

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Christopher J. Desmond, et al.
U.S. Patent No.: 10,423,658 Attorney Docket No.: 39843-0116IP1
Issue Date: September 24, 2019
Appl. Serial No.: 15/375,927
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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. 10,423,658 PURSUANT TO 35 U.S.C. §§ 311–319, 37 C.F.R. § 42**

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EXHIBITS

- SAMSUNG-1001 U.S. Patent No. 10,423,658 to Christopher J. Desmond, et al.
("the '658 patent")
- SAMSUNG-1002 Excerpts from the Prosecution History of the '658 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 U.S. Patent App. Pub. No. 2006/0206264 A1 ("Rasmussen")
- SAMSUNG 1008-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/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

SAMSUNG-1038 U.S. Patent App. Pub. No. 2008/0276279 (“Gossweiler”)

SAMSUNG-1039 U.S. Patent App. Pub. No. 2008/0263103 (“McGregor”)

SAMSUNG-1040 U.S. Patent App. Pub. No. 2006/0080342 (“Takaki”)

SAMSUNG-1041 U.S. Patent App. Pub. No. 2009/0210793 (“Yee”)

SAMSUNG-1042 Woody Leonhard, Windows Vista All-in-One Desk Reference
for Dummies (2007)

SAMSUNG-1043 Andy Rathbone, Windows Vista for Dummies (2007)

LISTING OF CHALLENGED CLAIMS

Claim 1	
[1pre]	A computer-implemented method of displaying at least a portion of a plurality of (i) digital photographs, (ii) videos, or (iii) a combination of (i) and (ii), each of the digital photographs and videos being associated with a geotag indicative of geographic coordinates where the respective digital photograph or video was taken, the method comprising:
[1a]	displaying an application view on a video display device including displaying a plurality of selectable elements, the plurality of selectable elements including a location selectable element;
[1b]	responsive to a click or tap of the location selectable element, displaying a map view on a video display device, the displaying the map view including displaying:
[1c]	a representation of an interactive map;
[1d]	a first location selectable thumbnail image at a first location on the interactive map, the first location being associated with the geographic coordinates of a first geotag, a first set of digital photographs and videos including all of the digital photographs and videos associated with the first geotag;
[1e]	a first count value image partially overlapping the first location selectable thumbnail image, the first count value image including a first number that corresponds to the number of digital photographs and videos in the first set of digital photographs and videos;
[1f]	a second location selectable thumbnail image at a second location on the interactive map, the second location being associated with the geographic coordinates of a second geotag, a second set of digital photographs and videos including all of the digital photographs and videos associated with the second geotag; and
[1g]	a second count value image partially overlapping the second location selectable thumbnail image, the second count value image including

	a second number that corresponds to the number of digital photographs and videos in the second set of digital photographs and videos;
[1h]	responsive to a click or tap of the first location selectable thumbnail image, displaying a first location view on the video display device, the displaying the first location view including displaying (i) a first location name associated with the first geotag and (ii) a scaled replica of each of the digital photographs and videos in the first set of digital photographs and videos, the displayed scaled replicas of each of the digital photographs and videos in the first set of digital photographs and videos not being overlaid on the interactive map; and
[1i]	responsive to a click or tap of the second location selectable thumbnail image, displaying a second location view on the video display device, the displaying the second location view including displaying (i) a second location name corresponding to the second geotag and (ii) a scaled replica of each of the digital photographs and videos in the second set of digital photographs and videos, the displayed scaled replicas of each of the digital photographs and videos in the second set of digital photographs and videos not being overlaid on the interactive map.
Claim 2	
[2]	The computer-implemented method of claim 1, wherein the first location selectable thumbnail image includes a scaled representation of at least one of the digital photographs in the first set of digital photographs, and wherein the second location selectable thumbnail image includes a scaled representation of at least one of the digital photographs in the second set of digital photographs.
Claim 3	
[3]	The computer-implemented method of claim 1, further comprising responsive to a click or tap of a first one of the displayed scaled replicas in the first location view, displaying a first digital photograph associated with the first scaled replica in the first location view and a first map image indicating the geographic coordinates of the first geotag.

Claim 4	
[4]	The computer-implemented method of claim 3, further comprising responsive to a click or tap of a first one of the displayed scaled replicas in the second location view, displaying a first digital photograph associated with the first scaled replica in the second location view and a second map image indicating the geographic coordinates of the second geotag.
Claim 5	
[5pre]	The computer-implemented method of claim 1, wherein the plurality of selectable elements further includes a people selectable element, the method further comprising responsive to a click or tap of the people selectable element, displaying a people view, the displaying the people view including displaying:
[5a]	a first person selectable thumbnail image including an image of a face of a first person, a third set of digital photographs and videos including digital photographs and videos associated with the first person;
[5b]	a name associated with the first person, the name associated with the first person being displayed adjacent to the first person selectable thumbnail image;
[5c]	a second person selectable thumbnail image including an image of a face of a second person, a fourth set of digital photographs and videos including digital photographs and videos associated with the second person; and
[5d]	a name associated with the second person, the name associated with the second person being displayed adjacent to the second person selectable thumbnail image.
Claim 6	
[6]	The computer-implemented method of claim 5, wherein the displaying the people view further includes displaying the first person selectable thumbnail image and the second person selectable thumbnail

	image in an alphabetical order based on the names associated with first person and the second person.
Claim 7	
[7]	The computer-implemented method of claim 5, further comprising responsive to a click or tap of the first person selectable thumbnail image, displaying a first person view, the displaying the first person view including displaying (i) the name associated with the first person and (ii) a scaled replica of each of the digital photographs and videos in the third set of digital photographs.
Claim 8	
[8]	The computer-implemented method of claim 7, wherein the displaying the first person view further includes displaying a first-person-location selectable element.
Claim 9	
[9]	The computer-implemented method of claim 8, further comprising responsive to a click or tap of the first-person-location selectable element, displaying a representation of all locations having a digital photograph or video associated with the first person.
Claim 10	
[10]	The computer-implemented method of claim 7, further comprising responsive to a click or tap of the second person selectable thumbnail image, displaying a second person view, the displaying the second person view including displaying (i) the name associated with the second person and (ii) a scaled replica of each of the digital photographs and videos in the fourth set of digital photographs.
Claim 11	
[11]	The computer-implemented method of claim 10, wherein the displaying the second person view further includes displaying a second-person-location selectable element.

Claim 12	
[12]	The computer-implemented method of claim 11, further comprising responsive to a click or tap of the second-person-location selectable element, displaying a representation of all locations having a digital photograph or video associated with the second person.
Claim 13	
[13pre]	The computer-implemented method of claim 1, wherein the plurality of selectable elements further includes an album selectable element, the method further comprising responsive to a click or tap of the album selectable element, displaying an album view, the displaying the album view including displaying:
[13a]	a first album selectable thumbnail image including a scaled representation of at least one digital photograph in a third set of digital photographs and videos that includes all of the digital photographs and videos associated with a first album tag;
[13b]	a first album name associated with the first album, the first album name being displayed adjacent to the first album selectable thumbnail image;
[13c]	a second album selectable thumbnail image including a scaled representation of at least one digital photograph in a fourth set of digital photographs and videos that includes all of the digital photographs and videos associated with a second album tag; and
[13d]	a second album name associated with the second album, the second album name being displayed adjacent to the second album selectable thumbnail image.
Claim 14	
[14]	The computer-implemented method of claim 13, further comprising responsive to a click or tap of the first album selectable thumbnail image, displaying a first album view, the displaying the first album view including displaying (i) the first album name associated with the first album and (ii) a scaled replica of each of the digital photographs and videos in the third set of digital photographs and videos.

Claim 15

[15]	The computer-implemented method of claim 14, further comprising responsive to a click or tap of the second album selectable thumbnail image, displaying a second album view, the displaying the second album view including displaying (i) the second album name associated with the second album and (ii) a scaled replica of each of the digital photographs and videos in the fourth set of digital photographs and videos.
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Samsung Electronics Co., Ltd. (“Petitioner”) petitions for *inter partes* review of claims 1-15 (“Challenged Claims”) of U.S. Patent No. 10,423,658 (“’658 patent”).

I. REQUIREMENTS FOR IPR

A. Grounds for Standing

Samsung certifies that the ’658 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 grounds.

B. Challenge and Relief Requested

Samsung requests IPR on the grounds in the table below.

Ground	Claims	Basis
1	1-15	§103: Okamura, Belitz
2	3-4	§103: Okamura, Belitz, Rasmussen
3	6-12	§103: Okamura, Belitz, Gossweiler
4	8-9, 11-12	§103: Okamura, Belitz, Yee
5	8-9, 11-12	§103: Okamura, Belitz, Gossweiler, Yee

C. Claim Construction

Because the evidence and the prior art’s description of the claimed elements are similar to the ’658 patent specification, no formal claim constructions are

necessary in this proceeding.¹

D. Level of Ordinary Skill

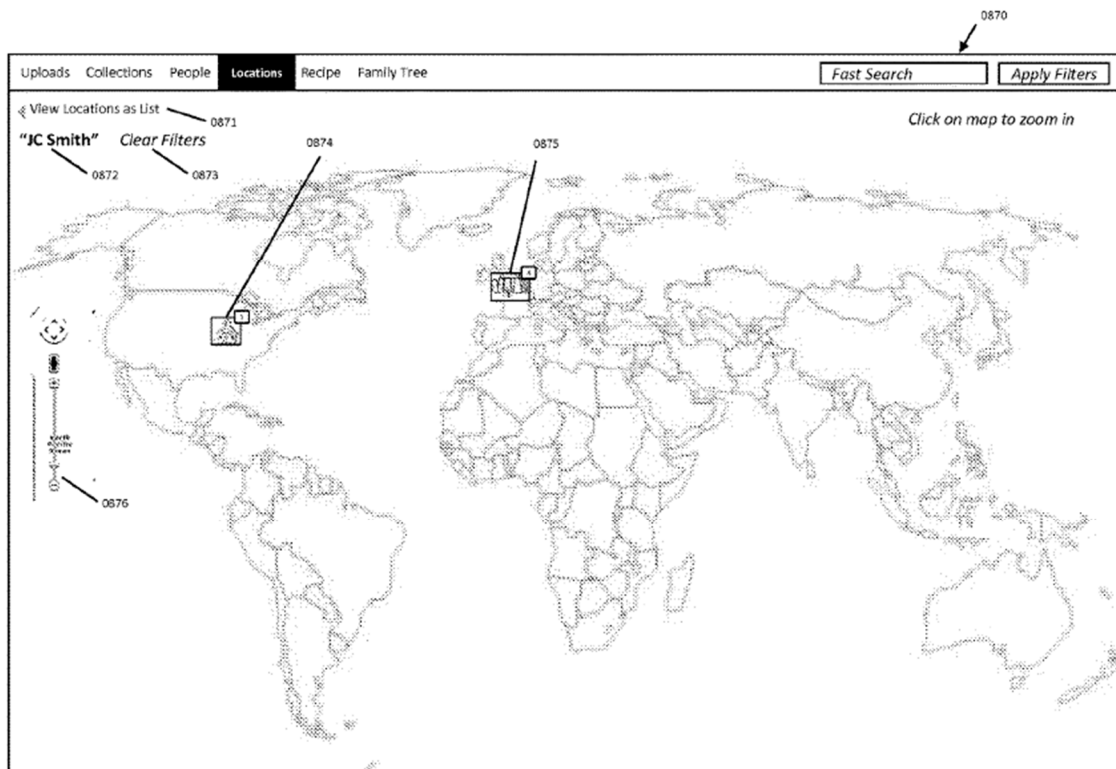
A person of ordinary skill (“POSITA”) relating to the subject matter of the ’658 patent would have had (1) a bachelor’s degree in computer science, computer engineering, electrical engineering, or a related field, and (2) at least one year of experience designing graphical user interfaces for applications such as photo organization systems. SAMSUNG-1003, [27]-[28]. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education. *Id.*

II. SUMMARY OF THE ’658 PATENT

A. Brief Description

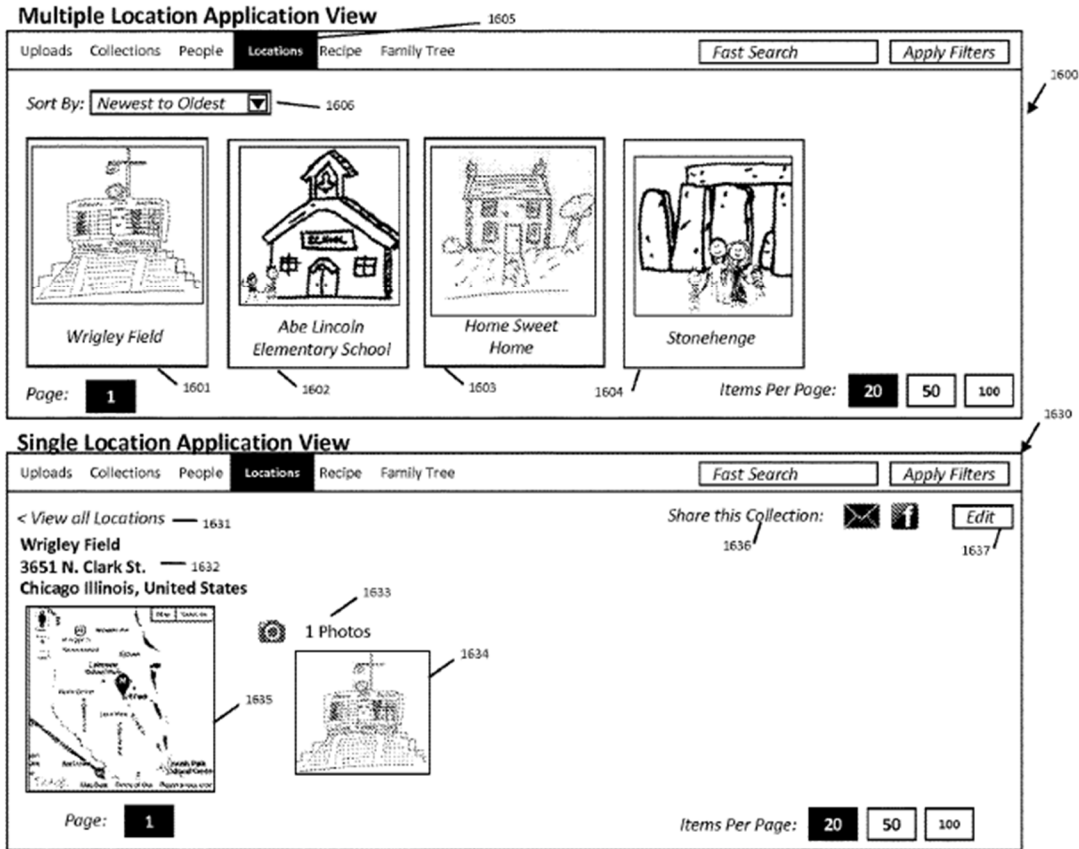
The ’658 patent describes “map” and “people” views. SAMSUNG-1001, 22:43-62, 24:1-39, 29:25-48, FIGS. 32, 34, 41. The ’658 patent’s map view (shown in FIG. 41) displays a map with thumbnail images. SAMSUNG-1001, 29:33-41.

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.



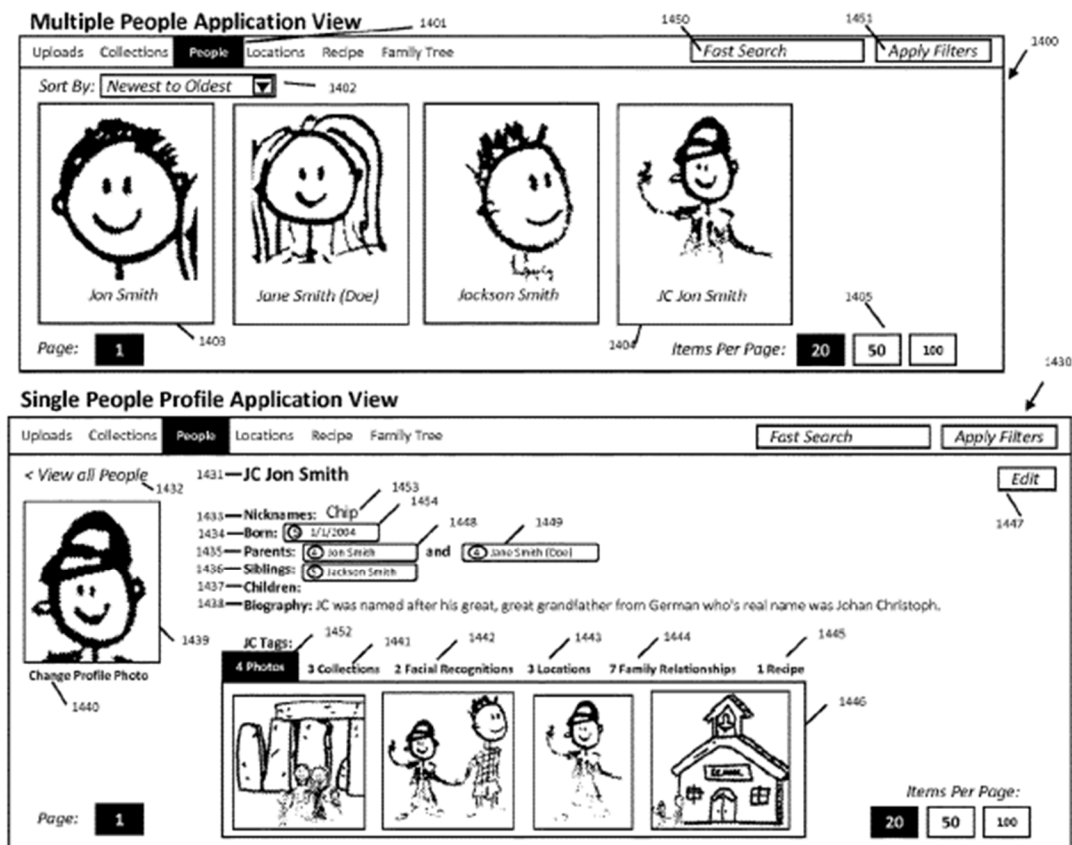
SAMSUNG-1001, FIG. 41

When the user selects a thumbnail, the user interface displays a location view (shown in FIG. 34). SAMSUNG-1001, 6:16.



SAMSUNG-1001, FIG. 34

As shown in FIG. 32, the '658 patent provides a people view (upper) that displays “person selectable” thumbnail images and, upon selection, the user interface displays a single person view (lower). SAMSUNG-1001, 22:52-23:10; SAMSUNG-1003, [47]-[55].



SAMSUNG-1001, FIG. 32

B. Prosecution History

The '658 patent was allowed without a rejection on the merits and the Examiner provided only a cursory discussion of how the allowed claims were patentable. SAMSUNG-1002, 24-30, 36-37. Okamura and Belitz were not considered during prosecution and demonstrate that the Challenged Claims were well-known. SAMSUNG-1003, [56].

C. Priority Date

MemoryWeb's earliest priority claim is June 9, 2011. SAMSUNG-1001, Cover. MemoryWeb has identified a priority date of February 28, 2014. SAMSUNG-1029, 2. The references pre-date June 9, 2011 and are prior art (under Pre-AIA 102(a), (b), (e) or AIA 102(a)(1), (a)(2)) regardless of whether the '658 patent is entitled to its earliest claimed priority. The level of skill would have been similar and the analysis applies equally whether June 9, 2011 or February 28, 2014 is used.

Reference	Filing Date	Publication Date
Okamura	10/20/2010	05/26/2011
Belitz	08/28/2008	03/04/2010
Rasmussen	07/12/2005	09/14/2006
Gossweiler	03/31/2008	11/06/2008
Yee	02/14/2008	08/20/2009

III. Application of Prior Art²

A. Claims 1-15 are rendered obvious by Okamura and Belitz

1. Okamura³

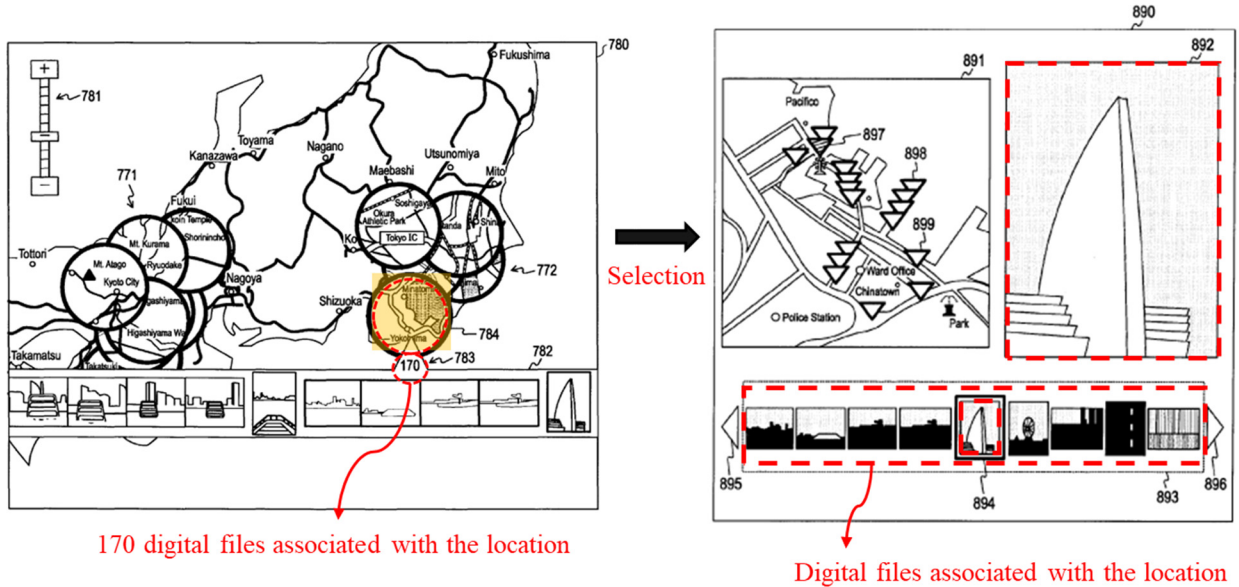
Okamura discloses a user interface for “managing contents such as image files” based on locations and people associated with the content. SAMSUNG-1005, Abstract, [0091], [0110], [0313], FIGS. 21, 41.

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, [77]-[78]. As illustrated in FIG. 50, selecting a location-based 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].

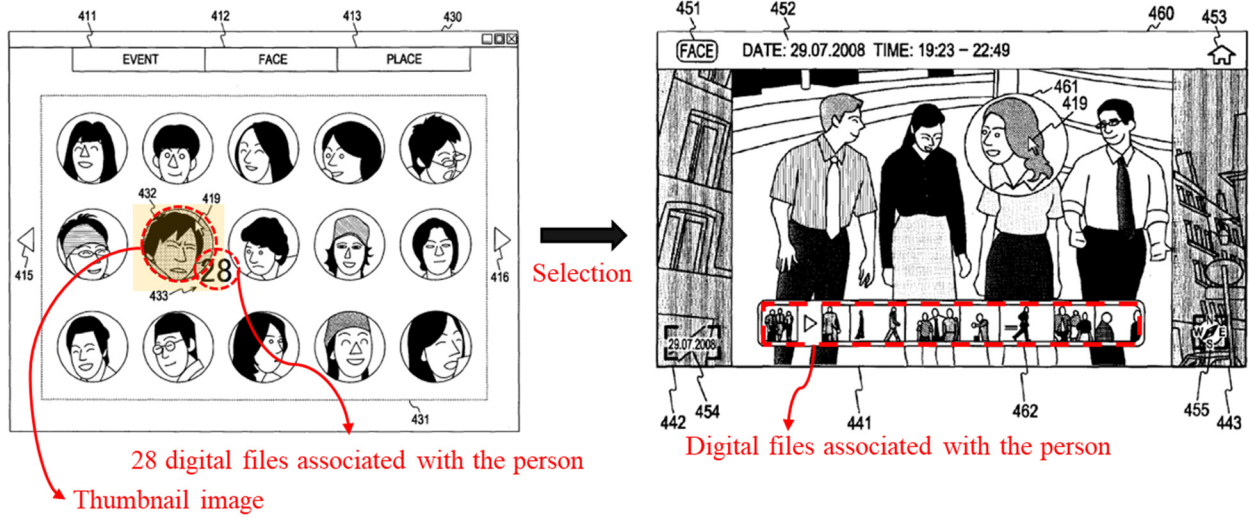
² Dr. Greenspun provides a technology background at SAMSUNG-1003, [57]-[76].

³ Descriptions of the references and combinations thereof are incorporated into each mapping that includes citations to these references. All emphasis is added unless otherwise indicated.



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

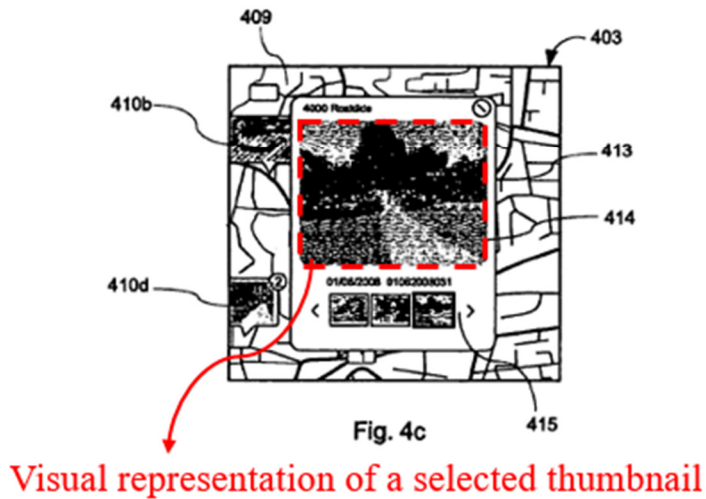
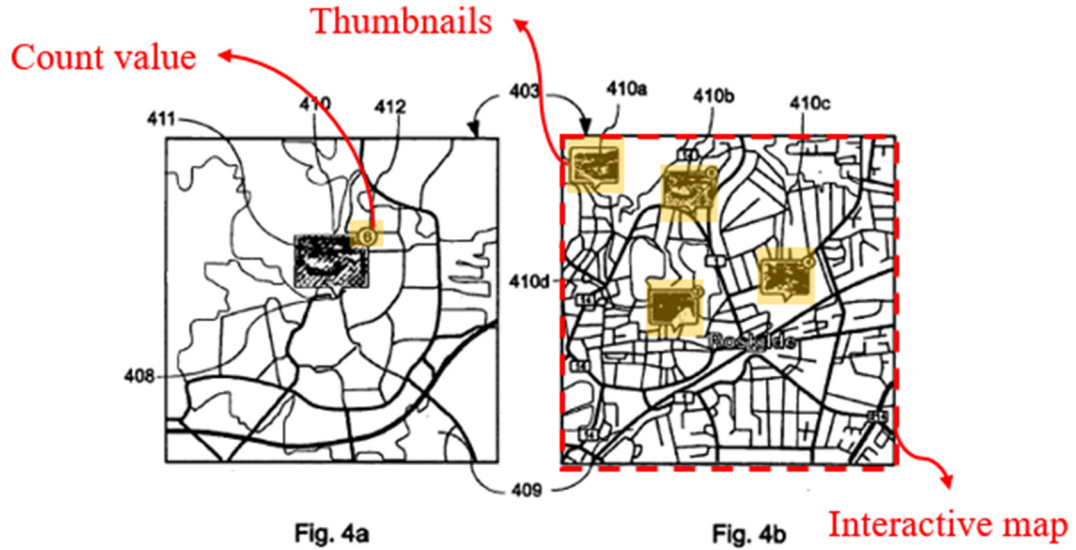
In addition to its map view, Okamura discloses a people view for content that includes an index screen displaying “index images generated on the basis of face information.” SAMSUNG-1005, [0234]. The index screen includes an “image representing a face cluster, for example, a thumbnail image of each of [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, [79]. As illustrated in 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. 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, [80].



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 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].

Responsive to selection of a thumbnail, Belitz's user interface displays visual representations associated with the selected thumbnail on a pop-up window 413. SAMSUNG-1006, [0057], [0060], [0062]; SAMSUNG-1003, [81]-[83]. 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

A POSITA would have found it obvious to combine Okamura and Belitz ("Okamura-Belitz"). Both references (as well as the '658 patent) come from the same field of endeavor: "managing and using digital files such as photographs." SAMSUNG-1001, 1:16-20; SAMSUNG-1005, [0002], [0091]; SAMSUNG-1006, [0001], [0062]. Further, Okamura and Belitz address the same problem (also purportedly solved by the '658 patent): allowing "people to organize, view, preserve and share" their digital photographs. SAMSUNG-1001, 1:56-62; 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

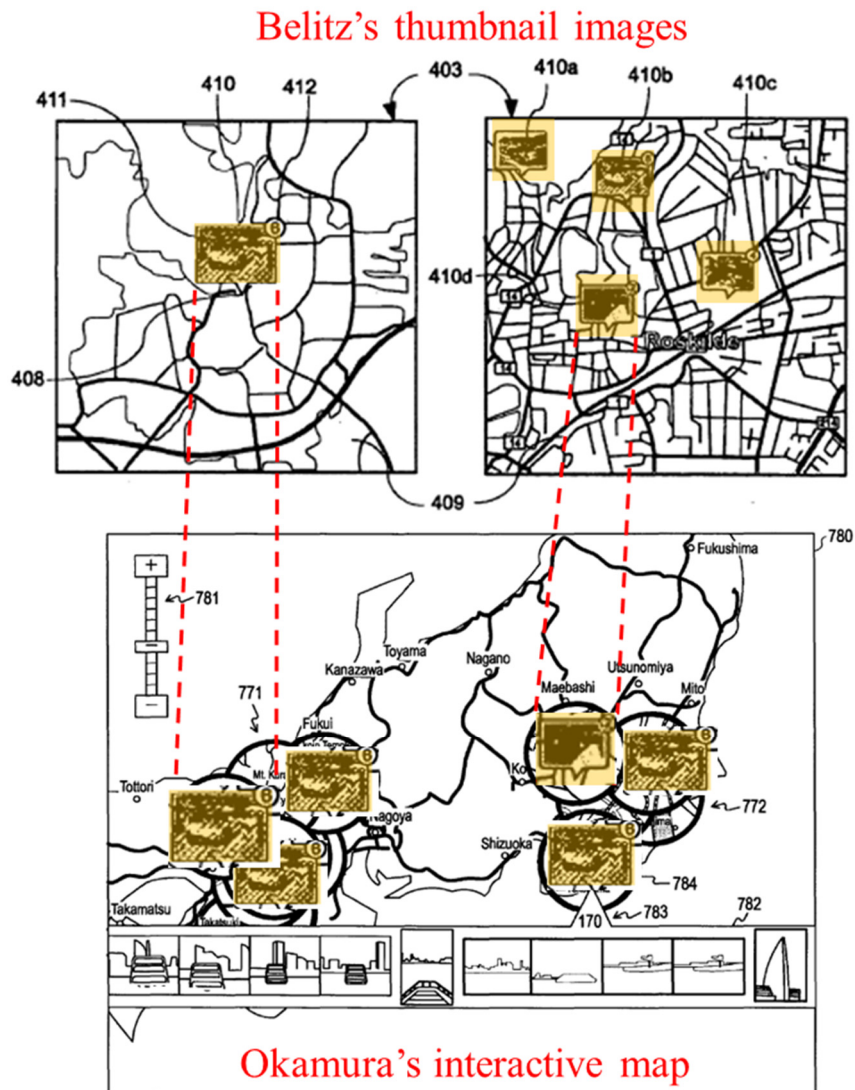
Belitz when reviewing Okamura and would have found it obvious to incorporate features of Belitz in Okamura. SAMSUNG-1003, [84].

As Dr. Greenspun explains, a POSITA would have combined Okamura and Belitz in two, alternative ways. SAMSUNG-1003, [85]. 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.*

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 additional benefits. SAMSUNG-1003, [86]. Below, Okamura's FIG. 41 has been modified to provide an example of replacing Okamura's location-based clusters with Belitz's thumbnail images:



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

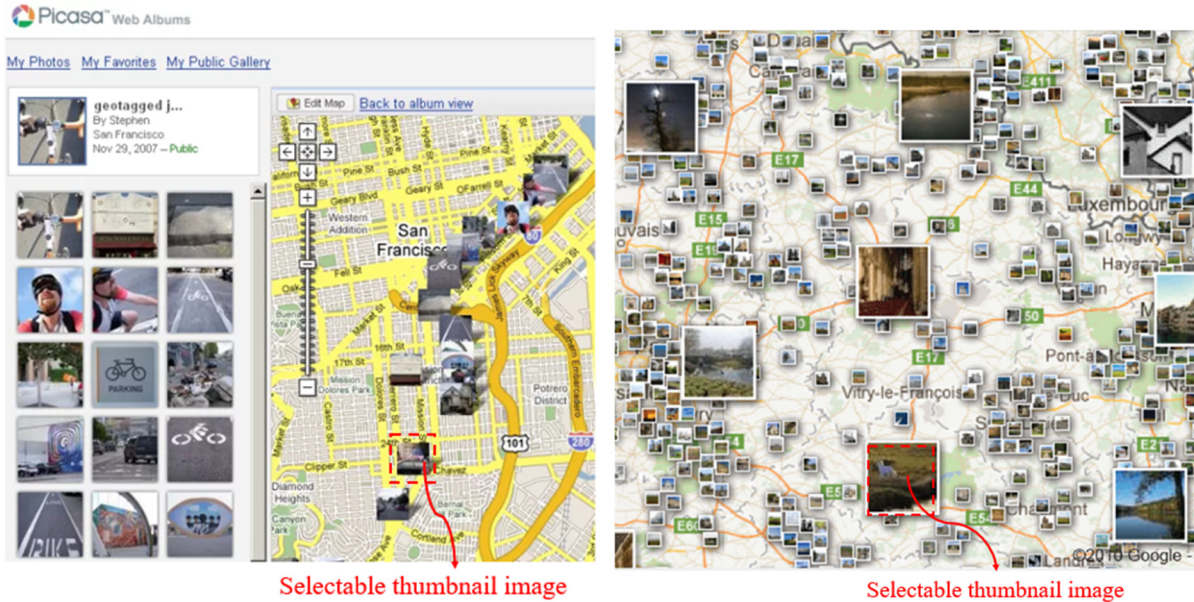
Organizing digital files using location selectable thumbnails would achieve Okamura's objective of "managing contents." SAMSUNG-1005, [0091]. As discussed in Belitz, the combination enhances a user's experience of "discern[ing] between the various objects" by providing "a good view of what location is 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, [87].

A POSITA would have understood that Belitz's thumbnail images displayed on the interactive map are functionally equivalent to Okamura's location-based clusters ((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, [88]. 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. SAMSUNG-1006, [0004].

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. SAMSUNG-1003, [89]. 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.*

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) that displayed thumbnail images on a map. SAMSUNG-1022; SAMSUNG-1023; SAMSUNG-1024, 239, 243; SAMSUNG-1003, [90].



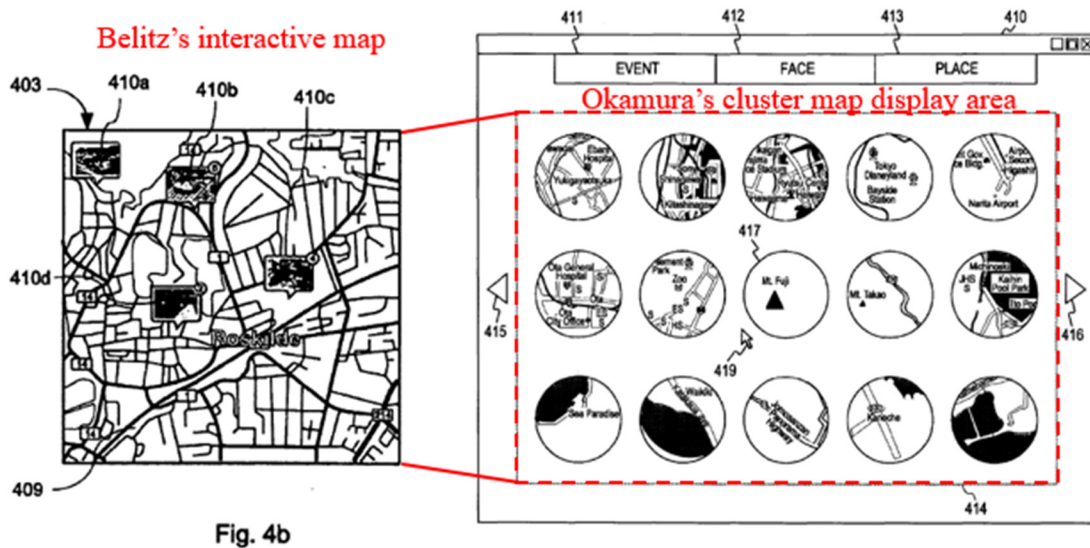
SAMSUNG-1022 (left); SAMSUNG-1023 (right)

Second Way of Combining Okamura and Belitz

Alternatively, a POSITA would have found it obvious to substitute Okamura's map-related views with Belitz's interactive map for the same reasons described above including the user's increased awareness of digital files associated with various locations. SAMSUNG-1005, [0354]-[0356], [0430], FIG. 49; SAMSUNG-1006, [0051]-[0053], [0055], [0062], FIG. 4. For example, 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. SAMSUNG-1003, [91]. 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 of content. *Id.*

Belitz's interface allows a user to more quickly view the content captured at specific locations, thereby providing a user with improved awareness because the user is able to perceive a thumbnail of the available content without having to click on a cluster, as in Okamura. *Id.*



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. SAMSUNG-1003, [92].

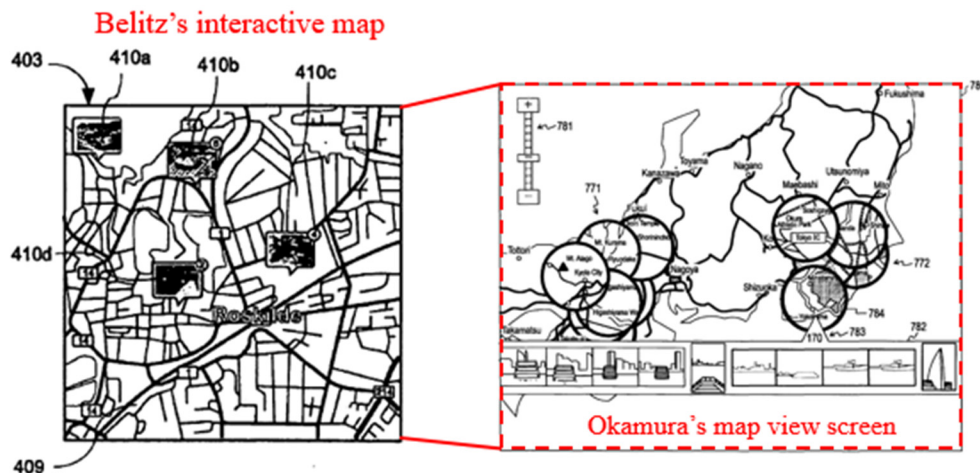


Fig. 4b

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

Technical Capabilities and High Expectation of Success

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 routine knowledge of software technologies, which were well within the skill of a POSITA prior to the Critical Date. SAMSUNG-1003, [93]. 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 the predictable result of combining known prior art elements according to known methods. *Id.* The resulting 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 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 that can be readily replaced with Belitz's thumbnail images (or entire map). SAMSUNG-1005, FIGS. 18, 41. Indeed, Okamura and Belitz would work together in combination to achieve enhanced functionality, with Belitz's suggestions improving/adding to Okamura. SAMSUNG-1003, [94]. In the first way of Okamura-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 (Belitz's thumbnails), which would have been routine. *Id.* In the second way of Okamura-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 (Belitz's map view), which would have been routine. *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.*

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 Belitz's features with a high expectation of success. SAMSUNG-1003, [95]. Because both references relate to organizing content according to the location, a POSITA would have seen the combination as predictable with relatively simple software modifications to implement. *Id.*

Specifically, a POSITA would have considered (1) the use of Belitz's thumbnails in Okamura's 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—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 known options within his or her technical grasp. *Id.*

4. Face and Event Clusters in Okamura's Second Embodiment

Although Okamura's event and face clusters are primarily described in association with Okamura's first embodiment, a POSITA would have understood or found obvious that Okamura also contemplates display of event and face clusters in its second embodiment. Among two different embodiments ([0088]-[0089]), Okamura displays, in the first embodiment, cluster maps as an index screen where files are clustered together based on location and presented as an index. SAMSUNG-1005, [0234]-[0241], FIGS. 18-19. In the second embodiment, Okamura displays clusters on a map to provide users with a visual representation of the geographic relationship between clusters. SAMSUNG-1005, [0354]-[0359], FIG. 41. Some users may prefer a location view where clusters are displayed on a map, instead of viewing them as an index. SAMSUNG-1005, [0312]; SAMSUNG-1003, [96].

In describing the second embodiment, Okamura discusses aspects that are different than the first embodiment: namely, the location view. SAMSUNG-1003, [97]. Okamura does not repeat details described for the first embodiment that are unrelated to the changes made in the second embodiment. *Id.* For example, Okamura explains that, "since the content storing section 210, the map information storing section 220, and the cluster information storing section 240 are substan-

tially the same as those described above in the first embodiment ..., 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, [97]. 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], [0246]. Because Okamura’s second embodiment stores cluster information generated by cluster information generating section 170 and 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, [97].

A POSITA would have understood or found obvious that Okamura's second embodiment merely presents Okamura's place view with a map interface (shown in FIG. 41) instead of an index view (shown in FIGS. 18-19). SAMSUNG-1003, [98]. 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 first 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, particularly since Okamura references applicability of components used to store face and event clusters in the second embodiment. *Id.* For these reasons, a POSITA would have understood or found obvious that Okamura's map view (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.

5. Analysis

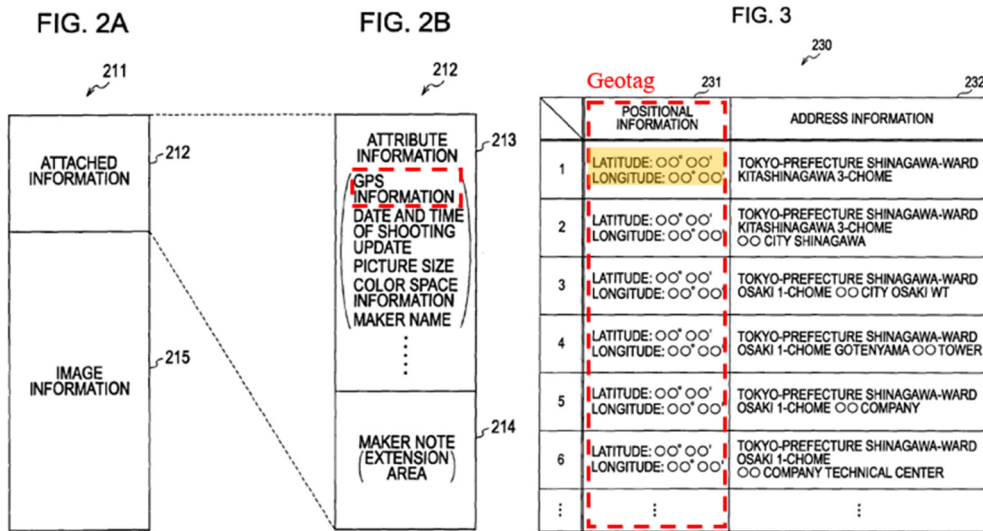
[1pre]:

Okamura describes a “*method* of generating a map associated with each [of the] clusters generated,” where a set of digital files (e.g., photographs) belong to each cluster on the map. SAMSUNG-1005, [0098], [0102], [0135], [0213]-[0215], [0232]-[0248], [0356], FIG. 41, FIG. 50.

In addition, 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, [99].

Okamura discloses that each digital file includes GPS information (e.g., as attribute information), where “[t]he GPS information includes, for example, positional information such as latitude and longitude.” SAMSUNG-1005, [0107]-[0109], [0130], FIGS. 2-5. Okamura also teaches cluster position information where a plurality of digital files share a same geotag (as shown in FIG. 5 below). *Id.* A POSITA would have understood or found obvious that Okamura’s position information represents geotags indicative of geographic coordinates where respective digital photographs or videos were taken. SAMSUNG-1003, [100]. In fact, Okamura describes its positional information as being associated with a

“TAGID,” confirming that Okamura’s positional information would have been understood as a geotag. SAMSUNG-1005, [0109] (“positional information such as latitude and longitude (for example, TAGID=1000001 to 100004)”). A POSITA would have understood or found obvious that Okamura’s GPS or positional information corresponds to geotags associated with the digital files. SAMSUNG-1003, [100].



SAMSUNG-1005, FIGS. 2A-2B, 3

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: 00° 00' 00" LONGITUDE: 00° 00' 00"	500	#1011 #1015 #1017 #1031 ⋮	#2010	#3010 #3032 #3055 #3062 ⋮		TOKYO-PREFECTURE SHINAGAWA-WARD OSAKI 1-CHOME
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

SAMSUNG-1005, FIG. 5

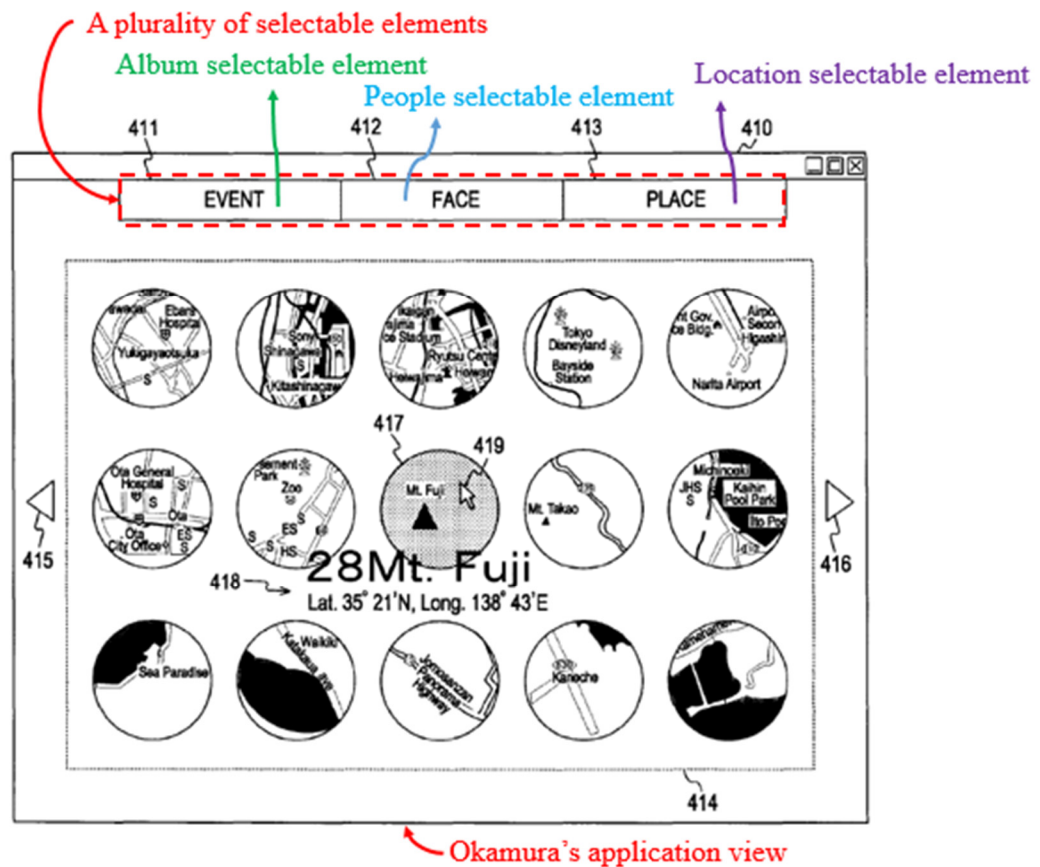
Belitz describes displaying thumbnails of graphical objects on the interactive map. SAMSUNG-1006, [0062]; SAMSUNG-1003, [101]. Each graphical object is associated with a location; “examples of associations are photographs that have been taken at those coordinates.” SAMSUNG-1006, [0052]. Belitz describes “a mobile phone ... personal digital assistants, computers, laptop computers ... photographic and videographic cameras” as example devices, demonstrating that the digital files include both digital photographs and videos. SAMSUNG-1006, [0050]-[0052]. Belitz also describes that each digital file is associated with a corresponding geographic coordinate (e.g., “photographs that have been *taken at those coordinates*”). SAMSUNG-1006, [0016], [0052].

Based on these disclosures, Okamura-Belitz renders obvious displaying digital photographs and videos, where each of the digital photographs and videos is associated with a geotag indicative of geographic coordinates where the respective digital photograph or video was taken. SAMSUNG-1003, [102].

[1a]:

Okamura displays an application view (index screen 410) and a plurality of selectable elements (“an ‘EVENT’ tab 411, a ‘FACE’ tab 412, a ‘PLACE’ tab 413”). SAMSUNG-1005, [0235]-[0236], FIGS. 18-21; SAMSUNG-1003, [103]-[104]. “PLACE” tab 413 is a location selectable element (“depressed using the cursor 419 by a user operation on the index screen 420”). *Id.*

Okamura's application view is displayed on "the display screen of the display section 181," where the display is performed by "information processing apparatuses capable of handling contents, such as a portable telephone with an image capturing function, a personal computer, a car navigation system, and a portable media player." SAMSUNG-1005, [0103], [0502]; SAMSUNG-1003, [105]. These information processing apparatuses are video display devices. *Id.*



SAMSUNG-1005, FIG. 19

[1b]:

As discussed for [1a], the location selectable element ("PLACE" tab 413) is selectable by the user (e.g., by a click of cursor 419). SAMSUNG-1005, [0236].

Selecting “PLACE” tab 413 displays “a listing of marks (cluster maps) representing clusters” as shown in FIG. 19. These location-associated cluster maps provide a map view. SAMSUNG-1003, [106].

In addition, Okamura discloses a map view that displays cluster maps on a map for a user “to intuitively grasp the geographical correspondence between the cluster maps.” SAMSUNG-1005, [0312]. Okamura’s map view screen is “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, [107].

As discussed above in Section III.A.4, a POSITA would have found it obvious that Okamura’s map view screen 780 shown in FIG. 41 is displayed responsive to a click or tap of the location selectable element (e.g., “PLACE” tab 413). SAMSUNG-1003, [108]. Although Okamura describes the map view screen 780 shown in FIG. 41 as part of a second embodiment, a POSITA would have found it obvious to display map view screen 780 in the first embodiment’s cluster map display area 414 in FIG. 19 responsive to user input selecting the location selectable element (e.g., “PLACE” tab 413). *Id.* Indeed, Okamura’s second embodiment is directed to a different way of presenting files based on location and a POSITA would have found it obvious to replace the location view presented in the first embodiment (e.g., cluster map display area 414) with the location view

display device for the same reasons discussed for [1a] (incorporated herein).

SAMSUNG-1005, [0103], [0502]; SAMSUNG-1003, [109].

Belitz also describes a map view that is displayed responsive to a click or tap of the location selectable element 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, [110]. In the second way of Okamura-Belitz, Belitz’s map view shown in FIG. 4 (below) replaces Okamura’s cluster map display area and represents the claimed map view.

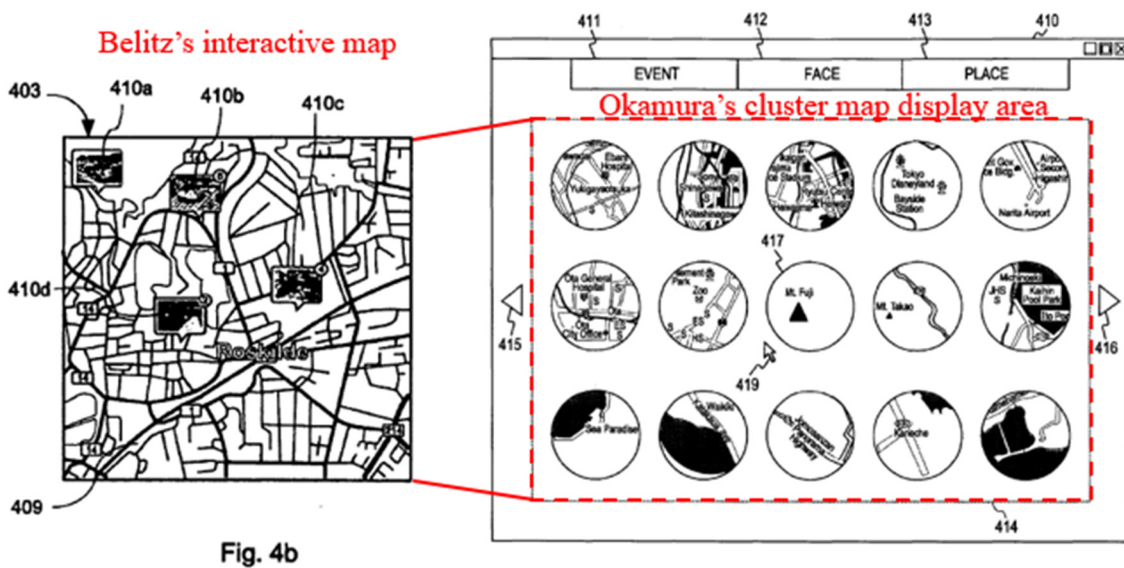


Fig. 4b

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

Belitz’s map view is displayed on the video display device because Belitz explains “a mobile phone” as an example device that displays the user interface.

SAMSUNG-1006, [0050]. A POSITA would have found it obvious to display

Belitz’s interactive map in Okamura's user interface, e.g., displayed once a user

selects a tab associated with the map views (e.g., “PLACE” tab 413) to improve the user's understanding of the geographical correspondence among digital files. SAMSUNG-1005, [0312]; SAMSUNG-1006, [0002]; SAMSUNG-1003, [111].

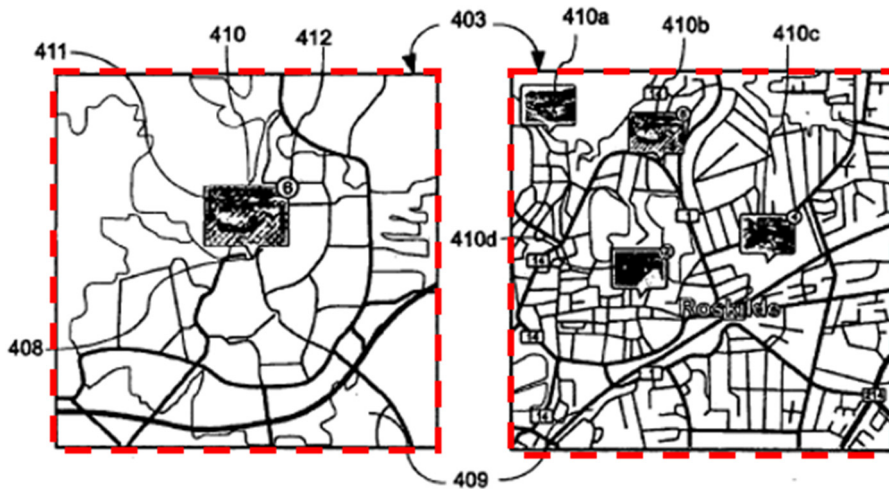


Fig. 4a **Belitz's map view** Fig. 4b

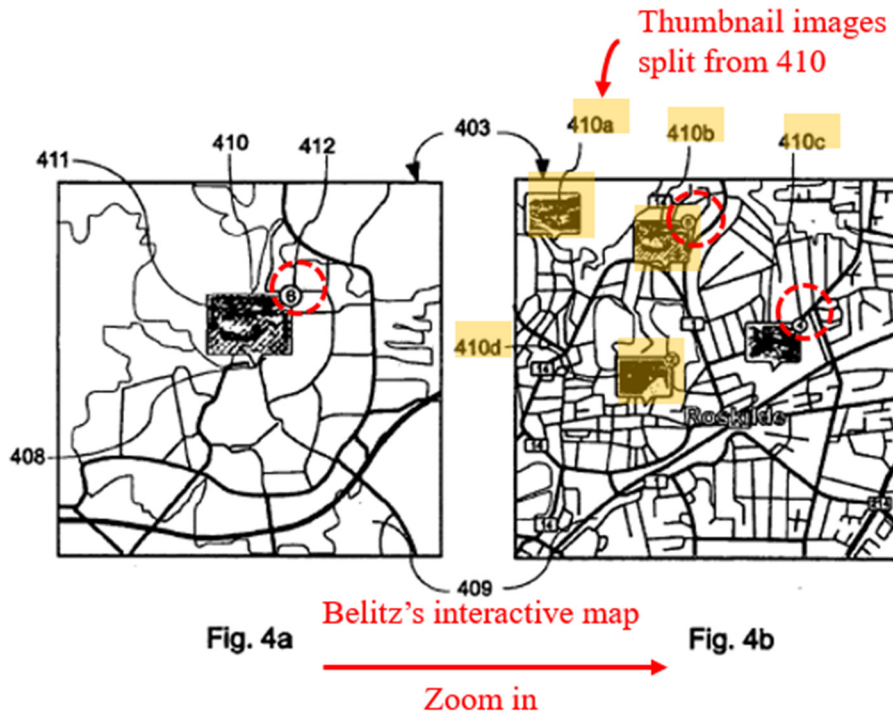
SAMSUNG-1006, FIG. 4a-4b

[1c]:

As described in Section III.A.1 and [1b], Okamura discloses a representation of an interactive map in the form of *map view screen* 780. SAMSUNG-1005, [0431], FIG. 41; SAMSUNG-1003, [112].

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].

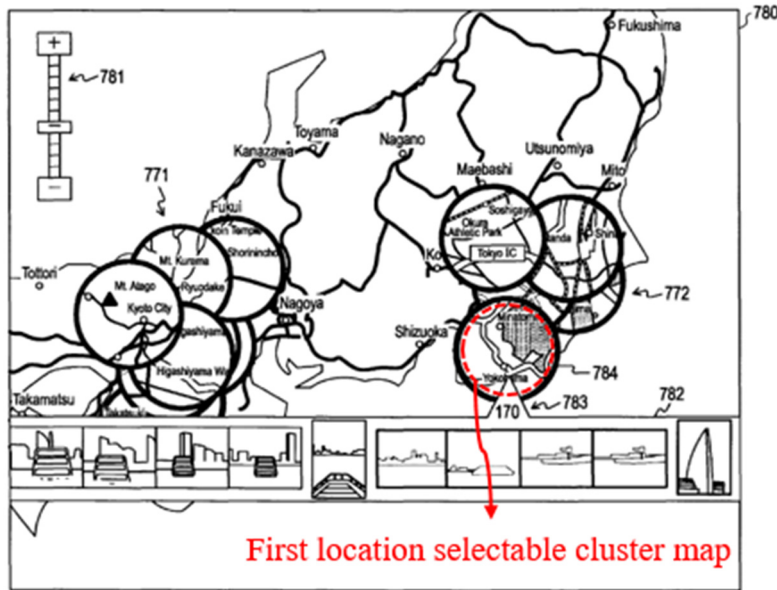


SAMSUNG-1006, FIG. 4a-4b

[1d]:

Okamura displays selectable cluster maps (e.g., cluster map 784) on the interactive map (e.g., map view screen 780), where each cluster map includes a set of digital files (including both photographs and videos; *see* [1pre]) associated with a given location by a geotag. SAMSUNG-1005, [0354]-[0359], FIG. 41; SAMSUNG-1003, [116]. A first location selectable cluster map 784 includes a first set of digital files (170 digital files) shown in the content listing display area 782. *Id.*

Okamura's map view




SAMSUNG-1005, FIG. 41

In Okamura, each cluster shown in the map view is associated with a corresponding geotag: a first geotag (e.g., latitude and longitude) is associated with digital files (e.g., content #1011, #1015, ...) as shown in FIG. 5 (below).

SAMSUNG-1005, [0128]-[0132], FIG. 5; SAMSUNG-1003, [117]. The first geotag includes geographic coordinates, and the first set of digital files includes all of the digital photographs and videos associated with the first geotag. *Id.*

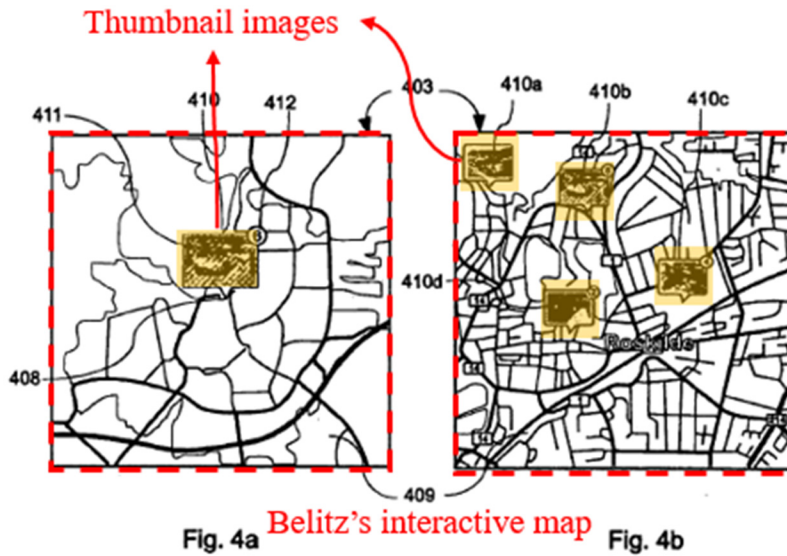
240

241 CLUSTER IDENTIFICATION INFORMATION	242 CLUSTER POSITION INFORMATION (CENTER POSITION)	243 CLUSTER SIZE (RADIUS)	244 CONTENT LIST	245 PARENT CLUSTER IDENTIFICATION INFORMATION	246 CHILD CLUSTER IDENTIFICATION INFORMATION	247 CLUSTER MAP	248 CLUSTER TITLE
#2001	LATITUDE: 00° 00' LONGITUDE: 00° 00' First geotag	500	#1011 #1015 #1017 #1031 ⋮	#2010	#3010 #3032 #3055 #3062 ⋮		TOKYO-PREFECTURE SHINAGAWA-WARD OSAKI 1-CHOME
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

First set of digital files
First location name

SAMSUNG-1005, FIG. 5

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 Okamura’s clusters are not thumbnail images, 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/geographic coordinate: “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]. While Belitz does not expressly use the term geotag, Belitz explains that the location data used to position the thumbnail images on the interactive map may be the geographic coordinates where the digital files were taken. *Id.* Thus, a POSITA would have found it obvious that each of Belitz’s thumbnail images is associated with a corresponding geotag that specifies these geographic coordinates. SAMSUNG-1003, [118]-[119].

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]; SAMSUNG-1003, [120].

In the first way of combining Okamura and Belitz, a POSITA would have found it obvious to modify Okamura’s user interface, such as map view screen 780, to display selectable thumbnail images (e.g., thumbnails 410a-d) taught by Belitz. SAMSUNG-1003, [121].



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

Adopting the 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 on the map. SAMSUNG-1003, [122]. As provided 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., map view screen 780). *Id.*

Alternatively, in 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. SAMSUNG-1003, [123]. With this modification, when a user activates the "Map View Screen" in Okamura, Okamura-Belitz would display Belitz's interactive map with location selectable thumbnail images (e.g., thumbnails 410a-d) at different locations. SAMSUNG-1005, [0354]-[0356], [0430], FIG. 49; SAMSUNG-1006, [0051]-[0062]. As provided 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 (Belitz's map view). SAMSUNG-1003, [123].

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, [124]. 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," it is inferred in

this language that the thumbnail images are indeed reduced versions of the “full size” image. SAMSUNG-1006, [0060]; SAMSUNG-1003, [124].

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. SAMSUNG-1003, [125]. Creating a reduced-size version of an image that maintains its aspect ratio without cropping was well-known by 2010. *Id.* (citing SAMSUNG-1031, 11:58-61 (“thumbnails...may be cropped or uncropped.”)). As Dr. Greenspun explains, choosing thumbnail images that maintain aspect ratios and are uncropped would have been a routine design decision. *Id.*

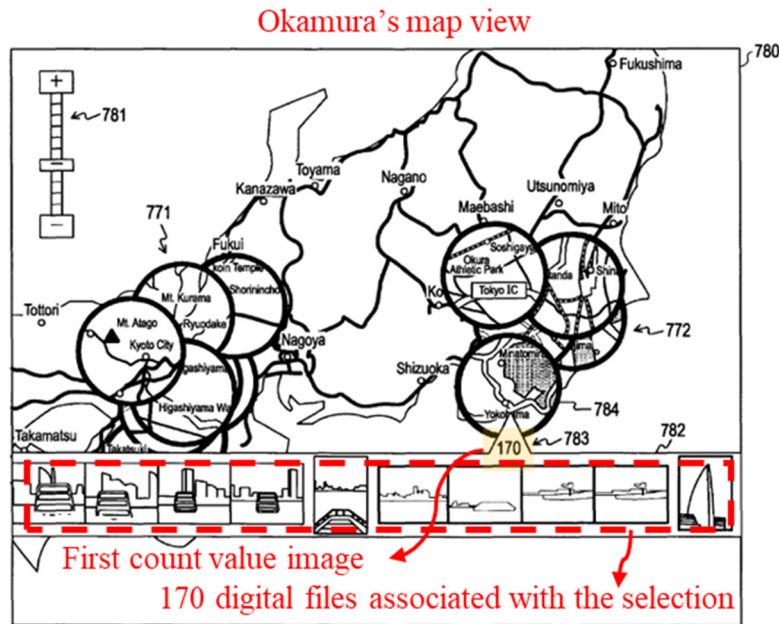
[1e]:

Okamura’s map view displays a first count value image 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 [1d] (incorporated herein), 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, [126].

As described in [1pre], Okamura’s digital files include both digital photographs and videos. SAMSUNG-1005, [0501] (“still image contents,”

“moving image contents”). Thus, when Okamura describes the count value image being used to display “the number of contents,” the count value image corresponds to the number of digital photographs and videos (the contents) in the set.

SAMSUNG-1005, [0356], [0002], [0022], [0091]-[0092], [0107]-[0110], [0139], [0149], [0501], FIGS. 2A-2B; SAMSUNG-1003, [127]. As shown in FIG. 41 (below), Okamura’s count value image partially overlaps the selectable element displayed for the relevant cluster.



SAMSUNG-1005, FIG. 41

As discussed in Section III.A.3 and [1d], Okamura-Belitz would have resulted in selectable thumbnail images instead of clusters on map view screen 780. Belitz also discloses a count value image corresponding to the number of photographs and videos 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], [0062] (“graphical objects are photographs”), [0050] (“both photographic and videographic cameras”); SAMSUNG-1003, [128].

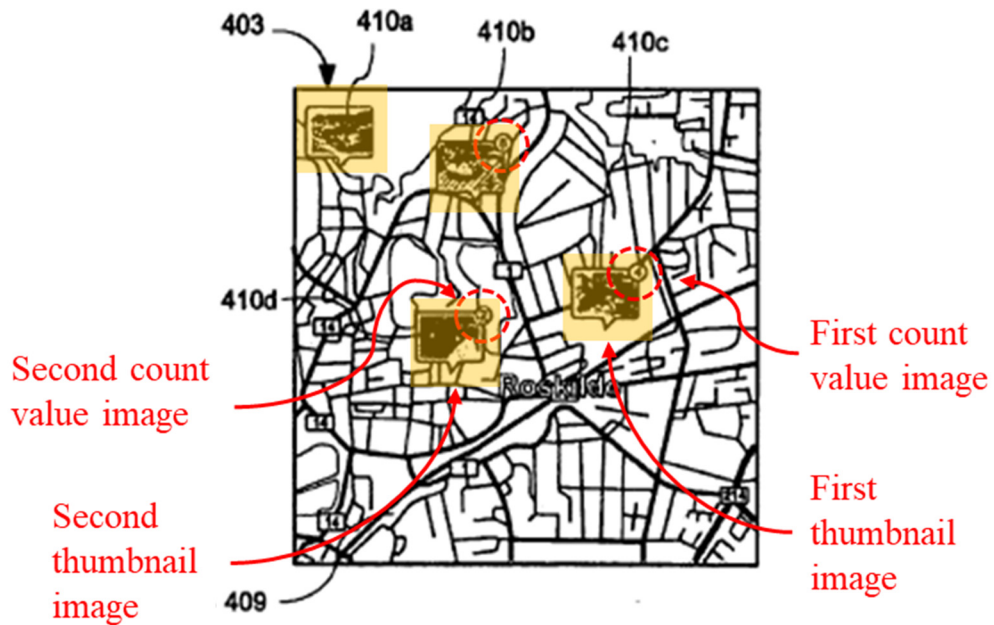
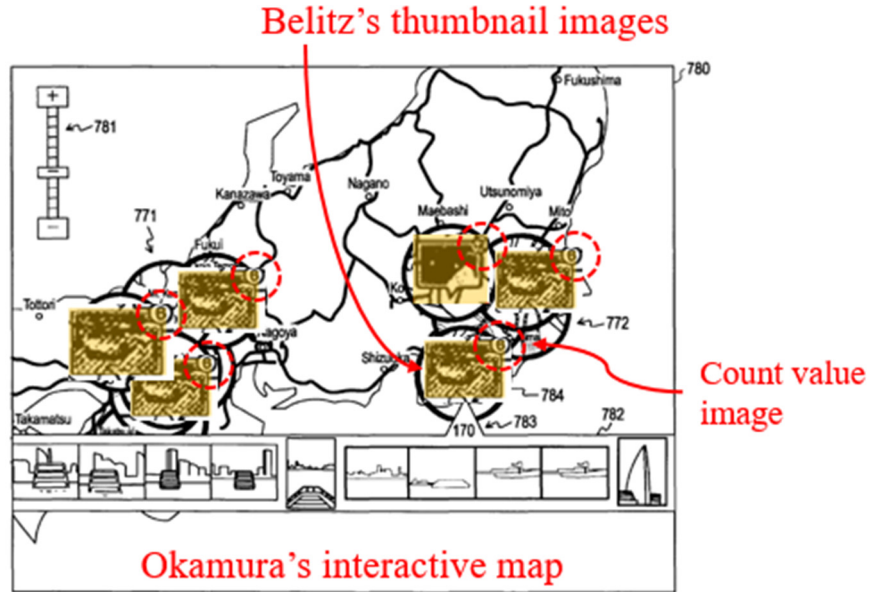


Fig. 4b

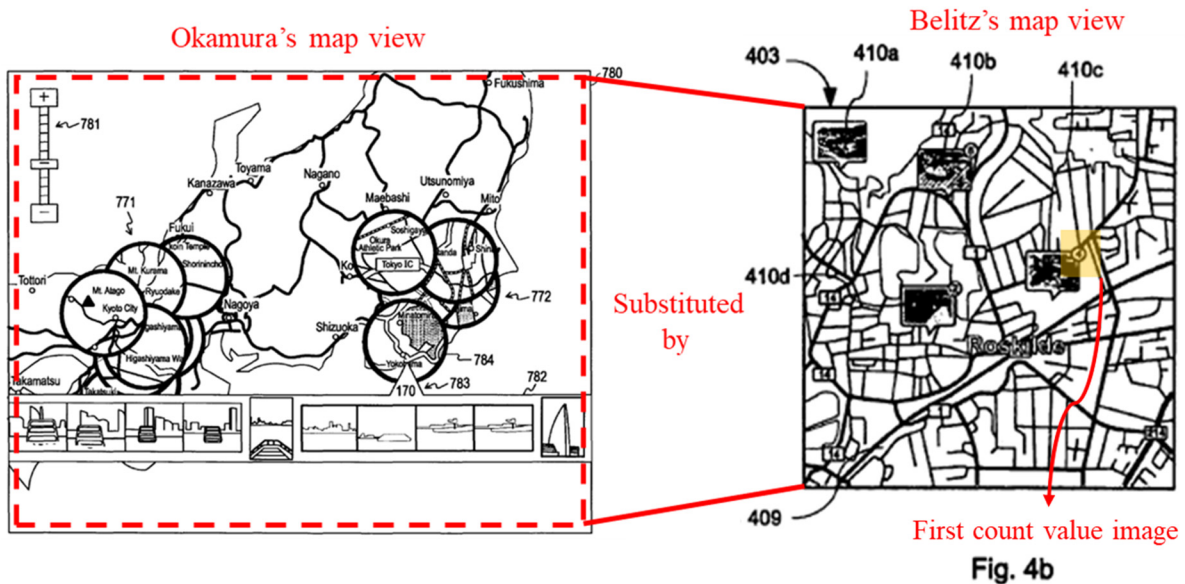
SAMSUNG-1006, FIG. 4b

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 photographs and videos *partially overlapping* with selectable thumbnail images. SAMSUNG-1003, [129].



SAMSUNG-1005, FIG. 41

Alternatively, a POSITA would have found it obvious to substitute Okamura's map view (in FIG. 41 or FIGS. 18-19) with Belitz's interactive map that includes a count value image that is *partially overlapping* the thumbnail image. SAMSUNG-1003, [130].



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

As described in [1pre], the digital files in Okamura and Belitz include both digital photographs and videos. SAMSUNG-1005, [0501]; SAMSUNG-1006, [0062], [0050]. Thus, when Okamura describes the count value image being used to display “the number of contents” and Belitz describes the count value image being used to display a number that “indicates how many graphical objects 410 are associated with that location,” the count value image corresponds to the number of digital photographs and videos (contents or graphical objects) associated with the location. SAMSUNG-1005, [0356], [0002], [0022], [0091]-[0092], [0107]-[0110], [0139], [0149], [0501]; SAMSUNG-1006, [0050]-[0054]; SAMSUNG-1003, [131].

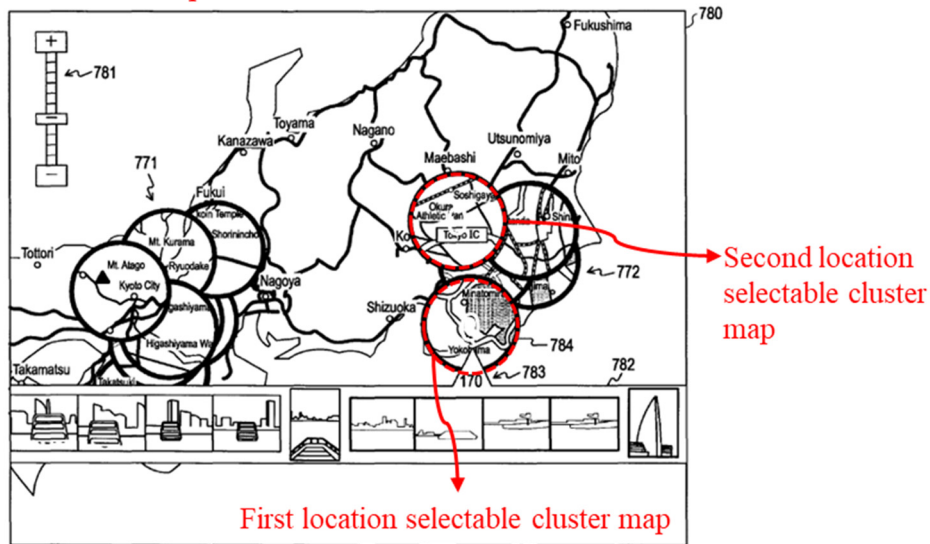
[1f]:

As discussed above for [1a] and [1d] (incorporated herein), Okamura-Belitz renders obvious multiple selectable thumbnail images, where each thumbnail image is associated with a corresponding location (geographic coordinate) on the interactive map and represents a set of digital photographs and videos including all of the digital photographs and videos associated with the corresponding location by use of a geotag. SAMSUNG-1005, [0354]-[0356], [0431]; SAMSUNG-1006, [0051]-[0056], [0059]-[0060]; SAMSUNG-1003, [132].

For example, Okamura’s clusters are displayed at different locations on the interactive map; any one of Okamura’s selectable cluster maps is a second location

cluster map associated with a second geotag, as long as it is different from a first location selectable thumbnail image. SAMSUNG-1005, [0128]-[0137], [0354]-[0359], FIG. 5, FIG. 41; SAMSUNG-1003, [133]. Okamura describes a second set of digital files associated with the second geotag, referring to FIG. 5 (below):

Okamura's map view



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: 00° 00' LONGITUDE: 00° 00' First geotag	500	#1011 #1015 #1017 #1031 ⋮	#2010	#3010 #3032 #3055 #3062 ⋮		TOKYO-PREFECTURE SHINAGAWA-WARD OSAKI 1-CHOME
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

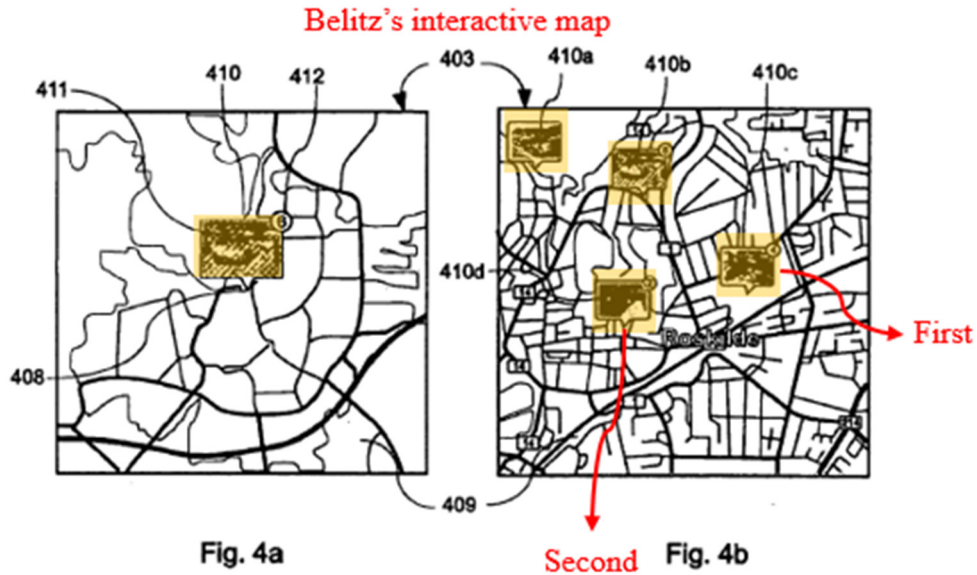
Second geotag

Digital files associated with the second geotag

SAMSUNG-1005, FIG. 41 (top), FIG. 5 (bottom)

For Okamura-Belitz, 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) associated with geographic coordinates of a second geotag, as long as it is different from a first location selectable thumbnail image (e.g., 410c). SAMSUNG-1003, [134].

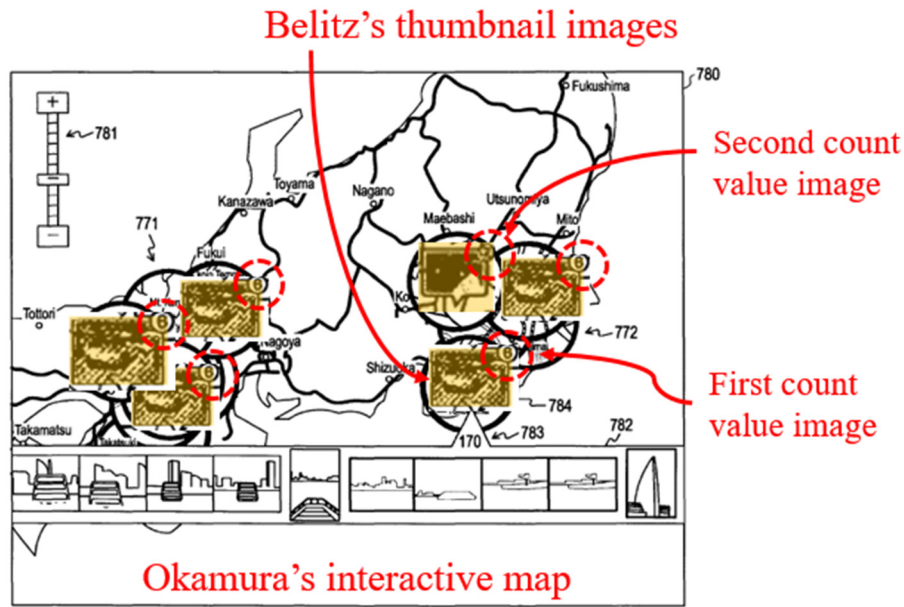


SAMSUNG-1005, FIG. 4c

[1g]:

As discussed above for [1f] (incorporated herein), Okamura-Belitz renders obvious multiple selectable thumbnail images, where each thumbnail image is associated with a corresponding location on the interactive map and represents a set of digital photographs and videos including all of the digital photographs and videos associated with the corresponding location by use of a geotag. SAMSUNG-1005, [0354]-[0356], [0431]; SAMSUNG-1006, [0051]-[0056], [0059]-[0060]; SAMSUNG-1003, [135]. For each location selectable thumbnail image, Belitz

discloses a respective count value image that partially overlaps the associated thumbnail image and includes a second count value that corresponds to the number of digital photographs and videos in the second set:



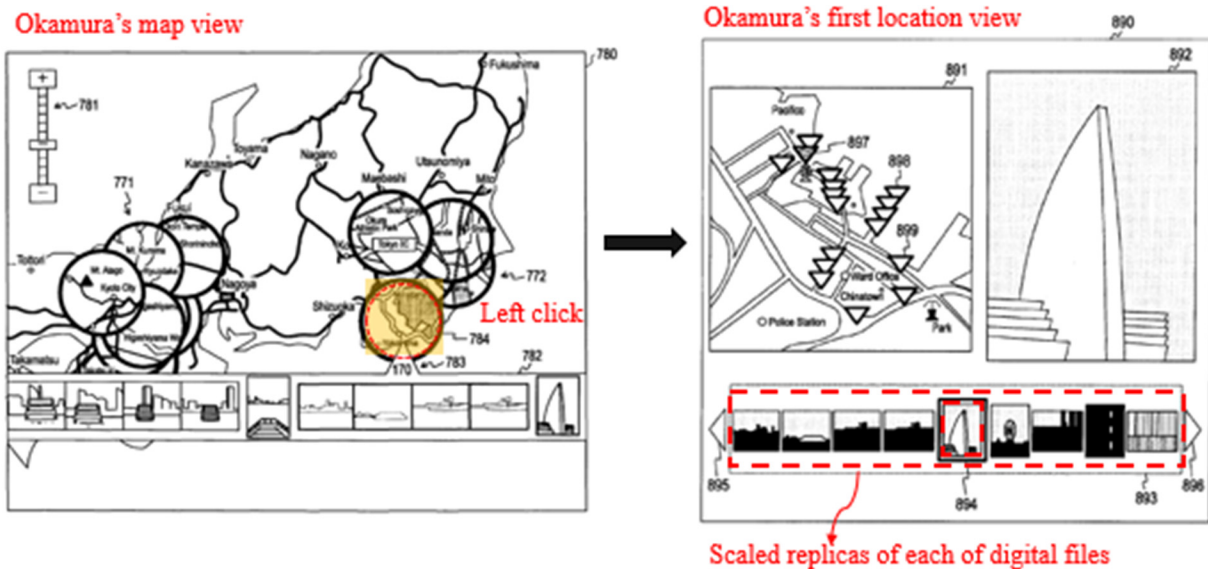
SAMSUNG-1005, FIG. 41

[1h]:

Okamura displays “play view screen 890” (a first location view) in response to a user selection (e.g., click or tap) 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. 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]. Each digital file in content listing

display area 893 (“a listing of *contents belonging to the corresponding cluster*”) is a scaled replica of each digital file associated with the selected cluster and thus associated with a selected location. SAMSUNG-1005, [0444]; SAMSUNG-1003, [136]. Okamura’s scaled replicas are not overlaid on the interactive map as shown in FIG. 50 (below). *Id.* For example, Okamura’s scaled replicas in FIG. 50 are displayed on a screen that is different from the interactive map shown in FIG. 41 and also displayed below the map display area 891 in FIG. 50. *Id.*

Okamura’s first location view is displayed on the video display device as discussed at [1a]. SAMSUNG-1005, [0103], [0502]; SAMSUNG-1003, [137].



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

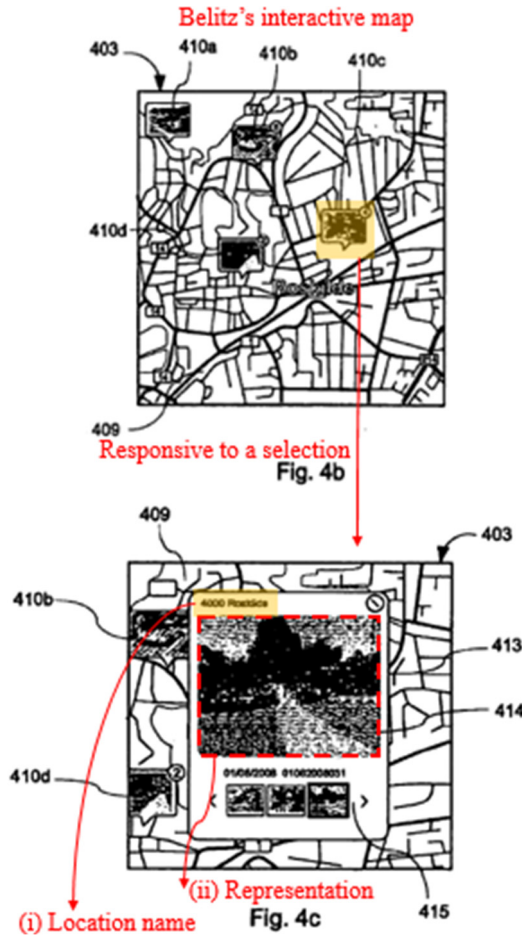
Displaying of a first location view would have occurred in Okamura-Belitz based on the clicking on the first thumbnail image as described for claim element [1d] (incorporated herein). Indeed, for the first way of Okamura-Belitz, a POSITA

would have been motivated and found it obvious to replace, in Okamura's user interface, the cluster groups taught by Okamura with the selectable thumbnails taught by Belitz. SAMSUNG-1003, [138]. 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.*

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 geotag for the cluster. SAMSUNG-1005, [0240], FIGS. 19-21. Indeed, Okamura's FIG. 5 shows the cluster title (location name) associated with the cluster position information (first geotag). A POSITA would have found it obvious to display the cluster title associated with the relevant geotag on play view screen 890, in a similar manner to Okamura's display of such information on index screen 410. SAMSUNG-1003, [139]. As Dr. Greenspun explains, it was common to display a title for presented image/video files to provide the user with additional information to aid in review and management of the image/video files. *Id.* (citing SAMSUNG-1032, [0094], FIG. 9; SAMSUNG-1033, FIGS. 1, 6; SAMSUNG-1034, [0085], FIG. 8). 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:



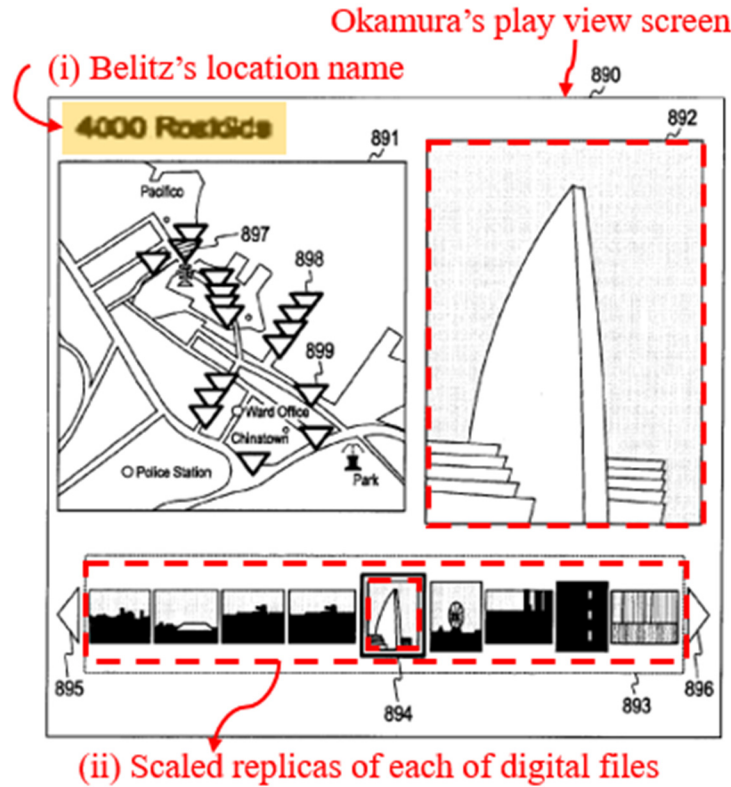
SAMSUNG-1006, FIG. 4b-c

Specifically, Belitz describes 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, [140]-[141].

Belitz also describes displaying a location view responsive to input: “I 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, [142].

Belitz further describes displaying the location name associated with the location (e.g., “4000 Roskilde”). 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, [143].



SAMSUNG-1005, FIG. 50

Furthermore, adopting the location name from Belitz in Okamura's play view screen 890 would have been obvious to a POSITA. SAMSUNG-1003, [144]. Such a combination would have provided improvements in a user's navigation through the user interface, allowing the user to identify the location name associated with the digital files. *Id.* In Okamura, each of the digital files is associated with the first location, because the image information (e.g., through the "Exif ... standard") includes "GPS information, date and time of shooting ... positional information such as latitude and longitude." SAMSUNG-1005, [0107]-[0109]. As shown in FIG. 5 (below), Okamura's first location name is associated with the first geotag and the first set of digital files. To enable a user to perceive

the location associated with the displayed files, a POSITA would have found it obvious to display, in the play view screen, the first location name associated with the first geotag. SAMSUNG-1003, [144].

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241 CLUSTER IDENTIFICATION INFORMATION	242 CLUSTER POSITION INFORMATION (CENTER POSITION)	243 CLUSTER SIZE (RADIUS)	244 CONTENT LIST	245 PARENT CLUSTER IDENTIFICATION INFORMATION	246 CHILD CLUSTER IDENTIFICATION INFORMATION	247 CLUSTER MAP	248 CLUSTER TITLE
#2001	LATITUDE: ○○° ○○' LONGITUDE: ○○° ○○' <div style="text-align: center; color: red; margin-top: 5px;">First geotag</div>	500	#1011 #1015 #1017 #1031 ⋮	#2010	#3010 #3032 #3055 #3062 ⋮	○	TOKYO-PREFECTURE SHINAGAWA-WARD OSAKI 1-CHOME
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

First set of digital files
First location name

SAMSUNG-1005, FIG. 5

Additionally, 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, [145]. Thus, the scaled replicas discussed above correspond to digital photographs and videos. *Id.*

Alternatively, as provided in Section III.A.3 and [1c] (incorporated herein), a POSITA would have been motivated and found it obvious to use Belitz's interactive map in place of Okamura's interactive map, which would extend to the location view (as shown in FIG. 4). SAMSUNG-1006, [0051]-[0056], FIG. 4; SAMSUNG-1003, [146]. As discussed above, Belitz discloses a location view with a location name and digital replicas 415 of image/video files associated with the location. *Id.* Belitz's digital replicas are not overlaid on Belitz's interactive map because they are displayed in a popup window 413, which is a separate window from the interactive map. *Id.* A POSITA would not have viewed Belitz's popup window 413 as being overlaid on Belitz's map, even if the window is displayed to hover over the map, because it is a separate window. *Id.* Additionally, a POSITA would have understood that popup windows were known to move relative to other display windows and, as a consequence, a POSITA would have found it obvious that Belitz's popup window could be moved to a position where it does not even hover over Belitz's interactive map at all. *Id.*

Belitz 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]; SAMSUNG-1003, [147]. Belitz also

describes that each of the digital files are associated with a corresponding location.

Id.

[1i]:

As explained above for [1f] (incorporated herein), 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].

Because Belitz's thumbnails are displayed at different locations on the interactive map, any one of Belitz's selectable thumbnail images 410a-d (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, [148]. Analogous to the discussion in [1h] (incorporated herein), Okamura-Belitz renders obvious that selection (e.g., click or tap) of the second location selectable thumbnail image causes the display of a second location view that includes a second location name associated with the geotag of the second location and a scaled replica of each of the digital photographs and videos in the second set of digital photographs and videos. *Id.* The scaled replicas are displayed on the video display device outside of (e.g., not overlaid on) the interactive map.

Id.

[2]:

As described in Section III.A.3, a POSITA would have found it obvious to adapt Okamura's map view to incorporate Belitz's thumbnails (e.g., replacing clusters with Belitz's thumbnails or substituting the map view with Belitz's map) to allow the user to view a preview (e.g., thumbnail) of at least one photo associated with the location. SAMSUNG-1003, [149]. Belitz describes that each graphical object can be represented by a thumbnail of a photograph, where the thumbnail image is a scaled representation of at least one of the digital photographs in the set of digital photographs associated with a given location. SAMSUNG-1006, [0011], [0062]. In addition, Belitz discloses multiple thumbnail images, where each thumbnail image is associated with a corresponding location (first and second sets of digital photographs for respective locations). *Id.*

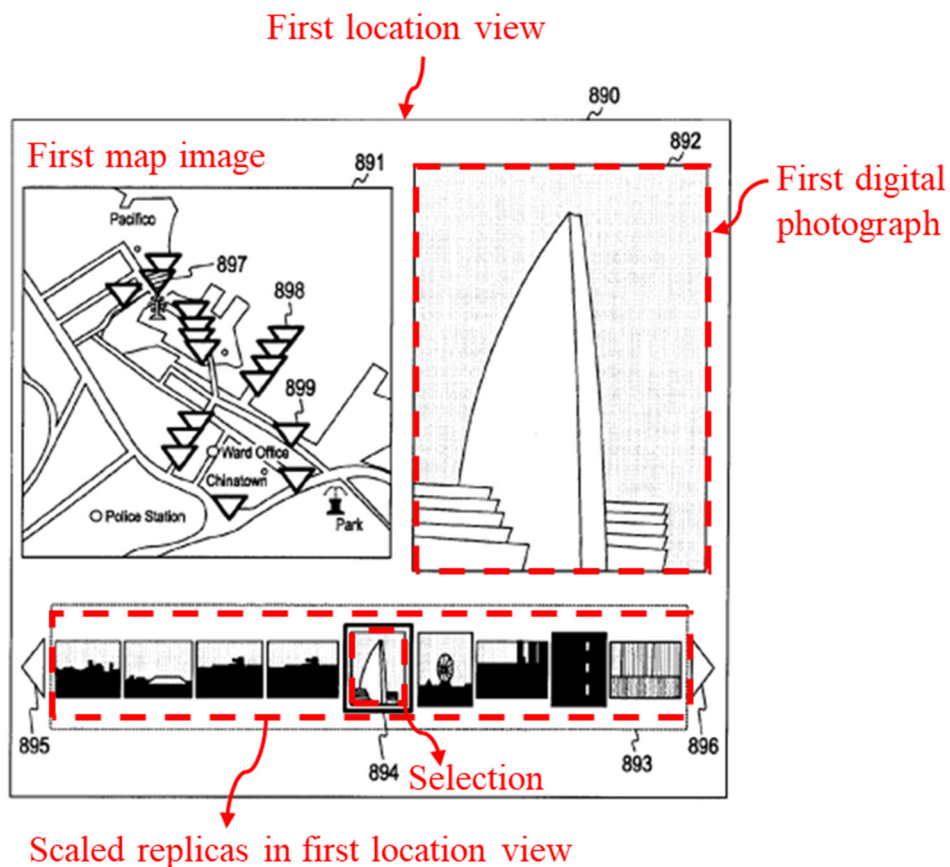
[3]:

Okamura describes selecting, by a click or tap, a first one of the displayed scaled replicas (e.g., element 894 in FIG. 50) in the first location view and displaying a first digital photograph associated with the selection. SAMSUNG-1005, [0439]-[0444], FIG. 50; SAMSUNG-1003, [150]. For example, selecting a content with "selection box 894" from "content listing display area 893" (that displays scaled replicas) causes the content (first digital photograph associated

with the first scaled replica) to be displayed on “magnified image display area 892.” *Id.*

In addition, Okamura displays a first map image in “map display area 891” that displays “a map related to the corresponding cluster” (relating to the selected cluster from the map view screen; *see* [1h]) with “marks indicating the generated positions of contents belonging to the corresponding cluster.” SAMSUNG-1005, [0442], FIG. 50; SAMSUNG-1003, [151]. Mark 897 in the first map image indicates the geographic coordinates of the geotag of selected content 894. *Id.*

Indeed, MemoryWeb has contended that “indicating ... geographic coordinates” represents merely displaying a location on a map. SAMSUNG-1029, 23-24. Base on such an interpretation, Okamura alone (referring to first map image 891 from FIG. 50) renders obvious [3]. SAMSUNG-1003, [152].



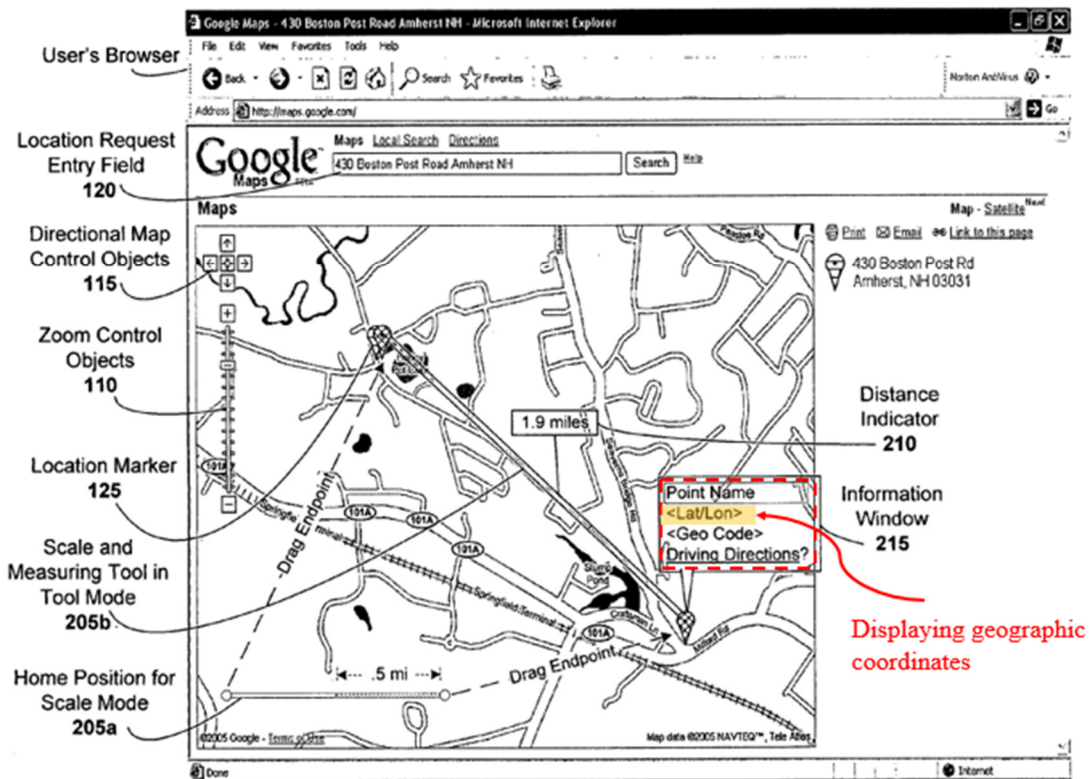
SAMSUNG-1005, FIG. 50

If the Board were to determine that “indicating ... geographic coordinates” requires showing the geographic coordinates (e.g., latitude, longitude) of the first geotag, a POSITA would have found it obvious to display such information (e.g., next to mark 897) because it would have improved the user’s experience.

SAMSUNG-1003, [153].

Indeed, providing geographic coordinates was suggested by Rasmussen (SAMSUNG-1007), which displays a geographic coordinate value (“latitude/longitude and/or geocode information”) in information window 215.

SAMSUNG-1007, 10:25-29; SAMSUNG-1003, [154]. A POSITA would have found it obvious to apply Rasmussen's teaching of displaying geographic coordinates to Okamura's first map image to achieve a common goal of providing significant information to users. *Id.* A POSITA would have had a high expectation of success in making this modification given Okamura already discloses positional information including latitude and longitude information (and displaying such information) and Rasmussen displays geographic coordinates in a callout window, which would occur in response to a user's selection of marker 897 in Okamura's map image. SAMSUNG-1005, [0109], [0112], [0115], [0130], FIG. 3, SAMSUNG-1003, [154].

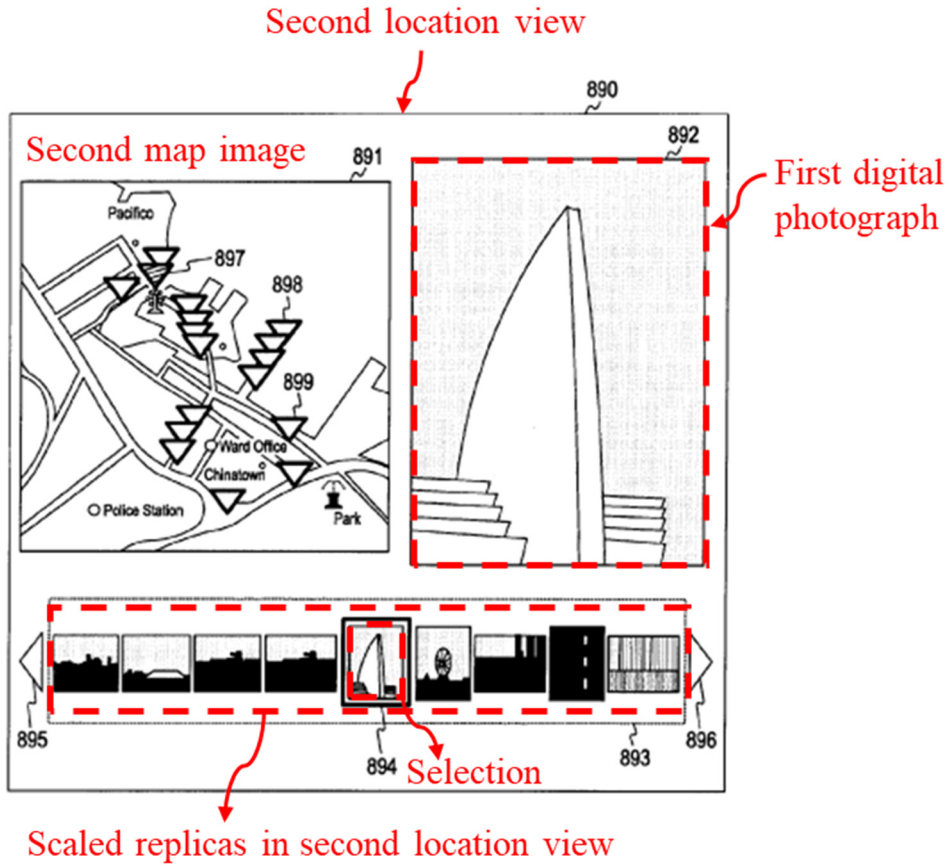


SAMSUNG-1007, FIG. 2

[4]:

Okamura discloses multiple scaled replicas in its second location view; any one of Okamura's contents in content listing display area 893 is a first one of the scaled replicas. SAMSUNG-1005, [0439]-[0444], FIG. 50; SAMSUNG-1003, [155]. For the reasons discussed at [3] (incorporated herein), operations that can be applied to Okamura's first location view that is displayed in response to selection of a first thumbnail are equally applicable to Okamura's second location view that is displayed in response to selection of a second thumbnail. *Id.*

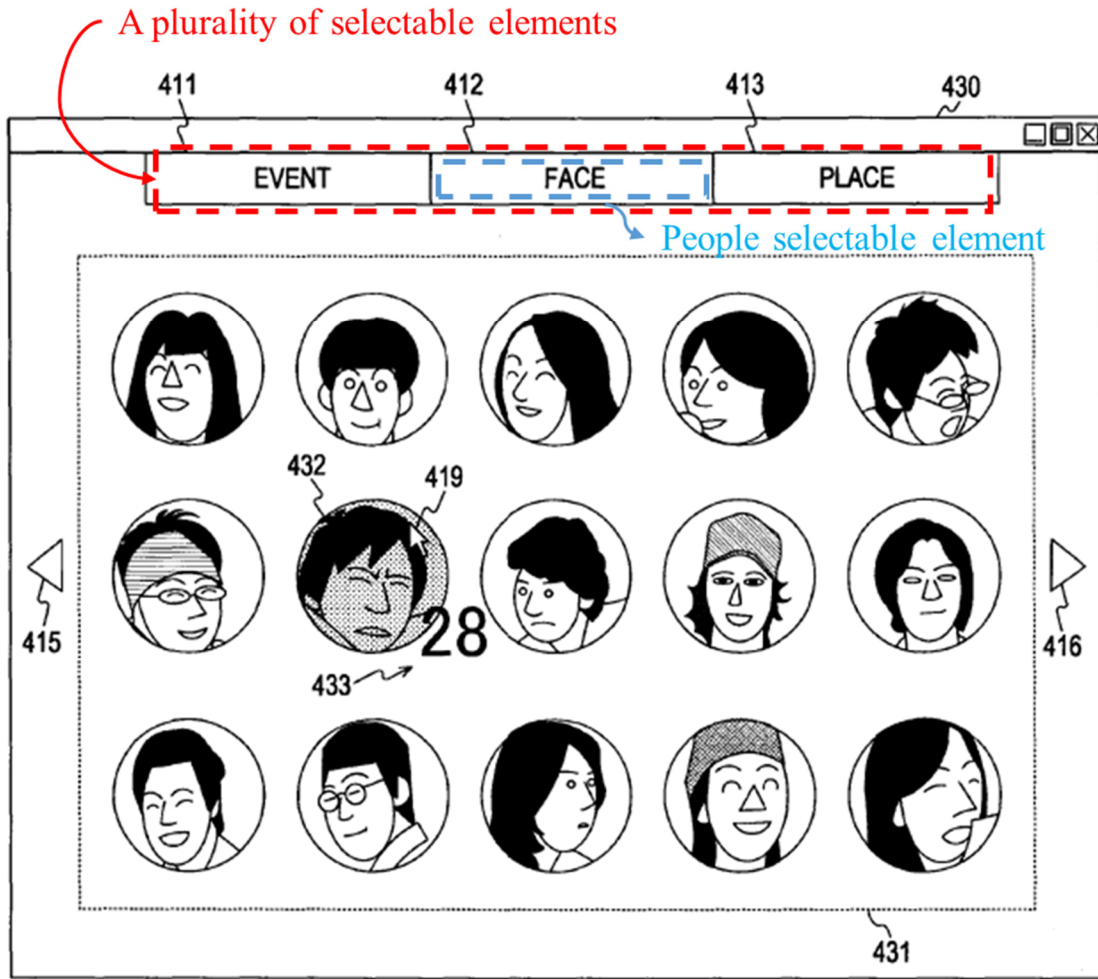
Although the images in Okamura's FIG. 50 (shown below) are the same as the images in the first location view (discussed above), a POSITA would have understood and found obvious that the images in the second location view would change to those associated with the second location upon selection of a thumbnail associated with the second location. *Id.*



SAMSUNG-1005, FIG. 50

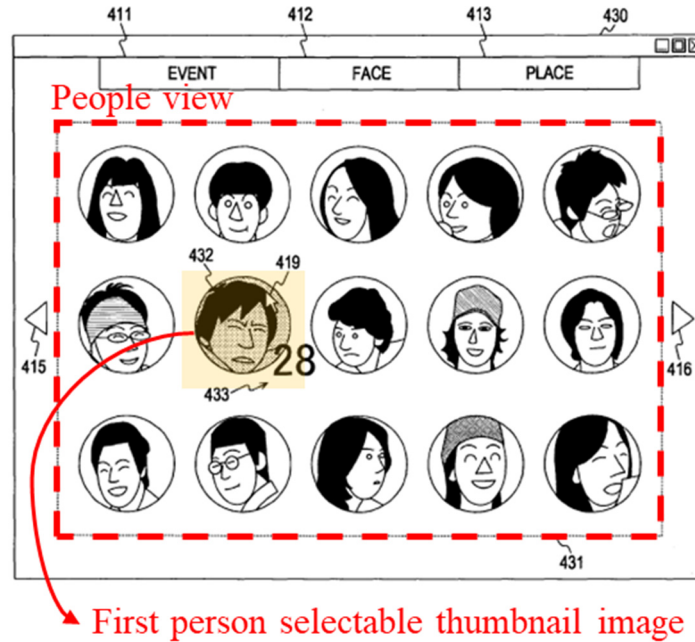
[5pre]:

Okamura displays a people view (“index images generated on the basis of face information”) in response to a *user operation*, such as a click or tap (“when the ‘FACE’ tab 412 is depressed using the cursor 419”). SAMSUNG-1005, [0234], [0236], FIG. 21; SAMSUNG-1003, [156]. “FACE” tab 412 is a people selectable element. *Id.*



SAMSUNG-1005, FIG. 21

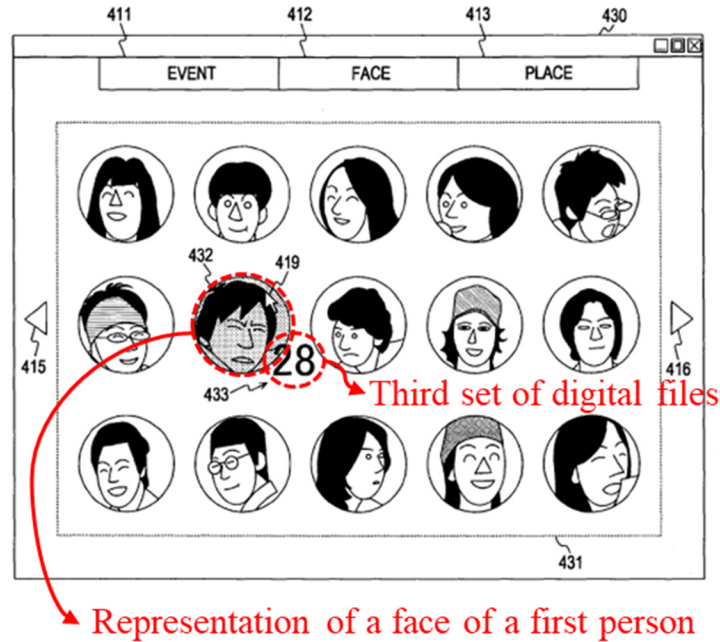
The face-based index screen is a *people view* that includes “image representing a face cluster, for example, a thumbnail image of each of faces included in contents belonging to the face cluster.” SAMSUNG-1005, [0246]; SAMSUNG-1003, [157].



SAMSUNG-1005, FIG. 21

[5a]:

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. Each person selectable thumbnail includes an image 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

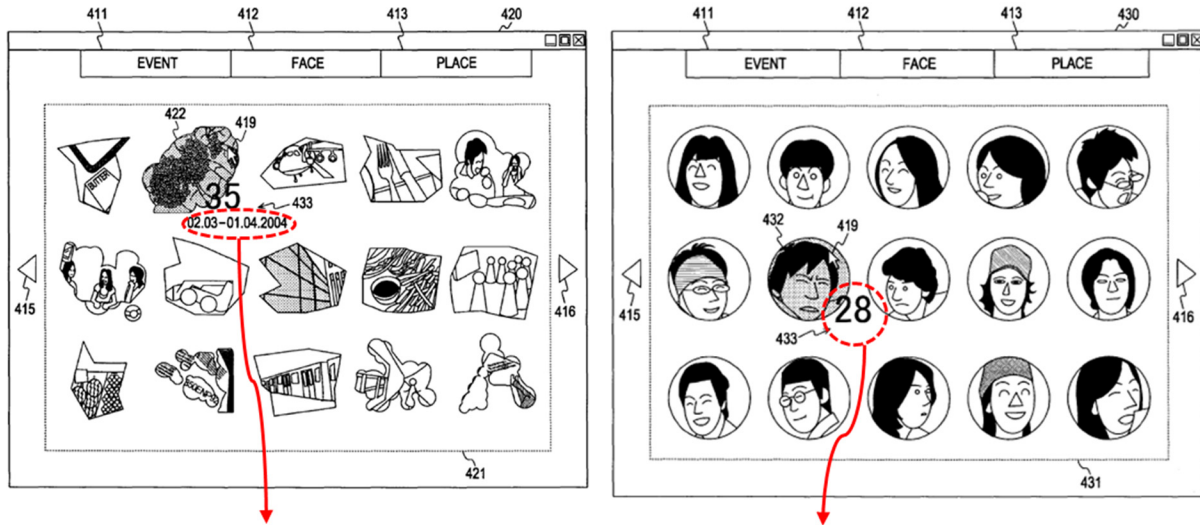
Okamura discloses that the first person and corresponding thumbnail image 432 is associated with a *third set of digital files*: “the number of contents ‘28’ belonging to a cluster corresponding to the thumbnail image 432.” SAMSUNG-1005, [0099], [0110], [0139], [0232]-[0248], [0267]; SAMSUNG-1003, [158]-[160]. In this regard, the 28 content files (digital photographs/videos) are associated with the first person and represent the third set of digital photographs/videos associated with the first person. *Id.* The third set of digital files (that depend on the person’s face) is different from the first and second sets of digital files addressed with respect to claim 1 because the first and second sets are associated with the first and second locations and the third set is associated with the person represented by thumbnail image 432. *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, [161].

[5b]:

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 displays date information "02.03-01.04.2004" adjacent to a thumbnail image. SAMSUNG-1005, FIG. 20. Okamura also describes displaying the number of digital files associated with an index "28" adjacent to a thumbnail image. SAMSUNG-1005, [0099], [0110], [0139], [0232]-[0248], [0267], FIG. 21. Analogously, Okamura's user interface would display the name *adjacent* to the first person selectable thumbnail image, because information 433 is displayed adjacent to first person selectable thumbnail image 432. SAMSUNG-1003, [162]. Displaying the name adjacent to the thumbnail image would have been obvious,

and a POSITA would have been motivated to display the name adjacent to the thumbnail to allow the user to avoid confusion on which face index belongs to whom. *Id.* (citing SAMSUNG-1038, FIG. 1D)



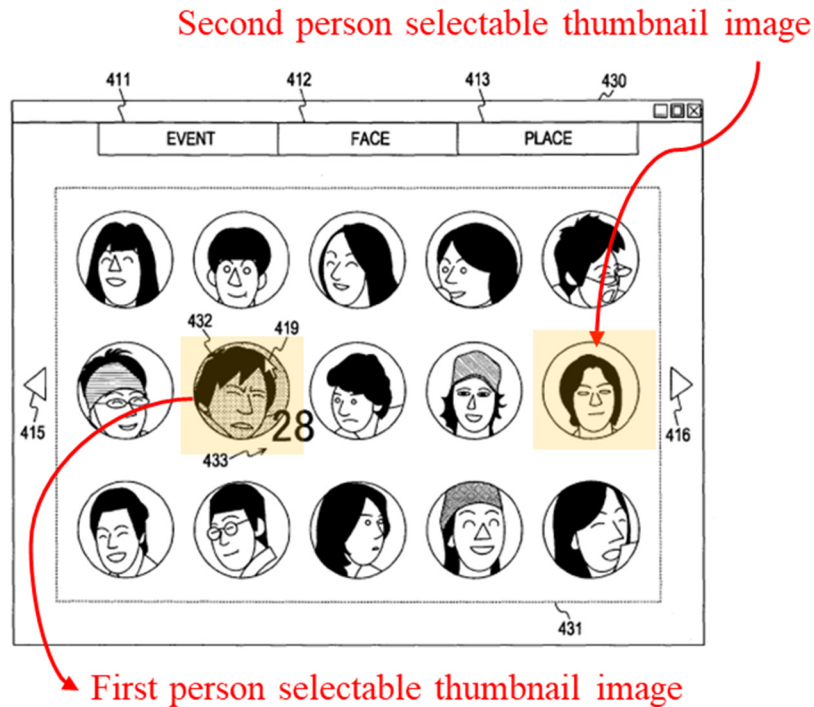
Pieces of information displayed adjacent to a thumbnail image

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

[5c]:

See [5a] (incorporated herein). Okamura discloses multiple person selectable thumbnail images and, 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]-[0260], [0267], FIG. 21; SAMSUNG-1003, [163]. Similar to how the first person is associated with a third set of digital files (that depend on the first

person's face), the second person corresponding to the second person selectable thumbnail image is associated with a fourth set of digital files (that depend on the second person's face). *Id.*



SAMSUNG-1005, FIG. 21

[5d]:

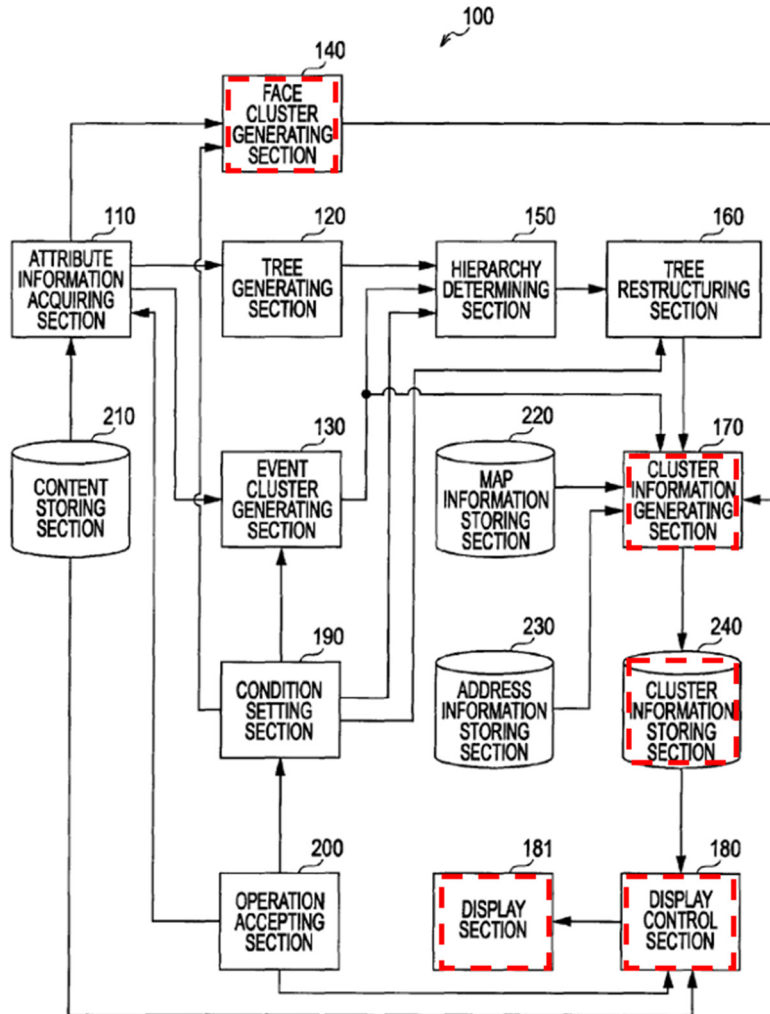
See [5b] (incorporated herein). Because Okamura's multiple face-based thumbnails are displayed on the index screen (FIG. 21), any one of the person selectable thumbnail images (e.g., as annotated above) displayed on the index screen is a second person selectable thumbnail image, as long as it is different from a first person selectable thumbnail image (e.g., thumbnail 432). SAMSUNG-1005, [0234], [0246]-[0250], FIG. 21; SAMSUNG-1003, [164]. Further, operations

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.*

[6]:

See [5a] (incorporated herein) for the first and second person selectable thumbnail images. SAMSUNG-1003, [165]. To the extent that Okamura does not expressly teach displaying multiple person selectable thumbnail images in an ***alphabetical order*** based on names, a POSITA would have found it obvious to use the names associated with each person and sort thumbnail images alphabetically. *Id.* As Dr. Greenspun explains, sorting images alphabetically based on associated texts was well-known by 2010. *Id.* (citing SAMSUNG-1038, [0060], [0082], FIG. 1D; SAMSUNG-1039, [0129], [0145] (“Name (alphabetical)”); SAMSUNG-1040, [0128]). For example, Okamura’s information generating section 170 “generates individual pieces of attribute information related to clusters” and “stores the cluster information into the cluster information storing section 240.” SAMSUNG-1005, [0102]. That is, a POSITA would have been able to readily access the names associated with the person in the digital files (because such information is included in the cluster information) and display face-based clusters in an alphabetical order. *Id.* Indeed, as shown in FIG. 1, Okamura’s display control section 180 uses the

information from the cluster information storing section 240 to generate the face index display. SAMSUNG-1005, [0102]-[0106], FIG. 1; SAMSUNG-1003, [165].



SAMSUNG-1005, FIG. 1

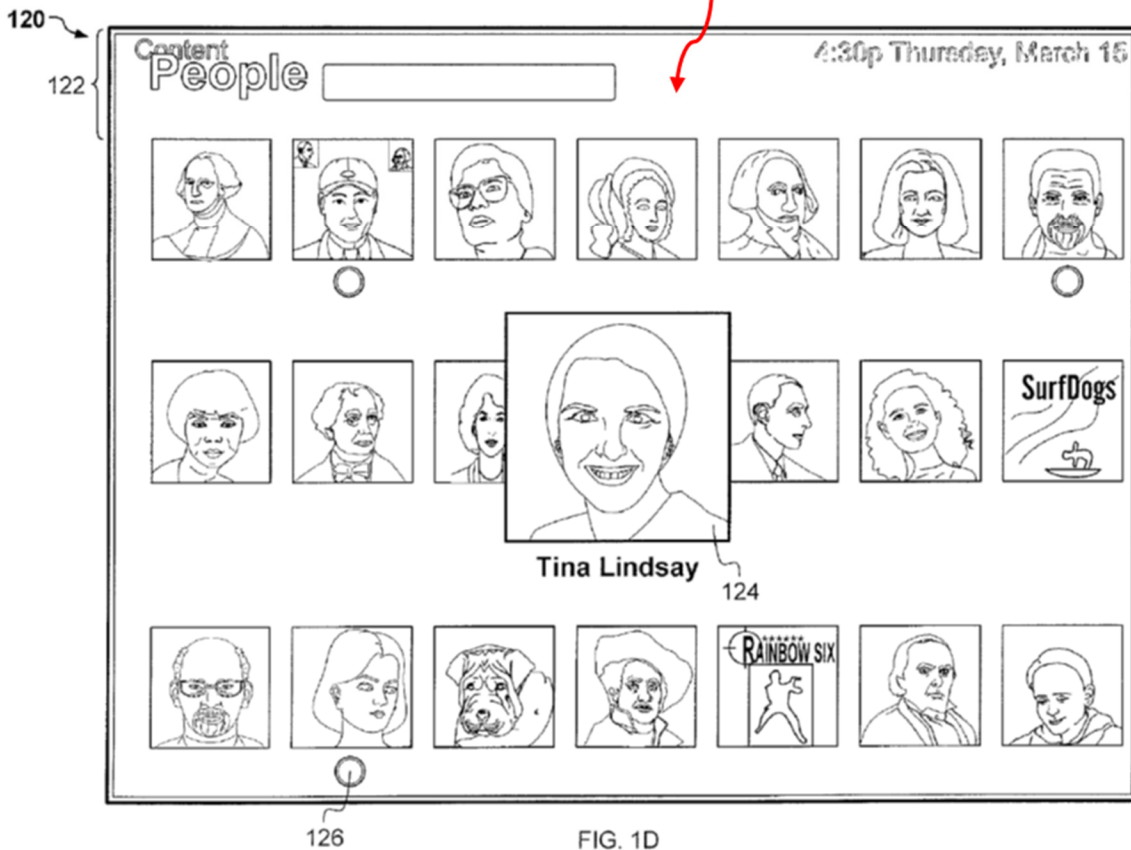
Given the availability of name information in Okamura and the well-known nature of ordering people-related content alphabetically, a POSITA would have found it obvious to order Okamura's face-specific thumbnail images in an alphabetical order. SAMSUNG-1003, [166]. A POSITA would have perceived only a finite number of options for ordering people-related content (e.g., face-

specific images) and would have found an alphabetical order based on names as a common ordering technique that would have been obvious to try. *Id.*

Further, Gossweiler corroborates Dr. Greenspun's analysis and describes displaying person selectable thumbnail images in an alphabetical order.

SAMSUNG-1038, [0060], [0082], FIG. 1D. As shown in FIG. 1D, Gossweiler describes a face index screen that is similar to Okamura's face index screen. *Id.*, [0060], FIG. 1D. Gossweiler describes that people presented in FIG. 1D "can be sorted ... alphabetically." *Id.* From this teaching, and for the reasons discussed above, a POSITA would have found it obvious to employ Gossweiler's technique of alphabetically ordering face-based thumbnail images to the face-based thumbnail images displayed in Okamura's face index screen. SAMSUNG-1003, [167].

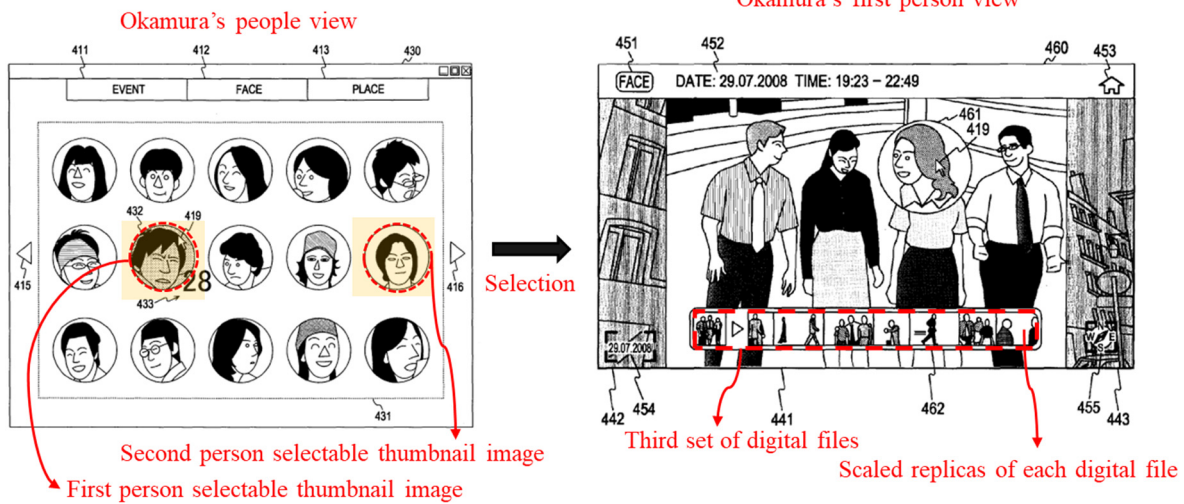
Person selectable thumbnail images ordered alphabetically



SAMSUNG-1038, FIG. 1D

[7]:

Okamura describes that selecting, by a click or tap, a face-based thumbnail image (“when a desired cluster is determined *by a user operation*” ... “for example, *a click operation* with the mouse”) causes the user interface to display “contents included in the face cluster.” SAMSUNG-1005, [0261]-[0262], FIG. 21, FIG. 24; SAMSUNG-1003, [168].



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

Content playback screen 460 (first person view) includes 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]. Content display area 441 includes a scaled replica of each digital file in the third set of digital files. SAMSUNG-1003, [169].

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 content information 452 or next to 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* [5b]). SAMSUNG-1005, [0247]; SAMSUNG-1003, [170] (citing SAMSUNG-

1038, [0061], FIG. 1E). 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, 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, [170].

Further, Gossweiler corroborates Dr. Greenspun’s analysis and describes displaying a person’s name in a detail view displayed responsive to selection of a thumbnail. SAMSUNG-1038, [0061], FIGS. 1D-1E. As shown in FIG. 1E, Gossweiler displays the person’s name. *Id.* From this teaching, and for the reasons discussed above, a POSITA would have found it obvious to employ Gossweiler’s technique of displaying the name associated with the selected person in Okamura’s content playback screen 460. SAMSUNG-1003, [171].

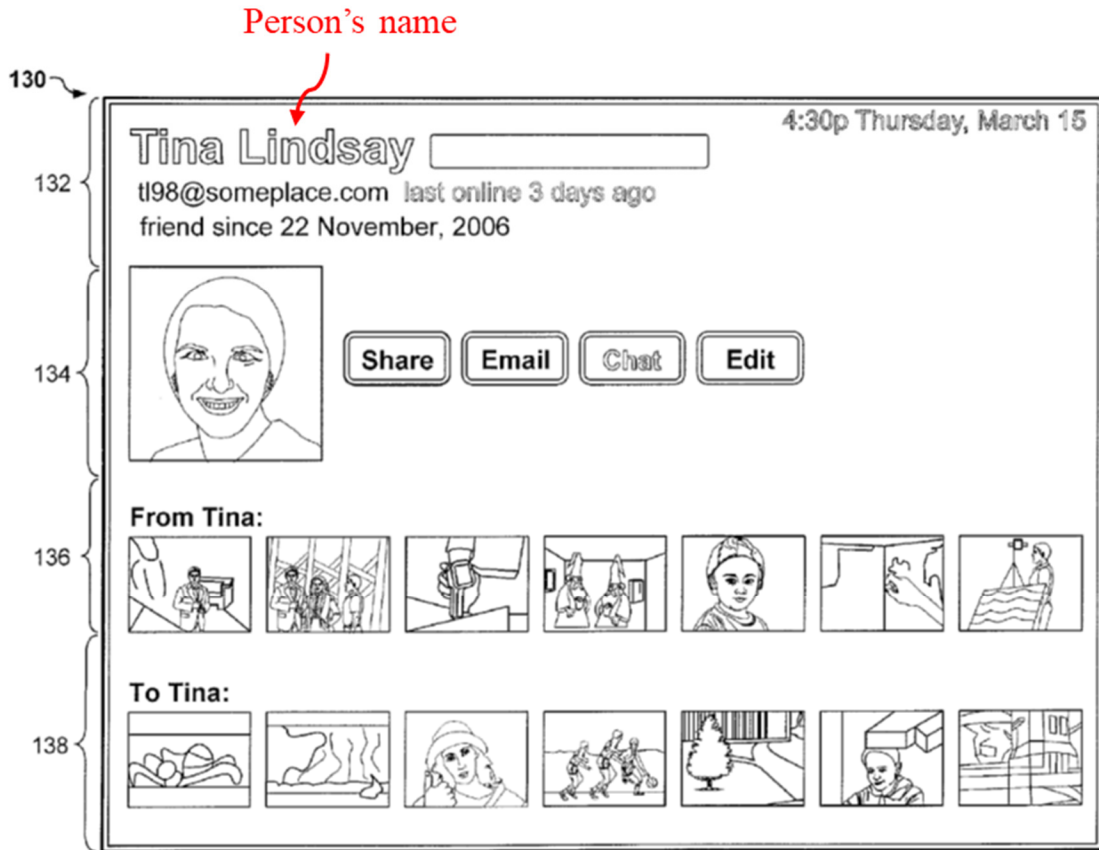


FIG. 1E

SAMSUNG-1038, FIG. 1E

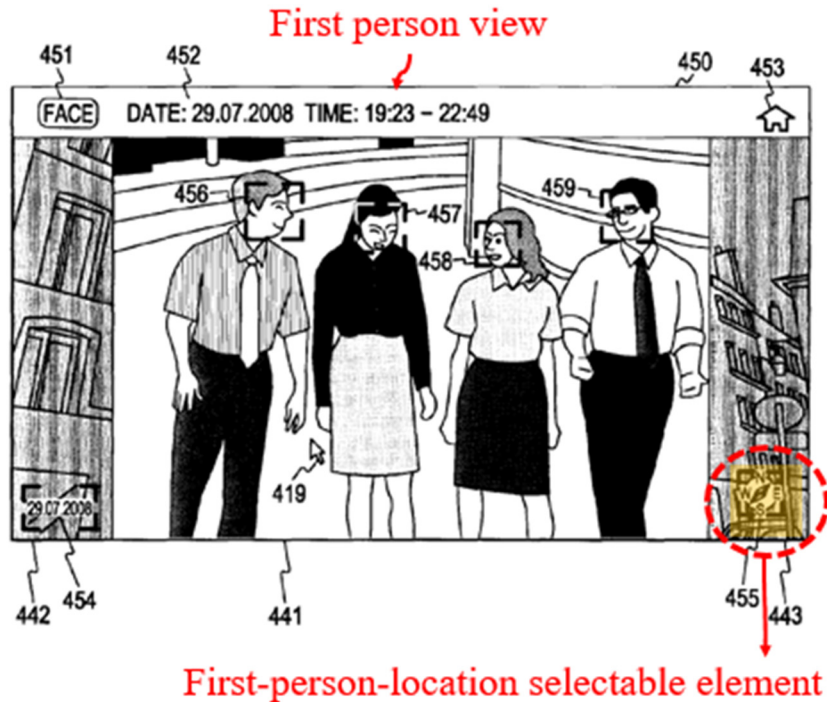
[8]:

Okamura's position cluster transition button 455 in the corner of the first person view (discussed at [7]) is a first-person-location selectable element.

SAMSUNG-1005, [0236], [0253], [0258]; SAMSUNG-1003, [172]. Position cluster transition button 455 is selectable and causes "transitioning to the content playback screen for position cluster." SAMSUNG-1005, [0258]. Specifically, Okamura's position cluster transition button 455 causes "transition[ing] of display

from a given cluster to another cluster” related to the location of the content.

SAMSUNG-1005, [0271], [0265]-[0266].

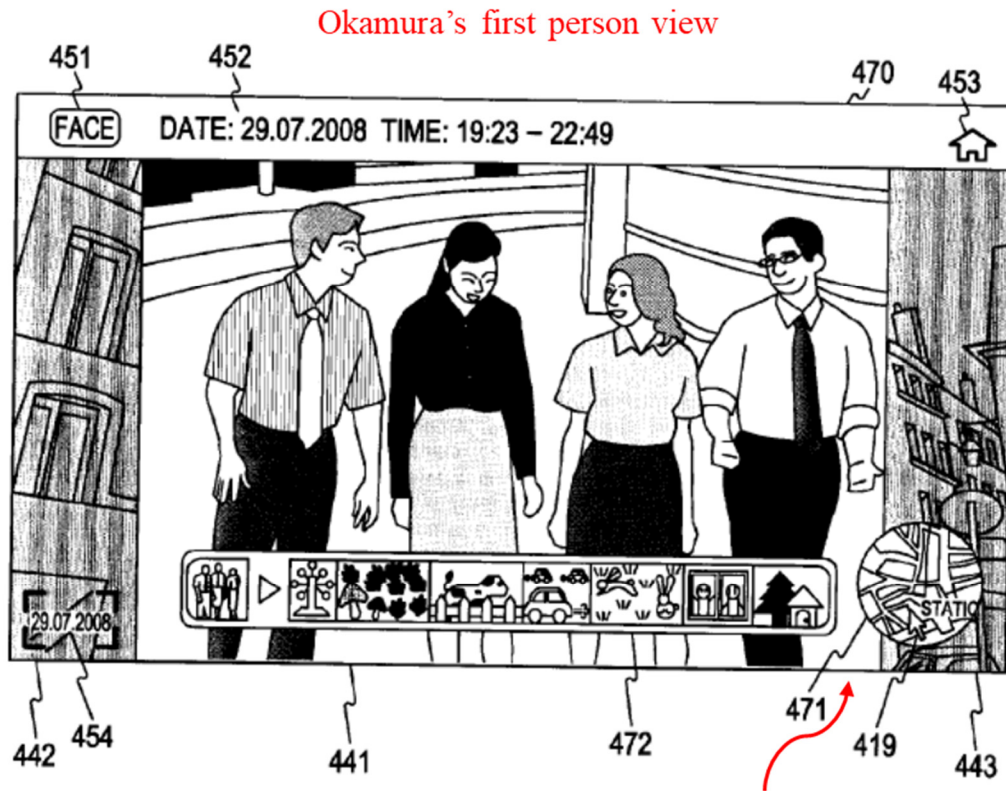


SAMSUNG-1005, FIG. 23

The '658 patent does not use the term “person-location selectable” and claim 8 does not define any function associated with this element. Nevertheless, Okamura covers a reasonable interpretation of this term because Okamura’s position cluster transition button 455 performs a location function and is displayed in the first person view. Thus, a POSITA would have understood and found obvious that Okamura’s position cluster transition button 455 serves as a first-person-location selectable element. SAMSUNG-1003, [173].

To the extent the “first-person-location selectable element” requires a location function that is associated with the first person, Okamura renders obvious such a requirement. As shown in FIG. 26, “when the mouse is placed over the position cluster transition button 455,” Okamura’s system displays “cluster map 471” and “content listing display area 472” that correspond to the location of the image displayed in the content display area 441 in the first person view.

SAMSUNG-1005, [0265]-[0266], FIG. 26.



Information associated with location of displayed image

SAMSUNG-1005, FIG. 26

When Okamura's position cluster transition button 455 is clicked, Okamura's system displays "the position cluster [for] the content displayed in the content display area 441." SAMSUNG-1005, [0266]. Because the location views displayed responsive to selection of cluster transition button 455 are related to a location where the image of the first person displayed in the first person view was taken, the location views displayed responsive to cluster transition button 455 are associated with the first person. SAMSUNG-1003, [174]-[175].

To the extent the "first-person-location selectable element" requires a location function that is limited specifically to the first person, Okamura also renders obvious this narrower requirement. Specifically, Okamura describes setting a filter using condition setting section 190 to generate the event, face, and place clusters "on the basis of *various kinds of condition*." SAMSUNG-1005, [0098]-[0101], [0204], FIG. 1.

A POSITA would have found application of a location condition to an existing face cluster to have been obvious from Okamura's condition setting disclosure. SAMSUNG-1003, [176]-[177]. By applying the location condition to a face cluster, the resulting clusters would display locations having digital content of the person associated with the face cluster. *Id.* A POSITA would have found it obvious to display, from the first person view, the face cluster in the first person view filtered to locations that include content for the first person. *Id.* Doing so

would have (1) allowed a user to explore the locations of digital files associated with a given person and (2) improved user experience by allowing application of a further condition (i.e., location) on top of the face condition. *Id.* Modifying Okamura to display locations associated with the first person would require simple extension of condition setting section 190. *Id.*

Okamura also describes the concept of “sub-clusters,” which relates to grouping images using multiple cluster types, such as person and location. SAMSUNG-1005, [0273]-[0280]. In Okamura, “when displaying pieces of information related to the cluster being displayed,” “pieces of attribute information on a sub-cluster basis may be displayed.” SAMSUNG-1005, [0274]. These “pieces of attribute information” may include location information for the cluster being displayed. SAMSUNG-1005, [0274], [0097]. Although Okamura focuses its figures on an example where event (e.g., date) sub-cluster information is displayed for a location cluster (*see* SAMSUNG-1005, FIG. 27B, [0279]-[0280]), a POSITA would have understood and found obvious that Okamura contemplates display of other types of sub-cluster information, such as location sub-cluster information for another type of displayed cluster. SAMSUNG-1005, [0273]-[0280]; SAMSUNG-1003, [178]-[179].

For instance, a POSITA would have found it obvious that users might find it useful to have an option to narrow the first person view to a specific location.

SAMSUNG-1003, [180]. To enable such functionality, a POSITA would have found it obvious to display location sub-cluster information for the first person from the person view using a selectable element in the first person view (e.g., cluster transition button 455 or another selectable element). *Id.*

Yee corroborates Dr. Greenspun's analysis and describes location information limited to only a single person where image/video files are clustered by person and then presented as sub-clusters of locations where images/videos of the person were taken. SAMSUNG-1041, FIG. 1, [0044]-[0047]. Yee's GUI "allows a user to traverse photographs based on *multiple dimensional attributes*." *Id.*, [0044]. As shown in FIG. 1, when "a user designates the People attribute as the focal attribute," Yee's GUI displays a "map 102 that indicates the places associated with the photographs displayed" for the designated person ("Bob" in FIG. 1). *Id.*, [0045]-[0046]. For instance, Yee's "system shows [locations] Bob has traveled," where "each location is represented by a dot, and the size of the dot reflects the number of photographs taken at that location." *Id.*, [0047].

A POSITA would have found it obvious to implement Yee's person-specific map shown in FIG. 1 as a view displayed in Okamura. SAMSUNG-1003, [181]-[182]. In fact, a POSITA would have combined Yee and Okamura because both Yee and Okamura overcome the common challenge of "flat, unstructured organization ... of travers[ing] a large number of records." SAMSUNG-1041,

[0004]. A POSITA would have seen Yee's person-specific map as a natural extension of Okamura's disclosure of condition setting and sub-clustering and would have viewed Yee's person-specific map as an example implementation of the same. SAMSUNG-1003, [182]. A POSITA also would have seen benefits of enabling display of Yee's map from Okamura's first person view to allow users to view locations where the first person has traveled and easily grasp the number of images/videos of the first person taken at each of the locations. *Id.* For these reasons, a POSITA would have found it obvious to display Yee's map responsive to selection of a selectable element (e.g., position cluster transition button 455) in Okamura's first person view. *Id.*⁴

[9]:

As discussed above at [8] (incorporated herein), through Okamura's disclosure of condition setting and sub-clustering, a POSITA would have found it obvious to display, in Okamura's first person view, a first-person-location selectable element (e.g., position cluster transition button 455) that, responsive to a click or tap, displays sub-cluster information that presents locations where images/videos of the first person were taken. SAMSUNG-1005, [0098]-[0101],

⁴ The combination with Yee applies equally to Okamura-Belitz (as Ground 4) and Okamura-Belitz-Gossweiler (as Ground 5).

[0204], [0236], [0253], [0258], [0265]-[0266], [0271]-[0280], FIGS. 25-26;

SAMSUNG-1003, [184]. A POSITA would have found it obvious to display all of the location sub-clusters associated with the first person. *Id.* A POSITA would have viewed display of all locations as a matter of obvious design choice and selection of one of a finite number of display options (e.g., all or less than all) that would have been obvious to try. *Id.*

In combinations with Yee, the system would display Yee's map responsive to a click or tap on the first-person-location selectable element. SAMSUNG-1003, [185]. As shown in FIG. 1 (below), Yee displays a representation of all locations having a digital photograph or video associated with the first person. SAMSUNG-1041, FIG. 1, [0044]-[0047]. Yee's map "indicates the places associated with the photographs displayed" in the set of files associated with the selected person, confirming that Yee's map displays all locations associated with the person. *Id.*, [0046]. Although Yee discloses an embodiment where all displayed locations are also limited to a time period (*id.*, [0047]), this embodiment is sufficient to meet the claimed "all locations" because the '658 patent similarly describes using time as a filter condition and a POSITA would have understood the display to cover "all locations" of the current set of digital files, even if that set is time limited. SAMSUNG-1003, [185].

Moreover, a POSITA would have found it obvious for the time period selected in Yee to encompass all images/videos of the selected person.

SAMSUNG-1003, [186]. In this case, Yee's map would display representations of all locations having a digital photograph or video associated with the first person.

Id. Further, as discussed above, a POSITA would have viewed display of all locations in Yee's map as a matter of obvious design choice and selection of one of a finite number of display options (e.g., all or less than all) that would have been

obvious to try. *Id.*

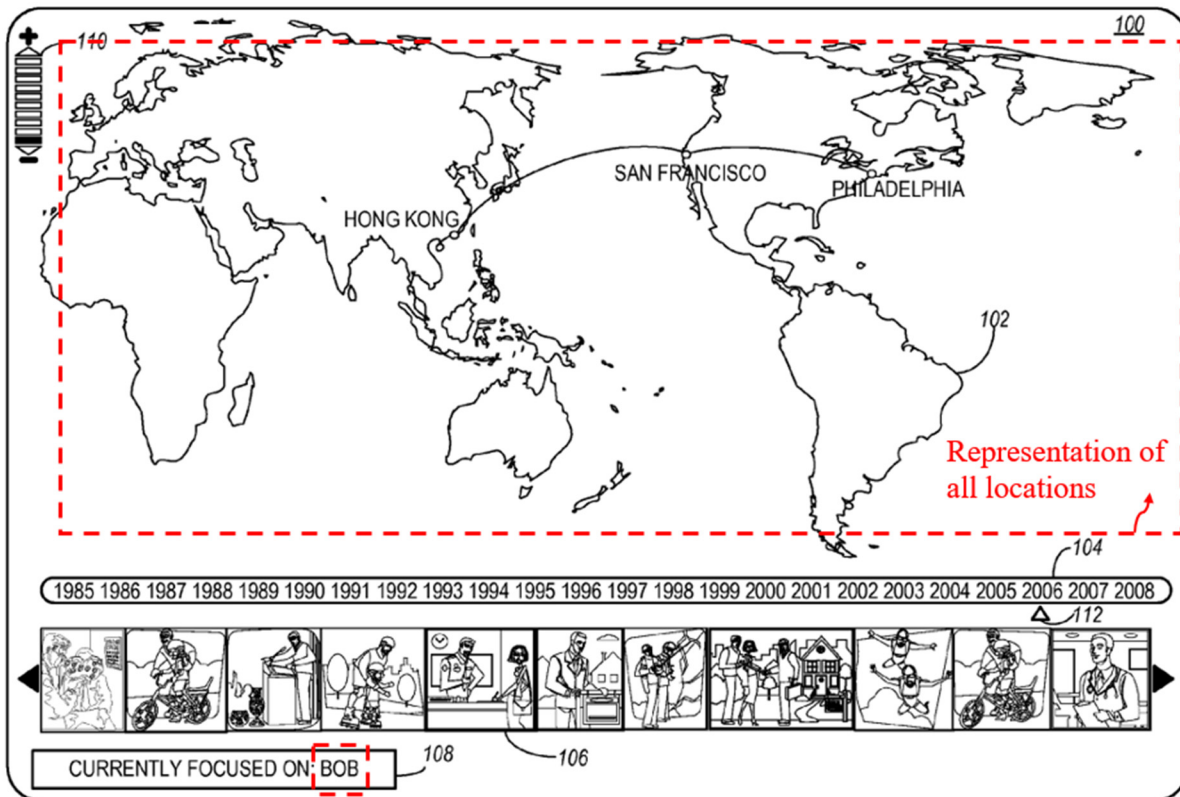


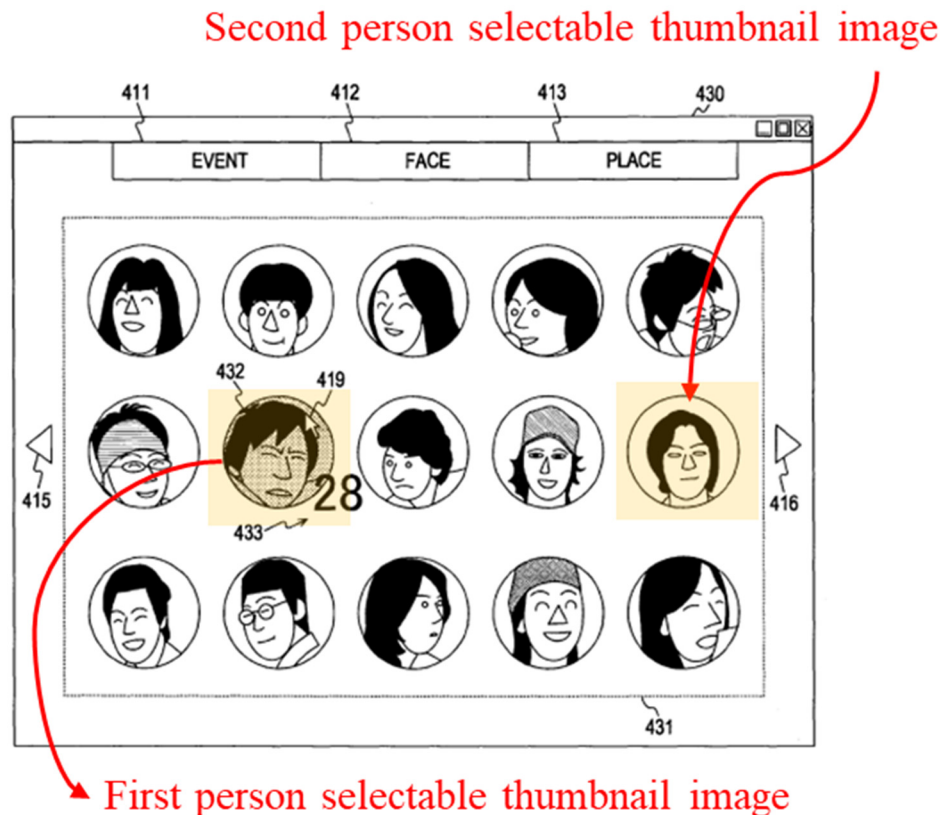
FIG. 1

SAMSUNG-1041, FIG. 1

[10]:

See [7] (incorporated herein). Because Okamura describes multiple person selectable thumbnail images, Okamura describes display of a second person view responsive to a selection of the second person selectable thumbnail image.

SAMSUNG-1003, [187]. As discussed at [7], Okamura (or Okamura and Gossweiler) render obvious a second person view that includes (i) the name associated with the second person and (ii) a scaled replica of each of the digital photographs and videos in the fourth set of digital photographs. *Id.*



SAMSUNG-1005, FIG. 21

[11]:

See [8] (incorporated herein). Okamura discloses the second person view (as discussed at [10]) and operations for the first person view discussed for [8] are equally applicable to the second person view including displaying a second-person location selectable element, which would be the same element as the first-person location selectable element, but displayed for the second person in the second person view. SAMSUNG-1005, [0098]-[0101], [0204], [0236], [0253], [0258], [0265]-[0266], [0271]-[0280], FIGS. 25-26; SAMSUNG-1041, [0044]-[0047], FIG. 1; SAMSUNG-1003, [188].

[12]:

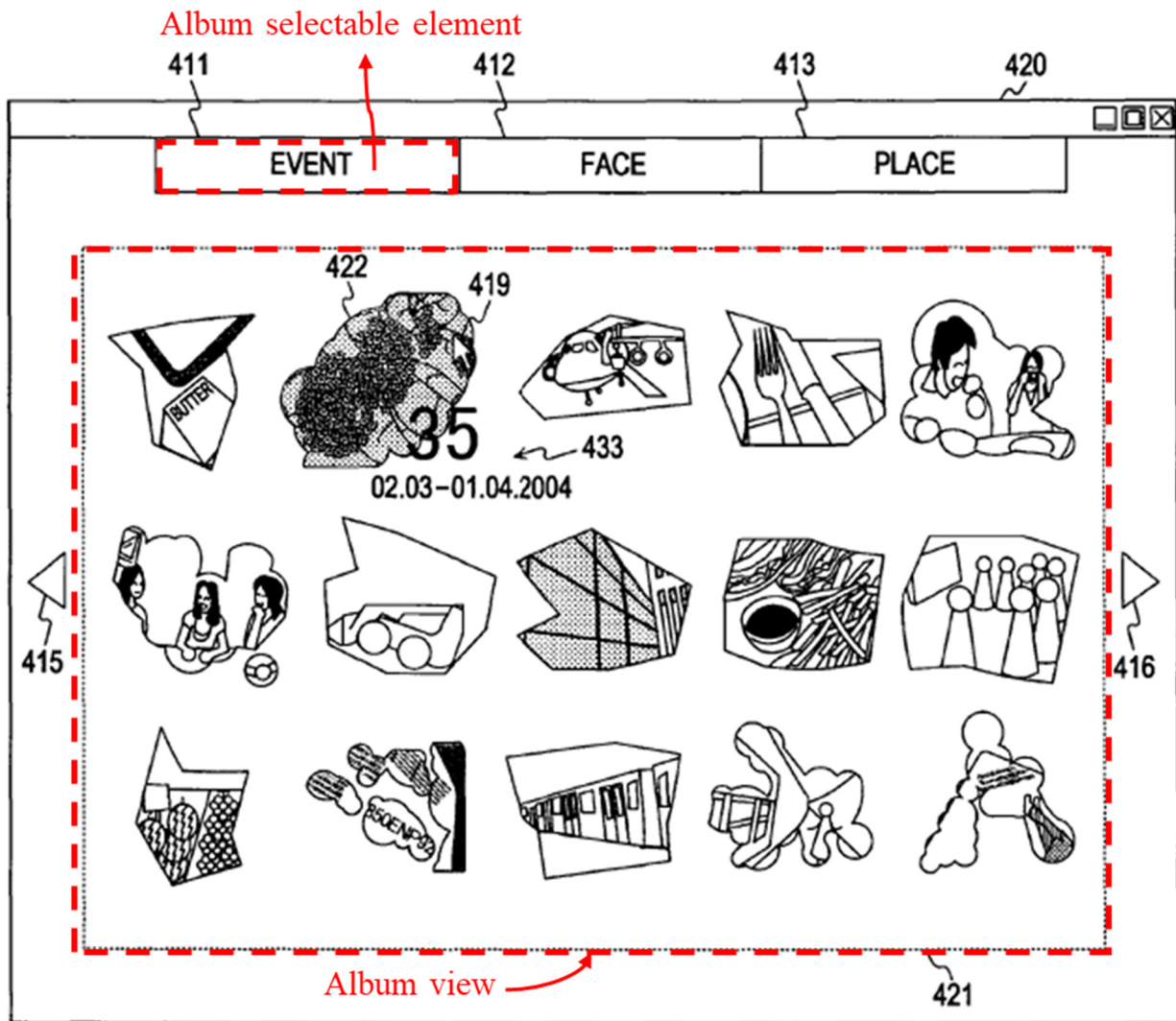
See [9] and [11] (incorporated herein). Okamura discloses the second person view (as discussed for [10]) and operations for the first person view discussed for [9] are equally applicable to the second person view including displaying a representation of all locations having digital files associated with the second person. SAMSUNG-1005, [0098]-[0101], [0204], [0236], [0253], [0258], [0265]-[0266], [0271]-[0280], FIGS. 25-26; SAMSUNG-1041, [0044]-[0047], FIG. 1; SAMSUNG-1003, [189].

[13pre]:

The '658 patent uses “album” and “event” interchangeably. SAMSUNG-1001, 6:9-53, FIG. 12; SAMSUNG-1003, [190].

Okamura's plurality of selectable elements include ***“EVENT” tab 411***

(“album selectable element”) for enabling display, responsive to a click or tap, of index screen 421 based on “date and time information.” SAMSUNG-1005, [0234]-[0236], [0242]-[0247]; SAMSUNG-1003, [191]. Okamura's organizing digital files based on event is an example of an album. *Id.*

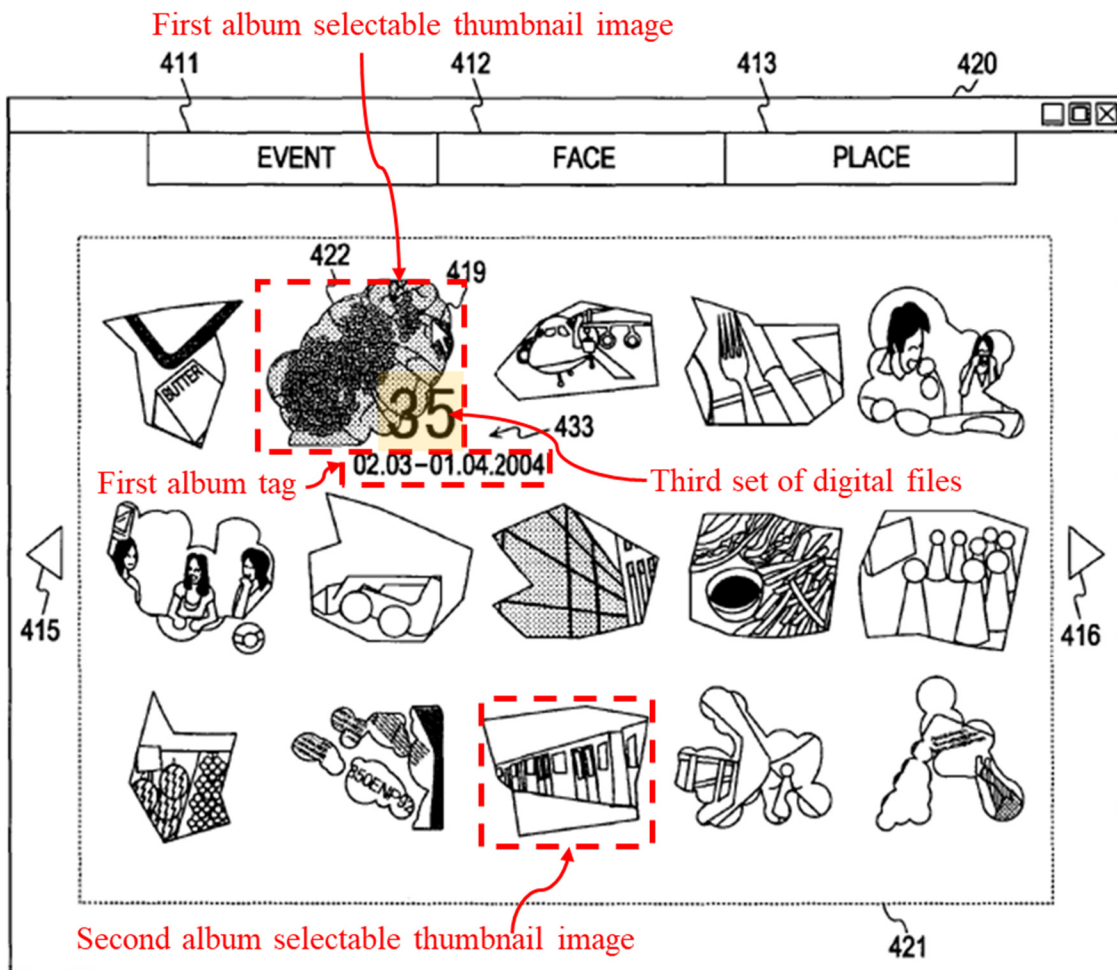


SAMSUNG-1005, FIG. 20

[13a]:

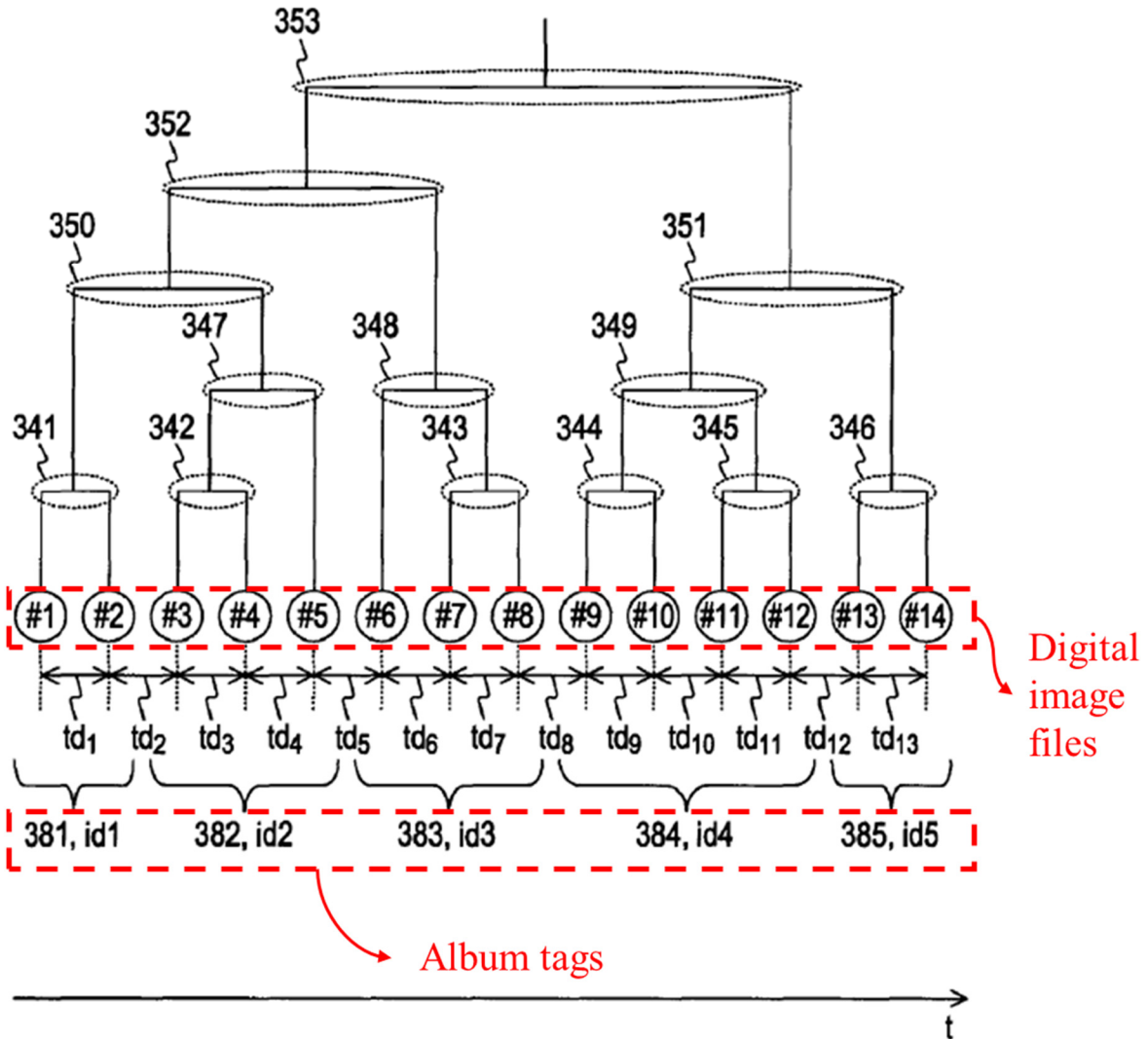
Okamura describes a first album selectable thumbnail image (e.g., “*thumbnail image 422*”) that represents a third set of *associated digital files*. SAMSUNG-1005, [0244]-[0245]; SAMSUNG-1003, [192]. For example, 35 digital files are associated with a first album tag (time range “02.03-01.04.2004”).

Id.

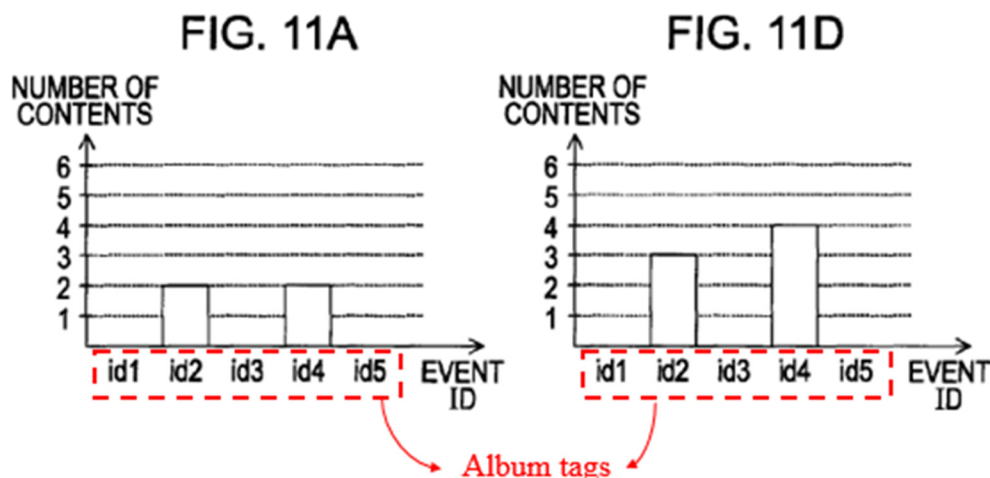


SAMSUNG-1005, FIG. 20

Okamura also describes “event IDs (id1 to idM) ... assigned to the respective events.” SAMSUNG-1005, [0179], [0180]-[0181], FIGS. 10-12. Okamura’s id1 includes #1 and #2 digital image files. *Id.* These event IDs are album tags. SAMSUNG-1003, [193].



SAMSUNG-1005, FIG. 10



SAMSUNG-1005, FIGS. 11A, 11D

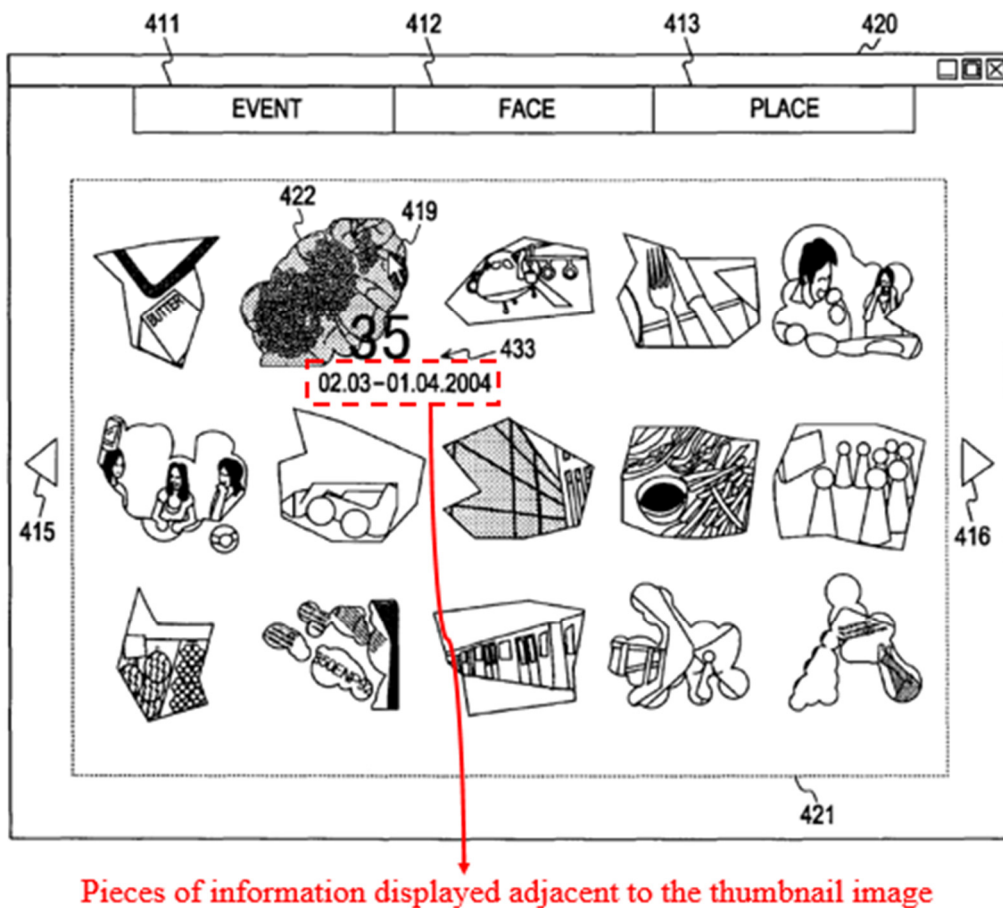
[13b]:

Okamura displays the first album name adjacent to the thumbnail image, where pieces of information 433 (analogous to information displayed next to the person selectable thumbnail image; *see* [5b]) includes information related to the thumbnail image. SAMSUNG-1005, [0244]-[0247]; SAMSUNG-1003, [194]. Because an album name is information related to the thumbnail image generated based on the event/album, a POSITA would have found it obvious to display the album name *adjacent* to the thumbnail image. *Id.*

For instance, Okamura displays a first album tag “02.03-01.04.2004” adjacent to the first thumbnail image. SAMSUNG-1005, [0245]-[0247]; SAMSUNG-1003, [195]. When the album tag and the album name are different, a POSITA would have found it obvious to display the album name because such a modification would enhance a user’s experience in identifying which album

corresponds to which event. *Id.* Given Okamura's disclosure of displaying "the name of the person corresponding to the face" for the face-based index screen, displaying the name of the album/event would have been obvious and trivial. *Id.* Indeed, Okamura displays "a title" (album name) as one of the pieces of information displayed adjacent to thumbnail images. SAMSUNG-1005, [0245].

When the album tag is Okamura's event ID as discussed for [13a] (incorporated herein), the date information ("02.03-01.04.2004") or another displayed title is the album name. SAMSUNG-1005, [0245]; SAMSUNG-1003, [196].



SAMSUNG-1005, FIG. 20

[13c]:

As discussed in [13a] (incorporated herein), Okamura renders obvious multiple album selectable thumbnail images, where each thumbnail image is associated with a corresponding event (album). SAMSUNG-1005, [0244]-[0247], FIG. 20; SAMSUNG-1003, [197]. Because Okamura's album selectable thumbnail images are associated with different events, any one of Okamura's album selectable thumbnail images displayed on index screen 421 is a second album selectable thumbnail image (that is associated with a fourth set of digital files), as long as it is different from a first album selectable thumbnail image (e.g., 422). *Id.*

[13d]:

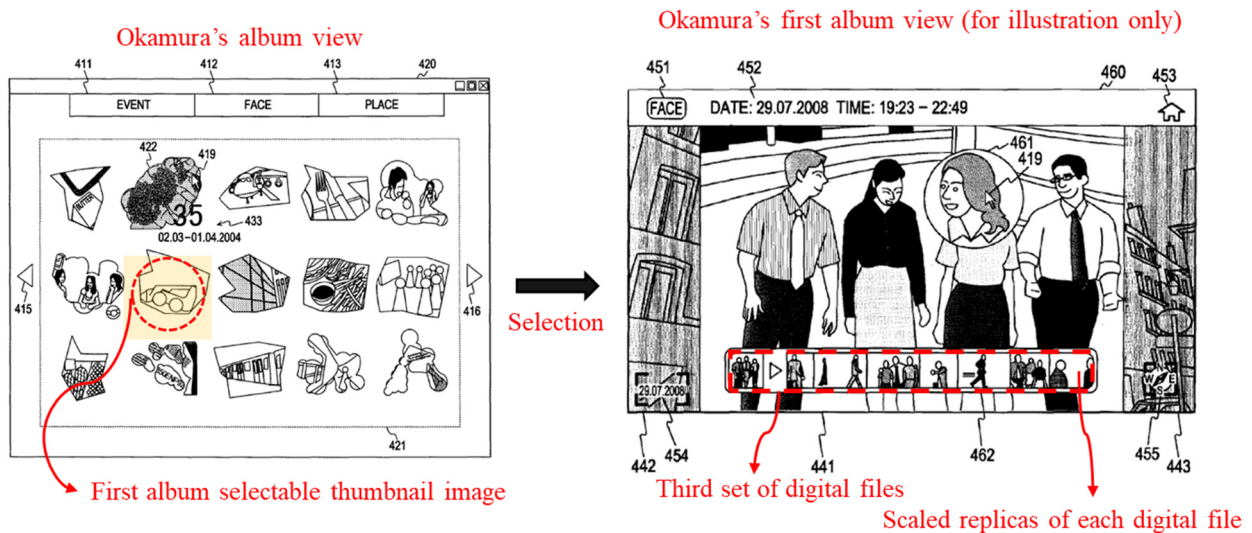
See [13b] (incorporated herein). SAMSUNG-1005, [0244]-[0247], FIG. 20; SAMSUNG-1003, [198]. As discussed in [13a]-[13c], Okamura discloses multiple album selectable thumbnail images (as shown below) and renders obvious a second album name, including displaying a second album name adjacent to the second album selectable thumbnail image. *Id.*

album view in response to selection of an album selectable thumbnail image. *Id.*, [0254]; SAMSUNG-1003, [199]. Indeed, it would have been obvious to a POSITA to display a first album view (similar as what is illustrated below) that includes a scaled replica of each of a third set of digital files associated with the selected album, because a POSITA would have understood that operations applied to a person selectable thumbnail image can be similarly applied to an album selectable thumbnail image. *Id.*

A POSITA would have found it obvious that a first album view would include display of an image from the selected album and scaled replicas of each of the digital photographs and videos in the third set. SAMSUNG-1005, [0248]-[0249], [0253]-[0254], [0261], [0263], FIGS. 24-25; SAMSUNG-1003, [200]. A POSITA also would have found it obvious that Okamura's album view includes the album name associated with the first album. For example, Okamura's "content information 452" includes "the time range of the contents of a cluster to which the content belongs." SAMSUNG-1005, [0255]. As discussed at [13b], the time range of the cluster ("02.03-01.04.2004") corresponds to the album name.

Furthermore, a POSITA would have found it obvious to display the album name (e.g., as part of content information 452) to improve recognition of the album/event (as similarly done in the people view; *see* [13b]). SAMSUNG-1005, [0245]-[0247]. 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 time range and/or a title of an album/event, a POSITA would have found it obvious to display, in the album view, the album name associated with the cluster. SAMSUNG-1003, [201].



SAMSUNG-1005, FIG. 20 (left), FIG. 24 (right)

[15]:

As explained above for [13a] and [13c] (incorporated herein), Okamura renders obvious multiple album selectable thumbnail images, where each thumbnail image is associated with a corresponding album. SAMSUNG-1005, [0245]-[0247], FIG. 20. Analogous to the discussion in [14], a POSITA would have found it obvious to display a second album view including a second album

name and a scaled replica of a fourth set of digital files. SAMSUNG-1005, [0248]-[0254], [0261], [0263], FIGS. 24-25, SAMSUNG-1003, [202].

IV. DISCRETION SHOULD NOT PRECLUDE INSTITUTION

As discussed below, (1) the prior art advanced has not been considered in a prior examination, (2) Samsung's petition is not a serial petition designed to harass MemoryWeb, and (3) Samsung's petition was expeditiously filed relative to co-pending litigation.

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

The Challenged Claims were never rejected during prosecution, and the remarks upon allowance were conclusory. Regardless, the Examiner did not consider the prior art in this petition, nor any substantially similar references.

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

Samsung has never challenged the '658 patent and this petition was filed before MemoryWeb's preliminary response to an earlier petition. The substance and timing of this petition do not present undue inequities.

1. Factor 1: Samsung is Unrelated to Apple

Factor 1 heavily favors institution because Samsung is separate and unrelated to prior petitioner, Apple. Apple is Samsung's direct competitor in the "smartphone" and "tablet" market, the subject of MemoryWeb's complaints. SAMSUNG-1029, 2-3. Direct competitors in a growing multi-billion dollar

market do not implicate the kind of “significant relationship” addressed in the *Valve* cases.

2. Factors 2 & 4: Samsung Filed This Petition Promptly

Samsung learned of Okamura and Belitz through prior art searching that commenced in June 2021. Samsung learned of Yee in September 2021, Rasmussen in November 2021, and Gossweiler in December 2021. Samsung filed this petition about six weeks from Belitz and Rasmussen being raised as secondary references in Apple’s petition. This modest window in time while Samsung diligently prepared its petition has not resulted in any unfair tactical advantages.

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

Samsung filed this petition about six weeks from the Apple petition. A deadline for MemoryWeb’s preliminary response in the Apple proceeding is over two months away.

4. Factor 5: Samsung Diligently Prepared Its Petition

Petitioner has been diligently preparing this petition (and others) in the six weeks after Apple’s petition. Indeed, Petitioner continued to move extremely quickly after learning of Apple’s petition. As mentioned above, this petition is being filed about six weeks from Apple’s petition and a few weeks after the USPTO accorded Apple’s petition a filing date.

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

Careful vetting of the '658 patent did not occur during examination, and it is consistent with the AIA's goals for the Board to assess claims that MemoryWeb asserts against several parties. As to capacity to issue a decision within one year, this petition is narrowly tailored with grounds based on a single, primary reference.

Also, the petition advances references that are included in earlier petitions. Specifically, this petition advances Belitz and Rasmussen (secondary references advanced in Apple's petition) and Okamura (primary reference advanced in prior petitions against MemoryWeb's related '228 patent). Because the Board will already be considering these references (assuming institution), the Board will be able to efficiently resolve these challenges and the finite resources of the Board would be well spent in resolving whether this same prior art renders obvious the Challenged Claims in the various combinations proposed. To simplify proceedings and to enhance the Board's ability to issue a decision within the one-year deadline, Samsung proposes consolidation of schedule of the IPRs filed against the '658 patent.

6. Additional Factor: Institution Denial would Potentially Prejudice Petitioner

Because Samsung is unrelated to Apple, settlement of a proceeding instituted on Apple's petition would harm Samsung if this petition is denied.

MemoryWeb's infringement suit against Samsung would remain, and the Challenged Claims would go untested at the PTAB.

Moreover, Samsung has considered whether joining Apple's petition would be sufficient for Samsung. Although Samsung views Apple's petition as strong, Apple's petition is insufficient to fully address Samsung's interest. Apple's petition relies on a user manual of an Apple product and, to prove public accessibility, Apple relies heavily on testimony from an Apple employee. Given the unrelated and competitive relationship between Apple and Samsung, Samsung cannot rely upon a validity challenge that requires cooperation of an Apple employee. Should Apple settle with MemoryWeb, Samsung cannot know if Apple would allow its employee to support Samsung, and there certainly would be no guarantee in light of Apple and Samsung's competitive relationship and/or obligations in Apple's settlement agreement. Thus, Samsung cannot rely upon Apple's petition because Samsung cannot ensure relevant testimony will be available.

Samsung crafted this petition as quickly as possible, and has pursued grounds based on a single, primary reference that can be resolved with limited burden to the Board (and MemoryWeb).

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

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

which is set to precede trial.

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.

2. Factor 2: Proximity of the Trial Date

The Court has entered a schedule order currently stating a trial date of “June 30, 2023 (or as soon as practicable thereafter).” SAMSUNG-1030, 5. 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, as to trial, the order indicates that “[t]he Court expects to set these dates at the conclusion of the *Markman* Hearing.” *Id.*, 5.

Even if a trial were to start on June 30, 2023, the FWD date of June 17, 2023 would precede trial.

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

This petition was filed nearly five months before the one-year statutory bar date and at an early stage of the litigation. No substantive orders have been issued by the court, no depositions have been taken, and fact and expert discovery have not begun.

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

The co-pending litigation is in an early stage and, at present, there is no

overlap with an IPR resulting from this petition.

Moreover, Samsung asks the Board alone to consider the challenges raised here. 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 invalidity challenges based on the primary reference.

SAMSUNG-1037.

5. Factor 5: Institution Would Promote Judicial Efficiency

Samsung and MemoryWeb are parties to the Litigation, a fact that favors institution because the Board's FWD could bind Samsung with estoppel before trial.

6. Factor 6: The Merits Strongly Favor Institution

The strength of the merits is enough to outweigh any inefficiencies borne of parallel litigation and institution would *promote* the AIA's objectives of providing an efficient alternative to litigation for claims that MemoryWeb has asserted against multiple defendants.

V. FEES

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

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 '658 Patent. The '658 patent is the subject of the following civil actions:

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. Ill.), Dismissed.

The '658 patent is also the subject of an IPR proceeding filed by Apple Inc. (IPR2022-00033). Samsung is not a real party-in-interest to this IPR proceeding.

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
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D. Service Information

Please address correspondence/service to the above-listed address. Samsung consents to email service at IPR39843-0116IP1@fr.com (referencing No. 39843-0116IP1 and cc'ing PTABInbound@fr.com, axf-ptab@fr.com, monaldo@fr.com,

and in@fr.com).

Respectfully submitted,

Dated December 17, 2021

/Jeremy J. Monaldo/

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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 13,969 words, which is less than the 14,000 allowed under 37 CFR § 42.24.

Dated December 17, 2021

/Jeremy J. Monaldo/

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