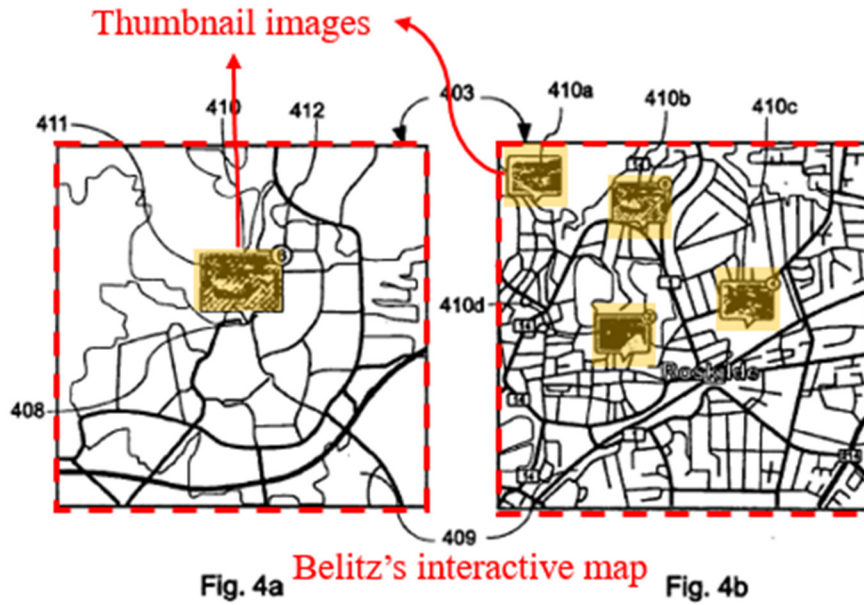
SAMSUNG-1006, FIG. 4a-b

Indeed, Belitz discloses a thumbnail image that is associated with the location: "The ***graphical object 410*** has a visual representation 411 which in this embodiment is a photograph that is ***associated with the location*** … Examples of associations are photographs that have been taken at those coordinates." SAMSUNG-1006, [0052]; SAMSUNG-1003, [113]-[114].

Further, Belitz describes its thumbnail image as being location selectable: "… a graphical object 410c has been ***selected by a user***, possibly by tapping on it with a stylus if the display 403 is a touch screen or by placing a cursor above it and clicking it." SAMSUNG-1006, [0060]. That is, a thumbnail image (e.g., the graphical object 410) is selectable. SAMSUNG-1003, [115].

In the first way of combining Okamura and Belitz, as described in Section III.A.3 and illustrated below, a POSITA would have found it obvious to modify

Okamura's user interface, such as the map view screen 780, to display selectable

thumbnail images (e.g., thumbnails 410a-d) taught by Belitz. SAMSUNG-1003,

[116].
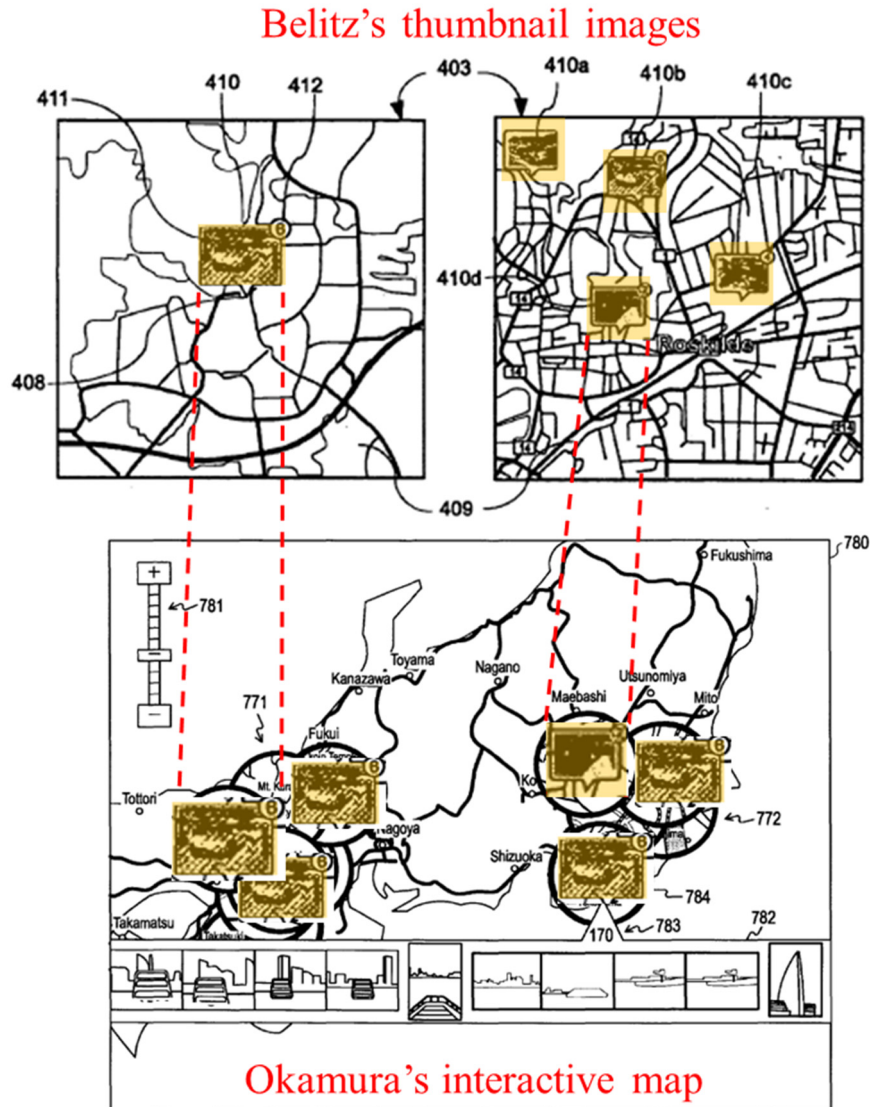


SAMSUNG-1006, FIG. 4a-b (top); SAMSUNG-1005, FIG. 41 (bottom)

Adopting the location selectable thumbnail images of Belitz in Okamura's

interactive map would have resulted in an interactive map that includes selectable

thumbnail images instead of selectable cluster groups (e.g., cluster map group 771) on the map. SAMSUNG-1003, [117]. As noted in Section III.A.3, a POSITA would have been motivated and would have found it obvious to introduce the selectable thumbnails taught by Belitz in Okamura's user interface (e.g., the map view screen 780). *Id.*

Alternatively, in the second way of combining Okamura and Belitz noted in Section III.A.3, a POSITA would have been motivated and would have found it obvious to use Belitz's interactive map in place of Okamura's interactive map. SAMSUNG-1003, [118]. With this modification of Okamura, when a user activates the "Map View Screen" in Okamura, the Okamura-Belitz system would display Belitz's interactive map with location selectable thumbnail images (e.g., thumbnails 410a-d) at different locations of an interactive map. SAMSUNG-1005, [0354]-[0356], [0430], FIG. 49; SAMSUNG-1006, [0051]-[0062]. As noted in Section III.A.3, a POSITA would have been motivated to use Belitz's interactive map in place of Okamura's interactive map to gain the benefits of Belitz's interactive map and would have found it obvious as a simple substitution of one known map view for displaying digital content (Okamura's map view) for another known map view for displaying digital content (Belitz's map view). SAMSUNG-1003, [118].

To the extent that the claim requires "thumbnail images" be reduced-size versions of the entire original image (i.e., un-cropped), Belitz's thumbnails meet such requirement. SAMSUNG-1003, [119]. For example, Belitz's thumbnails maintain the landscape aspect ratio of the displayed photos. SAMSUNG-1006, [0051]-[0062], FIGS. 4a-4c. Given Belitz's disclosure that "the image[s] can be opened in full size by clicking or double clicking or tapping on it," Belitz suggests that the thumbnail images are indeed reduced uncropped versions of the "full size" image. SAMSUNG-1006, [0060]; SAMSUNG-1003, [119].

To the extent that Belitz does not expressly teach "thumbnail images" as reduced-size versions of the entire original image, this distinction would have been obvious to a POSITA by 2010. SAMSUNG-1003, [120]. Creating a reduced-size version of an image that maintains its aspect ratio without cropping the photo was well known by 2010. *Id*. (citing SAMSUNG-1031, 11:58-61 ("thumbnails…may be cropped or uncropped to resemble images laid out on a conventional wet film negative.")). As Dr. Greenspun explains, choosing whether thumbnail images maintain aspect ratios would have been a routine design decision and thus obvious to a POSITA. *Id*.

**[1d]:**

As discussed above for [1c], Okamura-Belitz renders obvious multiple selectable thumbnail images, where each thumbnail image is associated with a

corresponding location on the interactive map. SAMSUNG-1005, [0354]-[0356],

[0431]; SAMSUNG-1006, [0051]-[0056], [0059]-[0060]; SAMSUNG-1003, [121].

For example, because Belitz's thumbnails are displayed at different locations on

the interactive map, any one of Belitz's selectable thumbnail images 410a-d

displayed on the interactive map (SAMSUNG-1006, FIG. 4d) is a second location

selectable thumbnail image (e.g., 410b), as long as it is different from a first

location selectable thumbnail image (e.g., 410c). SAMSUNG-1003, [121].
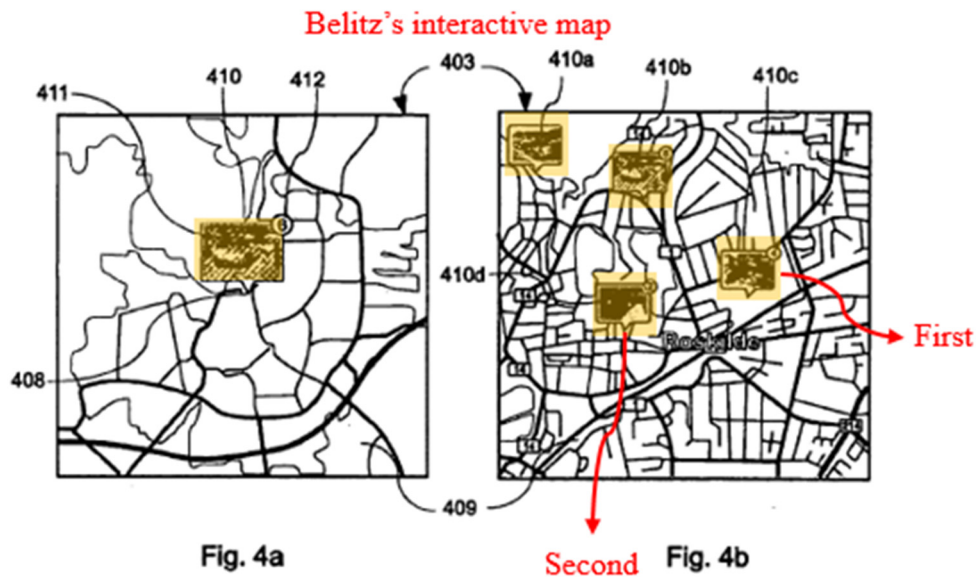


SAMSUNG-1005, FIG. 4c

**[1e]:**

Okamura discloses displaying "a play view screen 890" (a first location

view) in response to a user selection of one of the cluster groups on the map view

screen (e.g., "when a *left click operation* is performed in the state with one of

cluster maps selected on the map view screen"). SAMSUNG-1005, [0440], FIG.

41, FIG. 50; SAMSUNG-1003, [122].  Okamura describes that, "[i]n the magnified

*image display area 892*, an image corresponding to the content (the content with

the selection box 894 attached) being selected in the content listing display area

893 is displayed in magnified form."  SAMSUNG-1005, [0443].  That is, each

digital file in the content listing display area 893 ("a listing of *contents belonging*

*to the corresponding cluster*") is a digital file associated with the selected cluster

and thus associated with a selected location.  SAMSUNG-1005, [0444];

SAMSUNG-1003, [122].

SAMSUNG-1005, FIG. 41 (top), FIG. 50 (bottom)

The above-described displaying of a first location view would have occurred in Okamura-Belitz based on the clicking on the first thumbnail image as described for [1c]. Indeed, as described in Section III.A.3 for the first way of combining Okamura and Belitz, a POSITA would have been motivated and found it obvious

to replace, in Okamura's user interface (e.g., the map view screen 780), the cluster groups taught by Okamura with the selectable thumbnails taught by Belitz. SAMSUNG-1003, [123]. With this substitution, Okamura's play view screen 890 would be displayed responsive to an input that is indicative of a selection of one of the location selectable thumbnail images from Belitz, as would have occurred responsive to selection of one of Okamura's cluster groups that Belitz's location selectable thumbnail images replace. *Id.*

To the extent that Okamura's play view screen 890 does not display a first location name associated with the first location, Okamura describes displaying "pieces of information 418 related to the cluster map 417" including "the cluster title 'Mt. Fuji' of the cluster," which indicates a location name associated with the cluster. SAMSUNG-1005, [0240], FIGS. 19-21. A POSITA would have found it obvious to display the first location name on the play view screen 890, as analogous to Okamura's teaching of displaying such information on the index screen 410. SAMSUNG-1003, [124]. As Dr. Greenspun explains, it was common to display a page title or collection name for presented image/video files to provide the user with additional information to aid in review and management of the image/video files. *Id.* For these reasons, a POSITA would have found it obvious to display Okamura's cluster title (location name) as one of the pieces of information on play view screen 890. *Id.*

Belitz also discloses displaying a location name associated with a selected location, and a POSITA would have found it obvious to use Belitz's location name on Okamura's play view screen 890:
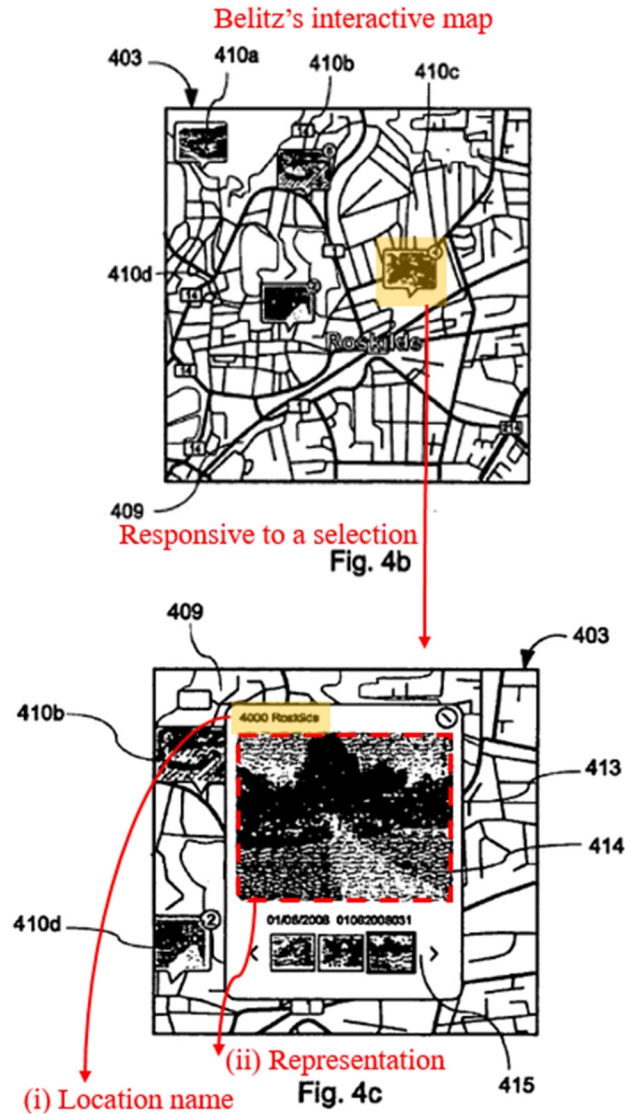


SAMSUNG-1006, FIG. 4b-c

Specifically, Belitz describes an input that is indicative of a selection of the first location selectable thumbnail image: "… a graphical object 410c has been **selected by a user**, possibly by tapping on it with a stylus if the display 403 is a

touch screen or by placing a cursor above it and clicking it." SAMSUNG-1006,

[0060]; SAMSUNG-1003, [125]-[126].

Belitz also describes displaying a location view responsive to the input: "In

this embodiment a popup window 413 is displayed over or instead of the graphical

object 410c. The popup window shows at least some of the *visual representations*

*411* of the graphical object 410c. One 414 of the visual representations 411 or

images as they are in this embodiment is shown in a larger size than others which

are shown in a list 415. … In one embodiment the image can be opened in full size

by clicking or double clicking or tapping on it which launches an image browsing

or editing application."  SAMSUNG-1006, [0060]; SAMSUNG-1003, [127].

Belitz further describes that the first location name is associated with the

first location (e.g., "4000 Roskilde" as annotated above).  As shown below, a

POSITA would have found it obvious to display a location name, as described in

Belitz, on Okamura's play view screen 890.  SAMSUNG-1003, [128].
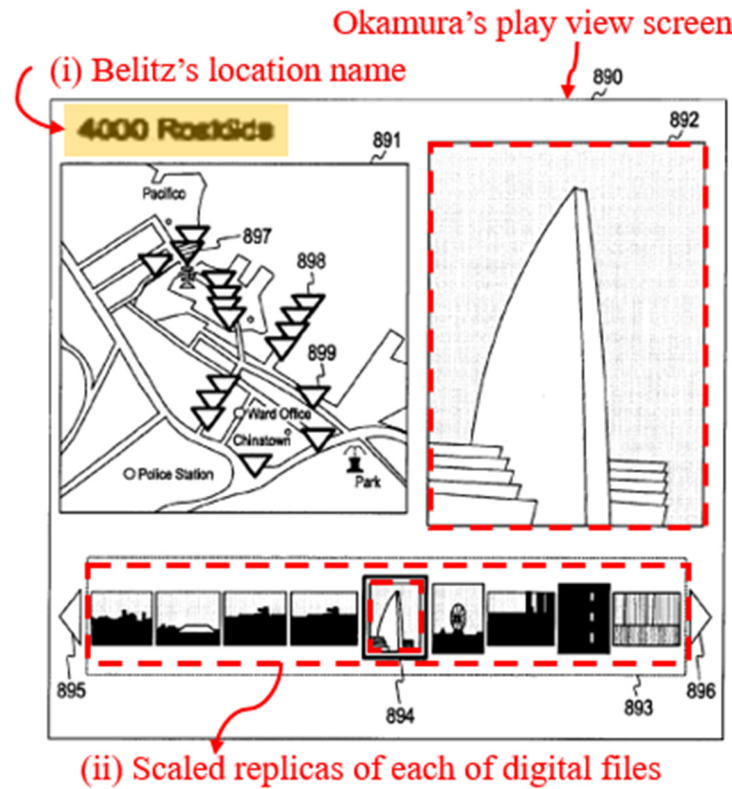
SAMSUNG-1005, FIG. 50

Furthermore, adopting the first location name from Belitz in Okamura's play view screen 890 would have been obvious to a POSITA. SAMSUNG-1003, [129]. Such a combination would have further provided improvements in a user's navigation through the user interface, allowing the user to identify the location name associated with the digital image files on the play view screen. *Id.*

Moreover, each of the digital files in the first set of digital files is produced from outputs of one or more digital imaging devices, because Okamura describes the digital files (including "image files" and "moving image content" files) "recorded by an image capturing apparatus such as a digital still camera" and devices capturing "moving image content". SAMSUNG-1005, [0002], [0022],

[0091]-[0092], [0107]-[0110], [0139], [0149], [0501]; SAMSUNG-1003, [130].

Furthermore, Okamura describes each of the digital files is associated with the

location, because the image information (e.g., through the "Exif … a standard for

adding image data and camera information into an image file") includes "GPS

information, date and time of shooting…positional information such as latitude and

longitude []." *Id*.

Alternatively, as noted in Section III.A.3 and [1c] for the second way of

combining Okamura and Belitz, a POSITA would have been motivated and found

it obvious to use Belitz's interactive map in place of Okamura's interactive map; in

this case, such replacement would further extend to the location view (as shown in

above annotated FIG. 4).  SAMSUNG-1006, [0051]-[0056], FIG. 4; SAMSUNG-

1003, [131].  As explained above, Belitz's location view is displayed on the

interface responsive to selection of a thumbnail and includes (1) a location name

and (2) a representation of images/videos associated with the location of the

selected thumbnail.  SAMSUNG-1006, [0060]-[0062].  Belitz also describes "a

mobile phone … personal digital assistants, computers, laptop computers …

photographic and videographic cameras" as example devices, demonstrating each

of the digital files being produced from digital imaging devices.  SAMSUNG-

1006, [0050]-[0052].  Belitz further describes that each of the digital files are

associated with a corresponding location (e.g., "examples of associations are photographs that have been taken at those coordinates"). *Id*., [0050]-[0062].

**[1f]:**

As explained above for [1c] and [1d], Okamura-Belitz renders obvious multiple selectable thumbnail images, where each thumbnail image is associated with a corresponding location on the interactive map. SAMSUNG-1005; SAMSUNG-1005, [0354]-[0356], [0431]; SAMSUNG-1006, [0051]-[0056], [0059]-[0060]; SAMSUNG-1003, [132]. For example, because Belitz's thumbnails are displayed at different locations on the interactive map, any one of Belitz's selectable thumbnail images 410a-d displayed on the interactive map (SAMSUNG-1006, FIG. 4d) is a second location selectable thumbnail image (e.g., 410b), as long as it is different from a first location selectable thumbnail image (e.g., 410c). SAMSUNG-1003, [132]. Analogous to the discussion in [1e], in both ways of combining Okamura and Belitz, Okamura-Belitz renders obvious selecting the second location selectable thumbnail image to cause the display of a second location view that includes a second location name associated with the second location and a representation of at least a portion of a second set of digital files. *Id*.

**[1g]:**

As described in Section III.A.1 (incorporated here), Okamura discloses displaying a people view ("index images generated on the basis of face information") in response to a ***user operation*** ("when the 'FACE' tab 412 is depressed using the cursor 419"). SAMSUNG-1005, [0234], [0236], FIG. 21; SAMSUNG-1003, [133].
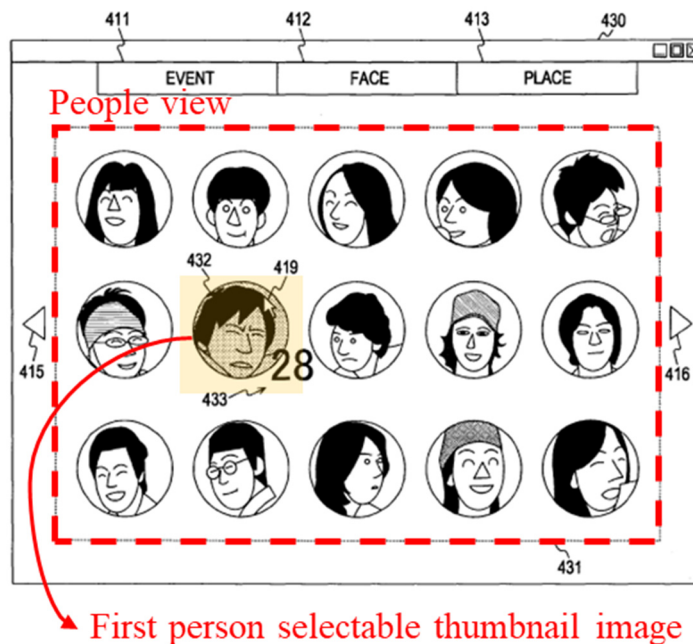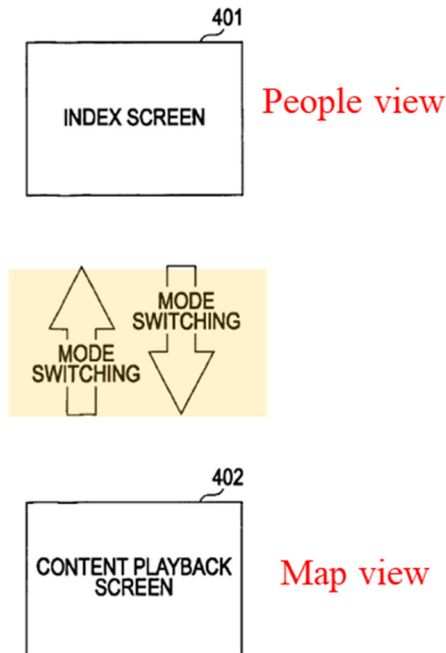


SAMSUNG-1005, FIG. 21

The face-based index screen (displayed on the display area 431) is a ***people view*** that includes an "image representing a face cluster, for example, a thumbnail image of each of [the] faces included in contents belonging to the face cluster." SAMSUNG-1005, [0246]; SAMSUNG-1003, [134].

Okamura discloses or renders obvious that the ***second input*** of displaying

the face-based index screen is ***subsequent*** to the first input of displaying a map

view screen. For example, Okamura describes a mode switch that allows the user

to switch back and forth (thus subsequently) between the index screen (e.g., as

shown in above FIG. 21) and a content playback screen (that includes a map view

"when an operational input for activating a content playback application is

accepted … displays a map view screen 811 []"; FIG. 41). SAMSUNG-1005,

[0233], [0430], FIG. 17, FIG. 21, FIG. 41. From this description and because the

'228 patent places no significance on the order of displaying a map view relative to

a people view, an ordinary end-user of the Okamura user interface would have

found it obvious for the second input to display Okamura's people view comes

subsequent to the first input to display the map view (whether it is Okamura's map

view in the first combination of Okamura-Belitz or Belitz's map view in the

second combination of Okamura-Belitz). SAMSUNG-1003, [134].

In addition, the sequence of a user's selection of map and people views is

driven by the user's preference and thus arbitrary; for example, the user can select

to view the map view (FIG. 41) first then prompt the mode switching to view the

face-based index screen (FIG. 21). SAMSUNG-1003, [135]. Because there exists

only a finite number of predictable potential solutions to display the people view

from the map view (or vice versa), an ordinary end-user would have found it

obvious to select the FACE tab 412 on the index screen 401 after (or subsequent

to) the selection of the content playback screen 402 that displays the map view. *Id*.

In fact, choosing to view a map view and then from there choosing to view a

people view would have been an obvious user experience, would merely use

Okamura's capabilities as stated, and is one of a limited number of obvious

combinations for transitioning between different modes in Okamura. *Id.*



SAMSUNG-1005, FIG. 17

A POSITA also would have understood Okamura discloses or renders

obvious selection of FACE tab 412 (second input) subsequent to selection of the

PLACE tab 413 (first input or input leading to the first input that displays

Okamura's map view in FIG. 41). SAMSUNG-1005, [0232]-[0247], [0297]-

[0302], FIGS. 18-21, 31, 41. This is because Okamura's EVENT tab 411, FACE tab 412, and PLACE tab 413 are each selectable by a user from any of the index screens 410, 420, and 430, and tabs can be selected and display areas switched to in any order, including the selection of FACE tab 412 subsequent to the selection of PLACE tab 413. SAMSUNG-1005, [0297]-[0302], FIG. 31 (describing switching between index screens showing display areas). In fact, by presentation of map view screens in FIGS. 18 and 19 prior to the people view screen in FIG. 21, Okamura contemplates user input to display the people view (FIG. 21) coming subsequent to user input to display map views (FIGS. 18-19). SAMSUNG-1003, [136].

Moreover, a POSITA would have found it obvious to try selecting input to view the people view (e.g., the FACE tab 412) subsequent to selecting input to view the map view (e.g., the PLACE tab 413 or other operational input in Okamura). SAMSUNG-1005, [0232]-[0247], [0297]-[0302], FIGS. 18-21, 31; SAMSUNG-1003, [137]. In view of Okamura, a POSITA would have understood there was a need in the art to provide displayed views (e.g., cluster map display area 414, event cluster image display area 421, and face cluster display area 431) showing content organized by PLACE, EVENT, and FACE, and allowing switching from the view showing content organized by PLACE to another view. SAMSUNG-1005, [0091], [0232]-[0248], FIGS. 18-21. Displaying tabs 411 and

412 regardless of the display area 414, 421, or 431 as shown in FIGS. 18-21 allows

a user to switch between views showing how content is organized regardless of the

view currently displayed. *Id.* A POSITA would have understood this need existed

because users would have wanted the option of switching views to find the content

they desire—certain content may be more easily found using a face view (e.g.,

when looking for content having a particular person) and other content may be

more easily found using a location view (e.g., when looking for content from a

particular location). *Id.*

Further, in view of Okamura, a POSITA would have understood there were

only a finite number (two) of identified, predictable potential solutions for an order

of displaying map views and people views. SAMSUNG-1003, [138]. Because

there were such few solutions (only two), a POSITA would have pursued the

predictable solution of displaying a people view subsequent to a map view with a

high expectation of success. SAMSUNG-1005, [0091], [0232]-[0248], FIGS. 18-

21; SAMSUNG-1003, [138].

**[1h]:**

As described in Section III.A.1 (incorporated here), Okamura describes that

thumbnail images on the index screen (e.g., element 432) are selectable: "when a

desired cluster is determined by a ***user operation on the index screen*** shown in

each of FIGS. 18 to 21, the display control section 180 displays a content play-

back screen on the display screen 181." SAMSUNG-1005, [0234], [0246]-[0260],

[0267], FIG. 21.

As illustrated below, each person selectable thumbnail includes a

representation of a face of a person, such as "a ***thumbnail image of a face***, faces

included in the contents belonging to the face cluster." *Id*.
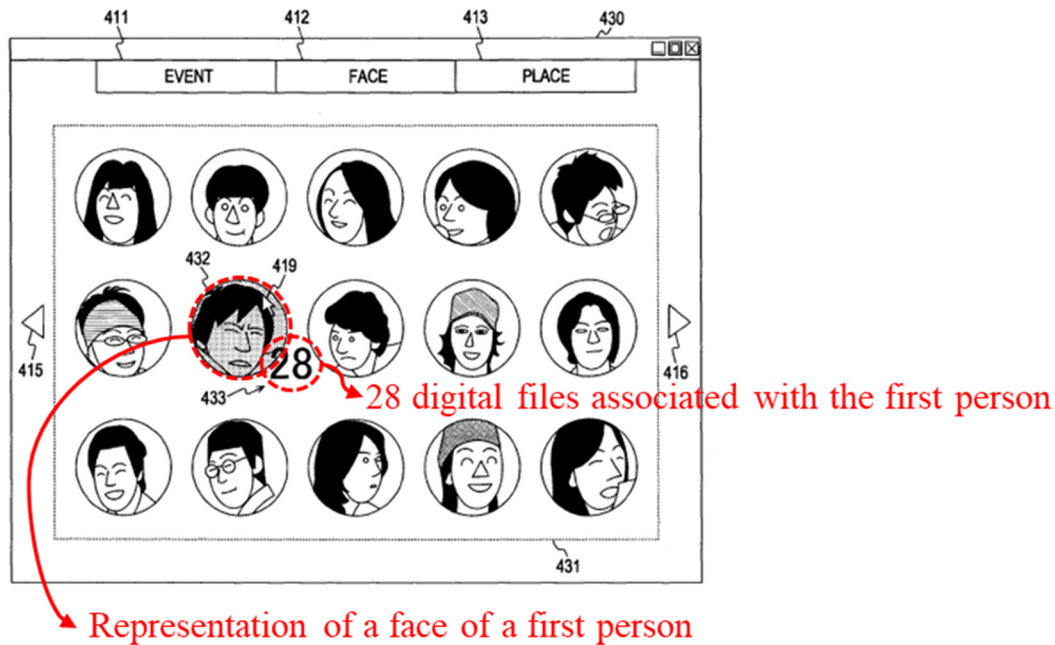


SAMSUNG-1005, FIG. 21

Okamura discloses that the first person by the thumbnail image 432 is

associated with a ***third set of digital files***: "the number of contents '28' belonging

to a cluster corresponding to the thumbnail image 432 []." SAMSUNG-1005,

[0099], [0110], [0139], [0232]-[0248], [0267]; SAMSUNG-1003, [139]-[141]. The

third set of digital files (that depend on the person's face) is different from the first

and second sets of content that depend on location. *Id*.

Okamura's digital files include ***both digital photographs and videos***: "image files recorded by an imaging capturing apparatus such as a digital still camera" and "moving image contents." SAMSUNG-1005, [0002], [0022], [0091]-[0092], [0107]-[0110], [0139], [0149], [0501], FIGS. 2A-2B; SAMSUNG-1003, [142].

**[1i]:**

Okamura describes that "when the mouse is placed over a thumbnail image 432 by a user operation on the index screen 430 shown in FIG. 21, the color of the thumbnail image 432 changes, and pieces of information 433 related to the thumbnail image 432 are displayed." SAMSUNG-1005, [0247]. Okamura explains that, "as the ***pieces of information 433*** related to the thumbnail image 432, for example, other pieces of information such as the ***name of the person*** corresponding to the face may be displayed as well." SAMSUNG-1005, [0247]. For example, Okamura describes displaying date information "02.03 -01.04.2004" adjacent to a thumbnail image. SAMSUNG-1005, FIG. 20. As a second example, Okamura also describes displaying the number of digital files associated with an index "28" adjacent to a thumbnail image. SASMUNG-1005, [0099], [0110], [0139], [0232]-[0248], [0267], FIG. 21. Analogously, Okamura's user interface can display the name ***adjacent*** to the first person selectable thumbnail image, because information 433 is displayed adjacent to the first person selectable thumbnail image 432. SAMSUNG-1003, [143]. Displaying the name adjacent to

the thumbnail image would have been obvious, and a POSITA would have been motivated to do so for allowing the user to avoid confusion on which face index belongs to whom.  *Id*.
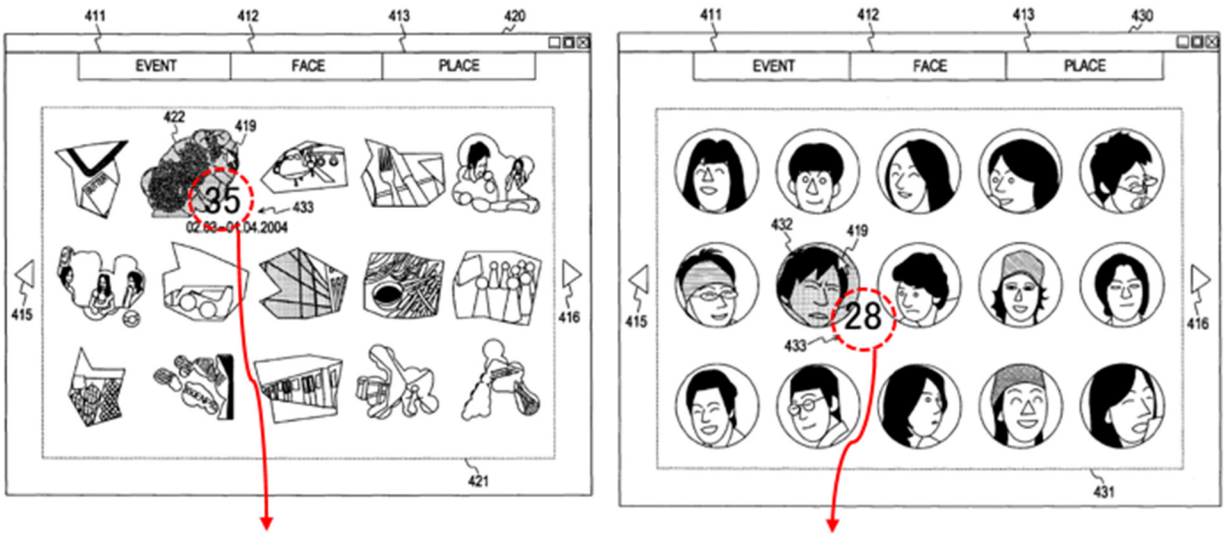


Pieces of information displayed adjacent to a thumbnail image

SAMSUNG-1005, FIG. 20 (left), FIG. 21 (right)

**[1j]:**

*See* [1h] (incorporated here); Okamura discloses multiple person selectable thumbnail images.  SAMSUNG-1005, [0234], [0246]-[0260], [0267], FIG. 21; SAMSUNG-1003, [144].   For example, because Okamura's multiple face-based thumbnails are displayed on the index screen (FIG. 21), any one of the person selectable thumbnail images (e.g., as annotated below) displayed on the index screen is a second person selectable thumbnail image, as long as it is different from a first person selectable thumbnail image (e.g., thumbnail 432).  SAMSUNG-1005, [0234], [0246]-[0250], FIG. 21; SAMSUNG-1003, [144].  Further, operations that

can be applied to a first person selectable thumbnail image are equally applicable

to a second person selectable thumbnail image, including the selectable thumbnail

image including a representation of a face of a second person and the second

person being associated with a fourth set of digital files including digital

photographs and videos. *Id*.
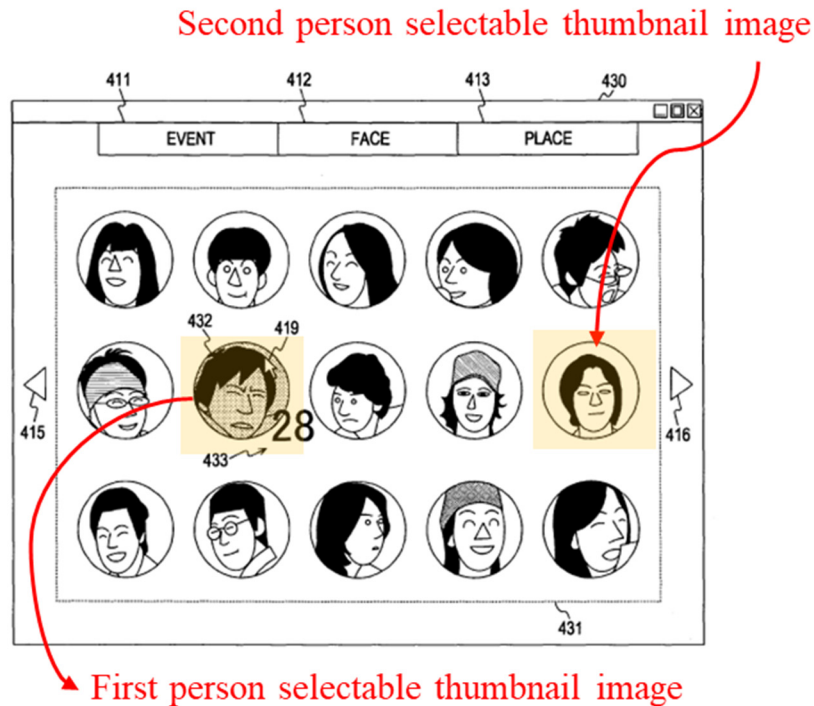


SAMSUNG-1005, FIG. 21

**[1k]:**

*See* [1i] (incorporated here). For example, because Okamura's multiple

face-based thumbnails are displayed on the index screen (FIG. 21), any one of the

person selectable thumbnail images (e.g., as annotated above) displayed on the

index screen is a second person selectable thumbnail image, as long as it is

different from a first person selectable thumbnail image (e.g., thumbnail 432).

SAMSUNG-1005, [0234], [0246]-[0250], FIG. 21; SAMSUNG-1003, [145].

Further, operations that can be applied to a first person selectable thumbnail image

are equally applicable to a second person selectable thumbnail image, including

displaying a second name adjacent to the second person selectable thumbnail

image. *Id*.

**[2]:**

As described in Section III.A.1 (incorporated here), Okamura's map view

displays a first indicator feature corresponding to the number of contents

associated with a cluster. For example, "170" is "the ***number of contents***"

belonging to the selected cluster 784 (and thus a given location). SAMSUNG-

1005, [0356], FIG. 41. As described in [1e], the cluster 784 and each thumbnail

image displayed in the content listing display area 782 are associated with a

location and selectable by the user. SAMSUNG-1003, [146].
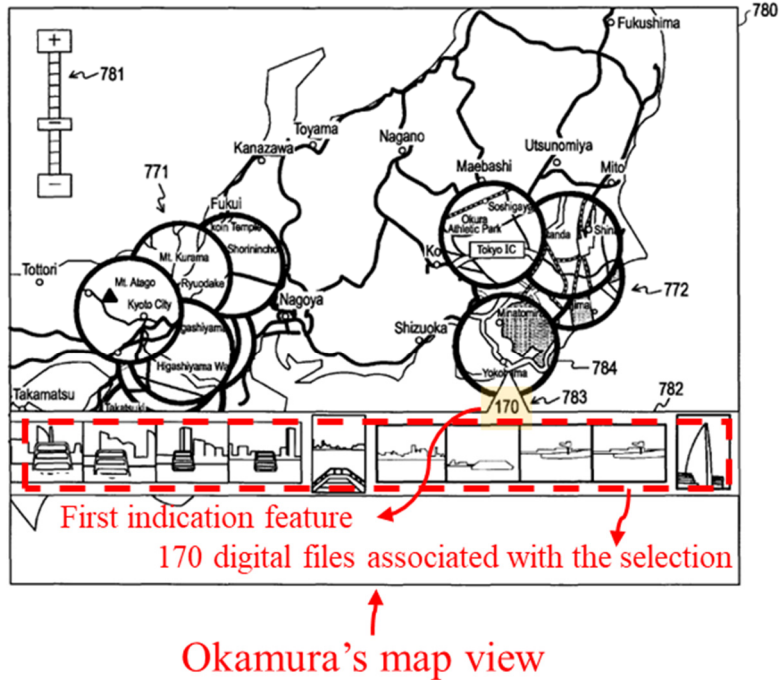
SAMSUNG-1005, FIG. 41

As discussed in [1c], in the first way of combining Okamura and Belitz, Okamura-Belitz would have resulted in selectable thumbnail images instead of clusters on the map view screen 780. Belitz discloses an indication feature corresponding to the number of contents associated with a location ("a *number indicator* 412 which presents a viewer with a number. The number indicates how many graphical objects 410 are *associated with that location* and are stacked into one graphical object 410"). SAMSUNG-1006, [0054]; SAMSUNG-1003, [147].
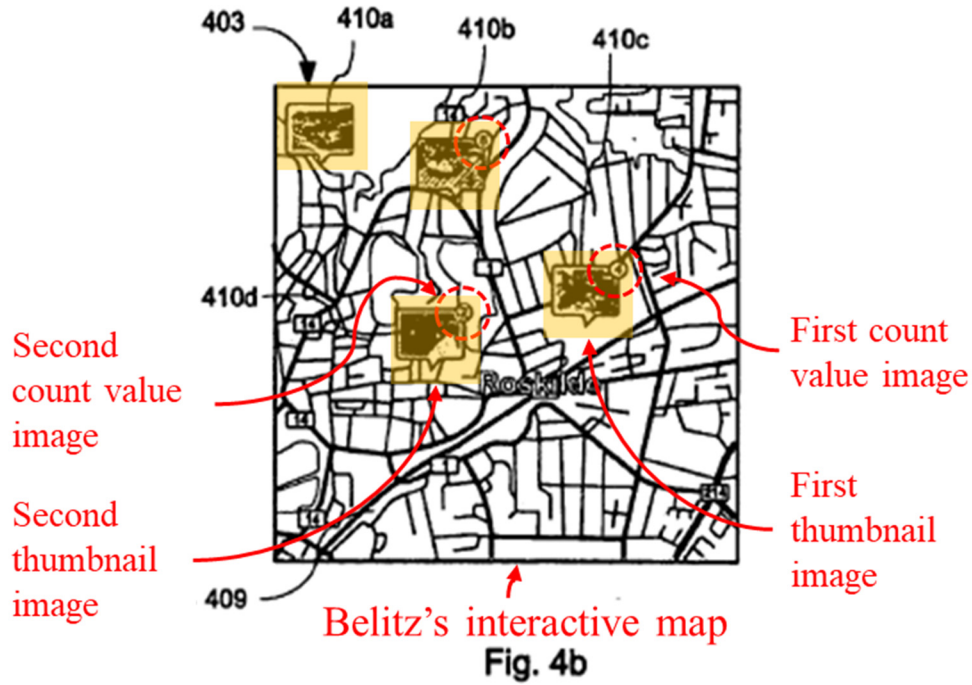
SAMSUNG-1006, FIG. 4b

Combining Okamura with Belitz's teaching of displaying thumbnail images on the map and displaying the number indicator associated with thumbnail images would have resulted in Okamura's map view screen 780 displaying the number of contents along with selectable thumbnail images (e.g., as shown below). SAMSUNG-1003, [148].
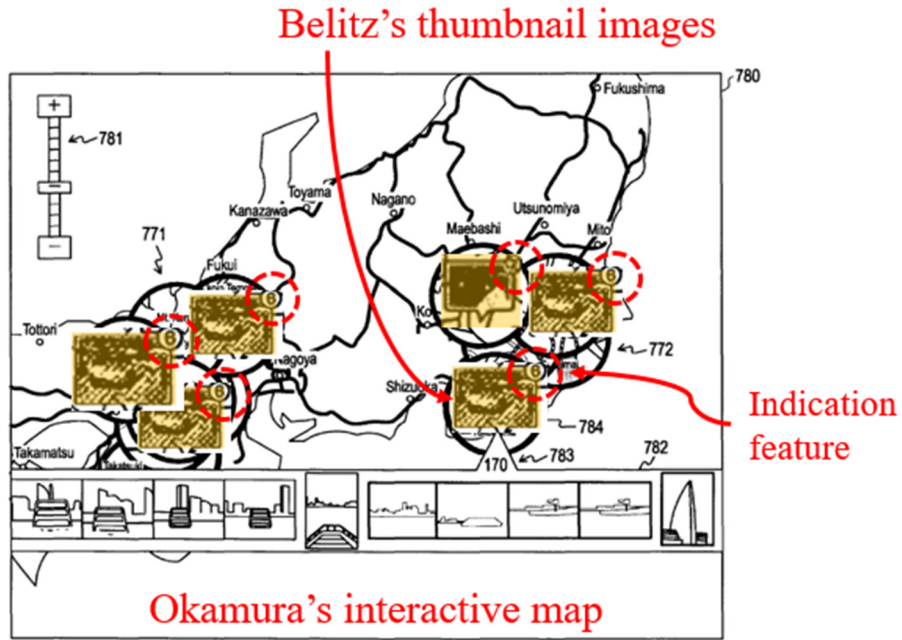
SAMSUNG-1005, FIG. 41

Alternatively, in the second way of combining Okamura and Belitz, a POSITA would have found it obvious to substitute Okamura's map view (e.g., FIG. 41 or FIG. 18) with Belitz's interactive map; in this case, the map view would include a first indication feature.  SAMSUNG-1003, [149].
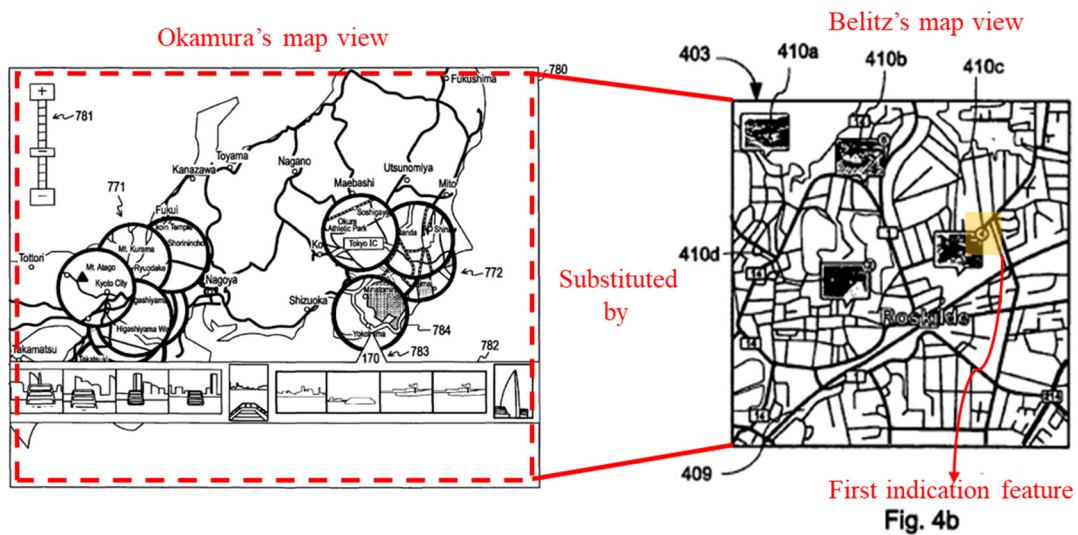


SAMSUNG-1005, FIG. 41 (left); SAMSUNG-1006, FIG. 4b (right)

**[3]:**

See [2] (incorporated here). Okamura-Belitz provides that the first

indication feature is connected to the first location selectable thumbnail image. For

example, in the case that Okamura's clusters are substituted by Belitz's

thumbnails, Belitz discloses that the first indication feature is connected to the first

location thumbnail image ("a graphical object containing a number indicating the

number of associated graphical objects"). SAMSUNG-1006, [0015]-[0016],

[0054], FIG. 4; SAMSUNG-1003, [150]. In the case that Okamura's map view is

substituted by Belitz's map, the first indication feature is connected to the first

thumbnail image (e.g., shown at the right corner of connected thumbnail image).

Id.

**[4]:**

See [2] and [3] (incorporated here). SAMSUNG-1006, [0015]; SAMSUNG-

1003, [151]. Okamura-Belitz shows the number of digital files in the first set of

digital files at the location associated with the first indication feature. Id.

**[5]:**

As discussed above for [1c] and [2] (incorporated here), Okamura-Belitz

renders obvious multiple selectable thumbnail images, where each thumbnail

image is associated with a corresponding location on the interactive map.

SAMSUNG-1005, [0354]-[0356], [0431]; SAMSUNG-1006, [0051]-[0056],

[0059]-[0060]. For example, any one of Belitz's selectable thumbnail images

410a-d displayed on the interactive map is a second location selectable thumbnail

image, as long as it is different from a first location selectable thumbnail image

(e.g., 410c). SAMSUNG-1003, [152]. Belitz discloses a respective indication

feature for corresponding thumbnail images:
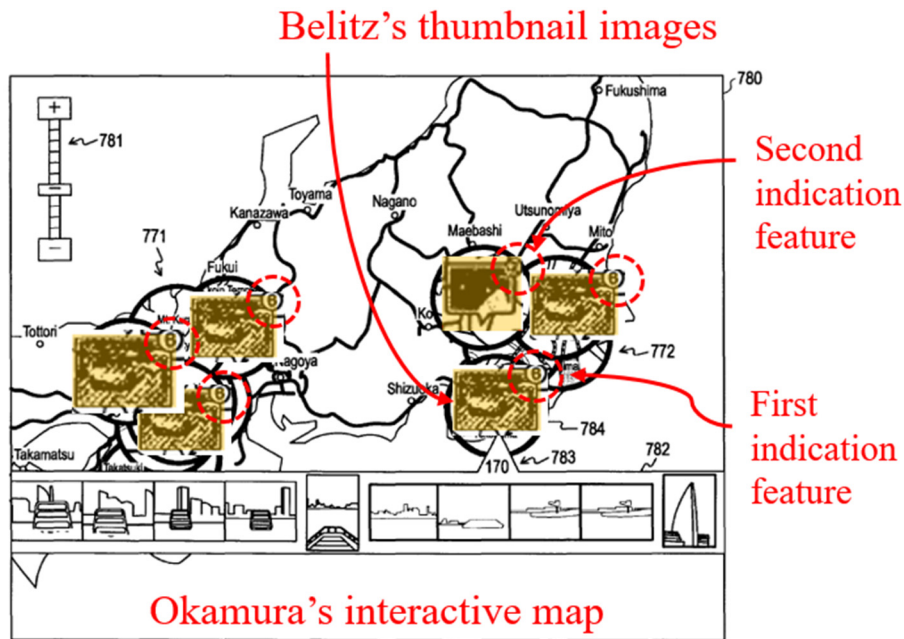


SAMSUNG-1005, FIG. 41

**[6]:**

*See* [3], [5] (incorporated here). SAMSUNG-1006, [0051]-[0056], [0059]-

[0060]; SAMSUNG-1003, [153]. Okamura-Belitz renders obvious multiple (e.g.,

first and second) selectable thumbnail images, because Belitz discloses multiple

thumbnail images, each with a connected indication (count) feature that indicates

the number of files associated with the thumbnail. *Id.*

**[7]:**

See [4], [5] (incorporated here).  SAMSUNG-1006, [0051]-[0056], [0059]-[0060]; SAMSUNG-1003, [154].  Okamura-Belitz renders obvious multiple (e.g., first and second) selectable thumbnail images, because Belitz discloses multiple thumbnail images, each having corresponding indication (count) features indicative of the number of digital files in the respective set of digital files.  *Id*.

**[8]:**

As described in Section III.A.1 (incorporated here), Okamura discloses zooming in on the interactive map subsequent to the map view being displayed on the interface.  For example, "the user can ***change the scale of a map*** displayed on the map view screen 780" by adjusting "a scale-changing bar 781."  SAMSUNG-1005, [0355].  Okamura describes that, "when the scale of a map is changed in this way, every time the scale of a map is changed, the above-described non-linear zoom process is performed, and placement of map clusters is changed."  *Id*.  Because Okamura's scale-changing bar 781 is displayed on map view screen 780, Okamura's zooming input is provided subsequent to the map view being displayed.  *Id.*; SAMSUNG-1003, [155].

As discussed in [1c] and [2] (incorporated herein), a POSITA would have found it obvious to modify Okamura's map view 780 to display Belitz's thumbnail images with the indication feature (instead of Okamura's clusters).  SAMSUNG-

1003, [156]. A POSITA would have found it obvious to modify Okamura in this manner to improve the user's understanding of which contents belong to which clusters and enhance a user experience of "discern[ing] between the various objects" by providing "a good view of what location is associated with what." SAMSUNG-1006, [0002]; SAMSUNG-1003, [156].

Belitz also describes that "FIG. 4b is another screenshot of a display 403 of a device or a user interface according to the teachings herein. In this screenshot the map 408 has been ***zoomed in*** showing the area in greater detail." SAMSUNG-1006, [0055]. FIG. 4b is displayed subsequent to FIG. 4a, which confirms that Belitz's zoom input occurs subsequent to the map view in FIG. 4a being displayed. *Id.* As shown in FIG. 4b, the first indication feature (e.g., "6") representing the number of associated digital files is modified based on the zoom level (e.g., "4" in 410c because one of the thumbnail images was split from the thumbnail image 410 after the zoom of the map has been modified). SAMSUNG-1006, [0051], [0055]. Should the user zoom out, the thumbnail images are again combined with an updated indication feature (from FIG. 4b to FIG. 4a). *Id.* Thus, for both cases where Belitz's thumbnail images are displayed in Okamura's map view screen and where Belitz's map substitutes Okamura's map view screen, Okamura-Belitz would change the indication feature displayed for each thumbnail image in response to zooming in/out. SAMSUNG-1003, [157].
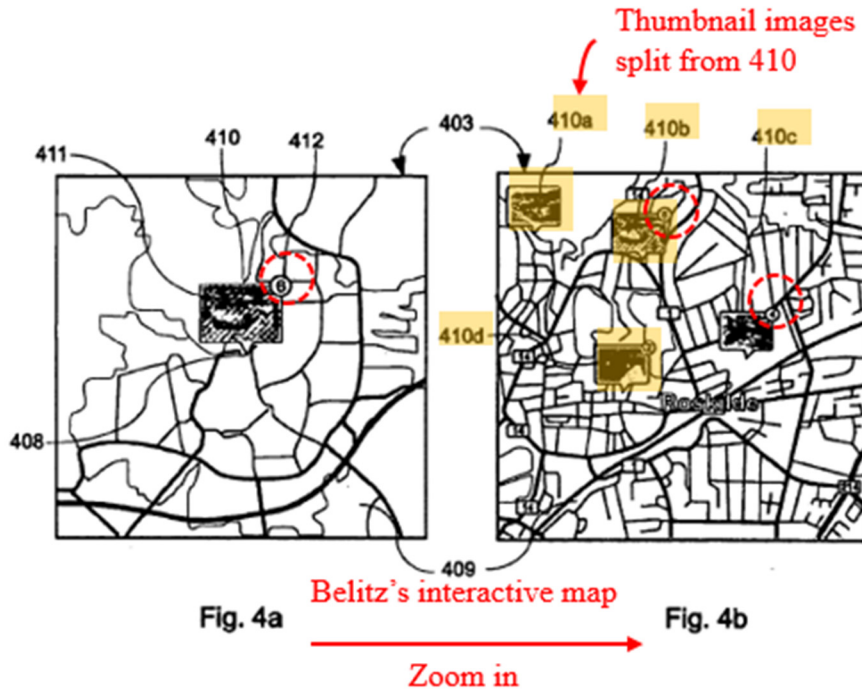
SAMSUNG-1006, FIG. 4a-b

**[9]:**

*See* [8] (incorporated here). Belitz describes that "[s]hould a user ***zoom out***

from FIG. 4b the display would return to the screenshot shown in FIG. 4a."

SAMSUNG-1006, [0056]. As shown in the above FIG. 4a, the first indication

feature representing the number of associated digital files is modified based on the

zoom level. SAMSUNG-1003, [158].

Okamura describes zooming out on the interactive map, where "the user can

change the scale of a map displayed on the map view screen 780" by adjusting "a

scale-changing bar 781." SAMSUNG-1005, [0355]; SAMSUNG-1003, [159].

**[10]:**

Okamura teaches setting a filter using a condition setting section 190 to generate the event, face, and place clusters that "are generated on the basis of ***various kinds of condition*** corresponding to a user operation outputted from the condition setting section 190." SAMSUNG-1005, [0098]-[0099], [0101], [0204], FIG. 1; SAMSUNG-1003, [160]-[161]. Okamura describes that the condition setting section prompts re-generating clusters (in the tree restructuring section 160) and then displaying such regenerated clusters including re-computed indication features in the display section 181. *Id.* Because Okamura restructures and changes the clusters responsive to condition input, a POSITA would have understood or found it obvious that the condition input occurs subsequent to the map view being displayed. *Id.* In addition, a POSITA would have found it obvious to allow a user to apply the filter selection for improving flexibility of navigating many digital image files displayed on the user interface. SAMSUNG-1003, [161] (citing SAMSUNG-1032, Abstract, [0016], [0071]-[0080], FIGS. 5-9).

To the extent that Okamura does not expressly describe modifying the first indication feature responsive to a filter selection, a POSITA would have found it obvious to modify said indication feature based on the condition setting action (e.g., if 4/10 pictures pass the filter selection, the system would re-generate cluster information using the cluster information generating section 170 then displaying

updated indication feature to "4" on the display section 181). SAMSUNG-1003,

[162]. For example, Okamura allows users to provide conditions (e.g., filters) that

impact cluster size and a POSITA would have found it obvious to modify the

indication feature based on the changed cluster size, as the indication corresponds

to a number of images/videos and the number of images/videos changes based on

the change in cluster size. SAMSUNG-1005, [0117] (changed percentage), [0198]

(user preferences), [0201] (change limit on number of files in cluster), [0212] (user

preferences).
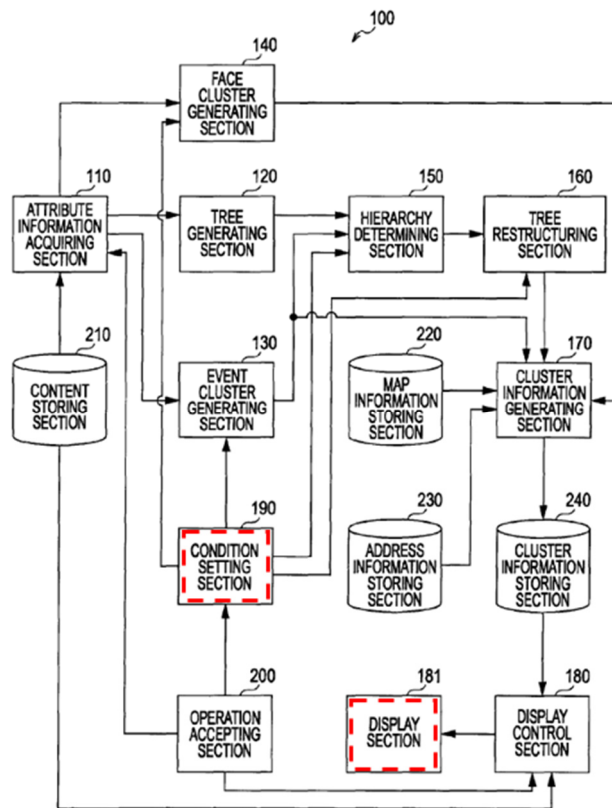


SAMSUNG-1005, FIG. 1

For the case that Belitz's thumbnails are displayed in Okamura's map view, Okamura's condition setting would be applied to Belitz's thumbnails and update the indication feature in response to the user's condition setting using Okamura's condition setting section 190. SAMSUNG-1005, [0098]-[0099], [0101], [0204], FIG. 1; SAMSUNG-1003, [163]. Similarly, for the case that Belitz's map substitutes Okamura's map view, Okamura's condition setting would be also applicable. *Id*.

**[11]:**

In the '228 patent, "collection" has its ordinary meaning, e.g., a set of digital files. SAMSUNG-1001, 14:67-15:2, 18:4-7, 18:43-47, 21:19-28. The user *can* set the cover photo for a collection, but is not required to. SAMSUNG-1001, 24:1-15; SAMSUNG-1003, [164].

As described in [2] (incorporated here), Okamura-Belitz renders obvious multiple collection cover images (Belitz's thumbnail images), where the collection indicates a group of digital files. SAMSUNG-1003, [165]. Belitz's graphical objects are photographs (images), and each graphical object is included in a *set* of photographs associated with a location. SAMSUNG-1006, [0059], [0062]; SAMSUNG-1003, [165]. Thus, a POSITA would have understood or found obvious that Belitz's thumbnail images represent collection cover images. *Id*.
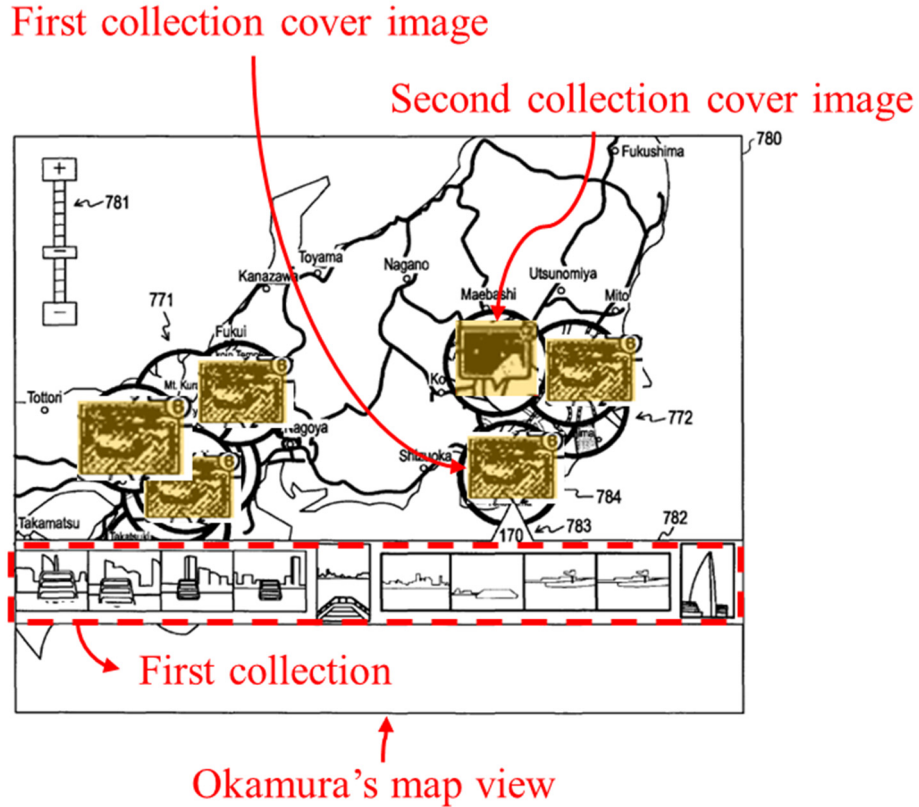
SAMSUNG-1005, FIG. 41

To the extent a collection cover image needs to be user-selected, a POSITA would have found it obvious to modify Belitz's cover image based on user selection of a desired image. SAMSUNG-1003, [166].

**[12]:**

As described in [2] (incorporated here), Okamura-Belitz renders obvious multiple location selectable thumbnail images overlaid on Okamura's map view screen 780, where the collection indicates a group of digital files. SAMSUNG-1005, [0354]-[0356], [0431]; SAMSUNG-1006, [0051]-[0056], [0059]-[0060]. In Belitz, each thumbnail image is a representation of the photos accessible from a

given location. SAMSUNG-1003, [167]. Belitz also discloses multiple sets of digital files, where each set is associated with a corresponding location. *Id*. When adapted as Belitz teaches, Okamura's map view would include the first and the second location selectable thumbnail images and include a corresponding representation of at least one digital file belonging to each corresponding set. *Id*.

**[13]:**

Okamura describes that selecting one of the clusters on the map view screen causes display of the representation of the digital files belonging to the clusters below the interactive map in a content listing display area 782. SAMSUNG-1005, [0356], FIG. 41; SAMSUNG-1003, [168].
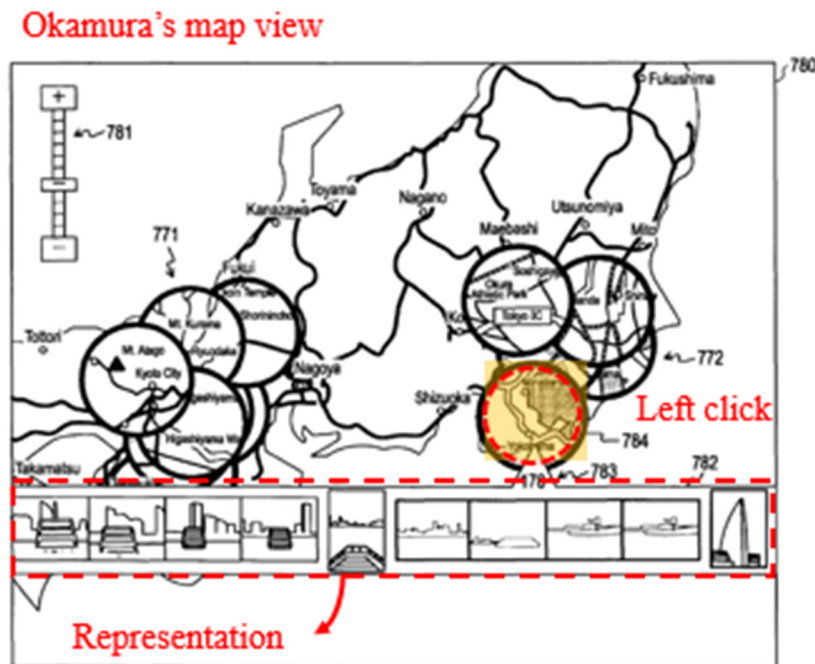


SAMSUNG-1005, FIG. 41

To the extent that the content listing display area 782 partially overlaps the interactive map, a POSITA would have found it obvious to display the content listing display area 782 not overlaid on the map. SAMSUNG-1003, [169]. Indeed, Okamura discloses displaying content representations outside of the map: a play view screen 890 (analogous to the first location view) that displays a content listing display area 892 separate from the map. *Id*.

Okamura also describes displaying digital files from a first and a second set of digital files, because representations of different sets of photos are displayed in response to the user's selection of different clusters. SAMSUNG-1005, [0356]; SAMSUNG-1003, [170].
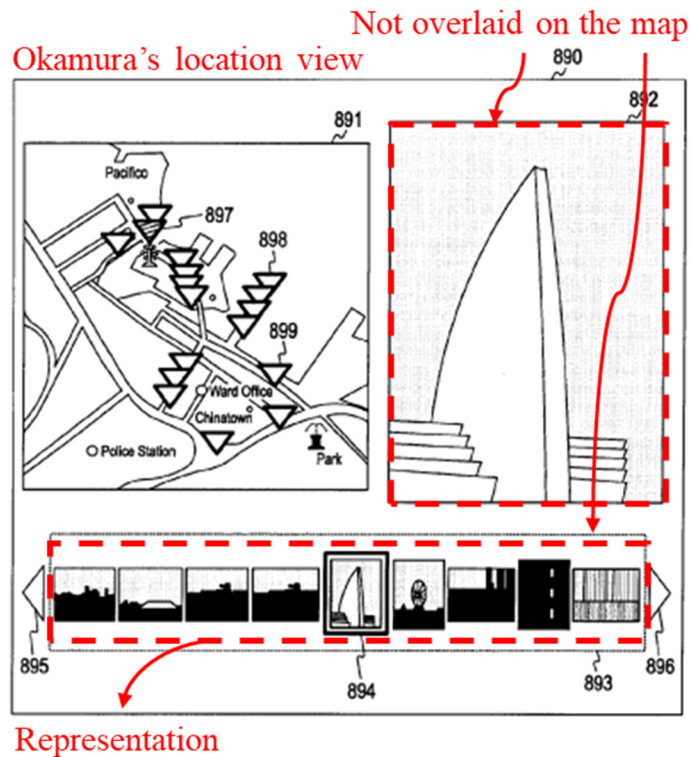


SAMSUNG-1005, FIG. 50

**[14]:**

Okamura describes a play view screen 890 that displays a representation of at least a portion of all of the digital files belonging to a selected cluster (e.g., in the content listing display area 893). SAMSUNG-1005, [0439]-[0444]; SAMSUNG-1003, [171]. Responsive to a user selection of a second cluster, the play view screen 890 gets modified to include a representation of at least a portion of all of the digital files belonging to a second cluster (*see* [15b] below). *Id.* For example, Okamura shows that selecting the cluster 784 displays all of the images associated with the selected cluster (and thus selected location) in the content listing display area 893 as shown below. *Id.*
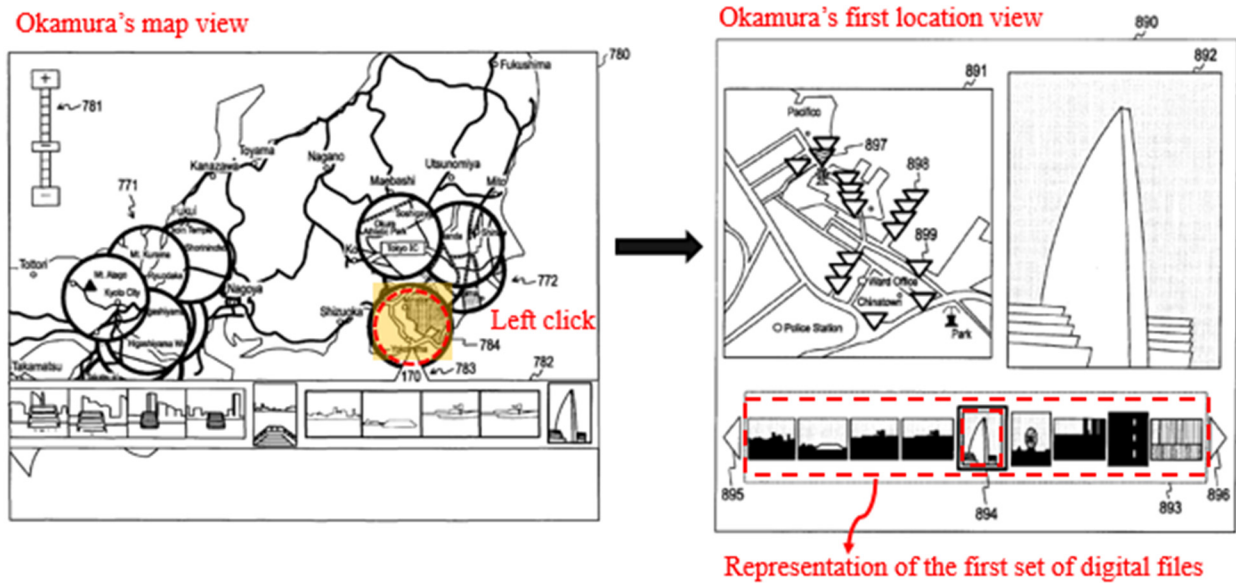


SAMSUNG-1005, FIG. 41 (left), FIG. 50 (right)

**[15pre]:**

*See* [1pre] (incorporated here).

**[15a]:**

Okamura describes that selecting a thumbnail image (e.g., "by using a cursor") in the first set of digital files (those displayed in the content listing display area 893) causes "[a]n image corresponding to the ***content attached with the selection box 894*** in the content listing display area 893 [] displayed in magnified form in the magnified image display area 892." SAMSUNG-1005, [0443]-[0444], FIG. 50; SAMSUNG-1003, [173].
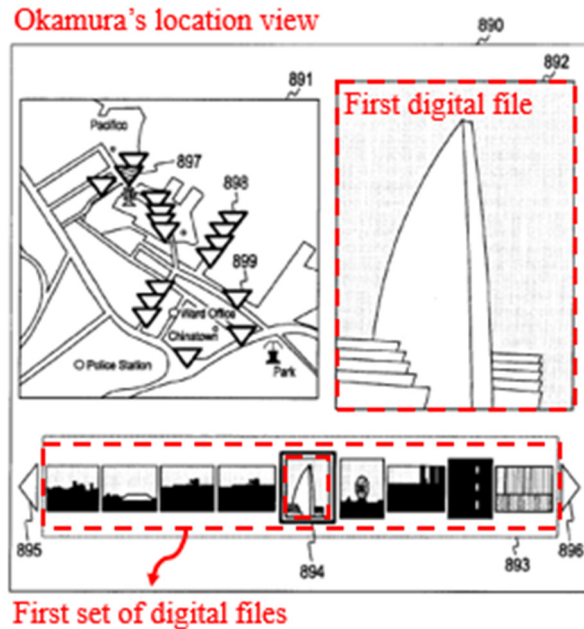


SAMSUNG-1006, FIG. 50

**[15b]:**

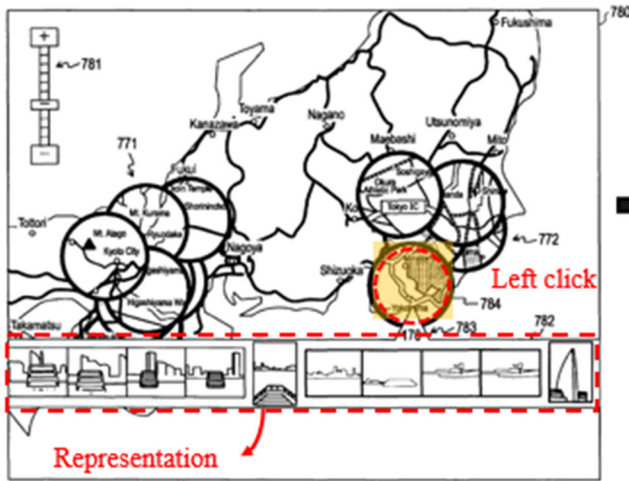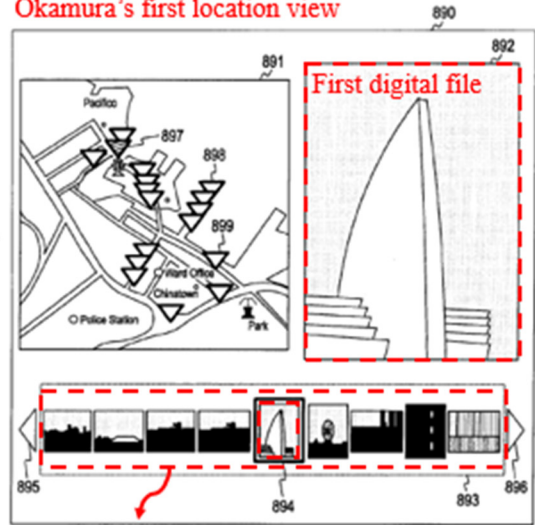*See* [15a] (incorporated here); Okamura describes the second location view, as shown below. SAMSUNG-1003, [174].
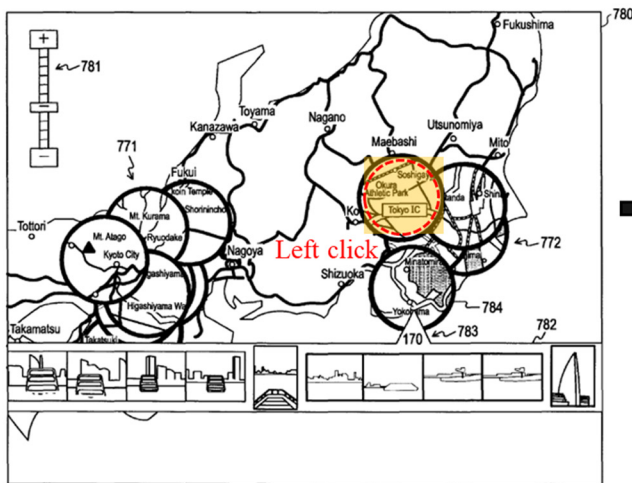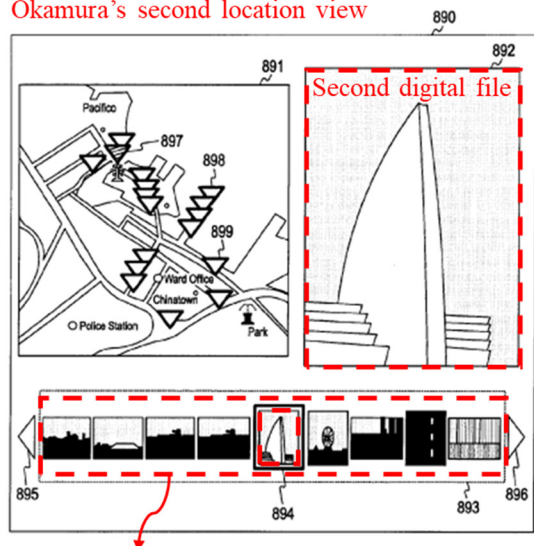
SAMSUNG-1006, FIG. 41 (left), FIG. 50 (right)

**[16pre]:**

*See* [1pre] (incorporated here).

**[16a]:**

Okamura describes "a title assigned to each cluster" where the title includes

*alphanumeric text* (e.g., "an address 'Tokyo-prefecture Shinagawa-ward Osaki 1-

chome'"). SAMSUNG-1005, [0136]. That is, Okamura's interface receives the tag from cluster information generating section 170. *Id*. Alternatively, a POSITA would have found it obvious to have a user input the alphanumeric text as a tag to improve "managing contents". SAMSUNG-1003, [176].



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 |
| CLUSTER IDENTIFICATION INFORMATION | CLUSTER POSITION INFORMATION (CENTER POSITION) | CLUSTER SIZE (RADIUS) | CONTENT LIST | PARENT CLUSTER IDENTIFICATION INFORMATION | CHILD CLUSTER IDENTIFICATION INFORMATION | CLUSTER MAP | CLUSTER TITLE |
| #2001 | LATITUDE: ○○° ○○' LONGITUDE: ○○° ○○' | 500 | #1011 #1015 #1017 #1031 ⋮ | #2010 | #3010 #3032 #3055 #3062 ⋮ | ○ | TOKYO-PREFECTURE SHINAGAWA-WARD OSAKI 1-CHOME |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

First digital file

First set of digital files

Alphanumeric text

SAMSUNG-1005, FIG. 5

**[16b]:**

*See* [16a] (incorporated here). Okamura describes association between a first digital file and the tag as shown in FIG. 5 above. SAMSUNG-1005, [0128] ("pieces of information are stored in association with each other"), [0136], [0229]-[0230], [0277]-[0281]. By including the tag (cluster title 248) as a column in the table with files listed in content list 244, Okamura associates the tag with a first digital file in the first set. SAMSUNG-1003, [177].

Okamura also describes that "…cluster information may include, in addition to the data shown in FIG. 5, the metadata of contents belonging to a cluster themselves." SAMSUNG-1005, [0137]. Through this description of managing metadata, a POSITA would have found it obvious to associate the tag with a first digital file by including the tag (e.g., cluster title) in the metadata (e.g., attribute information) for the first digital file. SAMSUNG-1003, [178].

**[16c]:**

Although Okamura does not expressly disclose exporting the digital file, receiving a request to export was well-understood and thus would have been obvious to a POSITA. SAMSUNG-1003, [179]-[180] (citing SAMSUNG-1033, [0025], [0038]; SAMSUNG-1034, [0135]-[0136], [0183], FIG. 14; SAMSUNG-1035, [0027]; SAMSUNG-1036, [0004]-[0005], [0011], [0052]-[0053], [0079]-[0086]). As Dr. Greenspun explains, by 2011, export functionality was well-known for file management systems, such as Okamura's. *Id.* In fact, a POSITA would have understood that, to export image files, prior art image file management systems typically allowed users to request the image files to export by receiving user input that selects the one or more files for export. *Id.* Upon selection and user input to perform an export operation, prior art systems would export files using various types of electronic transmissions (e.g., electronic messages). *Id.*

As Dr. Greenspun explains, from a POSITA's general knowledge, a POSITA would have seen benefits to adding export functionality to Okamura to enable users to share digital files (e.g., digital photographs) with other users and/or send digital files (e.g., digital photographs) to other computer systems with additional storage (e.g., for archiving). SAMSUNG-1003, [181]. Indeed, by 2011, a POSITA would have seen export functionality as an implementation detail for systems like Okamura's and would have viewed export functionality like other well-known and obvious implementation details that were trivial at the time and would have been well within the grasp of a POSITA. *Id.* In fact, the background of the '228 patent confirms that export functionality was part of a POSITA's general knowledge. SAMSUNG-1001, 1:48-60; SAMSUNG-1003, [181]. Based on Okamura's description and general POSITA knowledge, a POSITA would have found it obvious to receive a request to export a digital file in Okamura. SAMSUNG-1003, [181].

Additionally, Belitz describes export functionality through requested file transmissions that would have been obvious to include in Okamura. For example, Belitz describes a system that provides "still image transmissions, video transmissions," and "electronic message transmissions." SAMSUNG-1006, [0040]. Belitz describes "sending and receiving Short Message Service (SMS) messages, Multimedia Message Service (MMS) messages or email" where the user

can send messages including digital files (e.g., photographs). SAMSUNG-1006, [0040], [0046]. To implement these types of "image" and "video transmissions," a POSITA would have found it obvious for the system to receive a request that indicates the files to transmit (e.g., export). *Id.*; SAMSUNG-1003, [182]. Through this disclosure, Belitz confirms the general POSITA knowledge and a POSITA would have found it obvious to include, in Okamura, export functionality to implement image/video transmission described by Belitz. SAMSUNG-1003, [182].

**[16d]:**

*See* [16c] (incorporated here). As Dr. Greenspun explains, a POSITA would have found it obvious to export Okamura's files with the metadata (e.g., tags) associated with the exported digital files. SAMSUNG-1003, [183] (citing SAMSUNG-1020, 90-94; SAMSUNG-1033, [0025], [0038]; SAMSUNG-1034, [0135]-[0136], [0183], FIG. 14; SAMSUNG-1035, [0027]; SAMSUNG-1036, [0004]-[0005], [0011], [0052]-[0053], [0079]-[0086]). For instance, a POSITA would have found it obvious to export Okamura's digital file by embedding the metadata (including the alphanumeric text tag) using "a file area such as Exif". SAMSUNG-1005, [0137], [0107]; SAMSUNG-1003, [184]. A POSITA would have found it obvious to export files using this well-known format and, in doing so, would have found it obvious to include Okamura's tag within available

76

metadata fields. SAMSUNG-1003, [184]-[185]. Regardless of whether Exif is used, a POSITA would have found it obvious to include Okamura's tags with exported files because a POSITA would have found it useful to retain the tag information with the file. *Id.* Indeed, a POSITA would have had a finite number of options (e.g., export with the tag or export without the tag) and that would have been obvious to try as a matter of design choice. *Id.*

**[17]:**

Okamura describes displaying a plurality of selectable elements (shown in FIG. 18): "The 'Event' tab 411, the 'FACE' tab 412, and the 'PLACE' tab 413 are tabs for displaying another index screen." SAMSUNG-1005, [0236], FIGS. 18-21; SAMSUNG-1003, [186]. Selecting the "FACE" tab 412 causes the user interface to display the people view. *Id.* Selecting the "PLACE" tab 413 causes the user interface to display the map view. *Id.* It would have been obvious from Okamura's disclosure that the tabs are displayed prior to receiving the first input and followed by selection of the "PLACE" tab 413 (first input) and then the "FACE" tab 412. SAMSUNG-1003, [186].
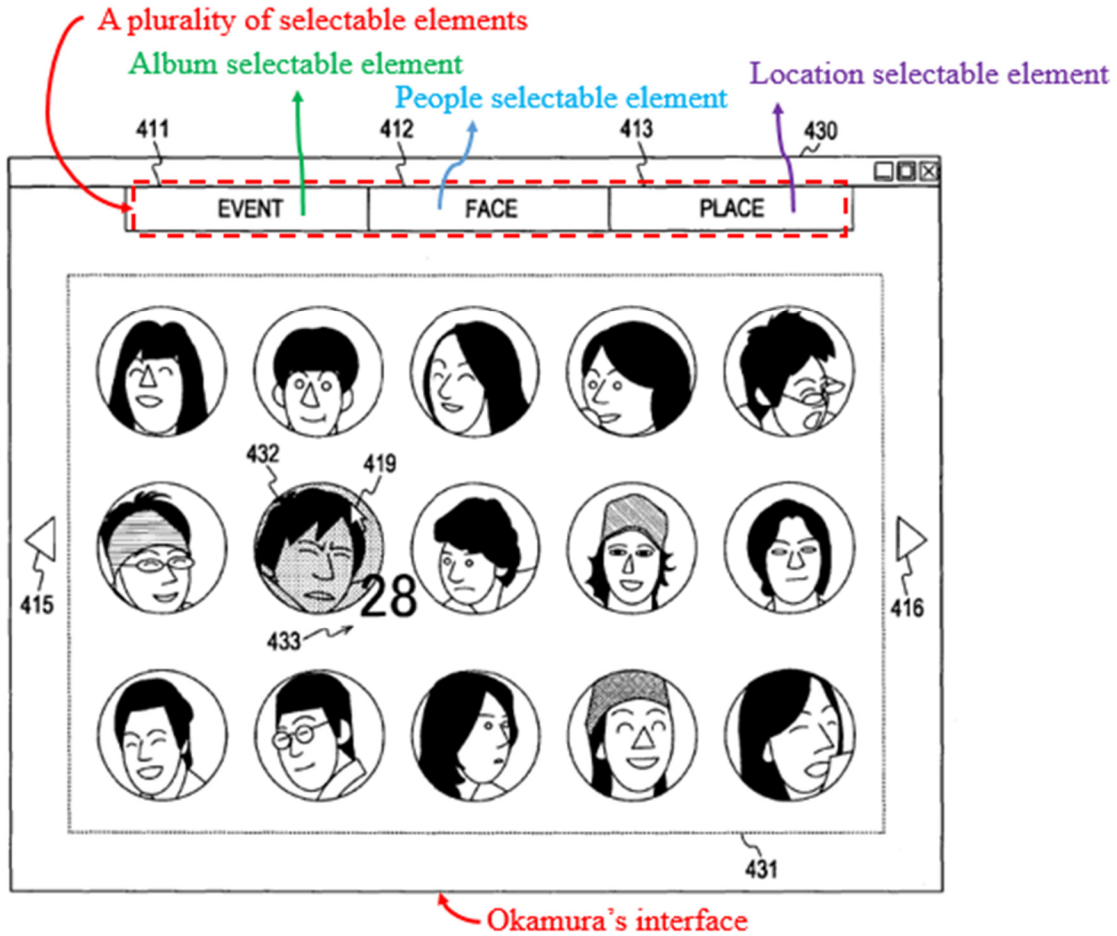
SAMSUNG-1005, FIG. 21

**[18]:**

As described in Section III.A.1 (incorporated here), Okamura describes that selecting a face-based thumbnail image ("when a desired cluster is determined ***by a user operation***") causes the user interface to display "contents included in the face cluster []." SAMSUNG-1005, [0261], FIG. 21, FIG. 24; SAMSUNG-1003, [187].
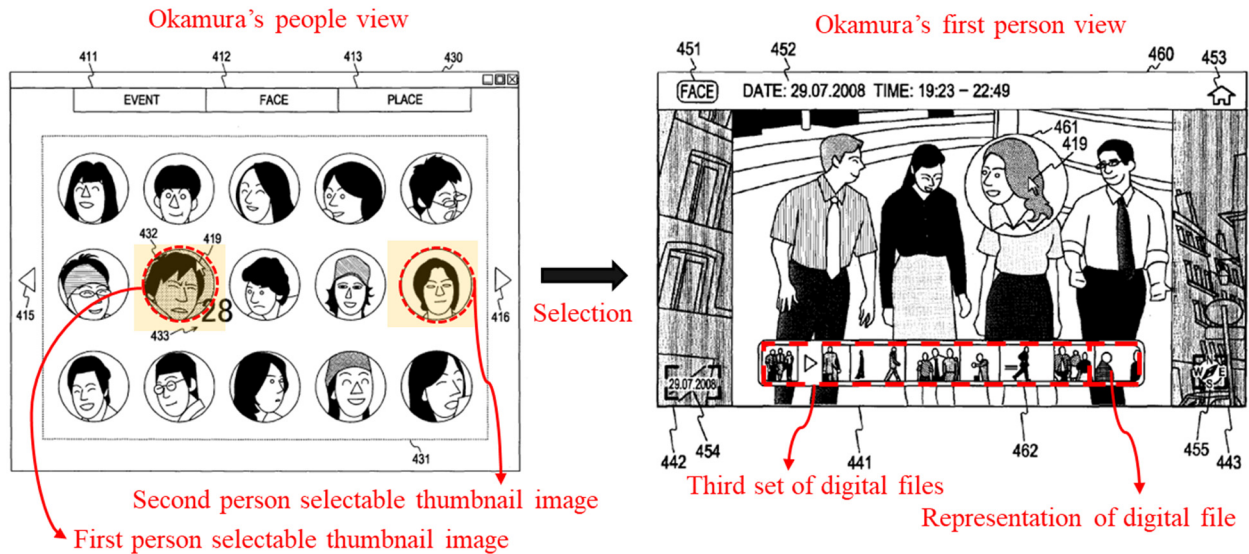
SAMSUNG-1005, FIG. 21 (left), FIG. 24 (right)

The content playback screen 460 (analogous to the first person view from the '228 patent) includes a content listing display area 462, which is "an area where a listing of ***contents included in the face cluster*** to which the content displayed in the content display area 441 belongs is displayed." SAMSUNG-1005, [0261]; SAMSUNG-1003, [188].  That is, the content display area 441 includes a representation of each digital file in the third set of digital files.  *Id*.

To the extent that Okamura does not expressly teach displaying the first name in the first person view, a POSITA would have found it obvious to display the ***first name*** (e.g., as part of the content information 452 or next to the image 461 adjacent to the face) to improve recognition of the first person (as similarly done in the people view where "pieces of information 433 related to the thumbnail image 432 are displayed" including "the name of the person corresponding to the face";

*see* [1i]).  SAMSUNG-1005, [0247]; SAMSUNG-1003, [189].  Indeed, Okamura

describes "content information 452 … as information related to a content, for

example, the time of generation of the content, the time range of the contents of a

cluster to which the content belongs, ***and the like***."  SAMSUNG-1005, [0255].

From this description and Okamura's earlier disclosure of displaying a name of a

person corresponding to a face cluster, a POSITA would have found it obvious to

display, in the person view as part of the content information, the name of the

person associated with the cluster.  SAMSUNG-1003, [189].

**[19]:**

    *See* [18] (incorporated here); Okamura describes the second person view

responsive to a selection of the second person selectable thumbnail image.

SAMSUNG-1003, [190].
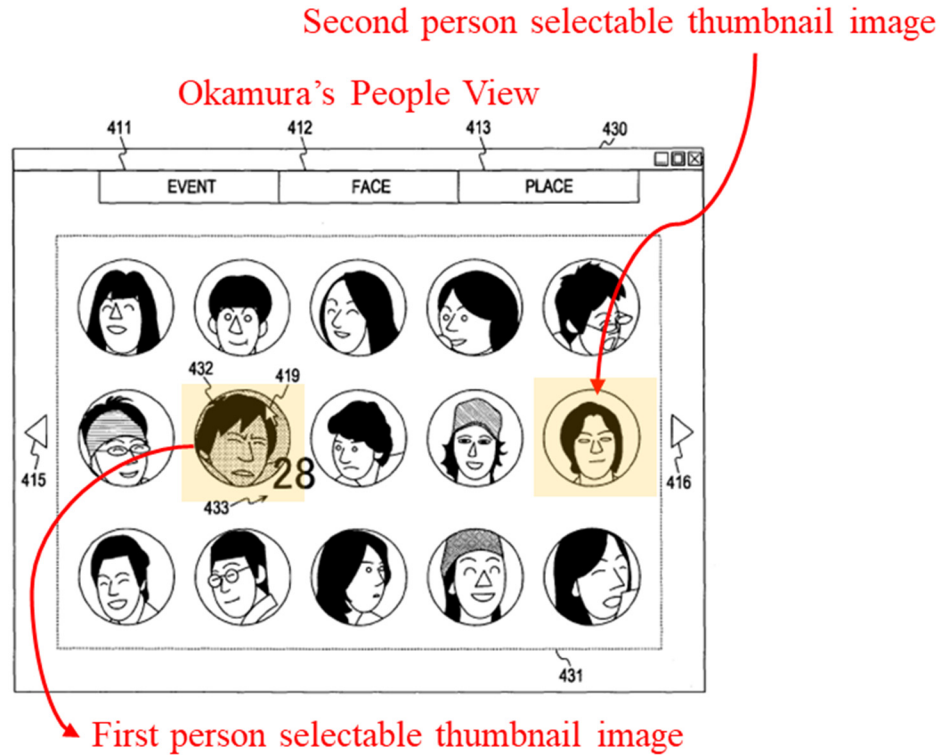
SAMSUNG-1005, FIG. 21

## IV.  PTAB DISCRETION SHOULD NOT PRECLUDE INSTITUTION

This petition is meritorious and will aid in efficient resolution of the dispute

between Samsung and MemoryWeb.  As discussed below, (1) the prior art

advanced has not been previously considered in a prior examination of the '228

patent, (2) Samsung's petition is not a serial petition designed to harass

MemoryWeb, and (3) Samsung's petition was expeditiously filed relative to the

co-pending district court litigation.

### A. *Advanced Bionics* Favors Institution—§ 325(d)

As discussed at Section II.B, the Challenged Claims were never rejected during prosecution, and the remarks in the Notice of Allowance were conclusory. Regardless, the Examiner did not consider the prior art in this petition, nor any substantially similar references. Because the USPTO has not considered the same or substantially the same prior art or arguments, institution is appropriate.

### B. *General Plastic* Favors Institution—§ 314(a)

The Board's "intent in formulating the [*General Plastic*] factors was to take undue inequities and prejudices to Patent Owner into account" when evaluating follow-on petitions. *General Plastic*, IPR2016-01357, Paper 19, 16 (PTAB 2017). Samsung has never challenged the '228 patent and this petition was filed before MemoryWeb's preliminary response to earlier petitions. The substance and timing of this petition do not present undue inequities.

#### 1. Factor 1: Petitioner (Samsung) is Separate From and Unrelated To Apple and Unified Patents

Factor 1 heavily favors institution because Samsung is separate and unrelated to prior petitioners, Unified Patents and Apple. *Valve*, IPR2019-00062, Paper 11, 2 (PTAB 2019)("*Valve I*"); IPR2019-00064, Paper 10, 2 (PTAB 2019)("*Valve II*"). Samsung has no ability to direct or control Unified and was not involved in any way in the petition it filed. Indeed, the Unified petition does not

cover all claims asserted against Samsung and, thus, does not adequately advance

Samsung's interest in its dispute with MemoryWeb. SAMSUNG-1029, 2.

As to Apple, not only is Samsung unrelated to Apple, Apple is Samsung's

direct competitor in the "smartphone" and "tablet" market, the subject of

MemoryWeb's complaints. SAMSUNG-1029, 2-3. There can be no credible

assertion that direct competitors in a growing multi-billion dollar market implicate

the kind of "significant relationship" addressed in the *Valve* cases.

In *Valve I*, infringement allegations targeted devices produced by co-

defendant petitioners. *Valve I*, 10. The fact pattern here—which involves

petitioners that compete in the marketplace—is at the other end of the spectrum, as

the Board has recognized time-and-time again. *Google v. Uniloc 2017*, IPR2020-

00396, Paper 11, 11 (PTAB 2020); *Apple v. UUSI*, IPR2019-00358, Paper 12, 14-

15 (PTAB 2019).

### 2. Factors 2 & 4: Petitioner (Samsung) Filed This Petition Promptly Following The Earlier Petitions

Samsung learned of Okamura and Belitz, the references advanced in this

petition, through prior art searching that commenced in June 2021. With the

deadline for serving invalidity contentions still several months out, Samsung had

no reason to know of Okamura and Belitz any sooner. Samsung filed this petition

three months from Okamura being raised as a primary reference in the Unified

petition, and about one month from Belitz being raised as a secondary reference in

the Apple petition. These modest windows in time while Samsung diligently prepared its petition have not resulted in any unfair tactical advantages.

Factors 2 and 4 therefore favor institution.

### 3. Factor 3: This Petition Does Not Implicate Road-Mapping Concerns

Samsung filed this petition three months from the Unified petition, and about one month from the Apple petition. MemoryWeb's preliminary response is not due in the Unified Patents proceeding for two weeks, and the Board's institution decision is even further removed. A deadline for MemoryWeb's preliminary response in the Apple proceeding is over two months away. Accordingly, Factor 3 favors institution.

### 4. Factor 5: Petitioner (Samsung) Diligently Prepared Its Petition After the Earlier Filings

The fifth factor asks whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent. In this case, the time gap is short and the answer is simple. Petitioner has been diligently preparing this petition (and petitions to address other asserted patents) in the intervening months between the instant filing date and that of the Unified and Apple petitions.

As mentioned above, the Unified petition challenges only a subset of the claims asserted against Samsung. Accordingly, to adequately address the full

scope of MemoryWeb's assertion, Samsung needed time to develop challenges to claims that were not challenged in the Unified petition.  Moreover, because this petition addresses twelve more claims than the Unified petition, this petition is directed to *different* claims than the Unified petition.

Additionally, Petitioner continued to move extremely quickly after learning of Apple's petition.  As mentioned above, this petition is being filed about a month from Apple's petition and the week after the USPTO accorded Apple's petition a filing date.

Factor 5 therefore favors institution.

### 5.      Factors 6 and 7: Institution would Efficiently Promote Patent Quality

Petitioner appreciates that the Board's resources are finite; indeed, they are well spent here.  Careful vetting of the '228 patent's claims did not occur during examination, and it is fully consistent with the AIA's goals for the Board to try the validity of claims that MemoryWeb presently asserts against unrelated parties.  As to capacity to issue a decision within one year, this petition is narrowly tailored with a single ground to advance that goal.

In addition, the Petition's single ground advances references that are included in earlier petitions.  Specifically, this petition advances Okamura (primary reference from the Unified petition) and Belitz (secondary reference from the Apple petition).  Because the Board will already be considering these references

(assuming institution), the Board will be able to efficiently resolve the challenges

in this petition and the finite resources of the Board would be well spent in fully

resolving whether this same prior art renders obvious the Challenged Claims in the

various combinations proposed.  In fact, to further simplify proceedings and to

enhance the Board's ability to issue a decision within the one-year deadline,

Samsung proposes consolidation of schedules of the IPRs filed against the '228

patent.

Factors 6 and 7 therefore favor institution.

### 6.    Additional Factor: Institution Denial would Potentially Prejudice Petitioner

Because Samsung is unrelated to Unified and Apple, settlement and

termination of a proceeding instituted on either of the earlier petitions would harm

Samsung if this petition is denied.  *Iron Oak*, IPR2018-01554, Paper 9, 29 (PTAB

2019).  MemoryWeb's infringement suit against Samsung would remain, and the

Challenged Claims would go untested at the PTAB.

Moreover, Samsung has carefully considered whether joining the earlier

petitions would be sufficient to address Samsung's interest in challenging the

validity of the '228 patent.  Although Samsung views the earlier petitions as

relatively strong on the merits, neither petition is sufficient to fully address

Samsung's interest.  As discussed above, the Unified petition does not fully

address Samsung's interest because it does not challenge all claims asserted against

Samsung. For this reason, the Unified petition is incapable of fully resolving the dispute between Samsung and MemoryWeb and Samsung could not rely upon the Unified petition as its PTAB challenge.

Although the Apple petition challenges all claims of the '228 patent, it too is insufficient to serve as Samsung's validity challenge. Specifically, the Apple petition relies on a user manual of an Apple product; namely, the Aperture 3 User Manual (A3UM). To prove public accessibility of A3UM, Apple relies heavily on testimony from an Apple employee. Given the unrelated and, in fact, competitive relationship between Apple and Samsung, Samsung cannot rely upon a validity challenge that requires cooperation of an Apple employee. Indeed, should Apple settle with MemoryWeb, Samsung cannot know if Apple would allow its employee to support Samsung and testify on its behalf, and there certainly would be no guarantee in light of Apple and Samsung's competitive relationship and/or obligations included in Apple's settlement agreement. For this reason, although the merits of Apple's petition appear strong, Samsung cannot rely upon Apple's petition alone because Samsung cannot ensure relevant witness testimony will be available for Samsung to prove its case.

With this background, neither the Unified petition, nor the Apple petition, is sufficient to fully address Samsung's interest. Thus, Samsung crafted this petition as quickly as possible, pursuing a single ground that complements the earlier

petitions and that can be resolved with limited burden to the Board (and

MemoryWeb).

This additional factor weighs in favor of institution.

### C.    *Fintiv* Favors Institution—§ 314(a)

Samsung asks the Board alone to consider challenges raised in this petition,

which is set to precede trial.  *Apple v. Fintiv*, IPR2020-00019, Paper 11, 6 (PTAB

2020).  For these reasons, *Fintiv* favors institution. *Id*.; *Snap*, IPR2020-00820

Paper 15, 19 (PTAB 2020).

### 1.    Factor 1: Either Party May Request Stay

Factor 1 is neutral because neither party has, as of yet, requested a stay

pending the result of IPR.  *Sand Revolution*, IPR2019-01393, Paper 24, 7 (PTAB

2020).

### 2.    Factor 2: Proximity of the Trial Date

The Court has proposed a trial date of "June 30, 2023 (or as soon as

practicable thereafter)."  SAMSUNG-1030, 5.  In the order, the Court specified

that, "[f]or post-*Markman* dates, the parties will file an amended proposed

scheduling order once the Court sets a *Markman* hearing date."  *Id.*, 1.  Also, for

trial date, the order indicates that "[t]he Court expects to set these dates at the

conclusion of the *Markman* Hearing."  *Id.*, 5.  For the *Markman* hearing, the Court

proposed "June 3, 2022 or as soon thereafter as practical."  *Id.*, 3.  Thus, June 3,

2022 is the earliest date for trial.

Moreover, even if a trial were to start on June 30, 2023, the FWD date of

June 3, 2023 would precede trial. Therefore, Factor 2 weighs against discretionary

denial

### 3. Factor 3: Petitioner's Diligence and Investment in the IPR Outweighs the Parties' Minimal Investment in Litigation

This petition was filed five months before the one-year statutory bar date.

*Mylan*, IPR2018-01680, Paper 22, 18 (petition filed two months before bar date is

"well within the timeframe allowed by statute, weighing heavily in [petitioner's]

favor").

Moreover, Samsung filed this petition at a very early stage of the litigation—

a fact that "has weighed against exercising the authority to deny institution under

*NHK*." *Seven Networks*, IPR2020-00156, Paper 10, 11-12 (PTAB 2020). No

substantive orders have been issued by the court, no depositions have been taken,

and fact and expert discovery have not begun.

Overall, Factor 3 weighs against discretionary denial.

### 4. Factor 4: The Petition's Grounds Are Materially Different From Any That Might Be Raised in Litigation

As noted above, the co-pending litigation is in an early stage. At present,

there is no overlap in issues between the litigation and any IPR resulting from this

petition.

Moreover, consistent with *Fintiv*, Samsung asks the Board alone to consider

the challenges raised in the petition. Samsung has eliminated risk of duplicated effort by voluntarily stipulating to counsel for MemoryWeb that, if the Board institutes an IPR based on this petition, Samsung will not pursue district court invalidity challenges based on the primary reference asserted in this petition. SAMSUNG-1037; *Tide v. UPL* (IPR2020-01113). A lack of overlap between the petition and the district court proceeding "has tended to weigh against exercising discretion to deny institution." *Fintiv*, 12-14.

For these reasons, Factor 4 weighs against discretionary denial. *Snap*, 13-16; *Sand Revolution*, 11-12.

### 5. Factor 5: Institution Would Promote Judicial Efficiency

Samsung and MemoryWeb are parties to the Litigation, a fact that favors institution in this case because the Board's FWD could bind Samsung via §315(e)(2) estoppel before a jury trial, and thereby promote judicial efficiency. *Fintiv I*, 6.

### 6. Factor 6: The Merits of this Petition Strongly Favor Institution

As *Fintiv* noted, "the factors...are part of a balanced assessment of all the relevant circumstances in the case," and, "if the merits of a ground raised in the petition seem particularly strong…the institution of a trial may serve the interest of overall system efficiency and integrity…." *Fintiv*, 14-15.

The merits of this petition are particularly strong. As demonstrated in the

petition with reference to Dr. Greenspun's testimony and additional evidence, institution would result in a finding of unpatentability of the Challenged Claims. The strength of the merits alone is enough to outweigh any inefficiencies borne of parallel litigation. *Fintiv*, 14-15.

Moreover, as noted above, institution would actually *promote* the AIA's objectives of providing an effective and efficient alternative to district court litigation with respect to claims that MemoryWeb has asserted against multiple defendants.[4] Sen. Rep. No. 110-259 (2008)(Leahy, Judiciary Committee Report)("The legislation is designed to…improve patent quality and limit unnecessary and counterproductive litigation costs"), H.R. Rep. No. 112-98, pt. 1, pp. 39-40.

Accordingly, *Fintiv* Factor 6 weighs strongly against discretionary denial. *Snap*, 16-19.

## V.    FEES

Please charge Deposit Account No. 06-1050 for any fees.

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[4] Senators Leahy and Cornyn recently reaffirmed the AIA's objectives through their introduction of "legislation [that] would improve the ability of our system to maintain the quality of American patents…[b]y ensuring there is a less expensive and more transparent option than drawn-out litigation," namely, the PTAB.

## VI.    MANDATORY NOTICES UNDER 37 C.F.R § 42.8(a)(1)

### A.    Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1)

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. are the real parties-in-interest.

### B.    Related Matters Under 37 C.F.R. § 42.8(b)(2)

Petitioner is not aware of any disclaimer or reexamination certificates for the '228 Patent.  The '228 patent is the subject of a number of civil actions including: *MemoryWeb, LLC v. Samsung Electronics Co., Ltd. et al*, 6:21-cv-00411 (W.D. Tex.), Pending; *MemoryWeb, LLC v. Apple, Inc.*, No. 6-21-cv-00531 (W.D. Tex.), Pending; *MyHeritage (USA), Inc. et al. v. MemoryWeb, LLC*, No. 1-21-cv-02666 (N.D. Il.), Dismissed.

The '228 patent is also the subject of two IPR proceedings, one filed by Unified Patents LLC (IPR2021-01413) and another filed by Apple Inc. (IPR2022-00031).  Samsung is not a real party-in-interest to the above-listed IPR proceedings.

### C.    Lead And Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

Samsung provides the following designation of counsel.

| Lead Counsel | Backup counsel |
|---|---|
| W. Karl Renner, Reg. No. 41,265<br>Fish & Richardson P.C.<br>3200 RBC Plaza<br>60 South Sixth Street<br>Minneapolis, MN 55402 | Jeremy J. Monaldo, Reg. No. 58,680<br>Hyun Jin In, Reg. No. 70,014<br>Fish & Richardson P.C.<br>3200 RBC Plaza<br>60 South Sixth Street |

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### D.     Service Information

Please address correspondence/service to the above-listed address.  Samsung consents to email service at IPR39843-0117IP1@fr.com (referencing No. 39843-0117IP1 and cc'ing PTABInbound@fr.com, axf-ptab@fr.com, monaldo@fr.com, and in@fr.com).

Respectfully submitted,


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## CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies

that the word count for the foregoing petition for *inter partes* review totals 13,868

words, which is less than the 14,000 allowed under 37 CFR § 42.24.


Dated  <u>December 3, 2021</u>     <u>/Jeremy J. Monaldo/</u>
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# CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned

certifies that on December 3, 2021, a complete and entire copy of this petition for

*inter partes* review and all supporting exhibits were provided via Federal Express,

to the Patent Owner, by serving the correspondence address of record as follows:

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