

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re <i>Ex Parte</i> Reexamination of:	)	
	)	
U.S. Patent No. 9,696,868	)	
	)	
Issued: July 4, 2017	)	Group Art Unit: To Be Assigned
	)	
Named Inventor: Ezra Eddie Bakhsh	)	Examiner: To Be Assigned
	)	
Control Number: To Be Assigned	)	
	)	
Filed: December 27, 2023	)	
	)	
Title: SYSTEM AND METHOD FOR	)	
PROVIDING THREE-DIMENSIONAL	)	
GRAPHICAL USER INTERFACE	)	
	)	

REQUEST FOR *EX PARTE* REEXAMINATION

Mail Stop *Ex Parte* Reexam

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

Dear Commissioner:

Under 35 U.S.C. §§ 301-307 and 37 C.F.R. § 1.510 *et seq.*, the undersigned, on behalf of an anonymous requester (“Requester”), respectfully requests *ex parte* reexamination of claims 1-20 of U.S. Patent No. 9,696,868 (“the ’868 patent,” Ex. 1001), which was issued on July 4, 2017, to Ezra Eddie Bakhsh (“Applicant”) from U.S. Patent Application No. 14/614,708, filed on February 5, 2015. An assignment search indicates that the ’868 patent was assigned to SPACETIME3D, INC. (“Patent Owner”) by an assignment recorded at Reel 041768, Frame 0789. No later assignment has been found.

As this Request demonstrates, prior art not considered by the Office renders issued claims 1-20 unpatentable under 35 U.S.C. § 103. Indeed, the grounds included in this Request disclose

each of the limitations of claims 1-20. Thus, the prior art references relied on in this Request raise substantial new questions of patentability with respect to these claims.

Accordingly, Requester respectfully requests that the Office grants this Request for *ex parte* reexamination of the '868 patent, reexamines claims 1-20, and issues an initial Office Action rejecting claims 1-20 over at least the prior art discussed in this Request.

Attachments

- (1) Certificate of Service to Patent Owner.
- (2) Information Disclosure Statement and Form PTO/SB/08.

Exhibits

- | | |
|----------|---|
| Ex. 1001 | U.S. Patent No. 9,696,868 to Ezra Eddie Bakhsh ("the '868 patent") |
| Ex. 1002 | File history of U.S. Patent No. 9,696,868 |
| Ex. 1003 | U.S. Patent No. 6,229,542 (" <i>Miller '542</i> ") |
| Ex. 1004 | U.S. Patent No. 8,341,541 (" <i>Holecek</i> ") |
| Ex. 1005 | Mastering Windows XP Home Edition, Hart-Davis (2nd ed. 2002) (" <i>Mastering Windows</i> ") |
| Ex. 1006 | U.S. Patent No. 6,271,858 (" <i>Dalal</i> ") |
| Ex. 1007 | U.S. Patent No. 6,597,358 (" <i>Miller '358</i> ") |
| Ex. 1008 | Japan Patent Application Publication No. JP2002/132828 and Certified Translation (" <i>Koga</i> ") |
| Ex. 1009 | U.S. Patent No. 7,010,755 (" <i>Anderson</i> ") |
| Ex. 1010 | Excerpt of file history of U.S. Patent No. 8,341,541 to Holecek showing the January 18, 2005 application |
| Ex. 1011 | Declaration of Dr. Chandrajit Bajaj |
| Ex. 1012 | CV of Dr. Chandrajit Bajaj |
| Ex. 1013 | Declaration of Dr. Sylvia Hall-Ellis |
| Ex. 1014 | CV of Dr. Sylvia Hall-Ellis |
| Ex. 1015 | Petition of <i>Apple Inc. v. SpaceTime3D, Inc.</i> , IPR2023-00344 (PTAB Dec. 13, 2022) (the "Apple IPR") |

- Ex. 1016 Institution Decision of *Apple Inc. v. SpaceTime3D, Inc.*, IPR2023-00344 (PTAB Jul. 17, 2023)
- Ex. 1017 Petition and Institution Decision of *LG Electronics Inc., et al. v. SpaceTime3D, Inc.*, IPR2023-00578 (the “LG IPR”)
- Ex. 1018 Petition and Settlement Prior to Institution of *Samsung Electronics Co., Ltd. v. SpaceTime3D, Inc.*, IPR2020-01419 (the “Samsung IPR”)
- Ex. 1019 Markman Order from *SpaceTime 3D, Inc. v. Samsung Elecs. Co., Ltd., et al.*, No. 2:19-cv-372-JRG (E.D. Tex.)
- Ex. 1020 Patent Owner’s infringement contentions from *SpaceTime3D, Inc. v. LG Electronics, Inc., et al.*, No. 2-22-cv-00049 (E.D. Tex.)
- Ex. 1021 Joint Claim Construction Statement in *SpaceTime3D, Inc. v. LG Electronics, Inc., et al.*, No. 2:22-cv-00049 (E.D. Tex.)
- Ex. 1022 Amended Joint Claim Construction Statement in *SpaceTime3D, Inc. v. LG Electronics, Inc., et al.*, No. 2-22-cv-00049 (E.D. Tex.)
- Ex. 1023 Agreed Claim Construction Order in *SpaceTime3D, Inc. v. Apple Inc.*, No. 1:23-cv-00553 (W.D. Tex.)
- Ex. 1024 Final Claim Construction Oder in *SpaceTime3D, Inc. v. Apple Inc.*, No. 1:23-cv-00553 (W.D. Tex.)
- Ex. 1025 Patent Owner’s infringement contentions from *SpaceTime3D, Inc. v. Apple, Inc.*, No. 1:23-cv-00553 (W.D. Tex.)

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	<i>EX PARTE</i> REEXAMINATION FILING REQUIREMENTS	1
A.	Requirements Under 37 C.F.R. § 1.510(b)	1
1.	37 C.F.R. § 1.510(b)(1).....	1
2.	37 C.F.R. § 1.510(b)(2).....	1
3.	37 C.F.R. § 1.510(b)(3).....	1
4.	37 C.F.R. § 1.510(b)(4).....	1
5.	37 C.F.R. § 1.510(b)(5).....	2
6.	37 C.F.R. § 1.510(b)(6).....	2
B.	Fees and Deposit Account Authorization	2
C.	Identification of Other Proceedings Involving the '868 Patent	2
1.	District Court Litigations	2
2.	<i>Inter Partes</i> Review Proceedings.....	3
D.	Request for Expedited Reexamination.....	4
III.	OVERVIEW OF THE '868 PATENT AND ITS PROSECUTION HISTORY	5
A.	Specification	5
B.	Challenged Claims	6
C.	Prosecution History	15
D.	Patent Owner's Infringement Allegations	16
E.	Level of Ordinary Skill	16
F.	Claim Construction	17
1.	“three-dimensional (3D) immersive space,” “three-dimensional (3D) space,” “3D immersive space” and “3D space”	17
2.	“two-dimensional (2D) space,” and “2D space”	18
3.	“application”	18
4.	“application-specific data”	19
5.	“database”	19
6.	The preambles of the independent claims 1, 10, and 19	19

IV.	IDENTIFICATION OF PRIOR ART AND EXISTENCE OF SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY OF THE CLAIMS OF THE '868 PATENT	19
A.	Identification of the Prior Art	19
1.	<i>Miller '542</i> is Prior Art to the '868 Patent	20
2.	<i>Holecek</i> is Prior Art to the '868 Patent	21
3.	<i>Mastering Windows</i> is Prior Art to the '868 Patent	23
4.	<i>Dalal</i> is Prior Art to the '868 Patent	24
5.	<i>Miller '358</i> is Prior Art to the '868 Patent	25
6.	<i>Koga</i> is Prior Art to the '868 Patent	25
7.	<i>Anderson</i> is Prior Art to the '868 Patent	26
B.	Summary of the Substantial New Questions of Patentability	28
V.	PROPOSED REJECTIONS OF THE '868 PATENT	31
VI.	DETAILED EXPLANATION OF THE PROPOSED REJECTIONS OF THE CLAIMS OF THE '868 PATENT	31
A.	Ground 1: Claims 1-11, 14-20 Are Obvious Over <i>Miller '542</i> in view of <i>Holecek</i> and <i>Mastering Windows</i>	32
1.	Motivation to Combine <i>Miller '542</i> , <i>Holecek</i> , and <i>Mastering Windows</i>	32
2.	Independent Claim 1	33
a.	Claim 1[preamble]: "A method for using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space to switch between said plurality of application, said device having a fixed resolution display, comprising:"	33
b.	Claim 1[a]: "receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;"	34
c.	Claim 1[b]: "opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;"	40

- d. Claim 1[c]: “allowing a user to switch between said plurality of application, comprising[:]” 53
- e. Claim 1[d]: “generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;” 58
- f. Claim 1[e]: “replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;” 65
 - i. *Miller* '542 discloses “replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and” 65
 - ii. *Miller* '542 alone or in view of Holecek render obvious displaying windows “in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order.” 69
- g. Claim 1[f]: “allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images

- results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and” 73
- h. Claim 1[g]: “allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and” 81
- i. Claim 1[h]: “allowing said user to interact with one of said first, second, and third applications, comprising:” 87
- j. Claim 1[i]: “receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications,” 87
- k. Claim 1[j]: “replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection,” 89
- l. Claim 1[k]: “receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.” 94
3. Claim 2: “The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.” 99
4. Claim 3: “The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions.” 104
5. Claim 4: “The method of claim 1, further comprising the step of storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.” 109
6. Claim 5: “The method of claim 1, wherein a reduction in size of an object or portion thereof is used to depict said object or portion

	thereof as being behind at least one other object or other portion of said object.”.....	117
7.	Claim 6.....	122
	a. Claim 6[a]: “The method of claim 1, further comprising the steps of: displaying a fourth image on said display device, said fourth image being an image of a desktop having at least one other application; and”	122
	b. Claim 6[b]: “allowing said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.”	123
8.	Claim 7: “The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.”	125
9.	Claim 8.....	130
	a. Claim 8[a]: “The method of claim 7, further comprising the steps of: displaying at least fourth and fifth images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and”	130
	b. Claim 8[b]: “allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”	134
10.	Claim 9: “The method of claim 1, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.”	138
11.	Independent Claim 10	144
	a. Claim 10[preamble]: “A system for using a two-dimensional (2D) space to selectively interact with at least one of a plurality	

of applications open on a computing device and a three-dimensional (3D) space to switch between said plurality of application, comprising;	144
b. Claim 10[a]: “a display device;”	145
c. Claim 10[b]: “at least one input device;”	148
d. Claim 10[c]: “at least one processor operatively coupled to said display device and said at least one input device; and”	148
e. Claim 10[d]: “a memory device comprising executable code for;”	150
f. Claim 10[e]: “receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;”	152
g. Claim 10[f]: “opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;”	152
h. Claim 10[g]: “allowing a user to switch between said plurality of application, comprising;	153
i. Claim 10[h]: “generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;”	153
j. Claim 10[i]: “replacing said object corresponding to one of said plurality of applications that is being interacted with by said user in said 2D space with said plurality of images, said plurality of images being displayed in said 3D space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D space in front of at least said second one	

- in said order, said second one in said order is displayed in said 3D space behind at least said first one in said order, and a third one in said order is displayed in said 3D space behind at least said second one in said order;” 153
- k. Claim 10[j]: “allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and” 153
- l. Claim 10[k]: “allowing said user to delete at least one of said plurality of images from said 3D space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D space where said second one in said order was located prior to said deletion; and” 154
- m. Claim 10[l]: “allowing said user to interact with one of said first, second, and third applications, comprising;” 154
- n. Claim 10[m]: “receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;” 154
- o. Claim 10[n]: “replacing said plurality of images within said 3D space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;” 154
- p. Claim 10[o]: “receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.” 154
12. Claim 11: “The system of claim 10, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons and a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of icons and a corresponding one of said plurality of descriptions.” 154
13. Claim 14: “The system of claim 10, wherein a reduction in size of an object or portion thereof is used to depict said object or portion thereof as being behind at least one other object or other portion of said object.” 155
14. Claim 15 155

- a. Claim 15[a]: “The system of claim 10, wherein said executable code is further configured to: display a fourth image on said display device in said 3D space, said fourth image being an image of a desktop having at least one other application; and” 155
 - b. Claim 15[b]: “allow said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.” 155
- 15. Claim 16: “The system of claim 10, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.” 155
- 16. Claim 17..... 156
 - a. Claim 17[a]: “The system of claim 16, wherein said executable code is further configured to: display at least fourth and fifth images in a second 3D space, wherein said fourth image is an image of said plurality of images within said 3D space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and” 156
 - b. Claim 17[b]: “allow said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.” 156
- 17. Claim 18: “The system of claim 10, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.” 156
- 18. Claim 19..... 156
 - a. Claim 19[preamble]: “A method for using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a device and a three-dimensional (3D) space to switch between said plurality of application, comprising:” 157

- b. Claim 19[a]: “receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;” 157
- c. Claim 19[b]: “opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an output is generated having application-specific data, (ii) displaying said output in said 2D space on said fixed resolution display, and (iii) allowing said user to modify at least a portion of said application-specific data by interacting with said output;” 157
- d. Claim 19[c]: “allowing a user to view information on said plurality of application, comprising[.]” 157
- e. Claim 19[d]: “generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;” 158
- f. Claim 19[e]: “replacing said output corresponding to one of said plurality of applications that is being interacted with by said user in said 2D space with said plurality of images, said plurality of images being displayed in said 3D space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein said 3D space comprises at least a foreground and a background, a first one in said order is displayed in said foreground, and second and third ones in said order are displayed in one of a foreground and a background;” 158
- g. Claim 19[f]: “allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and” 159

h.	Claim 19[g]: “allowing said user to delete at least one of said plurality of images from said 3D space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D space where said second one in said order was located prior to said deletion; and,”	159
i.	Claim 19[h]: “allowing said user to interact with one of said first, second, and third applications, comprising,”	159
j.	Claim 19[i]: “receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications,”	159
k.	Claim 19[j]: “replacing said plurality of images within said 3D space with one of said first, second, and third outputs corresponding to said one of said plurality of applications within said 2D space in response to said selection,”	159
l.	Claim 19[k]: “receiving at least one interaction by said user with said one of said first, second, and third outputs within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.”	159
19.	Claim 20: “The method of claim 19, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.”	160
B.	Ground 2: Claims 12-13 Are Obvious Over References of Ground 1 in Further View of <i>Dalal</i>	160
1.	Motivation to Combine <i>Miller ’542</i> in view of <i>Holecek</i> , <i>Mastering Windows</i> , and <i>Dalal</i>	160
2.	Claim 12: “The system of claim 10, further comprising periodically replacing at least one of said plurality of images with at least one other image, said other image showing at least one change to application specific data of a corresponding to one of said plurality of applications while said plurality of images are being displayed in said 3D space.”	161
3.	Claim 13: “The system of claim 12, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprise replacing said object in said 2D space with said plurality of images in response to	

	receiving said request to switch from said 2D space to said 3D space.”	166
C.	Ground 3: Claims 1-11 and 14-20 Are Obvious In View Of the References of Ground 1 in Further View of <i>Miller '358</i> and <i>Koga</i>	172
1.	Motivation to Combine the References of Ground 1 with <i>Miller '358</i> and <i>Koga</i>	172
2.	“3D Immersive Space” and “3D Space” Limitations	172
3.	“Replacing . . .” Claim Limitations	175
4.	“Database” Claim Element	179
D.	Ground 4: Claims 12-13 Are Obvious Over References of Ground 3 in Further View of <i>Dalal</i>	180
E.	Ground 5: Claims 6-8 and 15-17 Are Obvious Over References of Ground 1 in Further View of <i>Anderson</i>	180
1.	Motivation to Combine the References of Ground 1 with <i>Anderson</i>	180
2.	Claim 6.	181
a.	Claim 6[a]: “The method of claim 1, further comprising the steps of: displaying a fourth image on said display device, said fourth image being an image of a desktop having at least one other application; and”	181
b.	Claim 6[b]: “allowing said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other applicaion, and opening said other application in response to said interaction.”	183
3.	Claim 7: “The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.”	185
4.	Claim 8.	185
a.	Claim 8[a]: “The method of claim 7, further comprising the steps of: displaying at least fourth and fifth images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and”	185

b.	Claim 8[b]: “allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”.....	187
5.	Claim 15.....	188
a.	Claim 15[a]: “The system of claim 10, wherein said executable code is further configured to: display a fourth image on said display device in said 3D space, said fourth image being an image of a desktop having at least one other application; and”	188
b.	Claim 15[b]: “allow said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.”	188
6.	Claim 16: “The system of claim 10, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.”	188
7.	Claim 17.....	188
a.	Claim 17[a]: “The system of claim 16, wherein said executable code is further configured to: display at least fourth and fifth images in a second 3D space, wherein said fourth image is an image of said plurality of images within said 3D space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and”	188
b.	Claim 17[b]: “allow said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”	189
F.	Ground 6: Claims 6-8, 15-17 Are Obvious Over References of Ground 3 in Further View of <i>Anderson</i>	189
1.	Motivation to Combine the References of Ground 3 with <i>Anderson</i>	189
2.	Claims 6-8, 15-17.....	189

VII.	DISCRETIONARY DENIAL UNDER 325(D) IS INAPPROPRIATE	190
VIII.	CONCLUSION.....	192

I. INTRODUCTION

Requester respectfully requests reexamination under 35 U.S.C. §§ 301-307 and 37 C.F.R. § 1.510 *et seq.* of claims 1-20 of U.S. Patent No. 9,696,868 (Ex. 1001, “the ’868 patent”), and issuance of a reexamination certificate canceling these claims. As explained below, the prior art references identified and applied in this Request raise substantial new questions of patentability and render the above-noted claims unpatentable.

II. EX PARTE REEXAMINATION FILING REQUIREMENTS

A. Requirements Under 37 C.F.R. § 1.510(b)

1. 37 C.F.R. § 1.510(b)(1)

Statements pointing out at least one substantial new question of patentability based on prior patents and printed publications for claims 1-20 of the ’868 patent are provided in § IV.B of this Request.

2. 37 C.F.R. § 1.510(b)(2)

Reexamination of claims 1-20 of the ’868 patent is requested, and a detailed explanation of the pertinence and manner of applying the cited prior art to every claim for which reexamination is requested is provided in §§ V and VI of this Request.

3. 37 C.F.R. § 1.510(b)(3)

Copies of every patent or printed publication relied upon or referred to accompanied by an English language translation of all the necessary and pertinent parts of any non-English language patent or printed publication are provided as Exhibits 1003-1010 of this Request.

4. 37 C.F.R. § 1.510(b)(4)

A copy of the ’868 patent is provided as Exhibit 1001 of this Request.

5. 37 C.F.R. § 1.510(b)(5)

The attached Certificate of Service indicates that a complete copy of this Request has been served via First Class Mail on the record Patent Owner of the '868 patent, at the following address:

125600 - Fitzsimmons IP Law
PO Box 199
Gardena, CA 90248
United States

6. 37 C.F.R. § 1.510(b)(6)

Requester certifies that the statutory provisions of 35 U.S.C. § 315(e)(1) and 35 U.S.C. § 325(e)(1) do not bar or prohibit the Requester from requesting *ex parte* reexamination of the '868 patent.

B. Fees and Deposit Account Authorization

Pursuant to 37 C.F.R. § 1.20(c)(2), Requester is submitting \$12,600 for the reexamination filing fee. To the extent that any additional fees are required to complete this Request, the Office is hereby authorized by the undersigned to charge Deposit Account No. 06-0916 for such fees.

C. Identification of Other Proceedings Involving the '868 Patent

Pursuant to M.P.E.P. § 2282, Requester is aware of the following prior or concurrent proceedings where the '868 patent has been asserted.

1. District Court Litigations

On November 14, 2019, Patent Owner asserted the '868 patent against Samsung Electronics Co., Ltd., and Samsung Group in a lawsuit captioned *SpaceTime 3D, Inc. v. Samsung Elecs. Co., Ltd., et al.*, No. 2:19-cv-372 (E.D. Tex.) (the "Samsung Litigation"). On February 10, 2022, Patent Owner asserted the '868 patent in two lawsuits: against LG Electronics Inc. and LG Electronics U.S.A., Inc. in a lawsuit captioned *SpaceTime3D, Inc. v. LG Electronics, Inc., et al.*, No. 2:22-cv-00049 (E.D. Tex.) (the "LG Litigation") and against Apple Inc. in a lawsuit captioned

SpaceTime3D, Inc. v. Apple Inc., No. 6:22-cv-149 (W.D. Tex.) (the “Apple Litigation”). The Samsung Litigation and LG Litigation were dismissed following the parties’ settlement. The Apple Litigation was transferred from Waco division to Austin Division within the Western District of Texas in May 2023, and is currently pending. See *SpaceTime3D, Inc. v. Apple Inc.*, No. 1:23-cv-00553 (W.D. Tex.).

Litigation	Docket Number	District Court	Filing Date	Status
<i>SpaceTime3D, Inc. v. Apple Inc.</i>	1:23-cv-00553	W.D. Tex.	Feb. 10, 2022	transferred from Waco Division on May 18, 2023 pending
<i>SpaceTime3D, Inc. v. Apple Inc.</i>	6:22-cv-00149	W.D. Tex.	Feb. 10, 2022	transferred to Austin Division on May 18, 2023
<i>SpaceTime3D, Inc. v. LG Electronics, Inc. et al.</i>	2:22-cv-00049	E.D. Tex.	Feb. 10, 2022	settled and dismissed on May 5, 2023
<i>SpaceTime3D, Inc. v. Samsung Electronics Co., Ltd. et al.</i>	2:19-cv-00372	E.D. Tex.	Nov. 14, 2019	settled and dismissed on Mar. 22, 2021

2. *Inter Partes* Review Proceedings

The '868 patent is currently subject to the following *Inter Partes* Review proceedings before the Patent Trial and Appeal Board (“the Board”): *Apple Inc. v. SpaceTime3D, Inc.*, IPR2023-00344 (PTAB Dec. 13, 2022) (the “Apple IPR”) (Exs. 1015-1016) and *LG Electronics Inc., et al. v. SpaceTime3D, Inc.*, IPR2023-00578 (PTAB Feb. 10, 2023) (the “LG IPR”)

(Ex. 1017). Neither the Apple IPR nor the LG IPR relies on arguments and prior art at issue in this Request. The Apple IPR was instituted on July 17, 2023, and is currently pending. *See* Ex. 1016. The LG IPR was instituted and granted motion to joinder to the Apple IPR on August 7, 2023. *See* Ex. 1017, at 132-36.

The '868 patent was also subject to the following *Inter Partes* Review proceeding before the Board: *Samsung Electronics Co., Ltd. v. SpaceTime3D, Inc.*, IPR2020-01419 (the “Samsung IPR”) (Ex. 1018).

The Samsung IPR relies on three of the secondary references at issue in this Request. *See* Ex. 1018, at 8. However, the Samsung IPR was terminated prior to the issuance of an institution decision. Because the Board did not address the merits of the references, either in the institution decision or a final written decision, this Request presents substantial new questions of patentability, as explained below in §§ IV-VII.

IPR	Docket Number	Filing Date	Status
<i>Apple Inc. v. SpaceTime3D, Inc.</i>	IPR2023-00344	Dec. 13, 2022	instituted and pending
<i>LG Electronics, Inc. et al. v. SpaceTime3D, Inc.</i>	IPR2023-00578	Feb. 10, 2023	instituted and pending
<i>Samsung Electronics Co., Ltd. et al. v. SpaceTime3D, Inc.</i>	IPR2020-01419	Aug. 4, 2020	settled and terminated before institution decision

D. Request for Expedited Reexamination

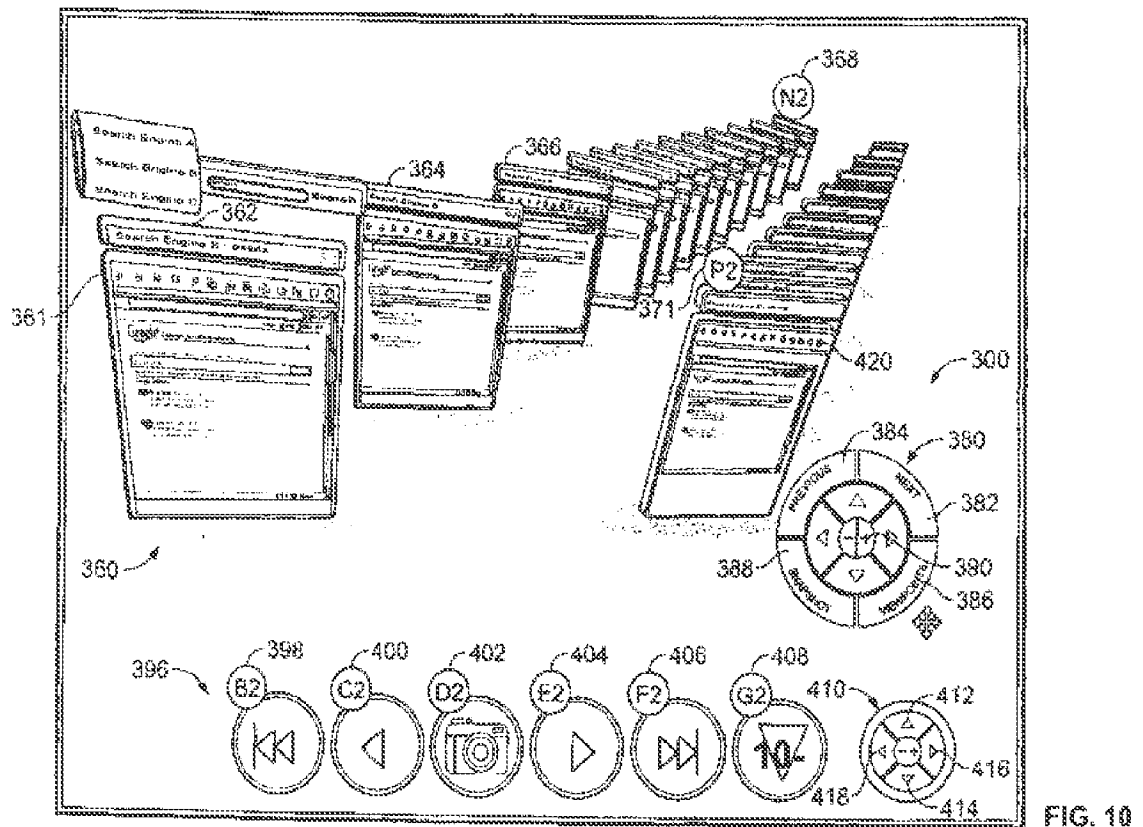
Due to the ongoing nature of the above-identified proceedings, Requester respectfully requests that, pursuant to 35 U.S.C. § 305, this Request be granted, and reexamination conducted

not only with “special dispatch,” but also with “priority over all other cases” in accordance with M.P.E.P. § 2261.

III. OVERVIEW OF THE '868 PATENT AND ITS PROSECUTION HISTORY

A. Specification

The '868 patent purports to enhance a user's ability to organize and track the windows that display various computer applications. Ex. 1001, at 1:41-58, 2:53-56. The patent discloses displaying multiple windows in a manner that simulates a 3D space. *Id.*, at 8:25-37, FIGS. 10-12. It discloses simulating a 3D space by skewing windows and making certain windows smaller to simulate distance. *Id.*, at 22:7-10, 8:25-37, 14:31-40, FIGS. 10-12; Ex. 1011, at ¶ 53. For example, the patent's Figure 10 shows windows in a simulated 3D space:



Ex. 1001, at FIG. 10. A user can toggle between a 2D presentation and a simulated 3D presentation for any window drawn in the simulated 3D space. *Id.*, at 22:7-30. Switching to the 2D presentation makes a window “easier to interact with.” *Id.*; Ex. 1011, at ¶ 53.

The '868 patent's earliest possible effective filing date is September 13, 2005. Ex. 1001, at cover page.

B. Challenged Claims

Requester challenges claims 1-20 of the '868 patent, which are reproduced below.

Claim 1 [preamble]: A method for using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space to switch between said plurality of application, said device having a fixed resolution display, comprising:

1[a]: receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;

1[b]: opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;

1[c]: allowing a user to switch between said plurality of application, comprising[.]

1[d]: generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-

specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;

1[e]: replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;

1[f]: allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and

1[g]: allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and

1[h]: allowing said user to interact with one of said first, second, and third applications, comprising:

1[i]: receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;

1[j]: replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;

1[k]: receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

Claim 2 The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.

Claim 3 The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions.

Claim 4 The method of claim 1, further comprising the step of storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.

Claim 5 The method of claim 1, wherein a reduction in size of an object or portion thereof is used to depict said object or portion thereof as being behind at least one other object or other portion of said object.

Claim 6 6[a]: The method of claim 1, further comprising the steps of: displaying a fourth image on said display device, said fourth image being an image of a desktop having at least one other application; and

6[b] allowing said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said

selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.

Claim 7 The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.

Claim 8 8[a]: The method of claim 7, further comprising the steps of: displaying at least fourth and fifth images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and

8[b]: allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.

Claim 9 The method of claim 1, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.

Claim 10 [preamble]: A system for using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a computing device and a three-dimensional (3D) space to switch between said plurality of application, comprising:

10[a]: a display device;

10[b]: at least one input device;

10[c]: at least one processor operatively coupled to said display device and said at least one input device; and

10[d]: a memory device comprising executable code for:

10[e]: receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;

10[f]: opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;

10[g]: allowing a user to switch between said plurality of application, comprising;

10[h]: generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;

10[i]: replacing said object corresponding to one of said plurality of applications that is being interacted with by said user in said 2D space with said plurality of images, said plurality of images being displayed in said 3D space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D space in front of at least said second one in said order, said second one in

said order is displayed in said 3D space behind at least said first one in said order, and a third one in said order is displayed in said 3D space behind at least said second one in said order;

10[j]: allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and

10[k]: allowing said user to delete at least one of said plurality of images from said 3D space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D space where said second one in said order was located prior to said deletion; and

10[l]: allowing said user to interact with one of said first, second, and third applications, comprising:

10[m]: receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;

10[n]: replacing said plurality of images within said 3D space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;

10[o]: receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

Claim 11 The system of claim 10, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons and a plurality of descriptions, wherein each one

of said plurality of images has a corresponding one of said plurality of icons and a corresponding one of said plurality of descriptions.

Claim 12 The system of claim 10, further comprising periodically replacing at least one of said plurality of images with at least one other image, said other image showing at least one change to application specific data of a corresponding to one of said plurality of applications while said plurality of images are being displayed in said 3D space.

Claim 13 The system of claim 12, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprises replacing said object in said 2D space with said plurality of images in response to receiving said request to switch from said 2D space to said 3D space.

Claim 14 The system of claim 10, wherein a reduction in size of an object or portion thereof is used to depict said object or portion thereof as being behind at least one other object or other portion of said object.

Claim 15 15[a]: The system of claim 10, wherein said executable code is further configured to: display a fourth image on said display device in said 3D space, said fourth image being an image of a desktop having at least one other application; and

15[b]: allow said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.

Claim 16 The system of claim 10, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.

Claim 17 17[a]: The system of claim 16, wherein said executable code is further configured to: display at least fourth and fifth images in a second 3D space, wherein said fourth

image is an image of said plurality of images within said 3D space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and

17[b]: allow said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.

Claim 18 The system of claim 10, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.

Claim 19 [preamble]: A method for using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a device and a three-dimensional (3D) space to switch between said plurality of application, comprising:

19[a]: receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;

19[b]: opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an output is generated having application-specific data, (ii) displaying said output in said 2D space on said fixed resolution display, and (iii) allowing said user to modify at least a portion of said application-specific data by interacting with said output;

19[c]: allowing a user to view information on said plurality of application, comprising[:]

19[d]: generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;

19[e]: replacing said output corresponding to one of said plurality of applications that is being interacted with by said user in said 2D space with said plurality of images, said plurality of images being displayed in said 3D space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein said 3D space comprises at least a foreground and a background, a first one in said order is displayed in said foreground, and second and third ones in said order are displayed in one of a foreground and a background;

19[f]: allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and

19[g]: allowing said user to delete at least one of said plurality of images from said 3D space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D space where said second one in said order was located prior to said deletion; and

19[h]: allowing said user to interact with one of said first, second, and third applications, comprising:

19[i]: receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;

19[j]: replacing said plurality of images within said 3D space with one of said first, second, and third outputs corresponding to said one of said plurality of applications within said 2D space in response to said selection;

19[k]: receiving at least one interaction by said user with said one of said first, second, and third outputs within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

Claim 20 The method of claim 19, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.

C. Prosecution History

The '868 patent was filed on February 5, 2015, as U.S. Patent Application No. 14/614,708 ("the '708 application"). *Id.*, at cover page. The '708 application is a continuation of U.S. Patent Application No. 14/503,142 (issued as U.S. Patent No. 9,304,654 (the "'654 patent")), filed on September 30, 2014, which is a continuation of U.S. Patent Application No. 12/751,879 (issued as U.S. Patent No. 8,881,048 (the "'048 patent")), filed on March 31, 2010, which is a continuation of U.S. Patent Application No. 11/531,676 (issued as U.S. Patent No. 7,735,018 (the "'018 patent")), filed on September 13, 2006, which claims priority to U.S. Provisional Application No. 60/717,019 filed on September 13, 2005. *Id.* The Examiner did not issue any office actions rejecting the application's claims, but required the Patent Owner to file a terminal disclaimer to

obviate potential double patenting rejections over the '654, '048, and '018 patents. After the Patent Owner filed the terminal disclaimer, the Examiner allowed the claims without amendment. Ex. 1002, at 159-60, 172-80.

D. Patent Owner's Infringement Allegations

"[P]atent owners may not, like a 'nose of wax,' twist the meaning of patent claims one way to avoid a finding of unpatentability and in another way so as to find infringement." *Ericsson Inc. v. Intell. Ventures II LLC*, IPR2014-00919, Paper 37 at 9 (PTAB Dec. 7, 2015). In this regard, Patent Owner's infringement allegations are probative of whether Patent Owner is taking inconsistent positions between this proceeding and district court litigation and are "relevant to the credibility" of Patent Owner's "characterization of the [asserted] Patent in this proceeding." *Square, Inc. v. Unwired Planet LLC*, IPR2014-01164, Paper 28 at 37-38 (PTAB Nov. 19, 2015). Accordingly, Requester includes the following exhibits:

- Ex. 1019 Markman Order from *SpaceTime 3D, Inc. v. Samsung Elecs. Co., Ltd., et al.*, No. 2:19-cv-372 (E.D. Tex.)
- Ex. 1020 Patent Owner's '868 patent infringement contentions from *SpaceTime3D, Inc. v. LG Electronics, Inc, et al.*, No. 2:22-cv-00049 (E.D. Tex.)
- Ex. 1021 Joint Claim Construction Statement in *SpaceTime3D, Inc. v. LG Electronics, Inc, et al.*, No. 2:22-cv-00049 (E.D. Tex.)
- Ex. 1022 Amended Joint Claim Construction Statement in *SpaceTime3D, Inc. v. LG Electronics, Inc, et al.*, No. 2:22-cv-00049 (E.D. Tex.)
- Ex. 1023 Agreed Claim Construction Order in *SpaceTime3D, Inc. v. Apple Inc.*, No. 1:23-cv-00553 (W.D. Tex.)
- Ex. 1024 Final Claim Construction Oder in *SpaceTime3D, Inc. v. Apple Inc.*, No. 1:23-cv-00553 (W.D. Tex.)
- Ex. 1025 Patent Owner's infringement contentions from *SpaceTime3D, Inc. v. Apple, Inc.*, No. 1:23-cv-00553 (W.D. Tex.)

E. Level of Ordinary Skill

A person of ordinary skill in the art (“POSITA”), would have had a bachelor’s degree in computer science, electrical engineering, or a comparable field, and at least two years of professional experience working with computer graphics and graphical user interfaces, or the equivalent. Additional years of experience could substitute for formal education, and vice versa. This skill level applies regardless of whether the challenged claims are entitled to the ’868 patent’s earliest priority date of September 13, 2005, the filing date of the latest application in its priority chain (February 5, 2015), or any date in between. Ex. 1011, at ¶ 51.

F. Claim Construction

During reexamination of an unexpired patent, claims are given “the broadest reasonable interpretation consistent with the specification and limitations in the specification are not read into the claims.” M.P.E.P. § 2258(I)(G) (citing *In re Yamamoto*, 740 F.2d 1569, (Fed. Cir. 1984)). District courts use a standard of construction where claim terms are given their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). As such, the constructions adopted in this proceeding may be broader than the constructions in any IPR, PGR, or CBM post-grant proceeding at the PTAB (filed on or after November 13, 2018), district court, or ITC litigation, including the related litigation. Where a federal court has interpreted a disputed claim term, the examiner should consider the judicial interpretation and assess “whether the judicial interpretation is consistent with the broadest reasonable construction of the term.” M.P.E.P. § 2258(I)(G).

1. “three-dimensional (3D) immersive space,” “three-dimensional (3D) space,” “3D immersive space” and “3D space”

The district court in the Samsung Litigation construed the terms “three-dimensional (3D) immersive space,” “three-dimensional (3D) space,” and “3D space” to mean “a virtual space

defined by a three-dimensional coordinate system.” Ex. 1019, at 19. Patent Owner agreed to this construction in the LG Litigation and Apple Litigation. *See* Ex. 1022, at 5; Ex. 1023, at 1. Requester applies this construction herein. Because Patent Owner agreed to apply the same construction for all these terms, for simplicity, we will treat all these terms as “3D space” throughout the remainder of this Request.

2. “two-dimensional (2D) space,” and “2D space”

The court in the Samsung Litigation also construed the terms “two-dimensional (2D) space” and “2D space” to mean “a finite graphical area defined by a two-dimensional coordinate system.” Ex. 1019, at 19. Patent Owner agreed to this construction in the LG Litigation and Apple Litigation. *See* Ex. 1022, at 19; Ex. 1023, at 1. Requester applies this construction herein. Because Patent Owner agreed to apply the same construction for all these terms, for simplicity, we will treat all these terms as “2D space” throughout the remainder of this Request.

3. “application”

The plain and ordinary meaning of “application” is “computer program.” *See* Ex. 1001, at 5:65-6:6, 16:48-51, 21:39-43, 22:38-42, 30:42-49; Ex. 1011, at ¶ 60. This is confirmed in the Joint Claim Construction Statement submitted by Patent Owner in the LG Litigation, where Patent Owner cited to the Microsoft Computer Dictionary (5th Ed. 2002) for “Application – A program designed to assist in the performance of a specific task, such as word processing, accounting, or inventory management.” Ex. 1021, at 11-12. Requester applies the plain and ordinary meaning here.

4. “application-specific data”

The district court in the Samsung Litigation construed the term “application-specific data” to mean “data specific to an application.” Ex. 1019, at 29. Requester applies this construction herein.

5. “database”

Patent Owner agreed to construe the term “database” to mean “a collection of stored data” in the Samsung Litigation. Ex. 1019, at 6. Requester applies this construction herein.

6. The preambles of the independent claims 1, 10, and 19

The district court in the Samsung Litigation determined the preambles for claims 1, 10, and 19 are limiting but the district court in the Apple Litigation determined these preambles to have plain and ordinary meaning and are not limiting. *See* Ex. 1019, at 33; Ex. 1024, at 1. To the extent the preambles are found limiting, the prior art grounds render the preamble obvious.

IV. IDENTIFICATION OF PRIOR ART AND EXISTENCE OF SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY OF THE CLAIMS OF THE '868 PATENT

A. Identification of the Prior Art

The '868 patent was filed as the '708 application on February 5, 2015. Ex. 1001, at cover page. The '708 application claims priority to U.S. Provisional Application No. 60/717,019 filed on September 13, 2005. *Id.* Thus, the earliest possible priority date for all claims of the '868 patent is September 13, 2005. *See* 35 U.S.C. § 119(a).

Reexamination of the '868 patent is requested in view of the following prior art:

Ex. 1003 U.S. Patent No. 6,229,542 to Miller (“*Miller '542*”).

Ex. 1004 U.S. Patent No. 8,341,541 to Holecek et al. (“*Holecek*”).

- Ex. 1005 The book *Mastering Windows XP Home Edition* (2nd ed., Hart-Davis, 2002) (“Mastering Windows”).
- Ex. 1006 U.S. Patent No. 6,271,858 to Dalal et al. (“*Dalal*”).
- Ex. 1007 U.S. Patent No. 6,597,358 to Miller (“*Miller* ’358”).
- Ex. 1008 Japan Patent Application Publication No. JP2002/132828 to Koga and certified translation (“*Koga*”).
- Ex. 1009 U.S. Patent No. 7,010,755 to Anderson et al. (“*Anderson*”).

These prior art documents are listed on a form PTO/SB/08 filed concurrently herewith. Copies of the listed references are attached.

1. *Miller* ’542 is Prior Art to the ’868 Patent

Miller ’542 was filed on July 10, 1998, and issued on May 8, 2001. Ex. 1003, at cover page. Thus, *Miller* ’542 is prior art to the ’868 patent under at least pre-AIA 35 U.S.C. § 102(a), (b), and (e), because it was publicly available and accessible to a person of skill in the art before September 13, 2005, the earliest priority date of the ’868 patent.

Like the ’868 patent, *Miller* ’542 discloses a graphical user interface (“GUI”) that displays multiple window-shaped images in a 3D space, where the user can move and organize the windows and cause any window to be viewed in a traditional 2D representation. *Id.*, at Abstract; *see also id.*, at 3:5-4:40; Ex. 1011, at ¶ 67. For example, Figure 5 depicts multiple windows displayed in a 3D space:



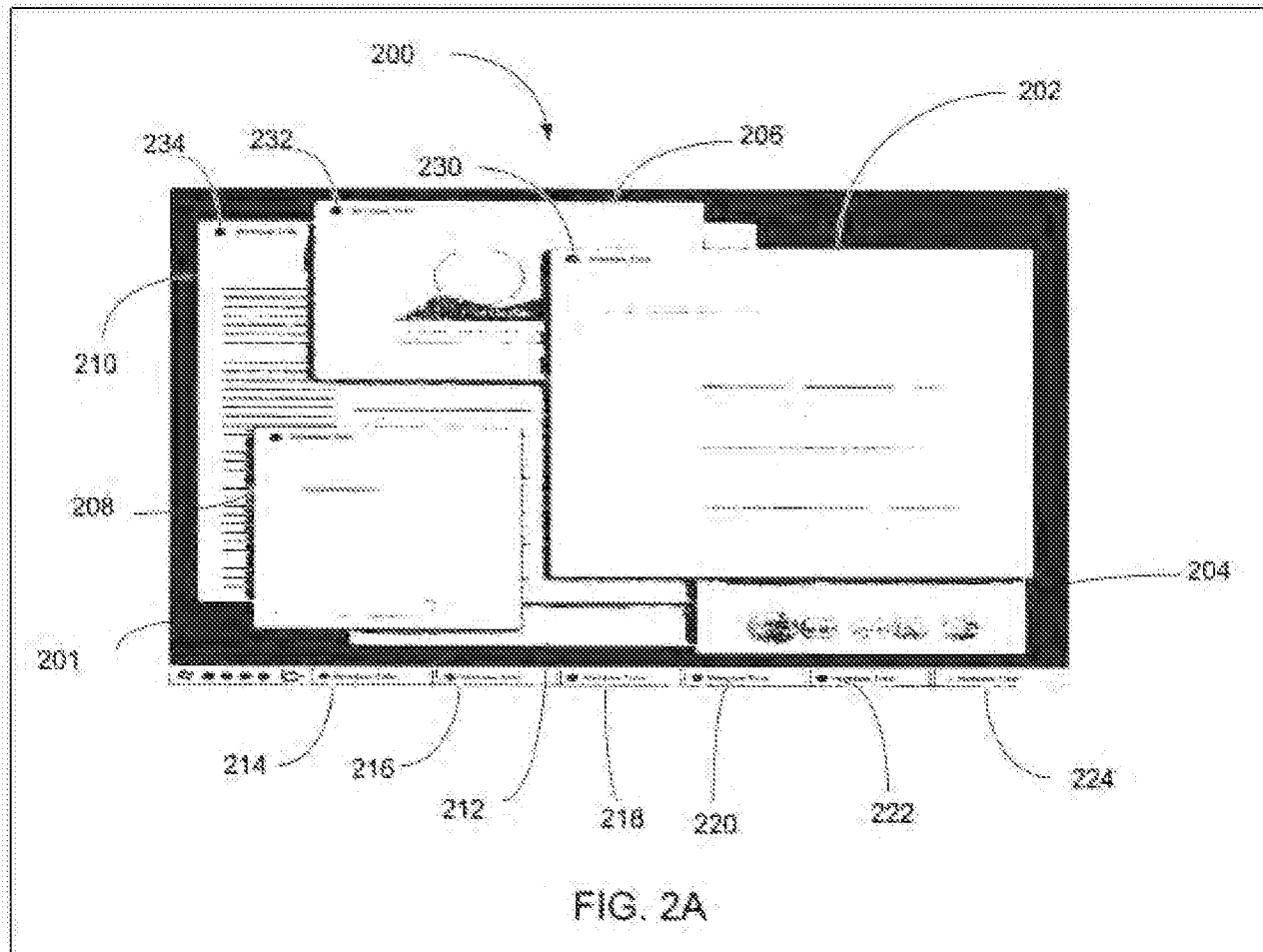
FIG. 5

Ex. 1003, at FIG. 5. *Miller '542*'s 3D desktop system “provides a more natural and intuitive graphical user interface than the traditional 2D desktop interface.” *Id.*, at 4:38-40.

2. *Holecek* is Prior Art to the '868 Patent

Holecek was filed on January 18, 2005 and published on July 20, 2006. Ex. 1004, at cover page. *Holecek* is prior art to the '868 patent under at least pre-AIA 35 U.S.C. § 102(e), because it was filed earlier than the earliest possible priority date for the '868 patent, September 13, 2005. *Holecek* is assigned to Microsoft Corporation. *Id.*

Like the '868 patent, *Holecek* is directed to browsing windows in a computer system environment, such as Microsoft Windows. *Id.*, at Abstract, at 1:6-11, 1:61-2:4; Ex. 1011, at ¶ 70. *Holecek*'s Figure 2A, reproduced below, shows a multi-window GUI:



Ex. 1004, at FIG. 2A. As shown in Figure 2A, the windows overlap and have a “Z-order” that indicates their ordering on top of each other. *Id.*, at 9:1-17, FIG. 2A.

Holecek discloses various interactions between a user and the windows and details on how to order the windows. *Id.*, at 1:6-11, 9:57-10:15, FIG. 2B. For example, a user may switch from the GUI of Figure 2A to the GUI of Figure 2B (reproduced below), to “allow a user to readily browser multiple windows.” *Id.*, at 1:6-11, 9:57-10:4; Ex. 1011, at ¶ 71.

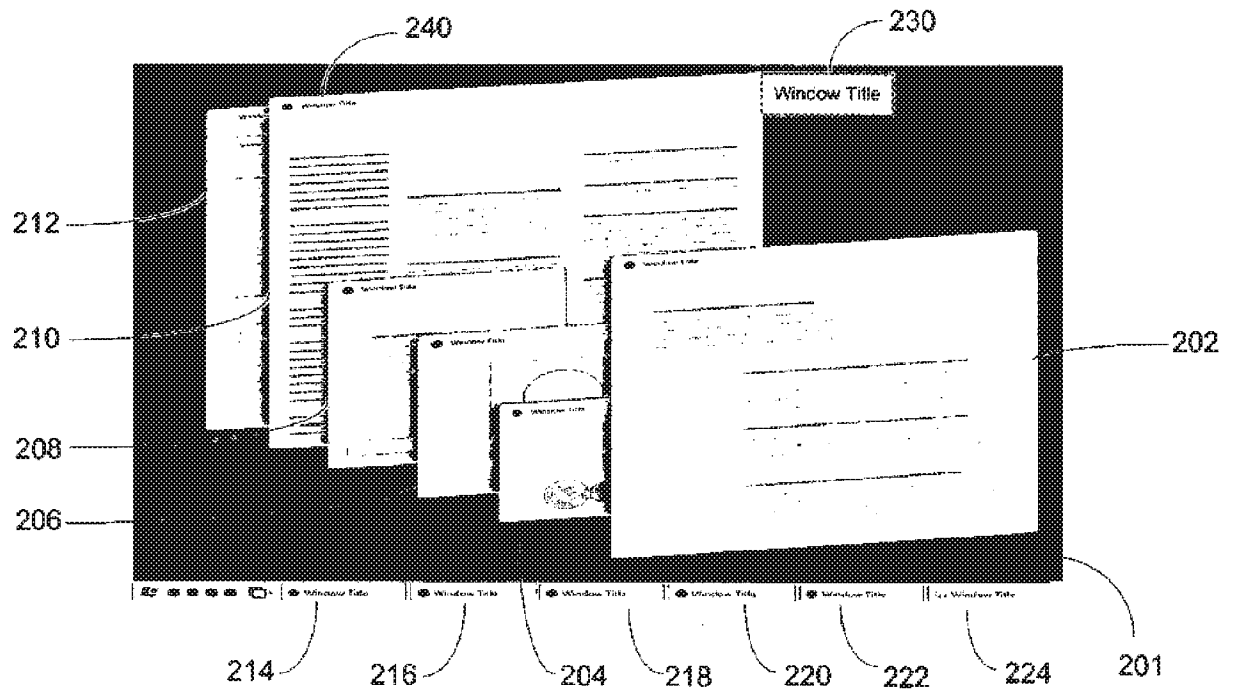


FIG. 2B

Ex. 1004, at FIG. 2B. *Holecek*'s Figure 2B depicts a "visual window browsing" mode where images of application windows are shown in a "visual stack." *Id.*, at 9:57-10:15, FIG. 2B. In visual browsing mode, the window images are "slightly scaled and skewed to provide a . . . three dimensional visual representation." *Id.*, at 9:65-10:4, FIG. 2B; Ex. 1011, at ¶ 71.

3. *Mastering Windows* is Prior Art to the '868 Patent

The book *Mastering Windows* was published at least as early as December 23, 2002, more than one year before the '868 patent (September 13, 2005). *See* Ex. 1013 (Declaration of Dr. Hall-Ellis), at ¶¶ 47-55. *Mastering Windows* therefore is prior art to the '868 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) because it was publicly available and accessible to a person of skill in the art before September 13, 2005, the earliest possible priority date of the '868 patent.

Mastering Windows describes many aspects of the well-known operating system Windows XP, including applications commonly used, different ways of starting applications, displaying applications with icons and descriptions, and how to manipulate application windows such as with a close button. *See, e.g.*, Ex. 1005, at 12-13, 574;¹ Ex. 1011, at ¶ 73.

4. *Dalal* is Prior Art to the '868 Patent

Dalal is prior art under at least pre-AIA 35 U.S.C. § 102(a), (b), and (e) because it was filed on October 16, 1998, and issued on August 7, 2001, both dates are more than one year before the earliest possible priority date for the '868 patent (Sept. 13, 2005). Ex. 1006, at cover page.

Dalal discloses texture-mapping “markup documents” onto a three-dimensional model, such as the cube of its Figure 4:

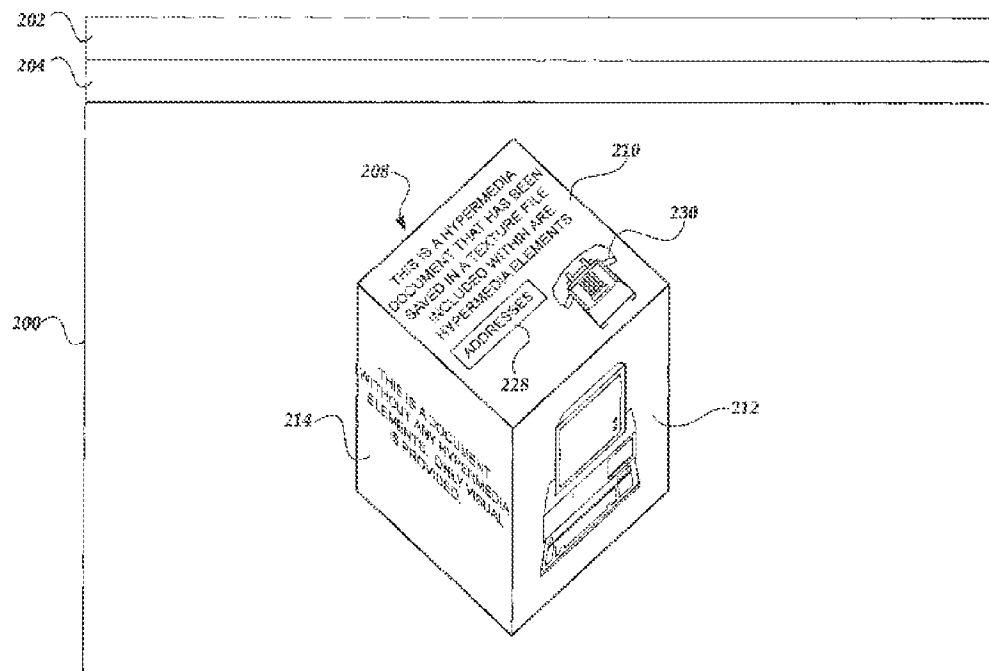


Fig.4.

Id., at FIG. 4; Ex. 1011, at ¶ 75.

¹ Citations to *Mastering Windows* cite to its native page numbers.

Dalal further discloses replacing an image on the cube with an image reflecting a change to application-specific data, such as in response to a user clicking on a link. *Id.*, at 7:1-22 (“the three-dimensional processing component [] maps only the newly rendered information in the determined changed area.”); Ex. 1011, at ¶ 76.

5. *Miller* '358 is Prior Art to the '868 Patent

Miller '358 was filed on August 26, 1998 and issued on July 22, 2003. Ex. 1007, at cover page. *Miller* '358 is prior art to the '868 patent under at least pre-AIA 35 U.S.C. § 102(a), (b), and (e), because it was publicly available and accessible to a person of skill in the art before September 13, 2005, the earliest priority date of the '868 patent.

Miller '358 and *Miller* '542 share the same inventor, John David Miller, and the same assignee, Intel Corporation. Ex. 1003, at cover page; Ex. 1007, at cover page. *Miller* '358 overlaps with *Miller* '542 in their technical disclosures but provides additional details on replacing 3D objects with a 2D window. See Ex. 1007, at FIG. 6, 6:61-65 (“For example, by performing a right mouse button click via the user-input device 240 on one of the surfaces 620 of the cube 710, may cause the computer application appearing on that surface 620 to occupy the entire application workspace 120 of the display 130.”); Ex. 1011, at ¶ 78.

6. *Koga* is Prior Art to the '868 Patent

Koga is a published Japanese patent application titled “Bookmark management system, computer-readable medium in which this system is recorded, and bookmark management device,” which was published on May 10, 2002. Ex. 1008, at cover page. *Koga* is prior art to the '868 patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e) because it was described in a printed publication more than one year before September 13, 2005, the earliest priority date of the '868 patent.

Koga discloses a three-dimensional coordinate system for a 3D space. Figure 5 of *Koga* depicts a 3D space:

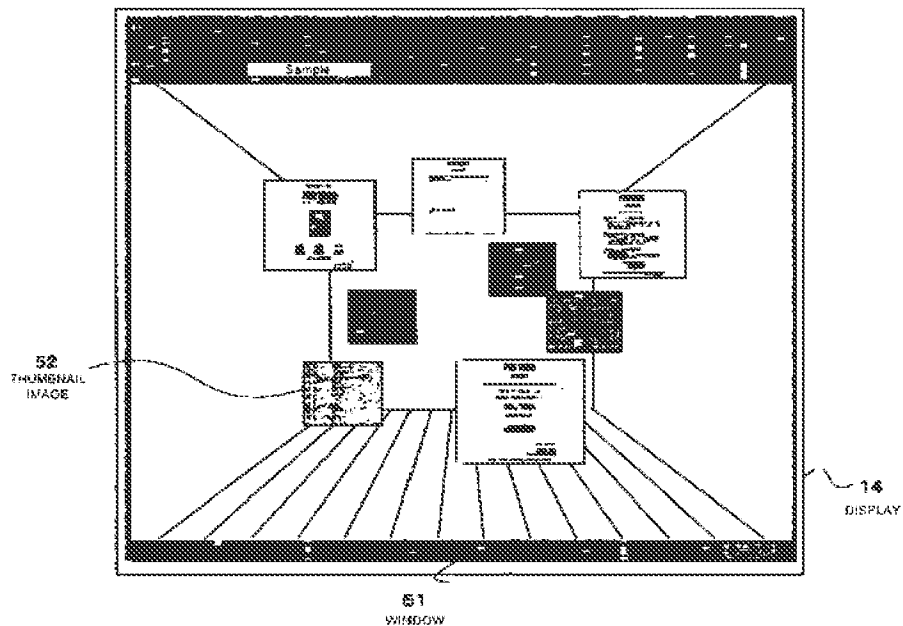


FIG. 5

Id., at FIG 5; Ex. 1011, at ¶ 80.

Koga further discloses the replacing of a 3D space with a window in a 2D space, and the use of a database. *Koga* provides “a bookmark management system . . . that makes a thumbnail image functioning as a bookmark appear to be flying in three-dimensional space, and as a result to entertain the user, and to allow the user to find the desired web page easily even if there are many bookmarked web pages” Ex. 1008, at ¶ [0005]; Ex. 1011, at ¶ 81.

7. *Anderson* is Prior Art to the '868 Patent

Anderson is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e) because it was filed on April 5, 2002, and published on October 9, 2003. Both dates are more than one year before the earliest possible priority date for the '868 patent (Sept. 13, 2005). Ex. 1009, at cover page. *Anderson* is owned by Microsoft.

Anderson discloses a method for a user to preview multiple virtual desktops in a graphical user interface. *Id.*, at Abstract; Ex. 1011, at ¶ 83. In particular, the method comprises receiving an indication from a user to preview the multiple virtual desktops and displaying multiple panes on the display. Each pane contains a scaled virtual desktop having dimensions that are proportionally less than the dimensions of a corresponding full-size virtual desktop. Each scaled virtual desktop displays with one or more scaled application windows if the corresponding full size virtual desktop has one or more corresponding application windows that are active. Ex. 1009, at Abstract; Ex. 1011, at ¶ 83.

For example, Figure 6 illustrates a preview window 310 with multiple panes, each including a scaled virtual desktop according to one embodiment. In Figure 6, application windows 342B-348B are shown running on tiled multiple scaled virtual desktops 320-326 in the preview window 310. The preview window 310 allows a user to apprehend macroscopically all the virtual desktops at once. *See id.*, at 5:54-6:12. While only one application window is shown in each virtual desktop in Figure 6, *Anderson* also discloses that each virtual desktop may have one or more application windows that are active. *See id.*, at 2:31-36; Ex. 1011, at ¶ 84.

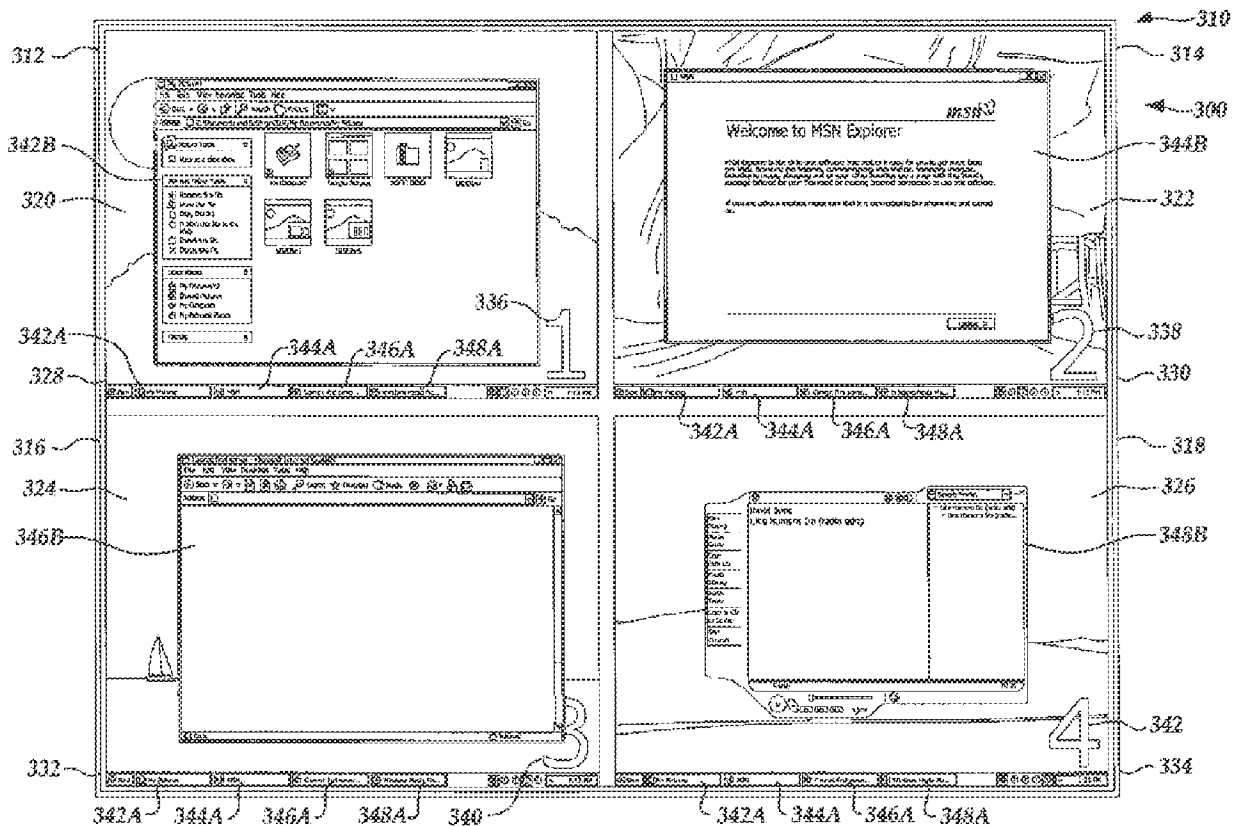


Fig. 6.

Ex. 1009, at FIG. 6.

Anderson further discloses that “[t]hese application windows 342B-348B are shown as shadows. As used here, the term “shadow” means an imperfect or faint representation of an actual representation of an application window.” *Id.*, at 5:66-6:3; Ex. 1011, at ¶ 85.

B. Summary of the Substantial New Questions of Patentability

Each of the above patents and publications are prior art to the '868 patent and the grounds of rejection outlined in this Request raise substantial new questions of patentability (“SNQs”) because the references used to establish these grounds provide new teachings not previously considered by the Office.

First, none of the references used to establish the grounds for rejection in this Request, nor the grounds themselves, were subject to any prior art rejection during prosecution of the '868

patent or the prosecution of any of the applications to which it claims priority. None of the references were cited during the prosecution of the '868 patent or the prosecution of any of the applications to which it claims priority.

Second, none of the grounds presented in this Request were considered by the PTAB during any '868 IPR proceeding. Neither the Apple IPR nor the LG IPR relies on argument and prior art at issue in this petition. *See generally* Exs. 1015-1017.

The Samsung IPR relied on three of the secondary references in this Request but was based on different grounds. In particular, the Samsung IPR did not include *Miller '542* in its grounds (shown below). *See* Ex. 1018, at 8:

1. Ground 1: *Holecek* in view of *Mastering Windows XP* renders claims 1-5, 7-11, 14, and 16-20 obvious.
2. Ground 2: *Holecek* in view of *Mastering Windows XP* and *Dalal* render claims 12-13 obvious.

The Samsung IPR was terminated before the PTAB issued an institution decision. *See* Ex. 1018, at 75-78. Because the Board did not address the merits of the references, either in the institution decision or a final written decision, this Request presents substantial new questions of patentability. M.P.E.P. § 2816.02 (citing *In re Recreative Techs.*, 83 F.3d 1394, (Fed. Cir. 1996)) (clarifying that an SNQ may exist unless “the same question of patentability may already have been decided if the Office has previously considered, in an earlier concluded examination or review of the patent, the same question of patentability based on the same prior art.”). Here, there was no concluded proceeding on the same prior art, and it thus presents a substantial new questions of patentability.

Third, none of the grounds presented in this Request have been considered in a concluded examination of the '868 patent. Therefore, this Request presents substantial new questions of patentability.

Fourth, none of the grounds presented in this Request have been considered in a concluded examination of the ancestors of the '868 patent, i.e., the '654, '048, and '018 patents.

Fifth, a substantial new question exists for grounds based on *Miller '542*, *Holecek*, *Mastering Windows*, *Dalal*, *Miller '358*, *Anderson*, and/or *Koga*, because they each disclose features that correspond with the Examiner's reasons for allowance: "The following is an examiner's statement of reasons for allowance: The present invention teaches allowing a user to switch between a plurality of opened applications within a two-dimensional space, by generating specific images of each application and displaying them collectively within a three-dimensional space in a particular order. The prior art fails to explicitly teach all of the limitations of the amended claims." Ex. 1002, at 177. For example:

- *Miller '542* alone or in view of one or more of *Holecek*, *Mastering Windows*, *Miller '358* and/or *Koga* teaches the features of "switch[ing] between a plurality of opened applications within a two-dimensional space" highlighted in the Examiner's reasons for allowance.
- *Miller '542* alone or in view of one or more of *Holecek*, *Mastering Windows*, *Dalal*, *Miller '358* and/or *Koga* also teaches the feature of "generating specific images of each application" highlighted in the Examiner's reasons for allowance.
- *Miller '542* alone or in view of one or more of *Holecek*, *Mastering Windows*, *Dalal*, *Miller '358* and/or *Koga* teach the feature of "displaying [the images] collectively

within a three-dimensional space in a particular order” highlighted in the Examiner’s reasons for allowance.

Accordingly, because the combination of prior art in proposed grounds teaches all of the features identified in the reasons for allowance, a substantial new question of patentability exists. And, because these grounds differ from the grounds presented during prosecution and in the prior IPRs, Requester’s grounds also present art that is not the same or substantially the same as art previously considered by the Office. *Advanced Bionics v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 7-9 (P.T.A.B. Feb. 13, 2020).

V. PROPOSED REJECTIONS OF THE ’868 PATENT

The following rejections are proposed in this request for Claims 1-20 of the ’868 patent:

- **Ground 1:** *Miller ’542* in view of *Holecek* and *Mastering Windows* renders obvious Claims 1-5, 7-11, 14, and 16-20.
- **Ground 2:** *Miller ’542* in view of *Holecek*, *Mastering Windows* and *Dalal* renders obvious Claims 12-13.
- **Ground 3:** *Miller ’542* in view of *Holecek*, *Mastering Windows*, *Miller ’358* and *Koga* renders obvious Claims 1-5, 7-11, 14, and 16-20.
- **Ground 4:** *Miller ’542* in view of *Holecek*, *Mastering Windows*, *Dalal*, *Miller ’358* and *Koga* renders obvious Claims 12-13.
- **Ground 5:** *Miller ’542* in view of *Holecek*, *Mastering Windows* and *Anderson* renders obvious Claims 6-8 and 15-17.
- **Ground 6:** *Miller ’542* in view of *Holecek*, *Mastering Windows*, *Miller ’358*, *Koga* and *Anderson* renders obvious Claims 6-8 and 15-17.

VI. DETAILED EXPLANATION OF THE PROPOSED REJECTIONS OF THE CLAIMS OF THE ’868 PATENT

A. Ground 1: Claims 1-11, 14-20 Are Obvious Over *Miller '542* in view of *Holecek* and *Mastering Windows*.

As explained below, *Miller '542* in view of *Holecek* and *Mastering Windows* renders obvious claims 1-11, 14-20.

1. Motivation to Combine *Miller '542*, *Holecek*, and *Mastering Windows*

A POSITA would have been motivated to combine *Miller '542* with the teachings of *Holecek* and *Mastering Windows*. Ex. 1011, at ¶ 87. Like the '868 patent, all three references relate to GUIs on a computer display and the ability of a user to view and navigate among different windows and interact with the windows. All three references also discuss viewing of webpages within a window. The fact that all three references are from the same technology area and address the same set of challenges—such as how to present several windows in an organized manner—provides motivation for a POSITA to combine the teachings of the 3D space of *Miller '542* with the user interface features of *Holecek* and *Mastering Windows*. *Id.* The motivation to combine *Holecek* with *Miller '542* is also disclosed in *Holecek*: “It will be further appreciated by one skilled in the art that creating the visual stack, manipulating the visual stack, and providing the animation transitions to show the user visually what is occurring requires a 3-dimensional layout engine working with the operating system.” Ex. 1004, at 13:47-51; Ex. 1011, at ¶ 88.

Moreover, *Miller '542* and *Holecek* describe the use of a Microsoft Windows environment, and *Mastering Windows* focuses on the Microsoft Windows environment. A POSITA would have been motivated to use the teachings of *Mastering Windows* in understanding *Miller '542* and *Holecek*. Ex. 1011, at ¶ 89. *Holecek* is a patent assigned to Microsoft and specifically refers to Microsoft Windows. Ex. 1004, at 1:28-32. It would have been obvious for a POSITA to look to

current operating environments described in *Holecek* and *Mastering Windows* while also looking for improvements to those operating environments as described in *Miller '542*; Ex. 1011, at ¶ 89.

A POSITA would have been motivated to implement the features described in *Holecek* and *Mastering Windows* in the 3D spaces in *Miller '542* such that a user could manipulate the 3D windows in *Miller '542* in a similar way as described in *Holecek* and *Mastering Windows. Id.*, at ¶ 90. For example, the 3D windows in *Miller '542* may include close, minimize, and maximize buttons for a user to close, minimize and maximize a window in a similar way as disclosed in *Mastering Windows*. As another example, a user may be able to browse through the 3D windows in *Miller '542*, where the windows are ordered in the z-direction based on the last time a user interacted with these 3D windows as described in *Holecek*. The creation of such a combination would have been within the skillset of a POSITA at the time of the invention and would require no undue experimentation. Further, such a combination would have an easily predictable result. *Id.* Accordingly, a POSITA would have had a reasonable expectation of success. *Id.*

2. Independent Claim 1

Under the broadest reasonable interpretation, claim 1 is obvious over *Miller '542* in view of *Holecek* and *Mastering Windows*. A POSITA would have been motivated to combine *Miller '542* with *Holecek* and *Mastering Windows* for the reasons discussed in § VI.A.1 and below. Ex. 1011, at ¶ 91.

- a. **Claim 1[preamble]: “A method for using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space to switch between said plurality of application, said device having a fixed resolution display, comprising:”**

To the extent this preamble is limiting, *Miller '542* in view of *Holecek* and *Mastering Windows* renders it obvious under the broadest reasonable interpretation of the claims, as

established below. *See, e.g.*, limitations 1[a] through 1[k] (using a 2D space to selectively interact with a plurality of applications open on a device), limitations 1[c] through 1[g] (using a 3D immersive space to switch between the plurality of application), limitation 1[b] (the device having a fixed resolution display). Ex. 1011, at ¶ 92.

b. Claim 1[a]: “receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;”

This limitation is rendered obvious by *Miller* '542 alone or in view of *Mastering Windows* and/or *Holecsek* under the broadest reasonable interpretation of the claims. Ex. 1011, at ¶ 93.

Miller '542 discloses receiving user inputs in a conventional windowing system to open computer applications. *See* Ex. 1003, at 5:23-26 (“In user-interface design parlance, these ‘gestures’ might include **double-clicking on an item, clicking an on-screen button, selecting an item from an on-screen menu, typing keystrokes**, etc.” (emphases added)); Ex. 1011, at ¶ 94. *Miller* '542 also discloses these user inputs are available in a 3D system. *See* Ex. 1003, at 6:7-31 (“When a window ‘isBackground’, the window exists as an object in a 3D space, where it may be positioned, rotated, or otherwise manipulated, much like dragging icons around a traditional 2½D window system.”), 6:48-53 (“When 3D windows according to an embodiment of the present invention are in the ‘foreground,’ they obey all the rules of the 2½D window system, including position and stacking order. Windows in the ‘background’ are true 3D objects and obey all the rules of a 3D space”). These disclosed user inputs, including double-clicking, clicking, selecting and typing, etc., correspond to the claimed “a plurality of inputs from a user.” Ex. 1011, at ¶ 94.

In addition, these user inputs comprise the claimed “at least first, second, and third inputs” if the user opens at least three applications or opens the same application at least three times, etc.

For example, Figure 5 of *Miller* '542 shows more than three windows are open. It would have been obvious to a POSITA that at least first, second, and third inputs were received to open the applications corresponding to these at least first, second, and third windows. *Id.*, at ¶ 95.

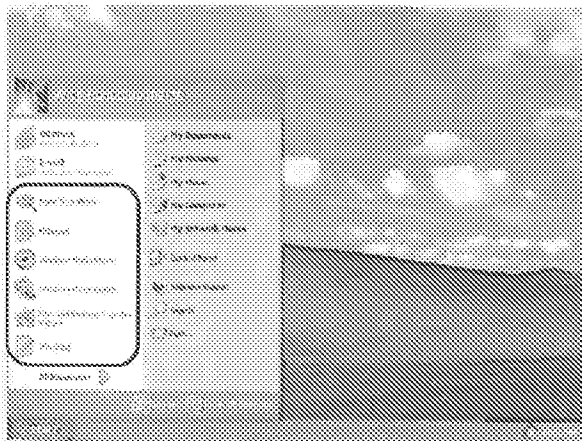


FIG. 5

Ex. 1003, at FIG. 5.

Similarly, *Mastering Windows* also discloses that a Windows XP user can start a program by clicking the program's shortcut on the Start Menu, double-clicking its shortcut on the Desktop, clicking a shortcut on the Quick Launch toolbar, typing the name of the program in the Run dialog box, browsing for the program, or double-clicking a file associated with the program. Ex. 1005, at

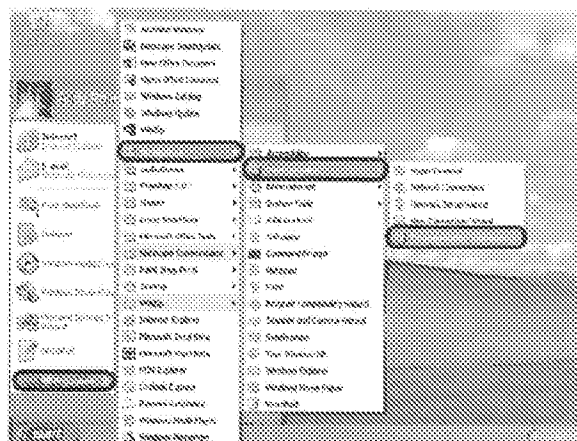
9, 210, and 574. These disclosed user inputs correspond to the claimed “a plurality inputs from a user.” Ex. 1011, at ¶ 96.



2. Click one of the items on the Start menu to open it.

The marked area of the left panel contains recently used programs.

The other items on the menu remain there unless you customize the menu.



3. If the program or item doesn't appear on the first part of the Start menu, click the All Programs button.

Choose an item to open it, or open a submenu (indicated by an arrow) to access further items.

Highlights indicate new items.

Ex. 1005, at 9 (a user input of clicking the program's shortcut on the Start Menu).

Running Programs

In XP, you can start a program in any of several ways. If you've used a previous version of Windows, you'll probably be familiar with these ways. They break down into two categories: starting a program directly by opening it, and starting a program indirectly by opening a file whose file type is associated with the program. (Chapter 6 discusses file types and how you can associate them with programs.)

You can start a program directly in any of the following ways:

- ◆ Click its shortcut on the Start menu (or on the All Programs submenu, or on one of its submenus).
- ◆ Double-click a shortcut on the Desktop or in an Explorer window. (Chapter 6 discusses how to create shortcuts wherever you want.)
- ◆ Click a shortcut on the Quick Launch toolbar or another Desktop toolbar. (Chapter 4 discusses the Desktop toolbars and how to customize them.)
- ◆ Choose Start > Run. XP displays the Run dialog box. Enter the name of the program in the Open text box, either by typing or by browsing for it. (Click the Browse button. XP displays the Browse dialog box. Navigate to and select the file, then click the Open button.) Click the OK button.

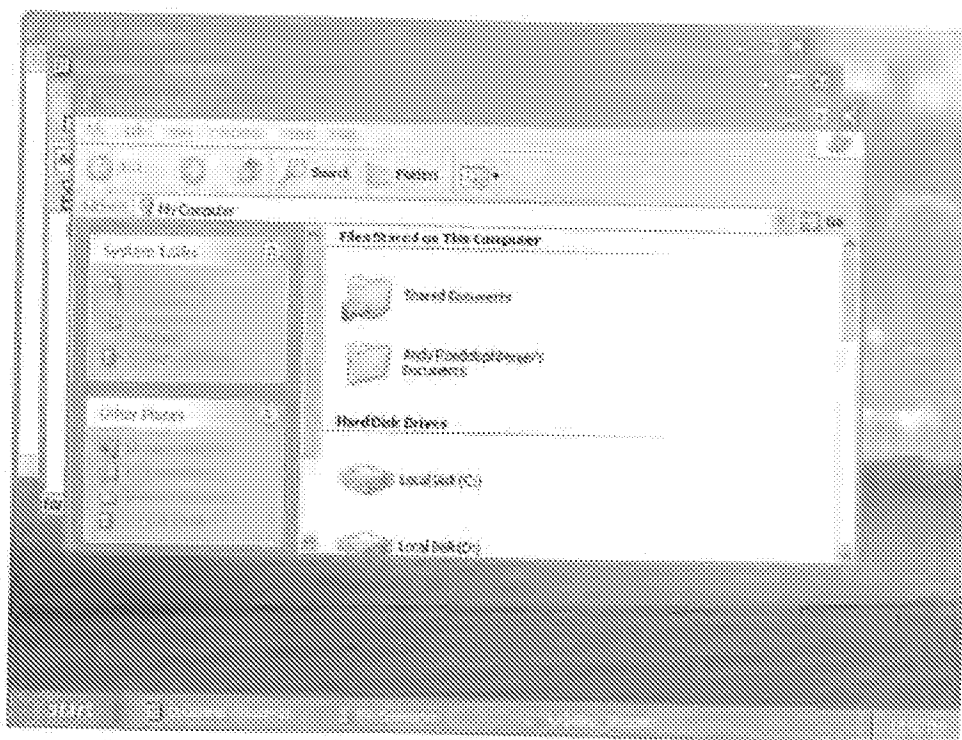
NOTE Using the Run dialog box seems a clumsy way of running a program, but it's useful for running utilities for which XP doesn't provide a Start menu entry (for example, the Registry Editor, discussed in Chapter 12) and for running programs for which you don't want to create a shortcut but whose path and filename you can type (or otherwise enter) without undue effort.

- ◆ Double-click the icon or listing for the program in an Explorer window (or on the Desktop). You can also use the Search feature (discussed in Chapter 6) to locate the program you want to run.

Almost all setup routines create shortcuts to their programs automatically. Usually, the setup routine puts a shortcut on the Start menu or in a subfolder of the Start menu. Some setup routines place a shortcut directly on the Desktop; some consult you first; others don't. Some setup routines offer to also put a shortcut in the notification area; other setup routines do so without consulting you; while others yet are civilized enough to respect Microsoft's guidelines for notification-area use—that the notification area should be used for warnings and information rather than loaded with shortcuts for every program in sight.

Ex. 1005, at 210 (several ways of receiving user inputs to start a program).

In addition, these user inputs comprise the claimed “at least first, second, and third inputs” if the user opens at least three applications or opens the same application at least three times. For example, *Mastering Windows* discloses opening at least three applications in three windows. See *id.*, at 12-13 (opening three application windows), 143 (Windows Task Manager showing processes for at least three applications, including e.g., moviemk, wmplayer, explorer, WINWORD, etc.); Ex. 1011, at ¶ 97.



5. Issuing a Cascade Windows command arranges the windows in an overlapping pattern with their title bars visible. To restore the windows to their previous positions, issue the Undo Cascade command.

Ex. 1005, at 13 (windows corresponding to three applications, including “My Computer” (Windows Explorer), WordPad, and Notepad).

Holecek also teaches the claimed “a plurality of inputs from a user” by disclosing that, “[t]o initiate visual window browsing according to an illustrative embodiment of the present invention, the user inputs a command in the form of a keyboard shortcut, a mouse action, a voice input or the like. These inputs might include a shortcut sequence like Windows-Tab, Alt-Tab or pushing the mouse pointer to a corner of the screen.” Ex. 1004, at 9:57-62 (emphases added); see also *id.*, at 4:35-46 (“A user may enter commands and information into the computer 110

through input devices such as a digital camera 163, a keyboard 162, and pointing device 161, commonly referred to as a mouse, track ball or touch pad. Other input devices . . . may include a pen, stylus and tablet, microphone, joystick, game pad, satellite dish, scanner, or the like.”); Ex. 1011, at ¶ 98.

These user inputs comprise the claimed “at least first, second, and third inputs” if the user opens at least three applications or opens the same application at least three times. *Id.*, at ¶ 99. For example, Figure 2B of *Holecek* shows “an illustrative visual stack where six windows are visually presented.” Ex. 1004, at 10:5-6, FIG. 2B; *see also id.*, at 9:1-17, 9:39-45, FIG. 2A. Here, at least first, second, and third inputs were received to open three of these windows. *See id.*, at 9:57-60 (“To initiate visual window browsing . . . the user inputs a command . . .”), 10:43-46 (“To browse to another of the windows, the user can issue another command by performing an action, such as pressing the Tab key while continuing to hold the Windows key, spinning the mouse wheel one click or providing another input.”); Ex. 1011, at ¶ 99.

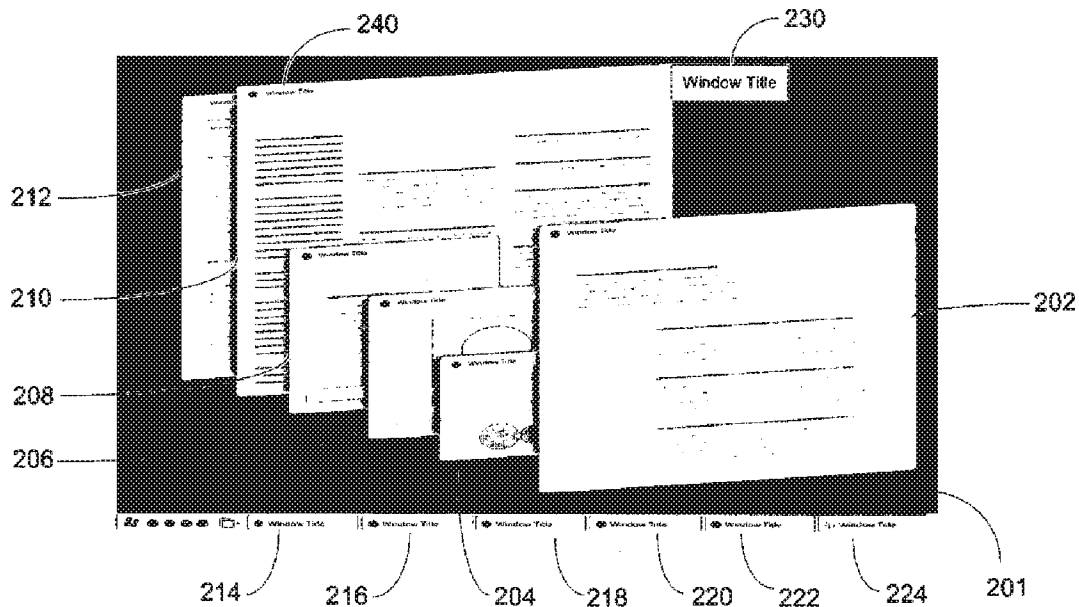


FIG. 2B

Ex. 1004, at FIG. 2B.

A POSITA would have been motivated to provide the same functionality disclosed in *Mastering Windows* or *Holecek* in the system of *Miller '542* because that functionality has become second nature to users due to the prevalence of Windows XP and it would enhance user convenience to have familiar features available in the system of *Miller '542*. Ex. 1011, at ¶ 100.

These teachings from the prior art are also similar to the Patent Owner's own assertion in the infringement contentions of the Apple and LG Litigations that this claim limitation is met by receiving three inputs from a user by way of a capacitive touchscreen on an Apple Watch. See Ex. 1020, at 168, 205, 242; Ex. 1025, at 124, 148, 169; Ex. 1011, at ¶ 101.

[1-a] receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;	<p>The Zone 3 receives at least a first, second, and third input from an end user by way of a capacitive touchscreen, which allows multiple inputs to be entered by a user. See, e.g., Verizon LG Optimus Zone 3 User Guide, https://www.lg.com/us/support/products/documents/lg_optimus_zone_3_ug.pdf, at 18-19 (outlining multiple ways that users can interact with touchscreen, including touch or tap; touch and hold; drag; swipe, slide, or flick; double-tap; and multi-touch).</p> <p>The Zone 3 includes a "Recent Apps Button," which pulls up a user's recently used apps and open websites, as described in the Zone 3's user guide. See Verizon LG Optimus Zone 3 User Guide, https://www.lg.com/us/support/products/documents/lg_optimus_zone_3_ug.pdf, at 21.</p>
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Ex. 1020, at 168 (excerpt of infringement contentions of the LG Litigation).

[1-a] receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;	The Apple Watch receives at least a first, second, and third input from an end user by way of a capacitive touchscreen, which allows multiple inputs to be entered by a user.
--	---

Ex. 1025, at 124 (excerpt of infringement contentions of the Apple Litigation).

- c. **Claim 1[b]: "opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;"**

This limitation is rendered obvious by *Miller '542* alone or in view of *Holecek*, and/or *Mastering Windows* under the broadest reasonable interpretation of the claims. Ex. 1011, at ¶ 102. For the reasons stated above for limitation 1[a], it would have been obvious to a POSITA to open plurality of applications in response to a plurality of inputs within the 3D system of *Miller '542*. *Id.*

Regarding clause (i) “an object is generated having application-specific data,” a POSITA would have understood each application will generate a window containing data specific to that application. *Id.*, at ¶ 103. For example, *Miller '542* discloses that “[w]indows are **objects** in this [windowing system] space. The windowing system maintains **state information about these objects, including their position, extents, and sometimes even their contents.**” Ex. 1003, at 1:42-45 (emphases added); *see also id.*, at 5:50-56 (“[T]he application program or window system may redraw the **window contents** from an off-screen bitmap image buffer that preserved the **contents of the window . . .**” (emphases added)), 6:7-18 (“Traditional window systems maintain **information for each window, including the window’s owner, position, size, style, and sometimes even the pixel contents. . . .** An embodiment of the present invention extends **this state information for a window with at least five additional attributes. These attributes include a 3D shape . . . [and] the pixel contents of the 2D shape, applied to the 3D shape as a ‘texture’ . . .**” (emphases added)). It would have been obvious to a POSITA that these contents and information specific to each application window are application-specific data. Ex. 1011, at ¶ 103.

Mastering Windows also teaches clause (i) by disclosing windows containing data specific to Notepad, Internet Explorer, and Outlook Express, among others. *See* Ex. 1005, at 272 (text data

specific to a Notepad), 575 (webpage content data specific to an Internet Explorer), 639 (email data specific to Outlook Express). Ex. 1011, at ¶ 104.

FIGURE 7.1

You can use Notepad to recover text from a corrupted Word document—or to view deleted parts of a fast-saved Word document.

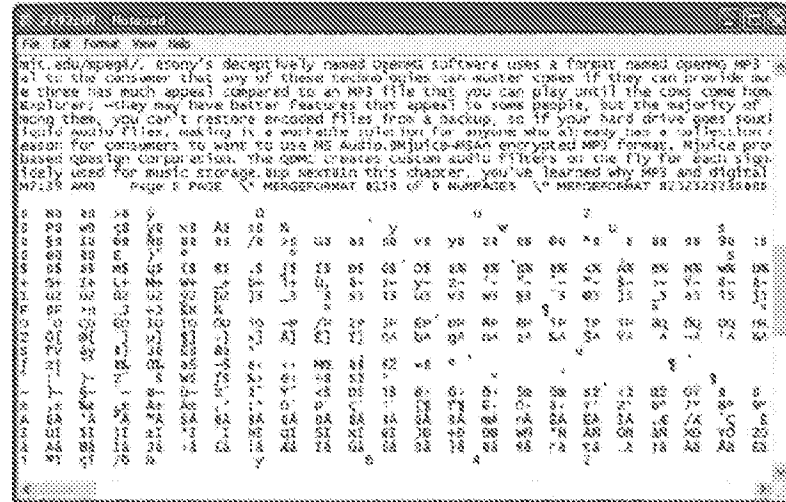


FIGURE 19.1

The main features of the Internet Explorer window

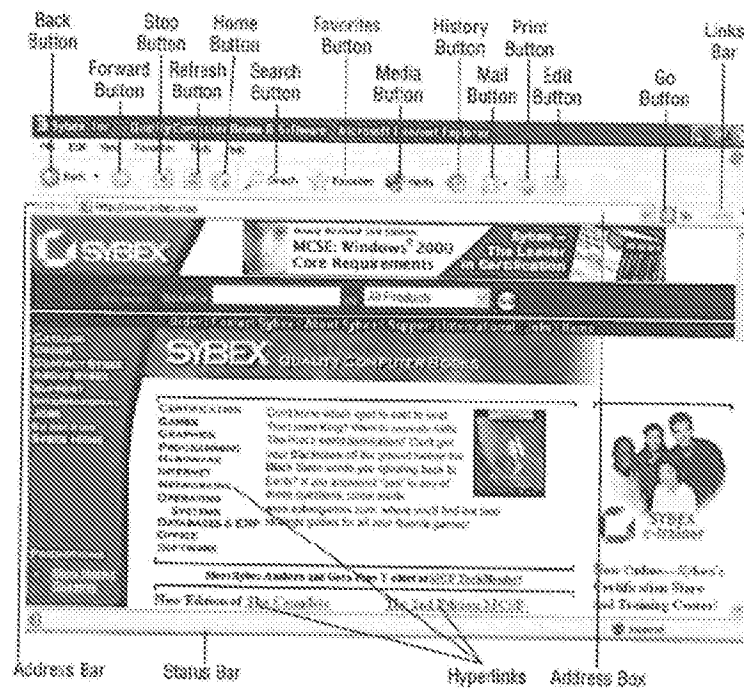
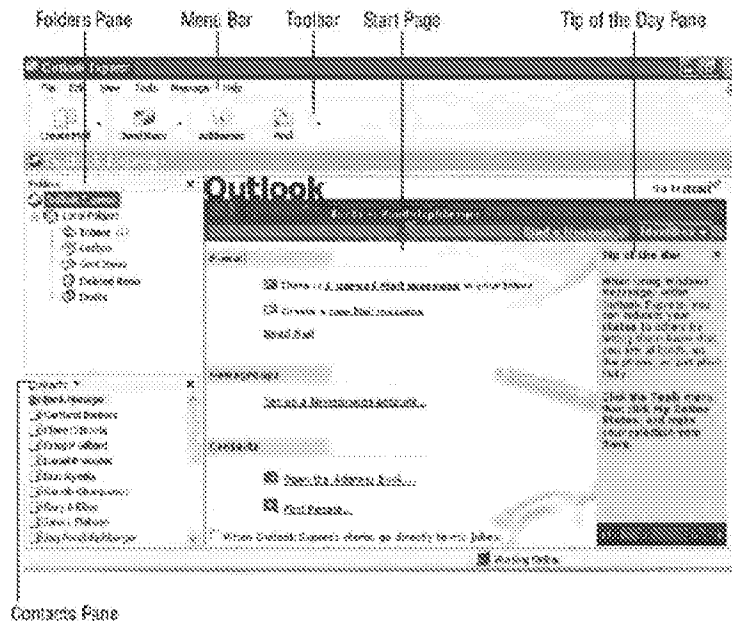


FIGURE 21.4
The Start page
provides links to
the main features
of Outlook Express.



Ex. 1005, at 272 (FIG. 7.1), 575 (FIG. 19.1), 639 (FIG. 21.4).

Holecek also teaches clause (i) by disclosing “program modules include routines, programs, **objects**, **components**, **data structures**, etc. that perform particular tasks or implement particular abstract data types.” Ex. 1004, at 2:66-3:2 (emphases added); Ex. 1011, at ¶ 105. *Holecek* also teaches application-specific data to the window object by disclosing the “contents of a specific window.” Ex. 1004, at 13:17-20; *see also id.*, at 14:25-28 (“contents of the window”), 13:38-41 (“a collection of **objects** which are typically identified by their **visual attributes (i.e.,] size, shape, position, content).**” (emphases added)), 13:2-5 (“[A] user could move the mouse pointer over a portion of the window so that more **content** is revealed” (emphases added)). It would have been obvious to a POSITA that the disclosed content, data structures, data types, and/or attributes are application-specific data. Ex. 1011, at ¶ 105.

Regarding clause (ii) “said object is displayed in said 2D space on said fixed resolution display,” *Miller '542* discloses displaying application windows on video display 116, which is a display device. Ex. 1003, at 4:56-65 (“video display 116”), FIGS. 5-6; Ex. 1011, at ¶ 106.

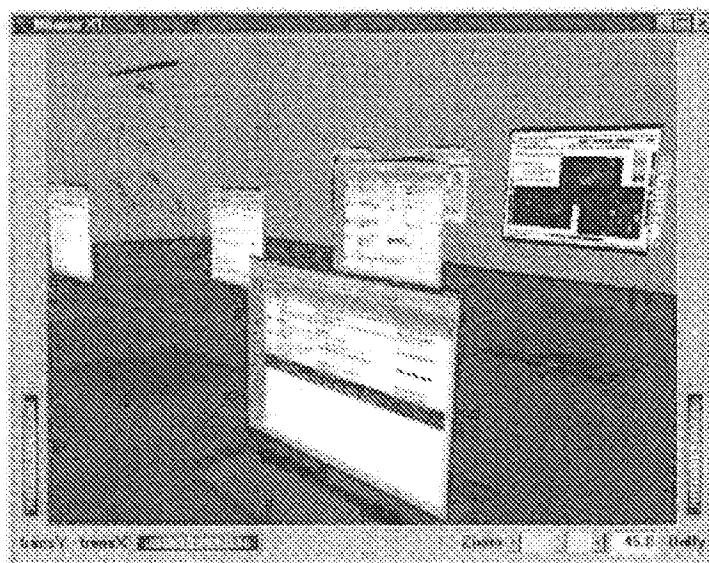


FIG. 5

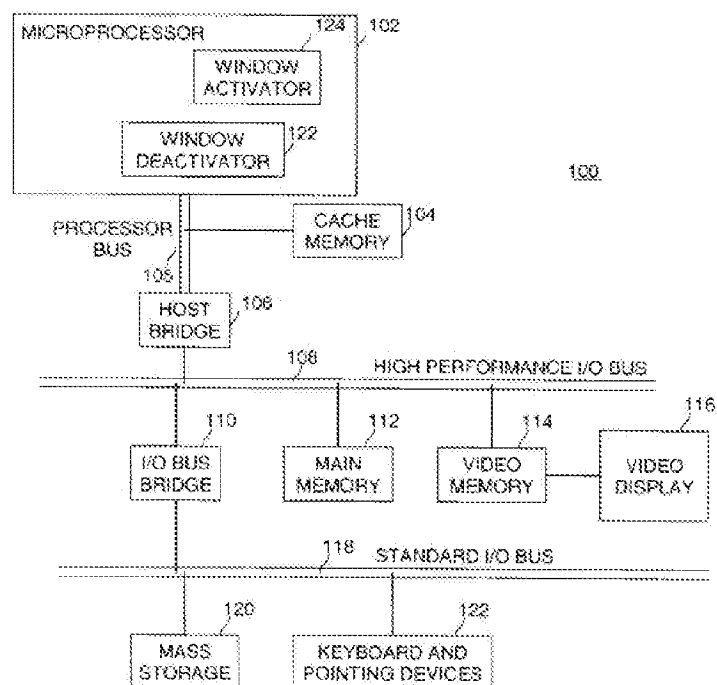


FIG. 6

Ex. 1003, at FIGS. 5-6. It would have been obvious to a POSITA that such display devices are fixed resolution displays so that varying resolution will not affect users' experience. Ex. 1011, at ¶ 106.

Holecek also teaches clause (ii) by disclosing displaying multiple open windows on a display screen 200 in Figures 2A-2C. Ex. 1004, at 9:1-2 (“a display screen 200 with multiple open windows overlapping each other”); *see also id.*, at 9:18-19 (“Desktop space 201 is an area of a display that allows for the display of windows corresponding to application programs.”), 13:14-17 (“[I]n step 403, the windows can be displayed in a visual stack . . .”), FIGS. 2A-2C, 3, 4; Ex. 1011, at ¶ 107.

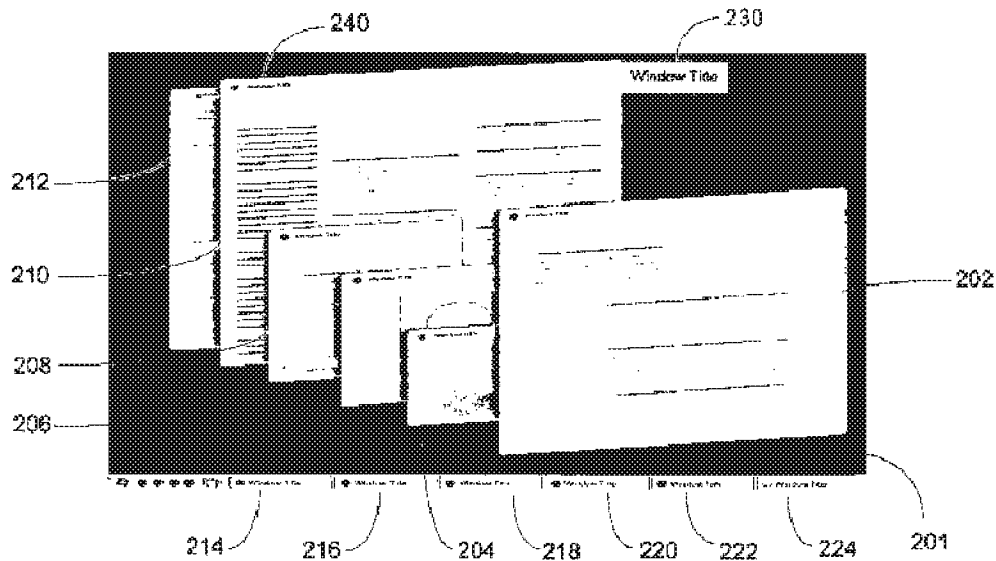
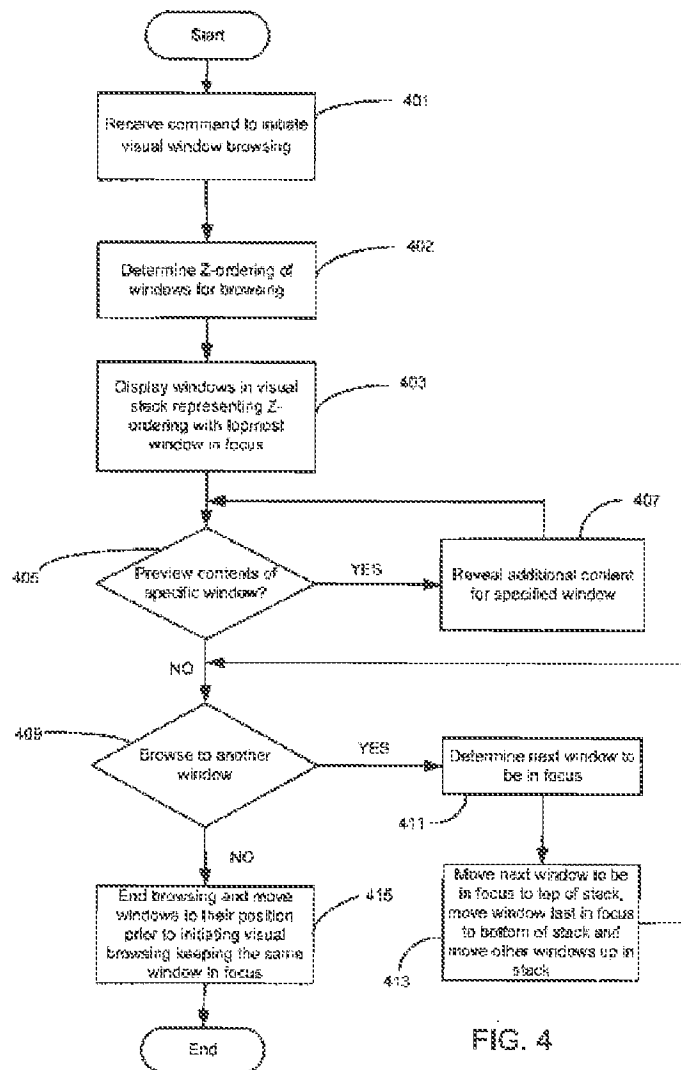


FIG. 2B



Ex. 1004, at FIGS. 2B, 4 (step 403).

Mastering Windows also teaches clause (ii) by disclosing displaying windows corresponding to Notepad, Internet Explorer, and Outlook Express, among others. Ex. 1005, at 272 (Notepad in FIG. 7.1), 575 (Internet Explorer in FIG. 19.1), 639 (Outlook Express in FIG. 21.4); Ex. 1011, at ¶ 108.

The specification of the '868 patent does not provide any description that supports the claimed “fixed resolution display.” But *Mastering Windows* further discloses that “[m]ost LCD panels and some other monitors are designed to deliver optimal quality **at only one resolution** and

only one refresh rate. Some LCD panels will display lesser resolutions as well as their **optimum resolution**, but the result is jagged and awkward to look at.” Ex. 1005, at 150 (emphases added); *see also id.*, at 152 (“all users of the computer must use the **same Desktop resolution**. The Welcome screen also uses this resolution. If some of your users see like hawks and others like field mice, try to find a comprise resolution that won’t make anyone suffer unduly.”). A person of skill would have understood an LCD panel to be a fixed resolution display because it is manufactured with a set number of pixel in the horizontal and vertical directions, which *Mastering Windows* refers to as the “optimum resolution.” Ex. 1011, at ¶ 109. It also discloses setting a resolution of a display to a fixed resolution via the standard Windows settings. Ex. 1005, at 132, 152. Thus, *Mastering Windows* teaches or suggests it is preferred to use fixed resolution of display. *Id.*

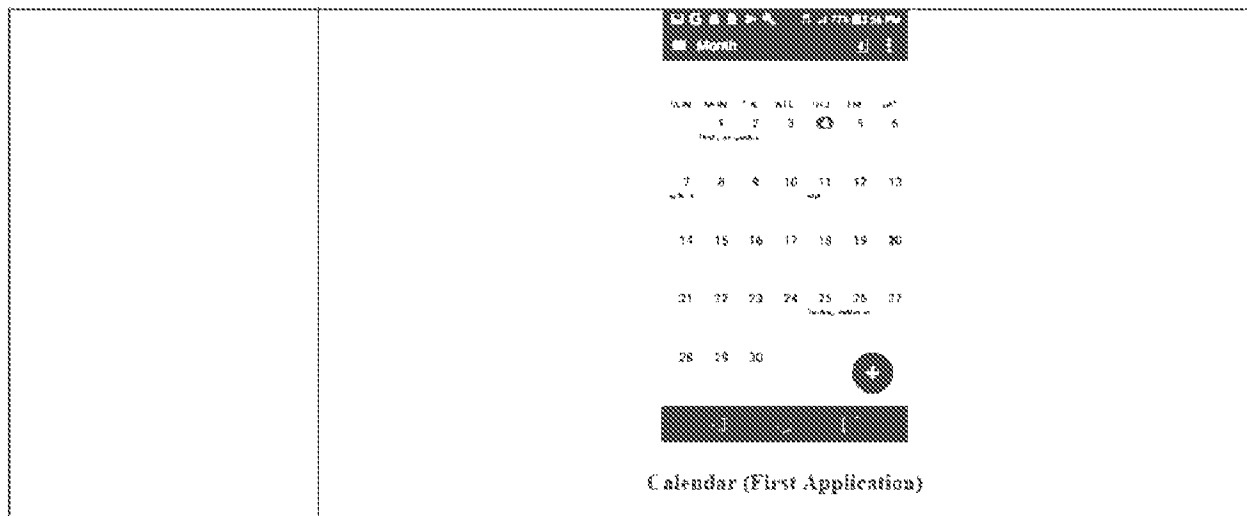
Regarding clause (iii) “said user is allowed to modify at least a portion of said application-specific data by interacting with said object,” *Mastering Windows* discloses examples of windows containing data specific to Notepad, Internet Explorer, and Outlook Express, as well as other applications. Ex. 1005, at 272 (Notepad in FIG. 7.1), 575 (Internet Explorer in FIG. 19.1), 639 (Outlook Express in FIG. 21.4). A POSITA would have understood for each of these application windows, the user is allowed to modify at least a portion of the application-specific data by interacting with the windows, for example, by typing text into a Notepad window, typing a URL into an Internet Explorer window, or typing text into an email in an Outlook Express window. Ex. 1011, at ¶ 110.

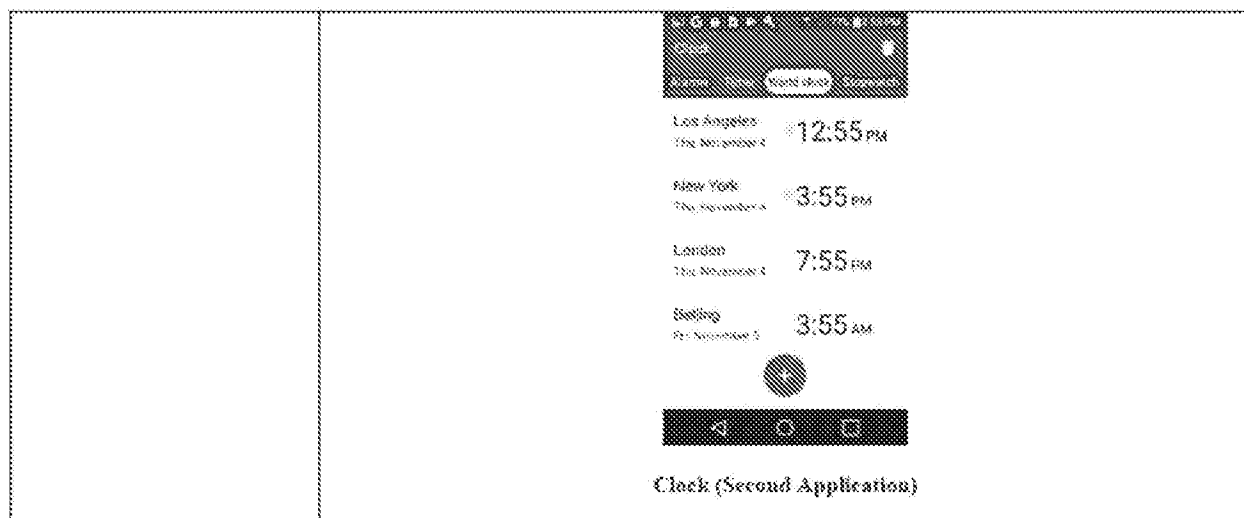
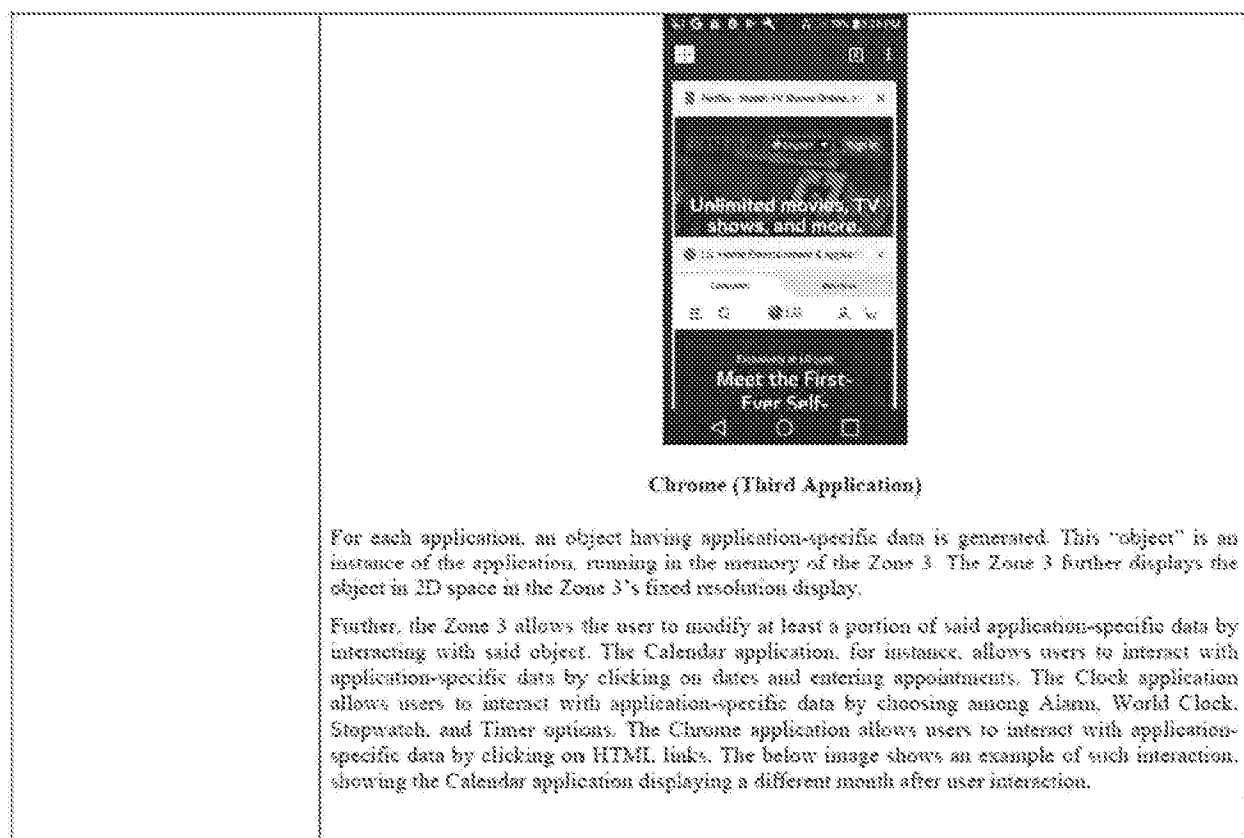
A POSITA would have understood that the purpose of most applications is for a user to interact with the application and modify application-specific data, and a POSITA would have been motivated to provide this well-known functionality in the 2D and 3D spaces of *Miller '542*. *Id.*, at

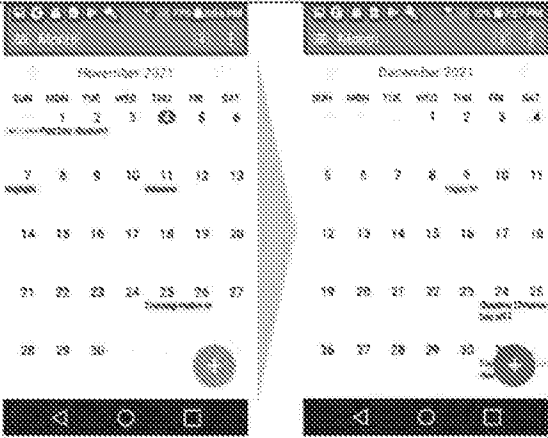
¶ 111. A POSITA would also have had a reasonable expectation of success because these are features of default Windows applications. *Id.*

These teachings from the prior art are also similar to the Patent Owner's own assertion in the infringement contentions of the Apple and LG Litigations that this claim limitation is met by opening and interacting with, e.g., the Mail, Calculator, and Clock apps. *See* Ex. 1020, at 168-75, 205-13, 242-49; Ex. 1025, at 124-28, 148-52, 169-73; Ex. 1011, at ¶ 112.

<p>[1-b] opening said plurality of applications in response to said plurality of inputs; said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;</p>	<p>The Zone 3 opens a plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object.</p> <p>The Zone 3 can open at least a first, second, and third application in response to the first, second, and third inputs, respectively. For example, in the first image below, the Zone 3 has opened the Calendar application. In the second image below, the Zone 3 has opened the Clock application. In the third image below, the Zone 3 has opened the Google Chrome browser ("Chrome") application.</p>
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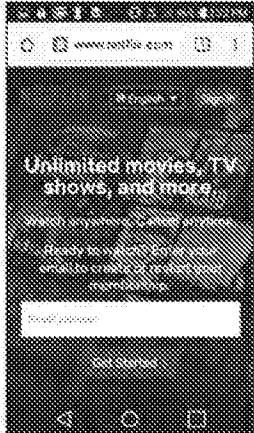


Further, the Zone 3 is preloaded with at least the standard Chrome browser. See, e.g., Verizon LG Optimus Zone 3 User Guide, https://www.lg.com/us/support/products/documents/lg_optimus_zone_3_user_guide, at 55 (describing how to use Chrome on the Zone 3). Webpages opened in Chrome infringe this claim and subsequent claims in the same manner as applications opened in the Zone 3. As such, the Zone 3 infringes the claims of the '368 patent in at least two independent ways.

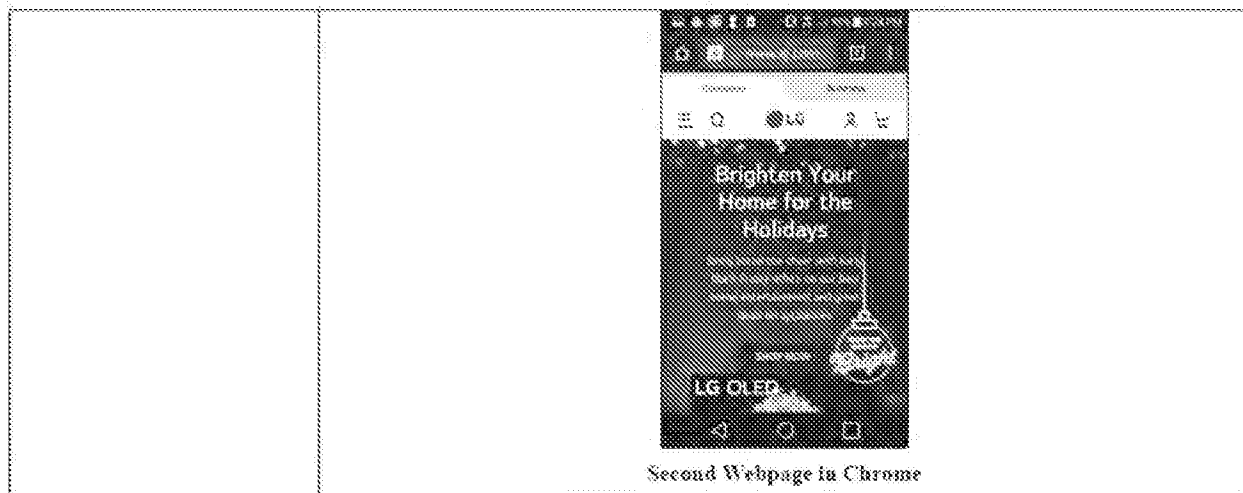
Chrome provides a user interface capable of opening a plurality of webpages in response to said plurality of inputs, said plurality of webpages comprising at least first, second, and third webpages, wherein for each one of said plurality of webpages (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object.

Chrome can open at least a first, second, and third webpage. For example, in the first image below, a user has entered "netflix.com" into Chrome. The Zone 3 received the netflix.com webpage in response to the user's input. In the next image, the user has entered "lg.com" into Chrome. The

Zone 3 received the lg.com webpage in response to the user's input. In the final image below, the user has entered "hulu.com" into Chrome. The Zone 3 received the hulu.com webpage in response to the user's input. Each webpage allows users to modify at least a portion of said application-specific data by clicking on HTML links.

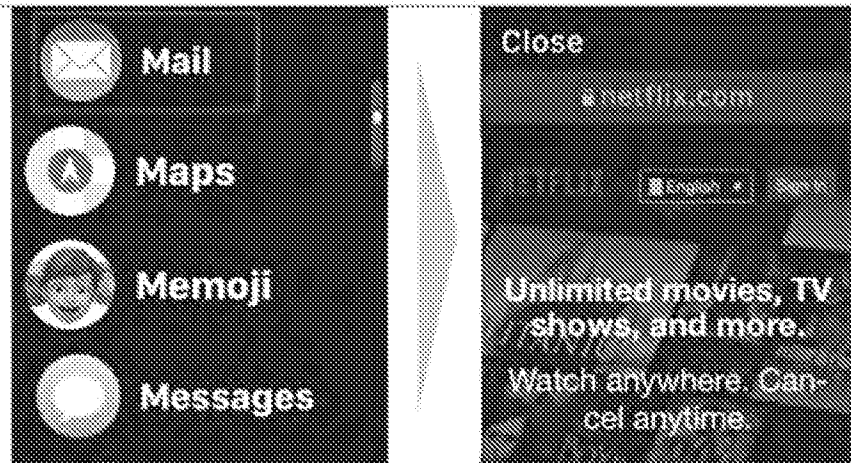


First Webpage in Chrome

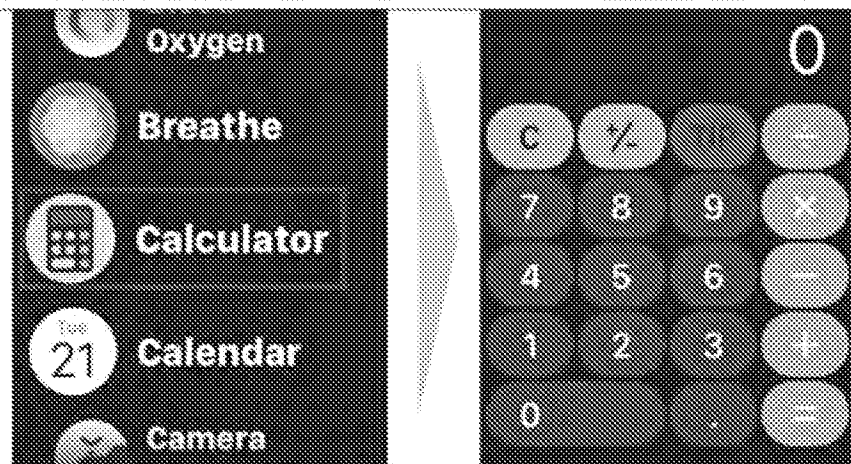


Ex. 1020, at 168-75 (excerpt of infringement contentions of the LG Litigation).

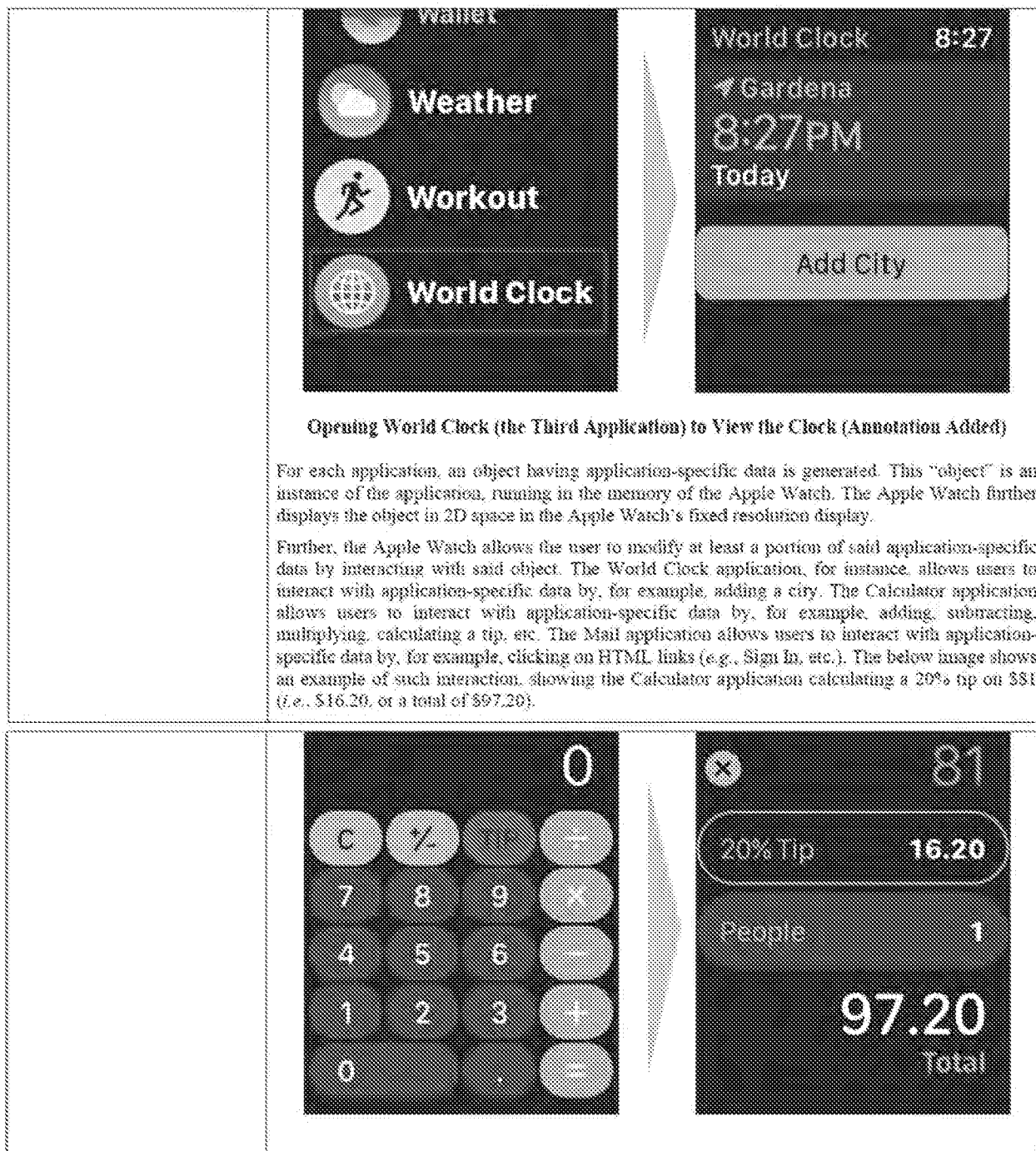
<p>[1-b] opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;</p>	<p>The Apple Watch opens a plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object.</p> <p>The Apple Watch can open at least a first, second, and third application in response to the first, second, and third inputs, respectively. For example, in the first image below, the Apple Watch has opened the Mail application.</p> <p>The Apple Watch is preloaded with at least "WebKit," which is a browser engine developed by Apple. See, e.g., https://developer.apple.com/videos/play/wwdc2016/239/. Using WebKit, the end user can tap links to webpages in emails (e.g., via the Mail application, which is also preloaded on the Apple Watch) to view and interact directly with webpages on the Apple Watch. See, e.g., https://developer.apple.com/videos/play/wwdc2013/239/.</p> <p>In the second image below, the Apple Watch has opened the Calculator application.</p> <p>In the third image below, the Apple Watch has opened the World Clock application.</p>
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Opening Mail (the First Application) to View a Webpage (Annotation Added)



Opening Calculator (the Second Application) to View the Calculator (Annotation Added)



Ex. 1025, at 124-28 (excerpt of infringement contentions of the Apple Litigation).

d. Claim 1[c]: “allowing a user to switch between said plurality of application, comprising[::]”

Under the broadest reasonable interpretation of the claims, in addition to the reasons stated below for limitations 1[d]-1[g] below, this limitation is rendered obvious by combining the 3D and

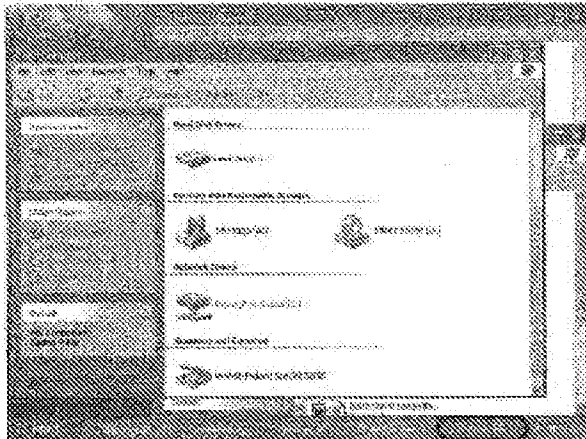
2D spaces of *Miller '542* with the user functionality of *Mastering Windows* and/or *Holecek*. Ex. 1011, at ¶ 113.

For example, *Mastering Windows* discloses that a user can use the Taskbar to switch between windows and different applications. Ex. 1005, at 14 (“Using the taskbar to access a window”), 181-82 (“Using the Taskbar to Navigate between programs.”); Ex. 1011, at ¶ 114.

USING THE TASKBAR TO ACCESS A WINDOW

The Taskbar lets you quickly access and manage the windows you have open.

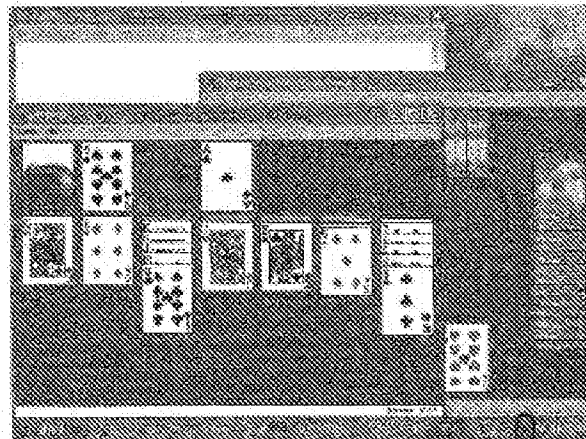
The Taskbar displays a button for each open window or group of windows. The window you're working in is called the *active window*. The Taskbar button for the active window or group is visually highlighted in some way. For example, in the Windows XP theme, the button for the active window or group appears in a darker blue. In the Classic theme, the button appears lighter and pushed-in.



1. Click the Taskbar button once to display the window. Click the button again to minimize the window to its Taskbar button.



2. When the first row of the Taskbar is full, XP groups the buttons for similar windows. Click the group button to display a menu of the window buttons it contains.



3. When the buttons for open windows and groups won't fit on one row, the Taskbar displays scroll buttons for accessing subsequent rows. Click the scroll buttons to scroll up or down a row of buttons.

Using the Taskbar to Navigate between Programs

In XP, the Taskbar looks more decorative than its utilitarian old version in previous versions of Windows, but its function remains the same: to let you see which programs are open; navigate quickly to a program; and maximize, minimize, restore, or close programs easily.

The Taskbar displays a button for each open program window. Note that this said *program window* rather than just *program*. If a program displays multiple separate program windows, the Taskbar shows one button for each window. If the program uses only one program window (including if the program has several document windows open within a program window), the Taskbar shows only one button for it. For example, if you have Excel 2002 or Word 2002 set to display multiple program windows (by selecting the Windows in Taskbar check box on the View page of the Options dialog box in each of the programs), XP displays a Taskbar button for each program window. If you have these programs set to display only one program window, the Taskbar displays only one button for the program.

FIGURE 4.17

When a program's windows are grouped into a group button, you activate a program window by clicking the group button and choosing the button from the menu displayed.



Ex. 1005, at 14, 181-82.

In addition, *Holecek* also teaches this claim limitation. For example, Figure 2B of *Holecek* depicts “an illustrative visual stack where six windows are visually presented in an isometric perspective, where the bottom left corners of the windows are aligned along a common axis or common edge of a cube. Such a visual stack configuration is akin to the appearance of a rolodex.”

Ex. 1004, at 10:5-10; Ex. 1011, at ¶ 115.

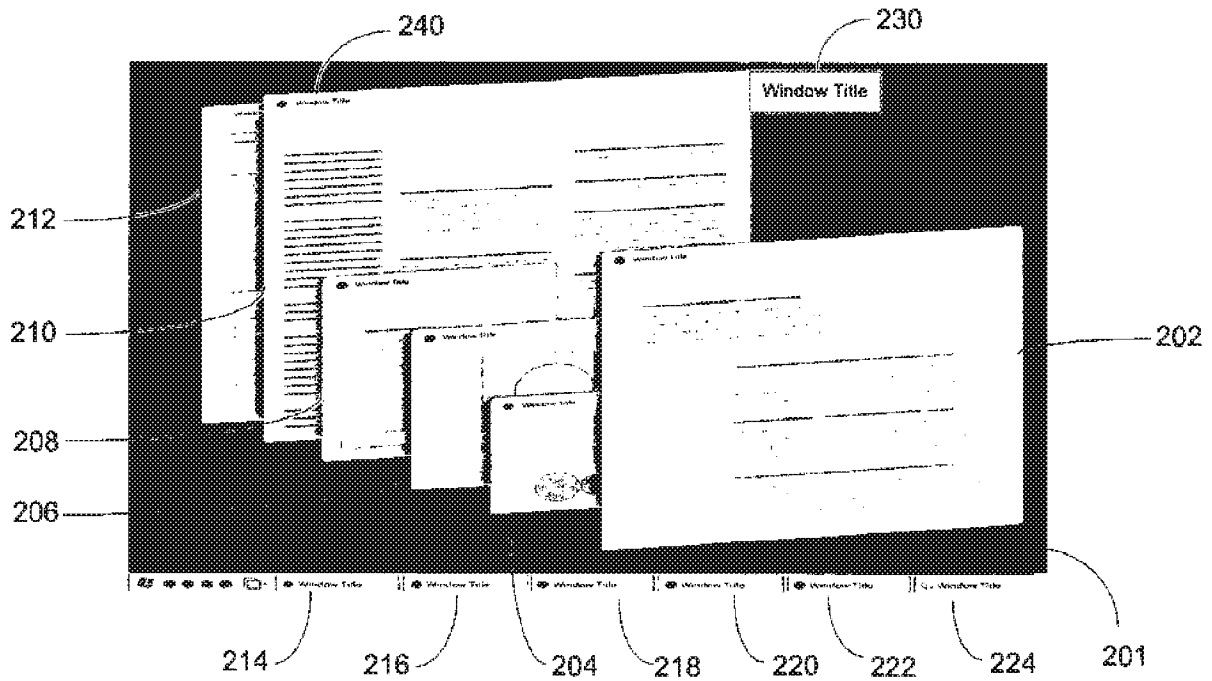


FIG. 2B

Ex. 1004, at FIG. 2B.

Holecek then teaches switching between these applications by disclosing that “when a command to browse from one window to the next window in the Z-order is executed, the window at the top of the stack moves to the bottom and its size is increased to be the largest window. Each other window in the visual stack would move up one spot in the Z-order and be reduced in size. Such an implementation will allow many windows to be visually displayed in the visual stack and provide a user with a comparable quantum of information regarding the content of each of the windows.” *Id.*, at 11:32-41, FIG. 2C; Ex. 1011, at ¶ 116.

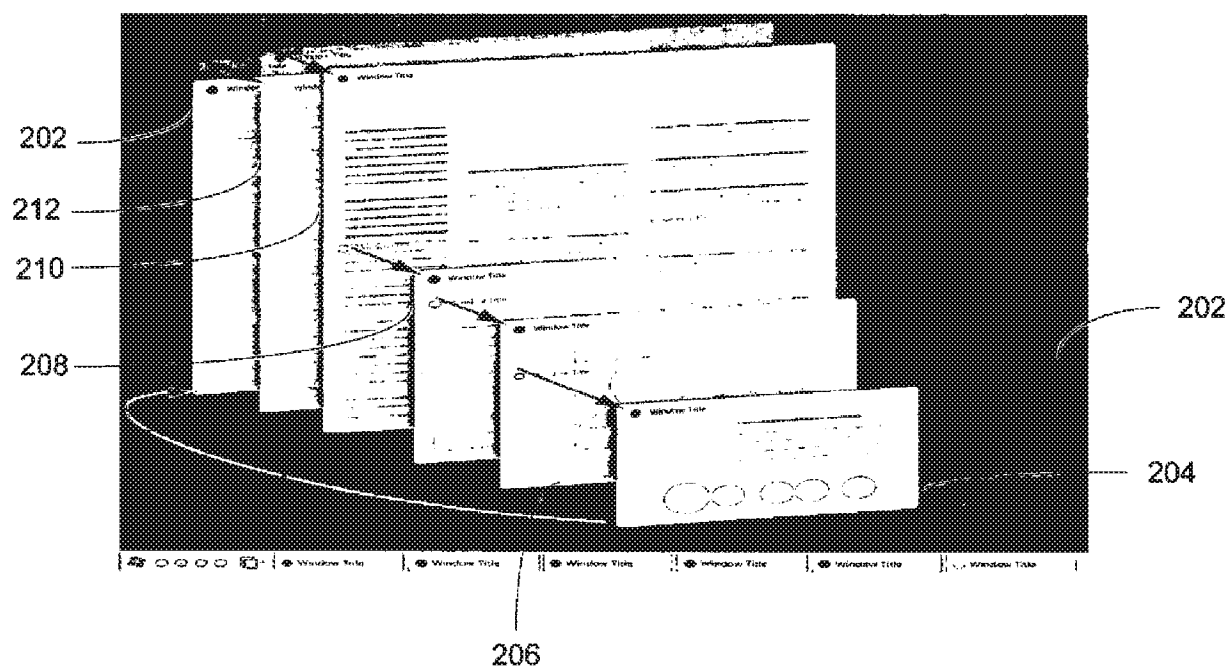


FIG. 2C

Ex. 1004, at FIG. 2C.

As discussed in § VI.A.1, a POSITA would have been motivated to provide the features of *Mastering Windows* and/or *Holecek* in the system of *Miller '542* to allow a user to switch between multiple applications. *Mastering Windows* and *Holecek* provides more details on implementing the switching between the applications, which would improve the GUI functionality to organize windows in *Miller '542*. Ex. 1011, at ¶ 117.

- e. **Claim 1[d]:** “generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;”

Under the broadest reasonable interpretation of the claims, *Miller '542* alone or in view of *Holecek* and/or *Mastering Windows* renders obvious generating three objects (application instances and their application windows) by three applications and each having application-specific data, as established for limitation 1[b]; *Id.*, at ¶ 118.

Figure 5 in *Miller '542* depicts more than three window images, where each window is generated by an application and having first application-specific data, displayed in a 3D space:



FIG. 5

Ex. 1003, at FIG. 5. *Miller '542* also discloses “allocat[ing] at least one display window on the computer screen for each executing application program and allows the user to resize and move

the windows as desired.” *Id.*, at 1:16-20. A POSITA would have understood that any of the three windows shown in Figure 5 are first, second, and third images. Ex. 1011, at ¶¶ 119-120. Each image is an image generated by an application (such as a web browser) and contains data specific to that application, e.g., content of the web browser. Further, each image is an image of at least a portion of the application instance’s window. For example, each 3D window is an image of at least a portion of the web browser.

Holecek similarly discloses “the display of windows corresponding to application programs.” Ex. 1004, at 9:18-19. Further, *Holecek* discloses “an illustrative visual stack where six windows are visually presented in an isometric perspective,” as shown in its Figure 2B. *Id.*, at 10:5-24, FIG. 2B; Ex. 1011, at ¶ 121. “[T]he windows in the visual stack substantially retain their size from the FIG. 2A configuration, but are slightly scaled and skewed to provide a high fidelity three dimensional visual representation.” Ex. 1004, at 9:67-10:4. *Holecek* therefore discloses a plurality of images (e.g., the skewed window images of the visual stack) including at least a first, second, and third image (e.g., skewed images 202, 204, and 206 in Figure 2B); Ex. 1011, at ¶ 121. Each skewed image (e.g., image 202) in Figure 2B is an image of at least a portion of the application window 202 in Figure 2A.

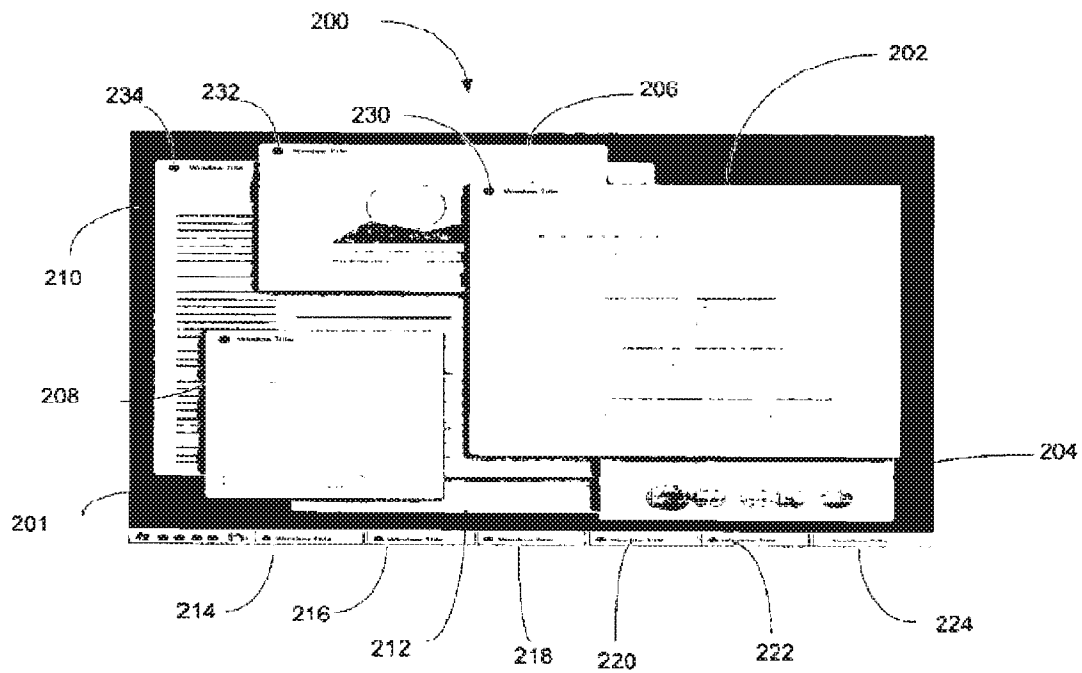


FIG. 2A

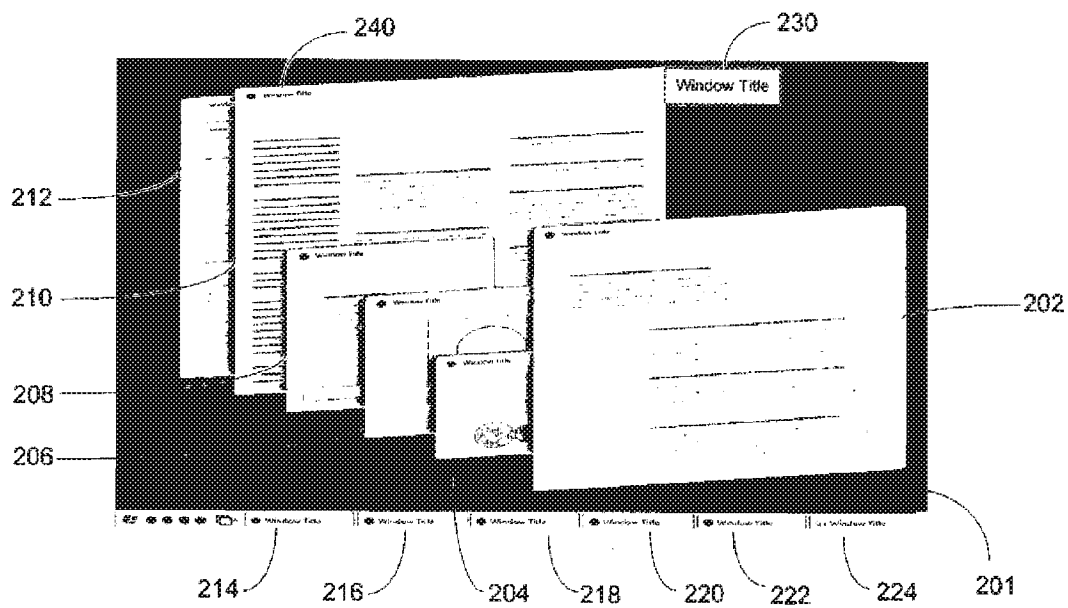


FIG. 2B

Ex. 1004, at FIGS. 2A-2B.

In addition, *Mastering Windows* also discloses displaying three or more windows, each generated by a separate application such as Notepad, Internet Explorer, and Outlook Express. Ex. 1005, at 272 (text data specific to a Notepad), 575 (webpage content data specific to an Internet Explorer), 639 (email data specific to Outlook Express); *see* discussion of limitations 1[a] and 1[b], above; Ex. 1011, at ¶ 122.

FIGURE 7.1

You can use Notepad to recover text from a corrupted Word document—or to view deleted parts of a fast-saved Word document.

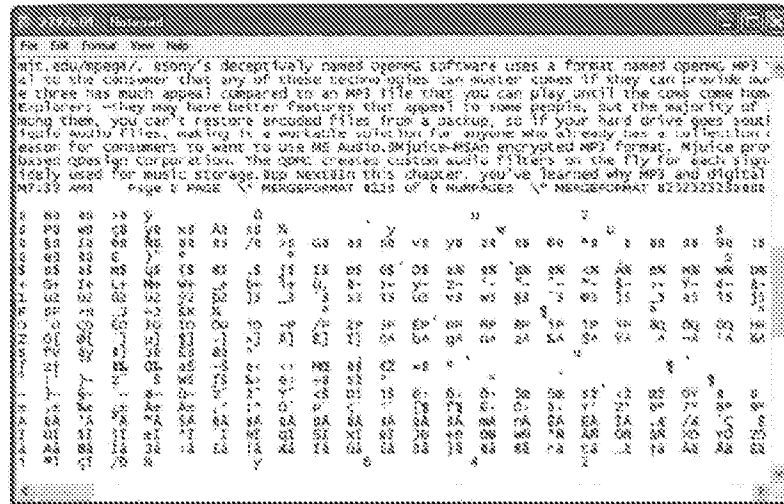


FIGURE 19.1

The main features of the Internet Explorer window

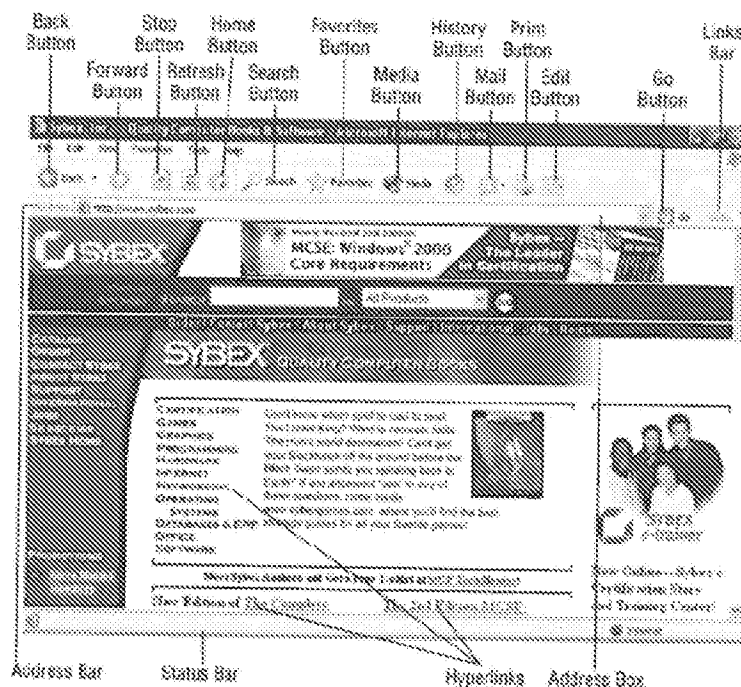
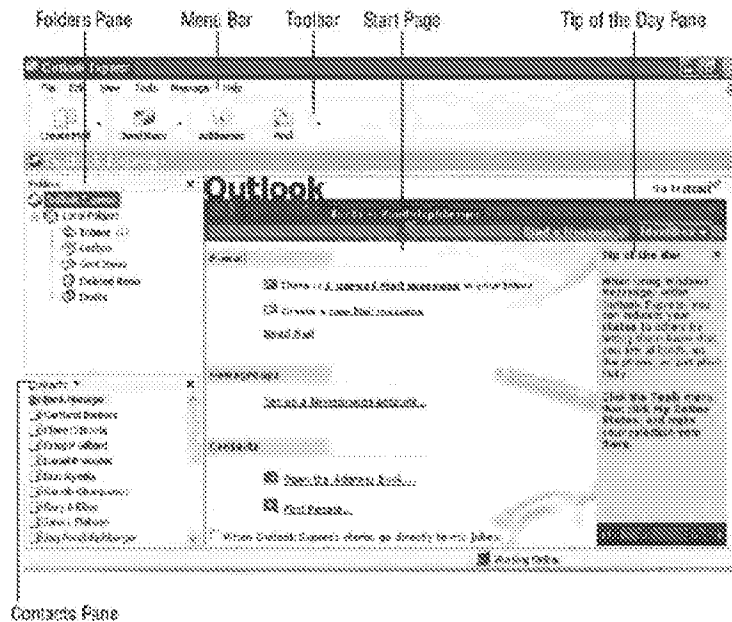


FIGURE 21.4
The Start page
provides links to
the main features
of Outlook Express.



Ex. 1005, at 272 (FIG. 7.1), 575 (FIG. 19.1), 639 (FIG. 21.4).

It would have been obvious to a POSITA to include the functions of *Holecek* and/or *Mastering Windows* in the 3D GUI of *Miller '542* to allow a user to interact with at least three applications. Ex. 1011, at ¶ 123.

These teachings are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by generating e.g., images of Mail application (including HTML links to other webpages), Calculator application (including numbers, which can be modified by adding, subtracting, multiplying, etc.), and Clock application (including the function of adding a city). See Ex. 1020, at 175-76, 213-14, 249-50; Ex. 1025, at 128-29, 152-53, 173-74; Ex. 1011, at ¶ 124.

<p>[1-d] generating a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second</p>	<p>The Zone 3 generates a plurality of images, said plurality of images comprising at least first, second, and third images.</p> <p>The first, second, and third images are generated to support the "open apps" feature. The first image is an image of at least a portion of a first object having first application-specific data. For example, in the images above in the discussion of limitation [1-b], the Zone 3 generated an image of the Calendar application, including its application-specific data (such as dates and appointments that can be modified). The second image is an image of at least a portion of a second object having second application-specific data. For example, in the images above in the discussion of limitation [1-b], the Zone 3 generated an image of the Clock application, including its application-specific data (such as the Alarm, World Clock, Stopwatch, and Timer options that can be selected). The third image is an image of at least a portion of a third object having third application-specific data. For</p>
<p>application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data:</p>	<p>example, in the images above in the discussion of limitation [1-b], the Zone 3 generated an image of the Chrome application, including its application-specific data (such as HTML links to other webpages).</p> <p>Chrome, preloaded on the Zone 3, also generates a plurality of images, said plurality of images comprising at least first, second, and third images, which are generated in response to clicking on the "tabs" feature. The first image is an image of at least a portion of a first object having first application-specific data. For example, in the Chrome images above in the discussion of limitation [1-b], Chrome generated an image of the netflix.com webpage, including its application-specific data (such as HTML links like the "SIGN IN" box that can be modified). The second image is an image of at least a portion of a second object having second application-specific data. For example, in the Chrome images above in the discussion of limitation [1-b], Chrome generated an image of the lg.com webpage, including its application-specific data (such as the "SHOP NOW" box that can be modified). The third image is an image of at least a portion of a third object having third application-specific data. For example, in the Chrome images above in the discussion of limitation [1-b], the Zone 3 generated an image of the hulu.com webpage, including its application-specific data (such as the "GET THE DISNEY BUNDLE" box that can be modified).</p>

Ex. 1020, at 175-76 (excerpt of infringement contentions of the LG Litigation).

<p>[1-d] generating a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second</p>	<p>The Apple Watch generates a plurality of images, said plurality of images comprising at least first, second, and third images.</p> <p>The first, second, and third images are generated to support the "Dock" feature. The first image is an image of at least a portion of a first object having first application-specific data. For example, in the images above in the discussion of limitation [1-b], the Apple Watch generates an image of the Mail application, including its application-specific data (such as HTML links to other webpages). The second image is an image of at least a portion of a second object having second application-specific data. For example, in the images above in the discussion of limitation [1-b], the Apple Watch generates an image of the Calculator application, including its application-specific data (such as at least one number, which can be modified by adding, subtracting, multiplying, calculating a tip,</p>
<p>object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;</p>	<p>etc.). The third image is an image of at least a portion of a third object having third application-specific data. For example, in the images above in the discussion of limitation [1-b], the Apple Watch generates an image of the Clock application, including its application-specific data (such as the Add City, which can be selected to add another city).</p>

Ex. 1025, at 128-29 (excerpt of infringement contentions of the Apple Litigation).

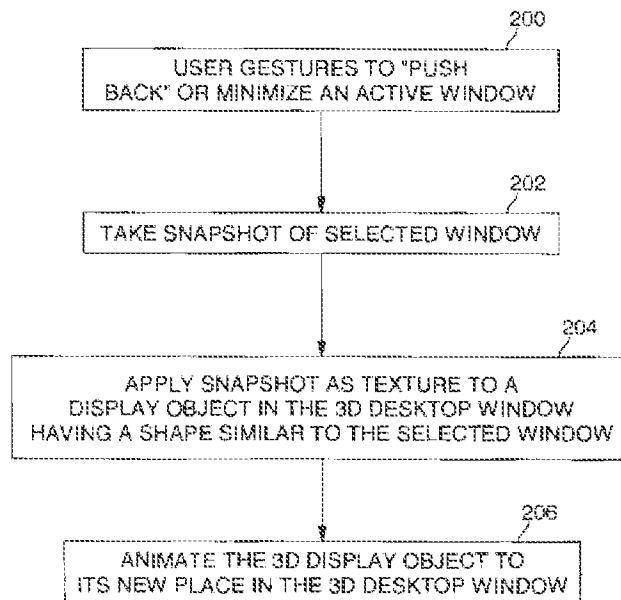
- f. **Claim 1[e]: “replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;”**

Under the broadest reasonable interpretation, *Miller '542* in view of *Holecsek* renders obvious this limitation. Motivation for this combination is described above in § VI.A.1 and below. Ex. 1011, at ¶ 125.

- i. ***Miller '542* discloses “replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in said 3D immersive space and”**

Under the broadest reasonable interpretation, *Miller '542* teaches the recited “replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images” by disclosing that “2D windows [i.e., the objects corresponding to said plurality of applications as discussed above] may be ‘**pushed back**’ by a user into the 3D desktop image by **transforming the pixels of the 2D windows onto similarly shaped 3D display objects** in the 3D desktop image.” Ex. 1003, at 3:36-39 (emphases added), 4:17-21, 6:66-7:19, FIG. 7; Ex. 1011, at ¶ 126. A person of skill in the art would have understood that all objects corresponding to the 2D applications are replaced when they are pushed back and transformed into similarly shaped 3D display objects. *Id.*, at ¶ 126. For example, as shown in Figure 7, a user gestures to push back

an active window in 2D (the recited “all objects of the plurality of applications”). *See also* claim 1[b]. The disclosed “the pixels of the 2D windows” indicate that the 2D window application objects are “visible in said 2D space,” as recited in the claim. The system takes a snapshot of the selected window and transforms the snapshot to a virtual 3D display (the recited “plurality of images, said plurality of images being displayed in said 3D immersive space”) with a three-dimensional XYZ coordinate system. *See* Ex. 1003, at 7:60-8:16. As discussed above in § III.F.1, “three-dimensional (3D) immersive space” was construed to mean “a virtual space defined by a three-dimensional coordinate system.”

**FIG. 7**

Id., at FIG. 7.

The transformed 3D display replaces the original 2D application objects, as shown in Figure 5 (reproduced below). Ex. 1011, at ¶ 127.

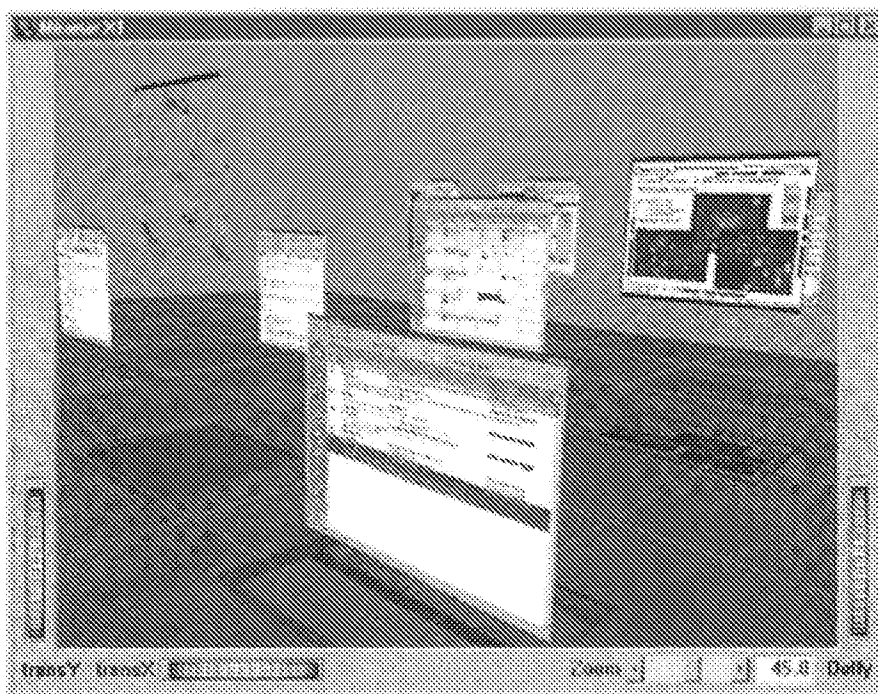


FIG. 5

Ex. 1003, at FIG. 5.

Figure 5 shows “2D windows texture-mapped onto **window-shaped objects in a 3D space** according to an embodiment of the present invention.” *Id.*, at 4:6-8 (emphases added). In Figure 5, each window is skewed and has depth. *Id.*, at 3:5-25, 6:54-65. *Miller* '542 explains that the advantage of replacing 2D objects with 3D images is that “[t]he user is provided with more space on his or her virtual desktop upon which to manipulate multiple application program windows. Windows may be pushed back into 3D space in full resolution when they are not currently being used. The user is provided with a better context regarding inactive windows. Instead of displaying small icons with a minimal amount of identifying information or symbols as is currently done by

graphical user interfaces such as is implemented in WINDOWSTM, with embodiments of the present invention background application windows retain their appearance in a 3D space. In an alternate embodiment of the present invention, the ‘pushed’ back windows may be implemented as being fully active despite being in the background of the 3D desktop window. Therefore, the ability to integrate true 3D objects into the computer user’s workspace is provided. . . . The present invention displays 2D objects in a 3D space, where other 3D objects may also reside. Anecdotal evidence suggests that users prefer a 3D display environment over a complicated 2D display environment having many overlapping windows. The 3D desktop window of the present invention provides a more natural and intuitive graphical user interface than the traditional 2D desktop interface.” Ex. 1003, at 4:17-40; *see also id.*, at 3:5-11 (“An embodiment of the invention improves windowing systems by extending the representation of a window to include true depth (i.e., three spatial dimensions as opposed to two dimensions plus an overlapping order). **This depth dimension addresses the window overcrowding problem by allowing windows to be positioned and arranged within a true three dimensional (3D) space.**” (emphases added)); Ex. 1011, at ¶ 128.

- ii. ***Miller '542* alone or in view of *Holecek* render obvious displaying windows “in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order.”**

Miller '542 discloses the ability to interact with an application window under the broadest reasonable interpretation. *See* Ex. 1003, at 7:20-30, FIG. 8. It would have been obvious for a POSITA to interact with three different application windows. Ex. 1011, at ¶ 129. This would result in the system having received three inputs for three different application windows, and the last input received by each would be the “last time” the user opened that application and interacted with the window. *Id.*

When the user switches to 3D space, the three windows would need to be placed in an order. *See* Ex. 1004, at 9:65-67 (“A visual stack intuitively provides the user with an ordering of windows so that the open windows can be browsed or navigated through intelligently.”). It would have been obvious to a POSITA that one possible order is to arrange the windows in the order based on a last time that a user opened and interacted with each window and its corresponding object. Ex. 1011, at ¶ 130.

Holecek expressly teaches displaying windows in the claimed order. For example, *Holecek* discloses “the ordering [of windows] may be based on 1) the order in which the windows were last in focus from most recent to least recent . . .” Ex. 1004, at 10:31-35. As another example, Figure

2C shows the order of the window images changes as the user interacts with different windows. *See id.*, at 10:53-58 (“In response to the [browsing] command, the window 202 at the top of the visual stack (Z-order) in FIG. 2B moves to the rear of the stack (bottom of the Z-order) and the remaining windows move forward as shown in FIG. 2C such that window 204 moves to the top of the stack and comes into focus.”). *Holecek* further teaches the flexibility of ordering the windows in various way by configuring the ordering criteria: “A user interface may be provided in a configuration mode to allow the user to pre[-]select the characteristic(s) by which the windows would be Z-ordered when initiating visual window browsing.” *Id.*, at 10:39-42; Ex. 1011, at ¶ 131.

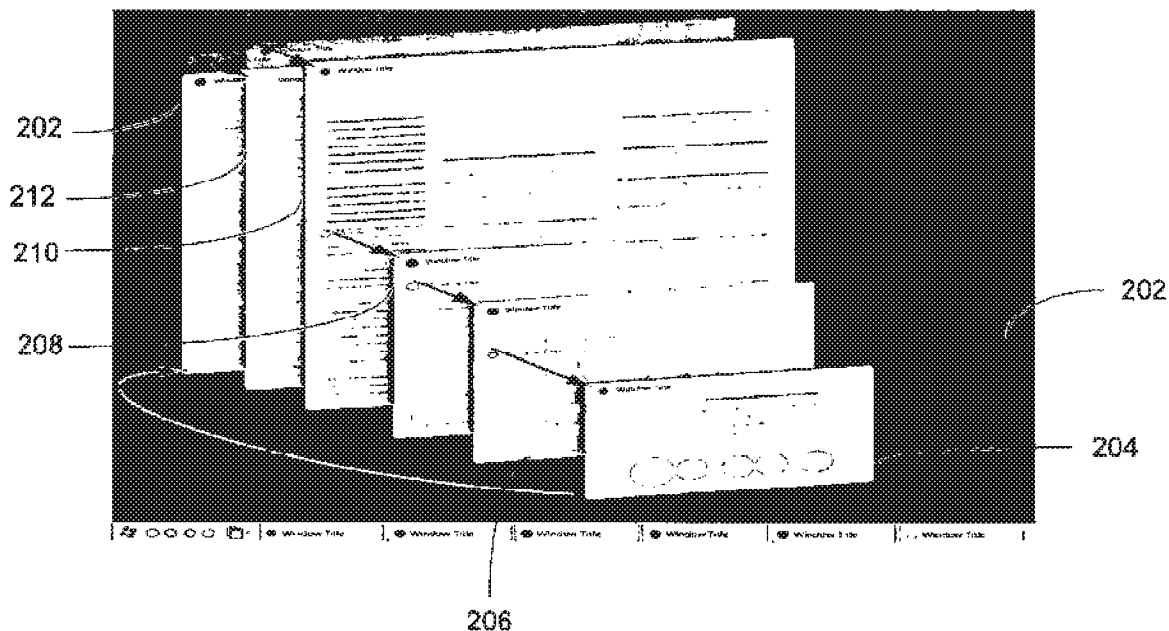


FIG. 2C

Ex. 1004, at FIG. 2C.

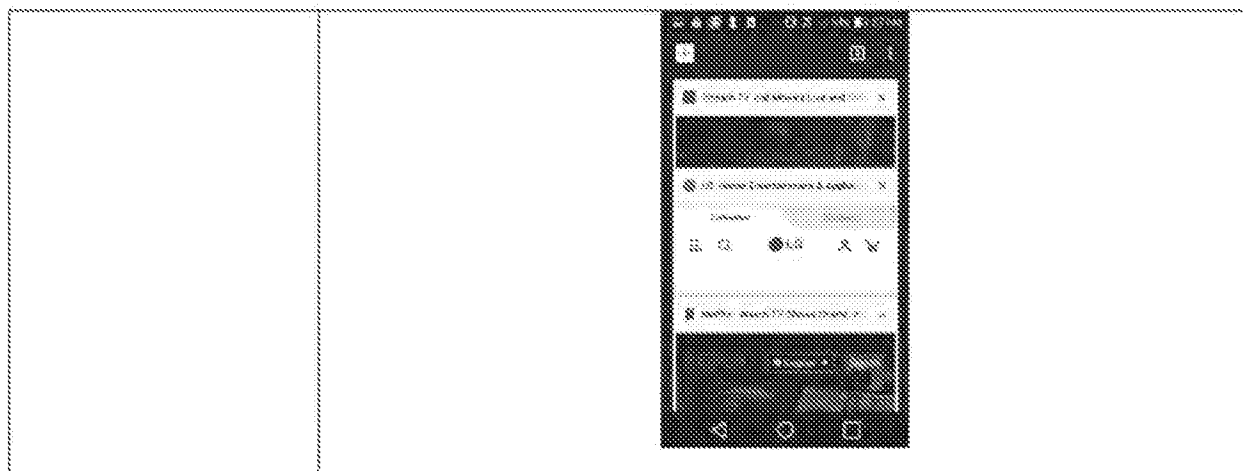
A POSITA would have been motivated to use this ordering scheme of *Holecek* with the windows disclosed in *Miller '542*, to enhance useability and convenience for the user, because it

is natural to expect the window that was most recently used to be the most visible window in the 3D space by placing it in front of other windows. Ex. 1011, at ¶ 132.

These teachings are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by displaying a stack of applications, e.g., Clock, Calculator, Mail. *See* Ex. 1020, at 176-78, 214-16, 250-52; Ex. 1025, at 129-30, 153-54, 174-75; Ex. 1011, at ¶ 133.

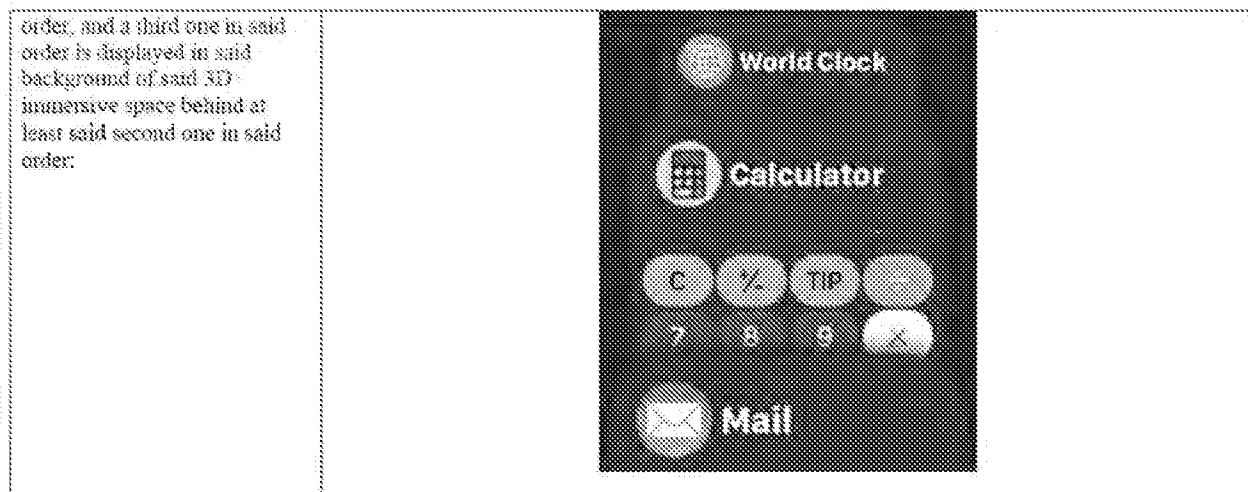
<p>[1-e] replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images; said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii)</p>	<p>The Zone 3 replaces all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, which are displayed in said 3D immersive space, in order of the last time the user one of opened and interacted with the first, second, and third applications.</p> <p>As can be seen in the image below, the three-dimensional space appears as a stack of tabs, with each tab showing an application. Below, the image of the Calendar application is displayed in the foreground of the three-dimensional space; the image of the Clock application is displayed in the middle of the 3D space, behind at least the image of the Calendar application; and the image of the Chrome application is displayed in the background of said 3D space, behind the image of the Clock application.</p>
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<p>opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;</p>	<div data-bbox="836 1073 1084 1507" data-label="Image"> </div> <p>Likewise, for Chrome, as can be seen in the image below, the three-dimensional space appears as a stack of tabs, with each tab showing an image of a webpage. Below, the image of the netflix.com webpage is displayed in the foreground of the three-dimensional space; the image of the lg.com webpage is displayed in the middle of the 3D space, behind at least the image of the netflix.com webpage; and the image of the huin.com webpage is displayed in the background of said 3D space, behind the image of the lg.com webpage.</p>
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Ex. 1020, at 176-78 (excerpt of infringement contentions of the LG Litigation).

<p>[1-c] replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images; said plurality of images being displayed in said 3D immersive space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said</p>	<p>The Apple Watch replaces all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, which are displayed in said 3D immersive space, in order of the last time the user one of opened and interacted with either the first, second, or third applications.</p> <p>As can be seen in the image below, the three-dimensional space appears as a stack of tabs (<i>i.e.</i>, the Dock), with each tab showing an application. Below, the image of the Mail application is displayed in the foreground of the three-dimensional space; the image of the Calculator application is displayed in the middle of the 3D space, behind at least the image of the Mail application; and the image of the Clock application is displayed in the background of said 3D space, behind the Calculator application.</p>
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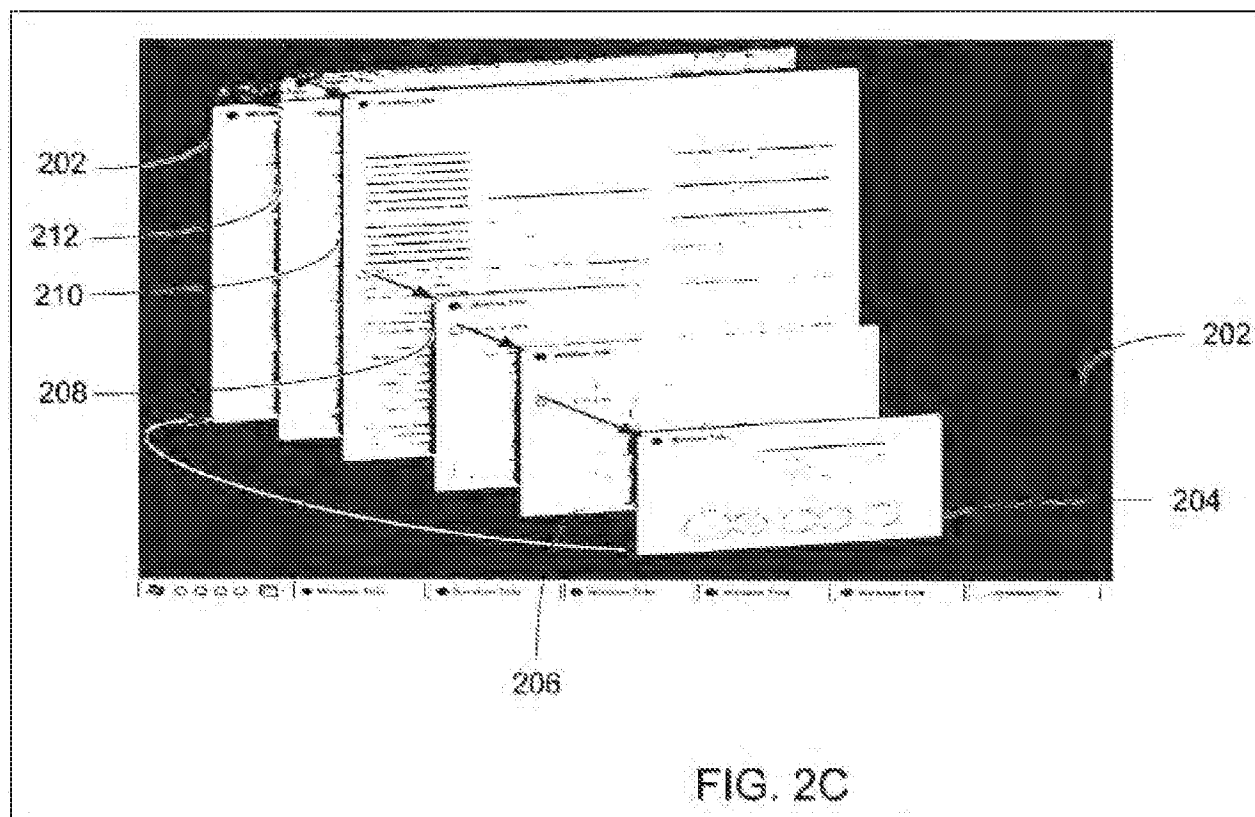


Ex. 1025, at 129-30 (excerpt of infringement contentions of the Apple Litigation).

- g. Claim 1[f]: “allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and”**

Under the broadest reasonable interpretation of the claim, *Miller* '542 alone or in view of *Mastering Windows* and/or *Holecek* teaches this limitation. As discussed below, *Miller* '542 alone or in view of *Mastering Windows* and/or *Holecek* teaches “allowing said user to move said plurality of images.” Ex. 1011, at ¶ 134.

Regarding clause (i) of “movement of one of said plurality of images results in movement of all of said plurality of images,” *Holecek*'s Figure 2C disclosed the claimed movement of the plurality of images:



Ex. 1004, at FIG. 2C; Ex. 1011, at ¶ 135.

Holecek explains that a user may issue a command “[t]o browse to another of the windows” Ex. 1004, at 10:43-53. Then, “[i]n response to the command, the window 202 at the top of the visual stack (Z-order) in FIG. 2B moves to the rear of the stack (bottom of the Z-order) and the remaining windows move forward as shown in FIG. 2C such that window 204 moves to the top of the stack” *Id.*, at 10:53-61. Thus, *Holecek* discloses allowing a user to move the windows, and movement of window 202 (one of said plurality of images) results in all other windows moving forward one place, as illustrated in Figure 2C. Ex. 1011, at ¶ 136.

As shown in Figure 4 (reproduced below), *Holecek* further explains that “[i]f a browse command has been received, then it is determined in step 411 which window should be in focus next, Then, the next window to be in focus is moved to the top of the stack, the last window in focus can be moved to the bottom of the stack, and other windows in the visual stack can be

moved up toward the top in step 413.” Ex. 1004, at 13:28-37, 10:58-61 (“The arrows in FIG. 2C . . . have been provided to show the direction of the animation from moving window 202 from the top of the visual stack to the bottom of the visual stack.”); Ex. 1011, at ¶ 137.

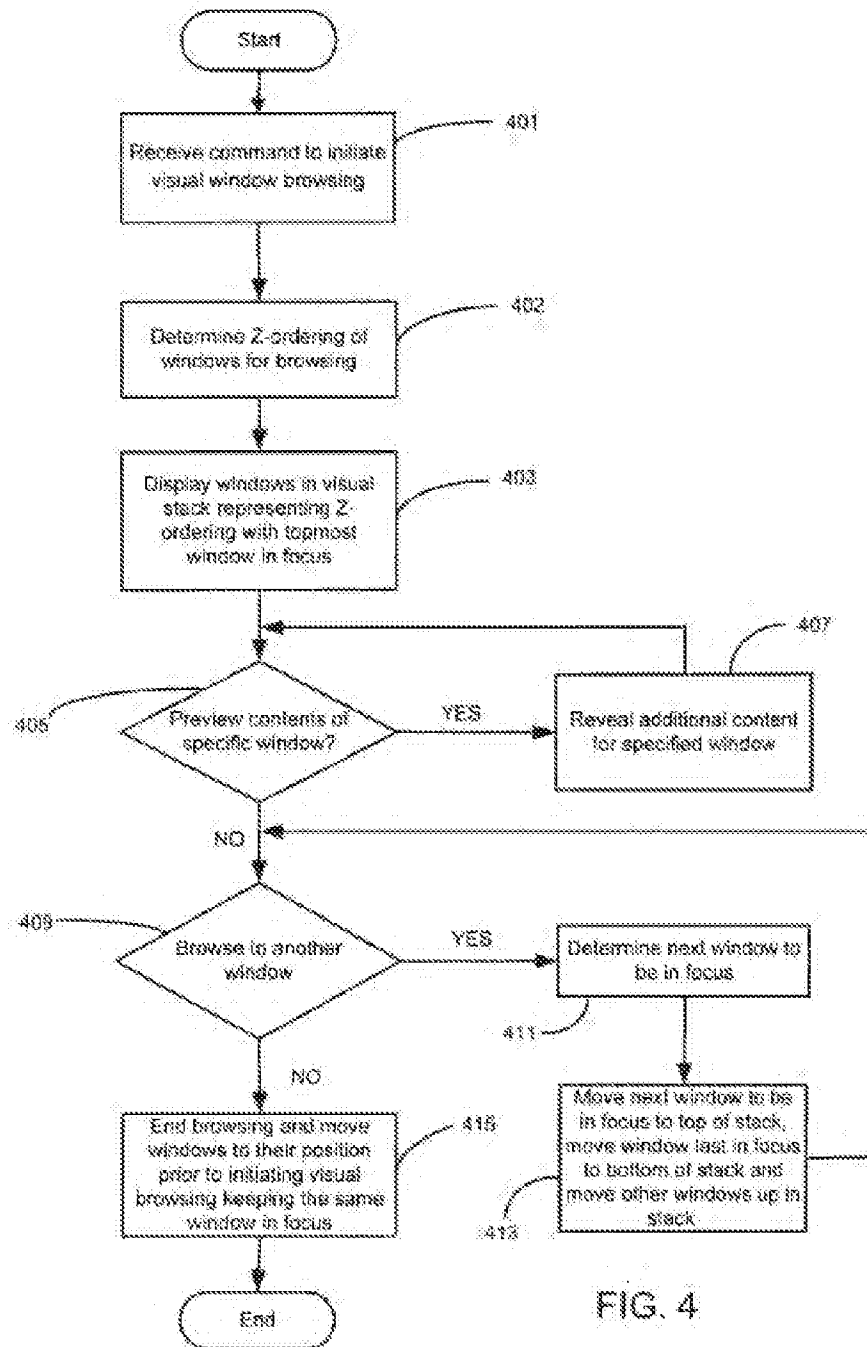
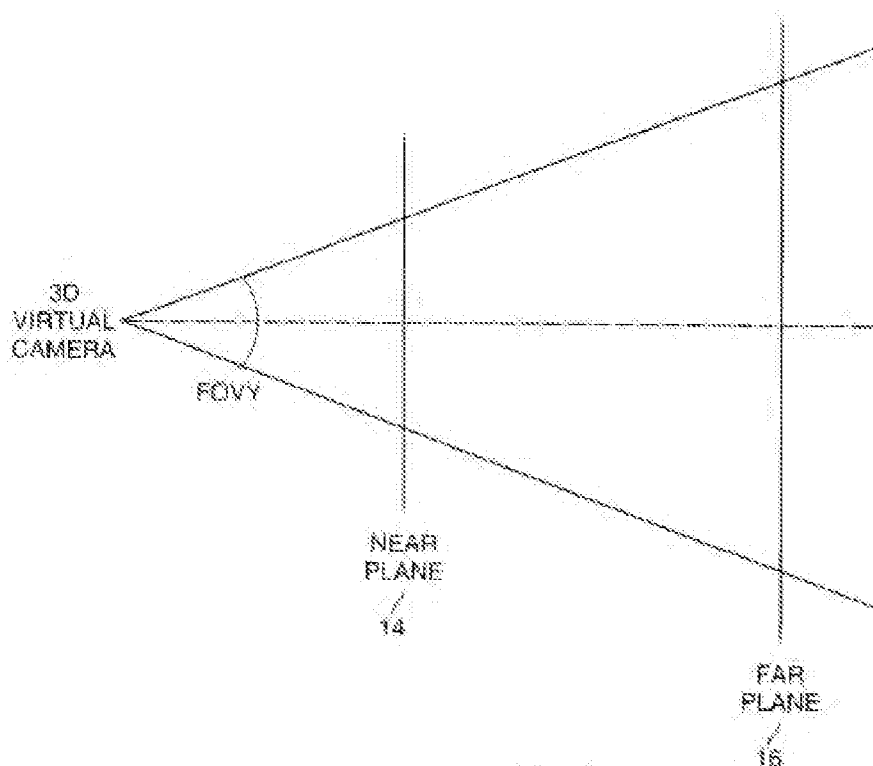


FIG. 4

Ex. 1004, at FIG. 4.

Regarding clause (ii) of “continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display,” the Requester notes that the specification of the ’868 patent does not provide any description supporting the claimed “continued movement in one direction” or the claimed “moved off of said fixed resolution display.” Ex. 1011, at ¶ 138.

But *Miller ’542* alone or in view of *Holecek* or *Mastering Windows* still teaches this limitation under the broadest reasonable interpretation. Ex. 1011, at ¶ 139. *Miller ’542* discloses that “[w]hen a window is shown in the background of the 3D space, an embodiment of the present invention provides the illusion to the user that the window resides somewhere **between the near plane 14 and the far plane 16.**” Ex. 1003, at 3:20-25 (emphases added), FIG. 3. *Miller ’542* also discloses that “[b]ecause of ‘perspective foreshadowing’, objects appear **visually smaller when they are further away**, and these smaller shapes occupy **fewer pixels on the screen.**” *Id.*, at 3:11-14 (emphases added). Thus, it would have been obvious to a POSITA that when a user continuously moves a 3D window in the direction from the near plane 14 to the far plane 16, the window would become smaller and smaller as if it is leaving the screen. Ex. 1011, at ¶ 139. Eventually, when the occupied pixels become too few to be recognizable by human eyes, it would result in a perception that this window completely disappears, i.e., is moved off of the fixed resolution display. *Id.*

**FIG. 3**

Ex. 1003, at FIG. 3.

Further, *Miller '542* in view of *Mastering Windows* also teaches this claim limitation. *Mastering Windows* discloses it was a well-known feature in the Microsoft Windows System for a user to drag and move any window. See Ex. 1005, at 11 (“To move a window, click the title bar and drag the window to its new location.”); Ex. 1011, at ¶ 140. A POSITA would have been motivated to implement this dragging and moving windows feature in the 3D system of *Miller '542*, to enable a user to organize windows for better user experience in a 3D system. Ex. 1011, at ¶ 140. It would also been obvious to a POSITA that when a user continuously drags a 3D window out of the boundaries (e.g., top, bottom, left and right) of the screen display, it would result in a perception that this window is moved off of the 3D display. *Id.*

In addition, *Holecek* also teaches this claim limitation. *Holecek* discloses that “[i]t may be desirable to limit the number of windows which can depicted in Z-order. . . . If the windows displayed are limited in number, other open windows may be part of the stack, **but not displayed**. More specifically, if ten windows are open, the visual stack may **only show the top 8 windows** in the Z-order although ten windows are in the Z-order. Consequently, in response to a browsing command, **the window at the top of the Z-order would move to the bottom of the Z-order and would not be displayed**. . . .” Ex. 1004, at 12:1-16 (emphases added). In other words, because of the limit of number of windows that can be displayed, a window that is moved to the bottom will disappear, thus creating a perception it is moved off the display. Ex. 1011, at ¶ 141. It would have been obvious to a POSITA to implement this feature of *Holecek* in the 3D system of *Miller '542* to ensure the screen is not too crowded. *Id.* Thus, *Miller '542* in combination with *Holecek* teaches the claimed “continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of” the 3D display. *Id.*

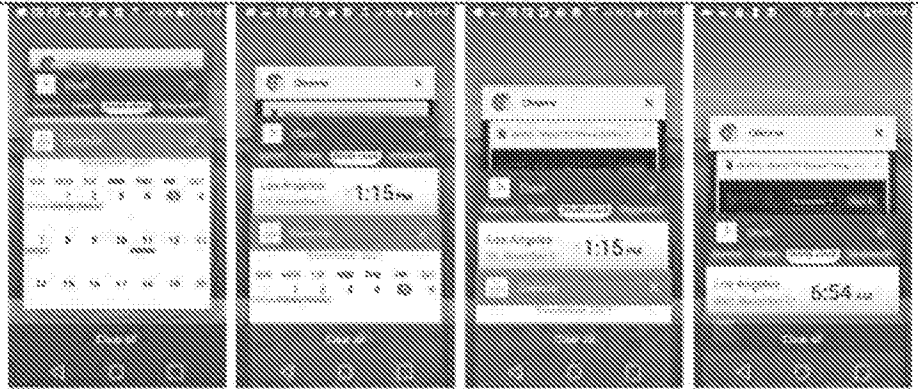
Miller '542 in view of *Mastering Windows* further teaches the claimed “fixed resolution display,” as explained in claim 1[b] above. Ex. 1011, at ¶ 142.

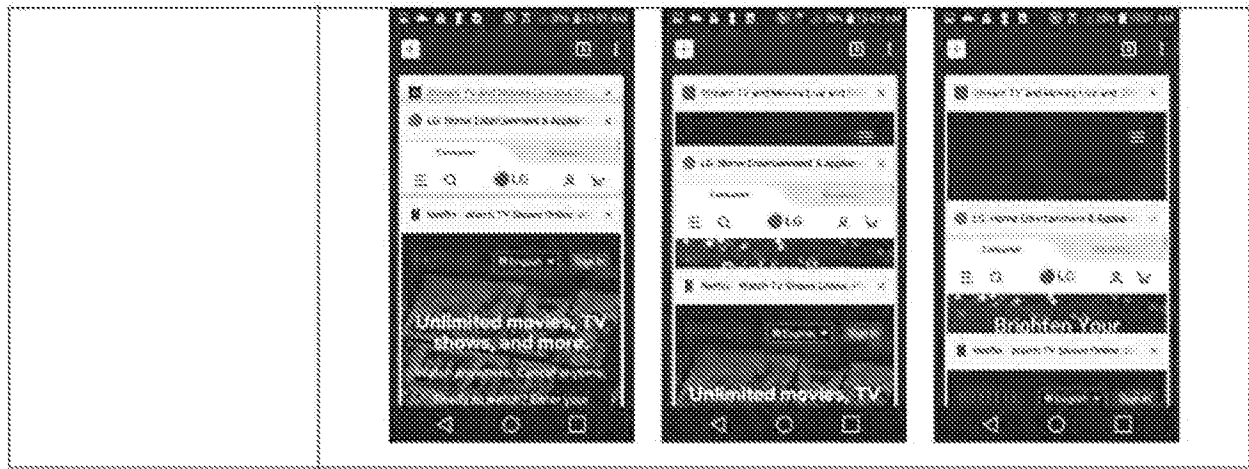
It would have been obvious for a POSITA to implement the GUI behavior taught in *Holecek*—such as rearranging windows when one window is moved and providing the perception that a window can be moved off the screen in the system of *Miller '542*, as explained in § VI.A.1. *Id.*, at ¶ 143. The motivation to combine *Holecek* with *Miller '542* is also disclosed in *Holecek*: “It will be further appreciated by one skilled in the art that creating the visual stack, manipulating the visual stack, and providing the animation transitions to show the user visually what is occurring requires a 3-dimensional layout engine working with the operating system.” Ex. 1004, at 13:47-

51. Further, these aspects of *Holeček* enhance a user's ability to maintain a tidy, well-organized presentation of windows. A POSITA would have been motivated to provide these same features in the 3D space of *Miller '542*, as this would also result in a tidy, well-organized presentation of windows. Ex. 1011, at ¶ 143.

These teachings are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by moving the stack of application tabs on an Apple Watch. See Ex. 1020, at 178-80, 216-18, 252-54; Ex. 1025, at 130-31, 154-55, 175-76; Ex. 1011, at ¶ 144.

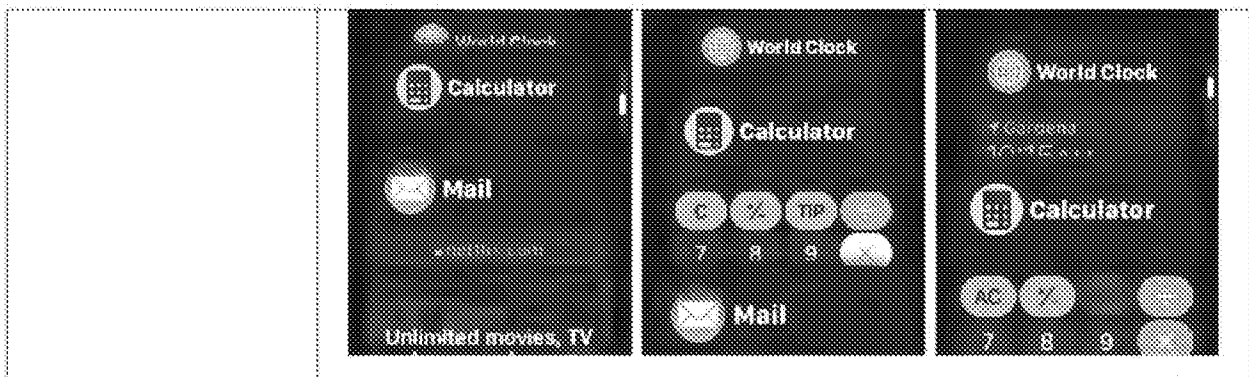
<p>[1-f] allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and</p>	<p>The Zone 3 allows users to move said plurality of images, such that the movement of one of said plurality of images results in movement of all of said plurality of images and that the continued movement in one direction of one of said plurality of images results in a perception to users that said one of said plurality of images is moved off the fixed resolution display.</p> <p>For example, in the images below, the user moves the image of the Calendar application downward and the subsequent images of the Clock and Chrome applications also move downward accordingly. The continued movement of the image of the Calendar application downward results in a perception that the image is moved off of the fixed resolution display.</p>
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	 <p>Likewise, for Chrome, as seen in the images below, the user moves the image of the netflix.com webpage downward and the subsequent images of the lg.com and hulu.com webpages also move downward accordingly. The continued movement of the image of the netflix.com webpage downward results in a perception that the image is moved off of the fixed resolution display.</p>
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Ex. 1020, at 178-80 (excerpt of infringement contentions of the LG Litigation).

<p>[1-f] allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and</p>	<p>The Apple Watch allows users to move said plurality of images, such that the movement of one of said plurality of images results in movement of all of said plurality of images and that the continued movement in one direction of one of said plurality of images results in a perception to users that said one of said plurality of images is moved off the fixed resolution display.</p> <p>For example, in the images below, the user moves the image of the Mail application downward and the subsequent images of the Calculator and the Clock applications also move downward. The continued movement of the image of the Mail application downward results in a perception that the image is moved off of the fixed resolution display.</p>
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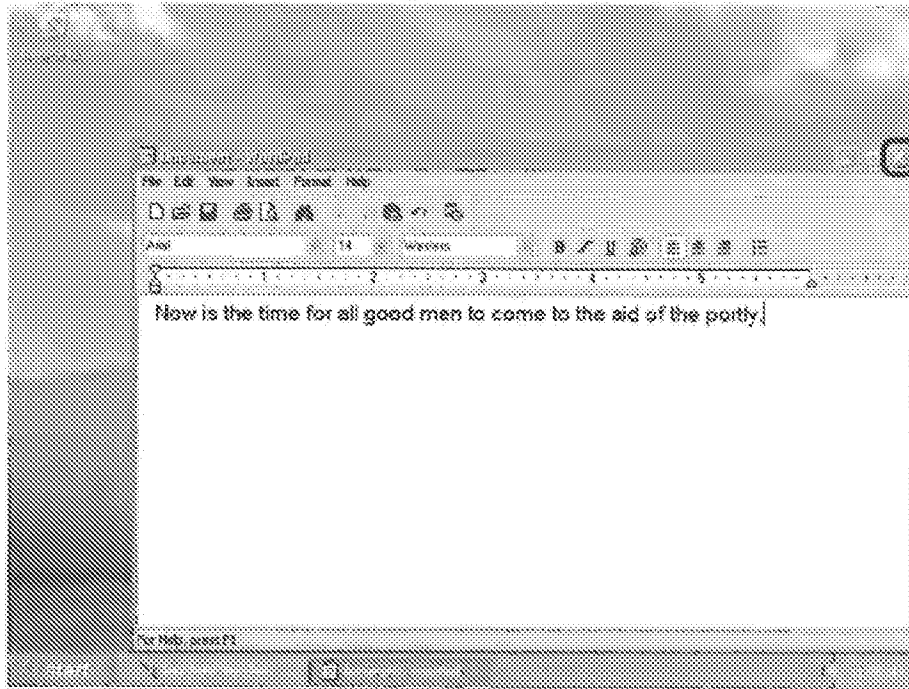


Ex. 1025, at 130-31 (excerpt of infringement contentions of the Apple Litigation).

- h. Claim 1[g]: “allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and”**

Miller '542 in view of *Mastering Windows* and *Holecek* renders obvious this limitation under the broadest reasonable interpretation. Ex. 1011, at ¶ 145.

Miller '542 discloses that a user may “close a selected window” in its 3D space. Ex. 1003, at 7:4-8. It would have been obvious to a POSITA that closing a window is equivalent to deleting the window from the 3D space. Ex. 1011, at ¶ 146. For example, *Mastering Windows* discloses the well-known feature of deleting a window with a simple mouse click on a close button: “[t]o close a window, click its Close button. XP closes the window. If the window contains unsaved information, the program may prompt you to save it.” Ex. 1005, at 11 and 964. A POSITA would have understood this window to be deleted, making it such that any unsaved information is lost as the associated memory is freed up. *Id.* at 11 and 65 (“closes all the program you were using and frees up the memory they took up.”); Ex. 1011, at ¶ 146.

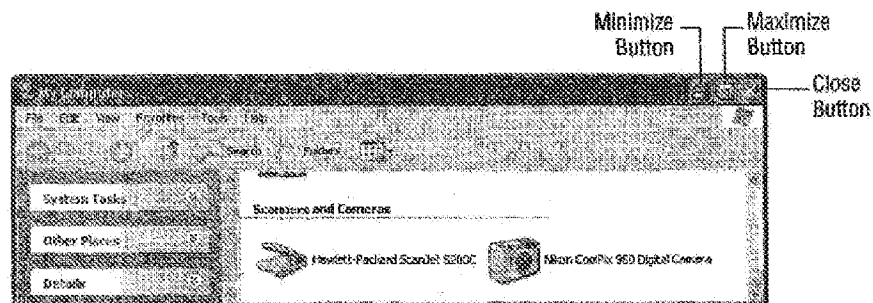


- 7.** To close a window, click its Close button.
XP closes the window.
If the window contains unsaved information,
the program may prompt you to save it.

Ex. 1005, at 11.

FIGURE A.2

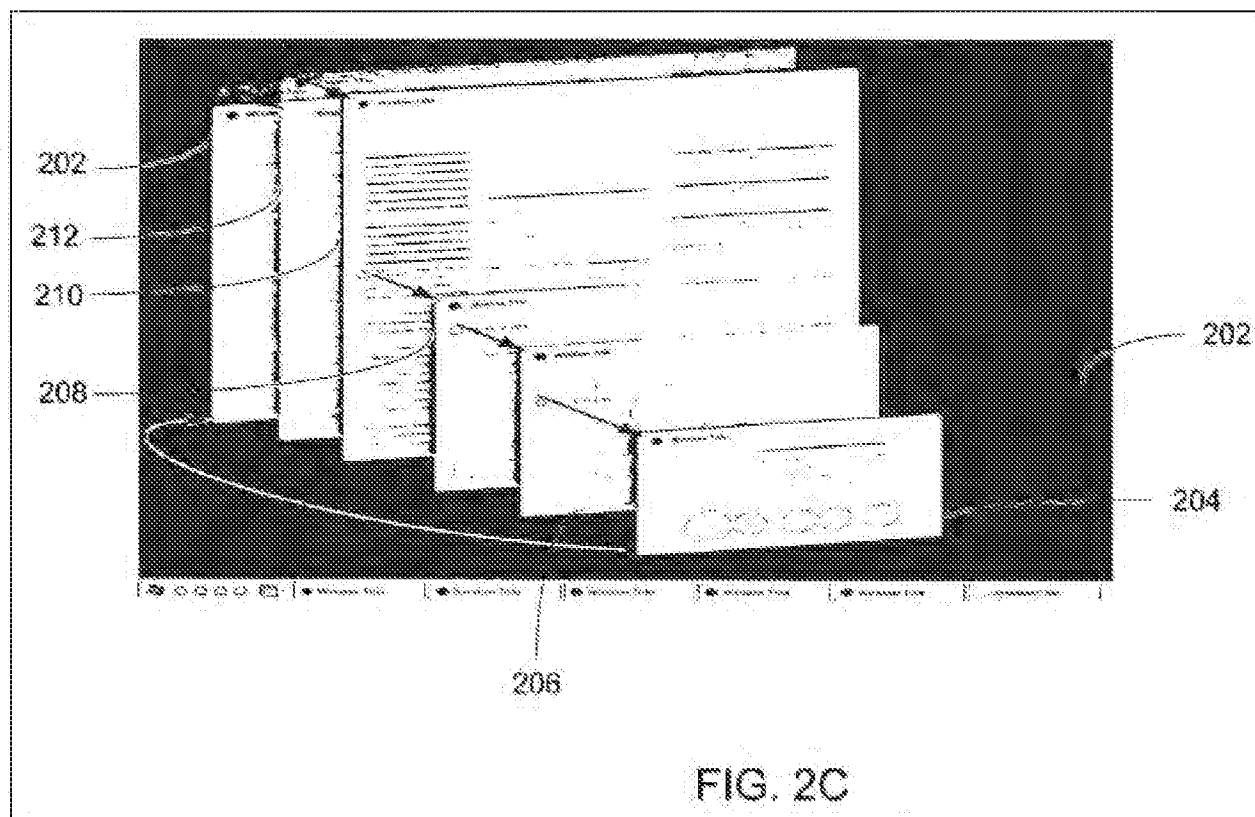
Most windows have three buttons for minimizing, maximizing or restoring, or closing the window.



Ex. 1005, at 964.

A POSITA would have been motivated to provide a “Close” button on windows in the 3D space in *Miller* '542 to provide the same convenience and functionality that users have come to expect from Windows XP and explained in *Mastering Windows*. Ex. 1011, at ¶ 147.

Regarding the limitation “wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion,” when a window in *Miller* '542 is deleted, it would have been obvious to a POSITA that other windows behind the deleted window would move up to take the space. Ex. 1011, at ¶ 148. This is because a POSITA would have understood that an ordered stack, as described in *Miller* '542, would not have gaps because items are in a sequential z-order. *Id.* For example, *Holecek* discloses that after the top window is moved off the display, “all the other windows would move up a space In the Z-order . . .” Ex. 1004, at 10:53-58 (“[T]he remaining windows move forward as shown in FIG. 2C . . .”), 12:10-16 (“[A]ll other windows would move up a space in the Z-order . . .”), 13:33-36 (“[T]he next window to be in focus is moved to the top of the stack, . . . and other windows in the visual stack can be moved up toward the top in step 413.”), FIGS. 2C, 4 (step 413, “Move next window to be in focus to top of stack . . . and move other windows up in stack[.]”).



Id., at FIG. 2C.

Here, while the top window is not deleted when it is moved off of the display, it would have been obvious to a POSITA that deleting a window, which also results in the window being moved off of the display, will trigger the same movement that the windows behind the deleted window will move up a place. Ex. 1011, at ¶ 148.

While *Holecek* only gives examples of the ninth window moving to the eighth position in the Z-order, see Ex. 1004, at FIGS. 2A-2C, 12:10-16 (“the window previously . . . occupying the ninth position in the Z-order moving to the eighth position in the Z-order”), it would have been obvious to a POSITA that this animation is equally applicable to a third window in the order, which will move “forward” into the space previously occupied by the second window that had been closed. Ex. 1011, at ¶ 149. Thus, this teaches the claimed “deletion of said second one in said

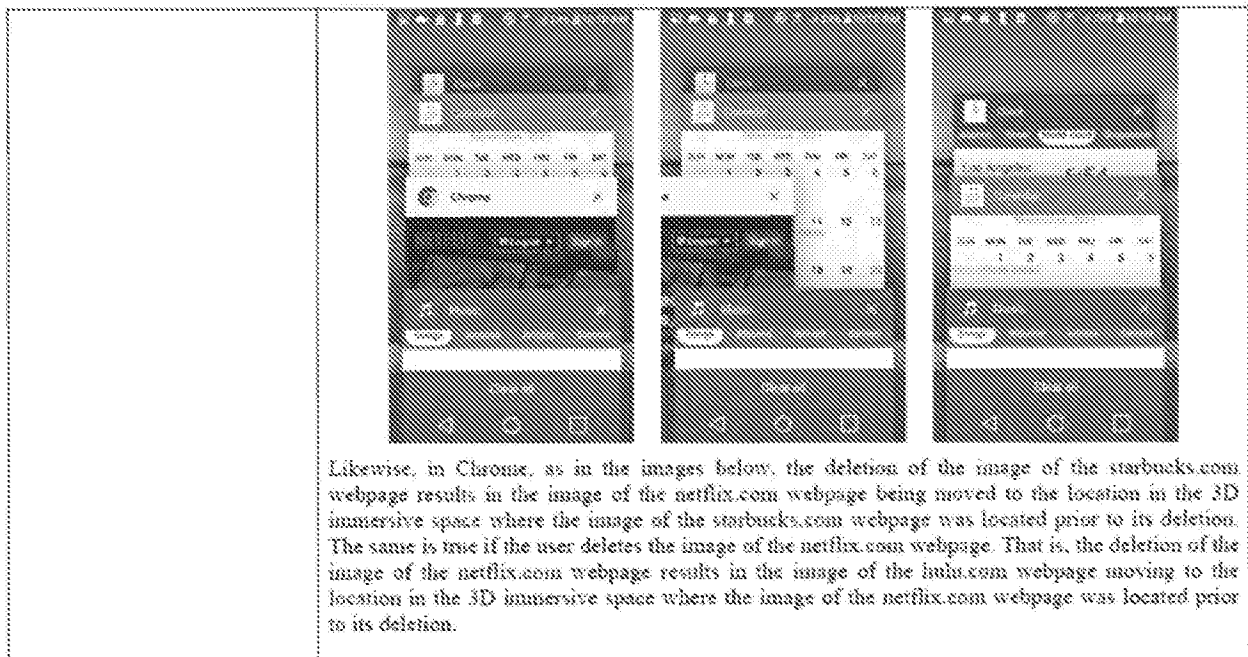
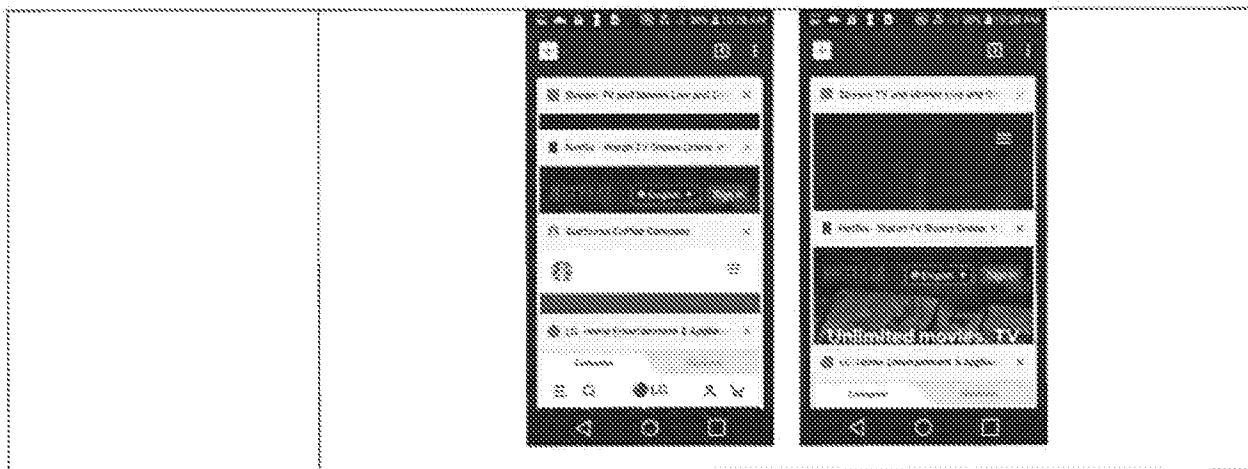
order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion.”

Holecek’s disclosure is similar to what is described in the ’868 patent’s specification: “[w]hen an end user clicks the close button 420 on any texture map of a web browser control represented in the 3D stack, the 3D GUI removes the page from the 3D stack, animates the next page after removed page forward to replace position of removed page in stack” Ex. 1001, at 19:15-26; Ex. 1011, at ¶ 150.

It would have been obvious to a POSITA to implement the close button disclosed in *Mastering Windows*, and/or the animation of windows in a visual stack disclosed in *Holecek* in the 3D space disclosed in *Miller* ’542 so that when there are three windows and the second window is closed, the third window will be moved “forward” into the area previously occupied by the second window that had been closed. Ex. 1011, at ¶ 151. In addition to the motivation to combine rationale explained in § VI.A.1, a POSITA would have been motivated to do this because bringing the third window “closer” to the front of the 3D space makes it more visible to the user. *Id.*

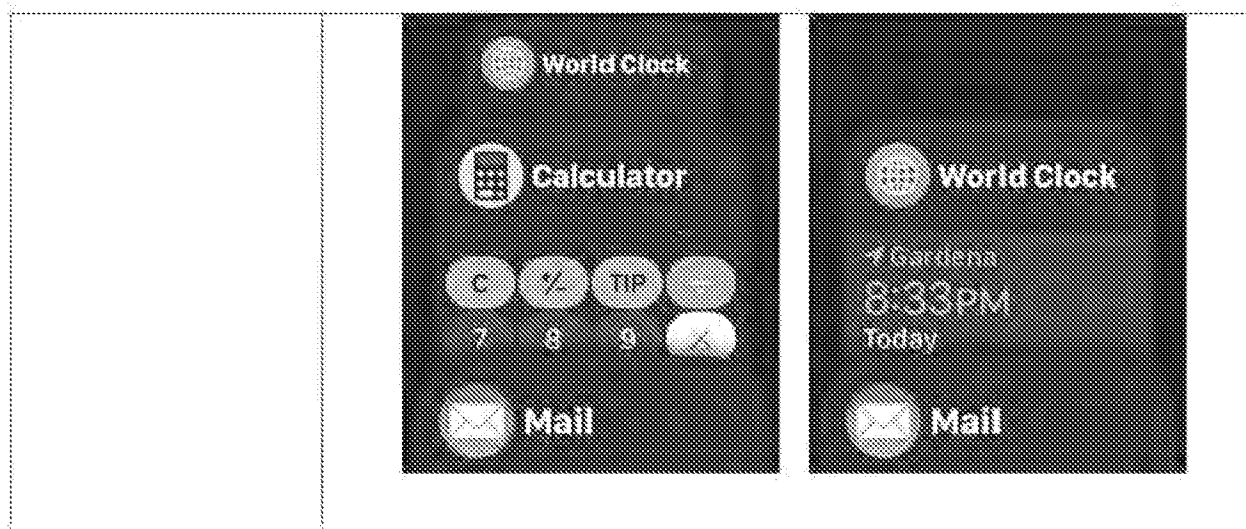
These teachings are also similar to the Patent Owner’s own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied when deleting the Calculator app results in the Clock app to move forward a position. *See* Ex. 1020, at 180-82, 218-20, 254-56; Ex. 1025, at 131-32, 155-56, 176-77; Ex. 1011, at ¶ 152.

<p>[1-g] allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and</p>	<p>The Zone 3 allows users to delete at least one of said plurality of images from said 3D immersive space, such that the deletion of the second image in said order results in said third image in said order being moved to a location in the 3D immersive space where the second image was located prior to the deletion.</p> <p>For example, in the middle image below, the user is swiping the image of the Chrome application left in order to delete it. The deletion of the image of the Chrome application results in the Calendar application being moved to the location in the 3D immersive space where the image of the Chrome application was located prior to its deletion. The same is true if the user deletes the image of the Calendar application. That is, the deletion of the image of the Calendar application results in the image of the Clock application moving to the location in the 3D immersive space where the image of the Calendar application was located prior to its deletion.</p>
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Ex. 1020, at 180-82 (excerpt of infringement contentions of the LG Litigation).

<p>[1-g] allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and</p>	<p>The Apple Watch allows users to delete at least one of said plurality of images from said 3D immersive space, such that the deletion of the second image in said order results in said third image in said order being moved to a location in the 3D immersive space where the second image was located prior to the deletion.</p> <p>For example, in the images below, the user has swiped the image of the Calculator application to the left, thereby deleting it from the Dock. The deletion of the image of the Calculator application results in the image of the Clock application being moved to the location in the 3D immersive space where the image of the Calculator application was located prior to its deletion. The same is true if the user deletes the image of the Mail application. That is, the deletion of the image of the Mail application results in the image of the Calculator application moving to the location in the 3D immersive space where the image of the Mail application was located prior to its deletion.</p>
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Ex. 1025, at 131-32 (excerpt of infringement contentions of the Apple Litigation).

- i. **Claim 1[h]: “allowing said user to interact with one of said first, second, and third applications, comprising:”**

Miller '542 alone or in view of *Mastering Windows* and/or *Holecek* renders obvious this limitation under the broadest reasonable interpretation, as established below for limitations 1[i] to 1[k]. For example, these references render obvious reverting to a 2D space and allowing a user to interact with one of a plurality of applications, as established below. Ex. 1011, at ¶ 153.

- j. **Claim 1[i]: “receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;”**

Miller '542 and/or *Holecek* discloses this limitation under the broadest reasonable interpretation. Ex. 1011, at ¶ 154. *Miller '542* discloses receiving an interaction from a user for an application window, whereby the user selects that window. *See* Ex. 1003, at 7:20-30 (“FIG. 8 is a flow diagram of bringing a window forward from the 3D space to 2D space according to an embodiment of the present invention. At block 220, the user gestures to bring a selected window to the foreground of the 3D desktop window, by sending at least one input signal to the graphical user interface. This action may comprise **one or more keyboard entries** (such as an ALT-TAB

key combination, for example), or **one or more mouse clicks, or any other user actions recognized by the system**, which are interpreted by the GUI as input signals to activate or bring a selected window to the foreground of the 3D desktop window.” (emphases added)), FIG. 8. Figure 8 of *Miller '542* shows interaction from a user of an application window, whereby the user selects that window:

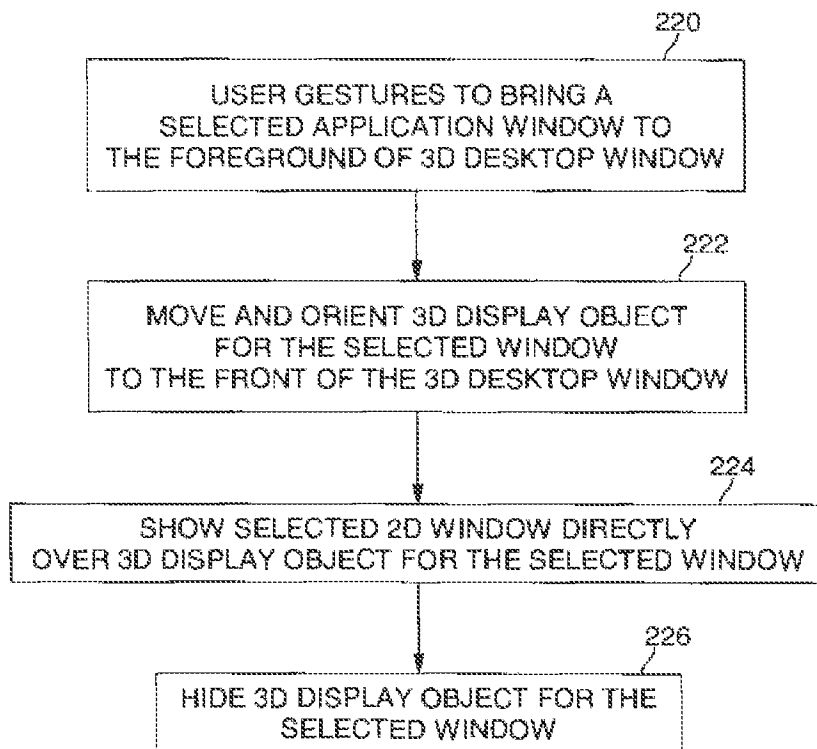


FIG. 8

Id., at FIG. 8.

Holecek also teaches this claim limitation by disclosing that, “[t]o browse to another of the windows, the user can issue another command by performing an action, such as **pressing the Tab**

key while continuing to hold the Windows key, spinning the mouse wheel one click or providing another input.” Ex. 1004, at 10:43-46 (emphases added), FIG. 2C; Ex. 1011, at ¶155.

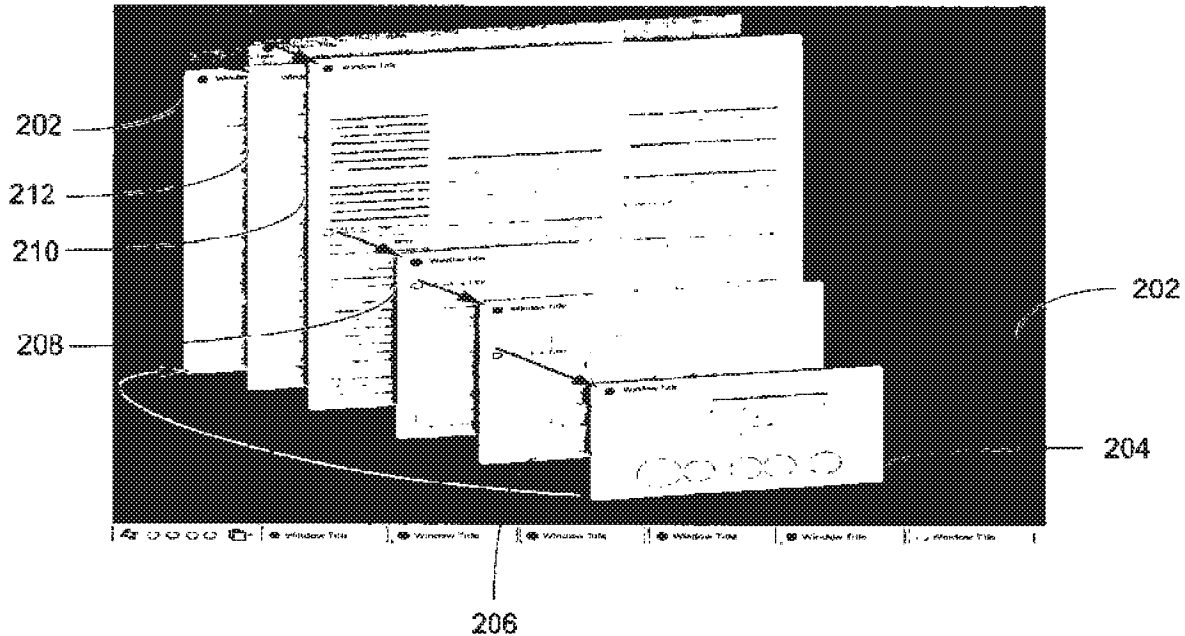


FIG. 2C

Ex. 1004, at FIG. 2C.

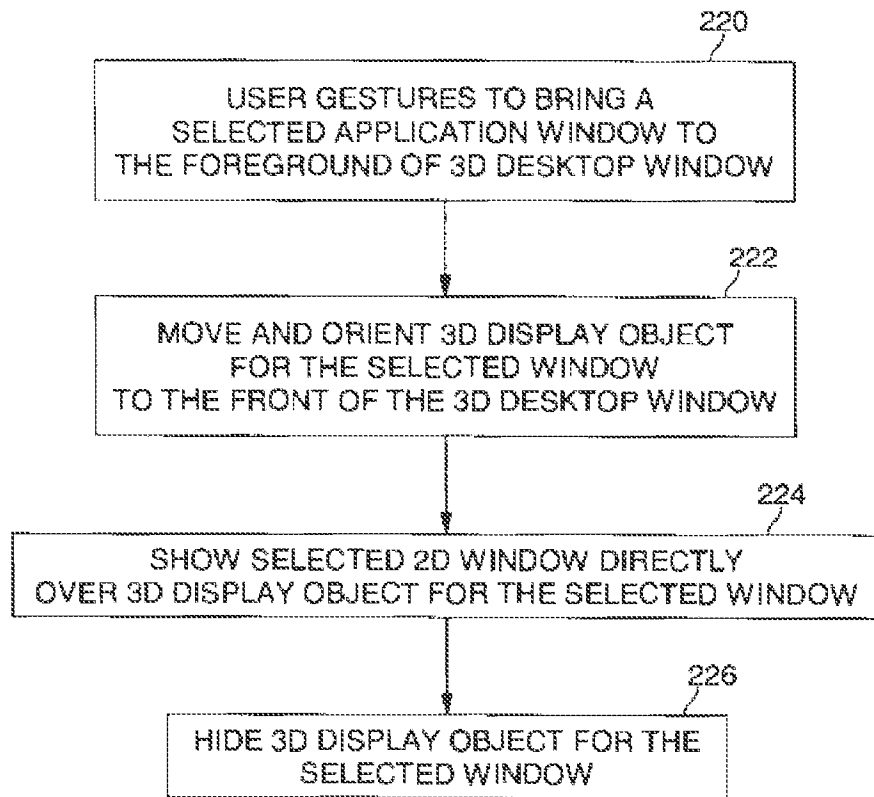
- k. Claim 1[j]: “replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;”

Miller '542 alone or in view of *Mastering Windows* renders this claim limitation obvious under the broadest reasonable interpretation of the claims. Ex. 1011, at ¶ 156.

Miller '542 teaches this limitation when it describes bringing the selected window from the 3D space to the front of the 2D display. *Id.*, at ¶ 157. *Miller '542* discloses “transition[ing] between” two window states (2D and 3D). Ex. 1003, at 3:26-30. For example, “[w]hen a 2D window is brought to the foreground as a result of user interaction, the 2D window’s corresponding

3D display object in the 3D desktop image may be oriented such that **the actual 2D window is positioned over the top of the 3D display object . . .**” *Id.*, at 3:39-45 (emphases added). The 3D space may be “maintained behind other active 2D windows.” *Id.*, at 3:33-36. Thus, the display space containing the 2D window is a 2D space at least because it contains only the 2D window. Ex. 1011, at ¶ 157.

Miller '542 further discloses, in response to the user selection described for limitation 1[i], “**a 2D window representing the selected window is shown directly over the 3D display object,**” and “the 3D display object for the selected window is hidden from current display.” Ex. 1003, at 7:33-37 (emphases added), FIG. 8; *see also id.*, at 6:7-31, 7:20-51. In other words, a window application in a 2D space replaces at least the 3D image which the user selected. Ex. 1011, at ¶ 158.

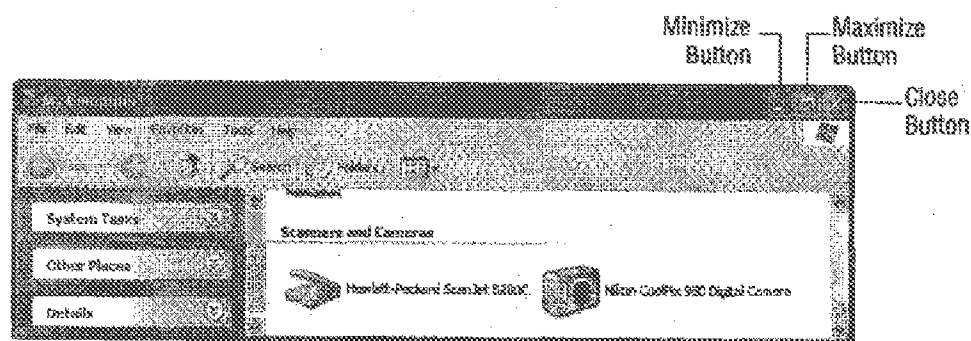
**FIG. 8**

Ex. 1003, at FIG. 8.

In addition, *Mastering Windows* describes the use of a Maximize button on a window: “[c]lick the Maximize button to maximize its window. XP expands the window to take up all of the Desktop . . .” Ex. 1005, at 964. A POSITA would have been motivated to provide this functionality in the 3D system of *Miller '542*, as it would provide an interface that allows a user to maximize the size of an application when the user needs to focus on details in the application, particularly details that are hard to read for older users who will appreciate the application maximized for the entire screen. Ex. 1011, at ¶ 159.

FIGURE A.2

Most windows have three buttons for minimizing, maximizing or restoring, or closing the window.

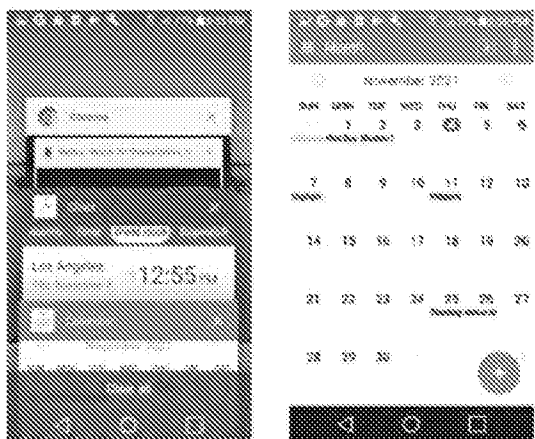


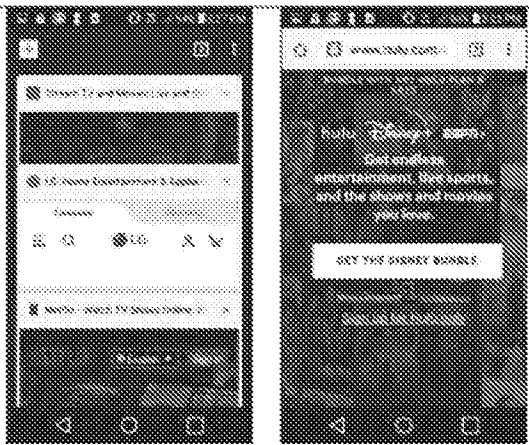
Ex. 1005, at 964.

Further, in the institution decision of the Apple IPR, the Board has also determined similar disclosures “meet the claim language of the ‘replacing’ limitation.” Ex. 1016, at 48-57. In particular, the Board credited the Petitioner’s argument that “selecting a maximize button on a 3D window in the combined GUI of Anthony and Hanggie teaches or suggests the ‘replacing’ limitation because all or most parts of the display of the 3D windows in the timeline (the recited ‘plurality of images within said three-dimensional space’) would be occupied or replaced (the recited ‘replacing said plurality of images within said 3D immersive space’) with the maximized window displayed in 2D (the recited ‘one of said . . . objects corresponding to said one of said plurality of applications within a 2D space’).” *Id.*, at 50; *see also id.*, at 51 (“the Specification . . . is consistent with Petitioner’s position that the Anthony-Hanggie’s switching from a 3D viewing mode to a 2D viewing mode to display the maximized window in a 2D mode meets the ‘replacing’ limitation.”)

These disclosures are also similar to the Patent Owner’s own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied when a Calculator app occupies the entire screen after being selected by a user. *See* Ex. 1020, at 182-84, 220-22, 256-58; Ex. 1025, at 132-33, 156-57, 177-78; Ex. 1011, at ¶ 161.

[1-j] replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of	<p>The Zone 3 replaces the plurality of images within said 3D immersive space with the object corresponding to one of the plurality of applications within a 2D space, in response to the user's selection as described above in limitation [1-i].</p> <p>For example, in the images below, the user has selected the image of the Calendar application by tapping on the image of the Calendar application from the left image below. In response, the Zone 3</p>
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applications within said 2D space in response to said selection:	<p>replaces the plurality of images of open applications in the 3D immersive space with the active Calendar application in 2D space, as the right image below.</p> <div data-bbox="695 499 1226 934">  </div> <p>Likewise, for Chrome, in the images below, the user has selected the image of the hulu.com webpage by tapping on the image of the hulu.com webpage from the left image below. In response, the Zone 3 replaces the plurality of images of open webpages in the 3D immersive space with the active hulu.com webpage in 2D space, as in the right image below.</p>
--	---

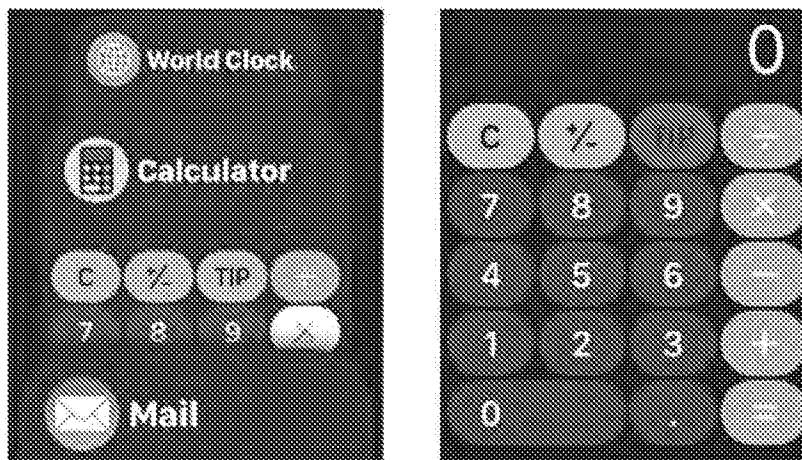
	<div data-bbox="701 1150 1226 1591">  </div>
--	--

Ex. 1020, at 182-84 (excerpt of infringement contentions of the LG Litigation).

[1-j] replacing said plurality of images within said 3D immersive space with one of said first, second, and third	<p>The Apple Watch replaces the plurality of images within said 3D immersive space with the object corresponding to one of the plurality of applications within a 2D space, in response to the user's selection as described above in limitation [1-i].</p>
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objects corresponding to said one of said plurality of applications within said 2D space in response to said selection.

For example, in the images below, the user has selected the image of the Calculator application by tapping on the image of the Calculator application from the left image below. In response, the Apple Watch replaces the plurality of images of open applications in the 3D immersive space with the active Calculator application in 2D space, as in the right image below.



Ex. 1025, at 132-33 (excerpt of infringement contentions of the Apple Litigation).

- I. **Claim 1[k]: “receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.”**

Under the broadest reasonable interpretation, *Miller '542* alone or in view of *Mastering Windows* renders obvious this limitation. Ex. 1011, at ¶ 162. *Miller '542* discloses the ability for a user to select an application window. Ex. 1003, at 7:20-30, at FIG. 8. As explained above for limitation 1[b], a POSITA would have understood each application will generate a window containing data specific to that application that can be modified through a user's interaction with that window. Ex. 1011, at ¶ 162. For example, *Mastering Windows* discloses windows containing data specific to Notepad, Internet Explorer, and Outlook Express and the user's ability to modify the application-specific data in those windows, such as by typing text in the Notepad window, clicking the links of Outlook Express to different features, or clicking the link in the Internet Explorer to bring up a new window. Ex. 1005, at 272, 575, 639.

FIGURE 7.1

You can use
Norepad to recover
text from a
corrupted Word
document—or to
view deleted parts of
a fast-saved Word
document.

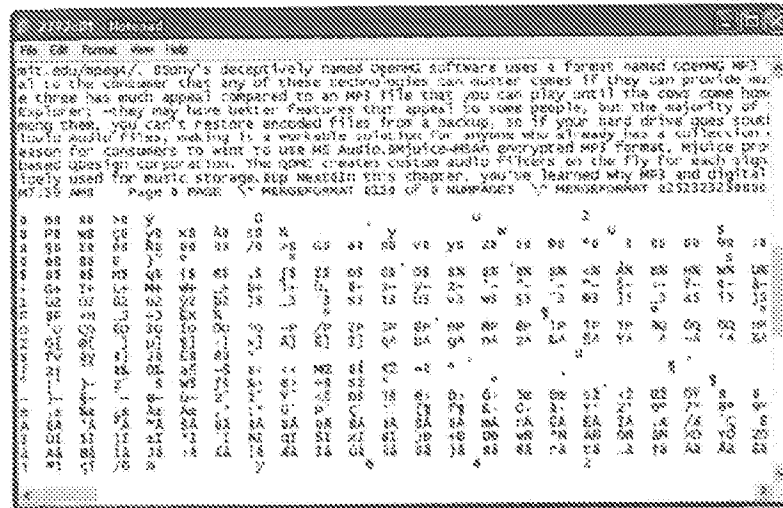


FIGURE 19.1

The main features of
the Internet Explorer
window

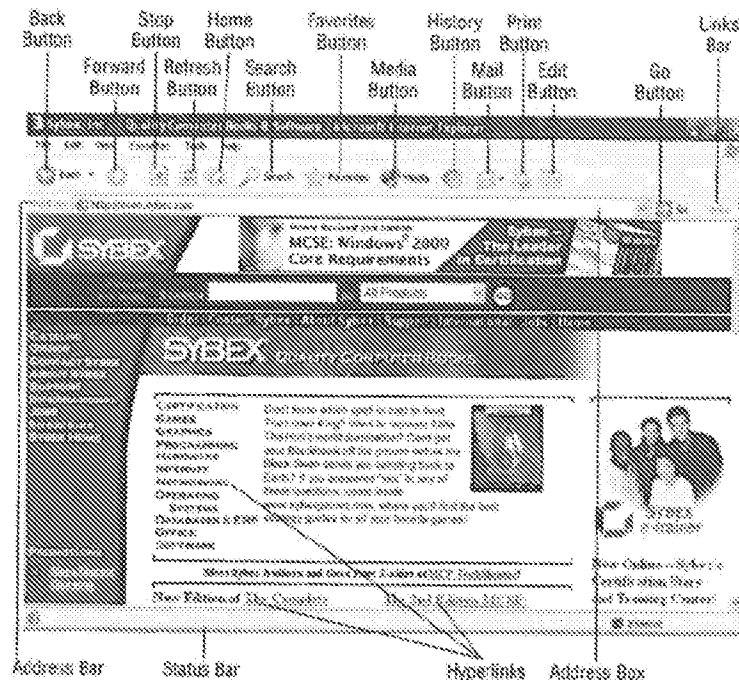
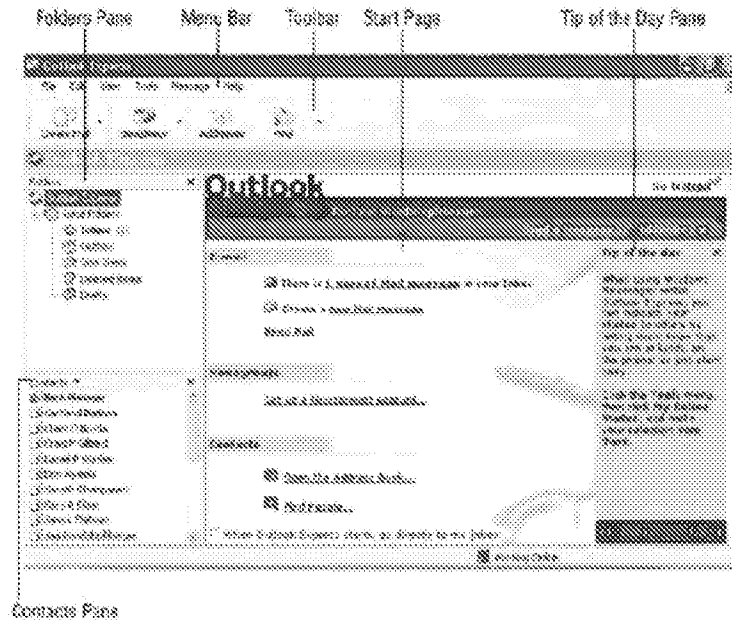


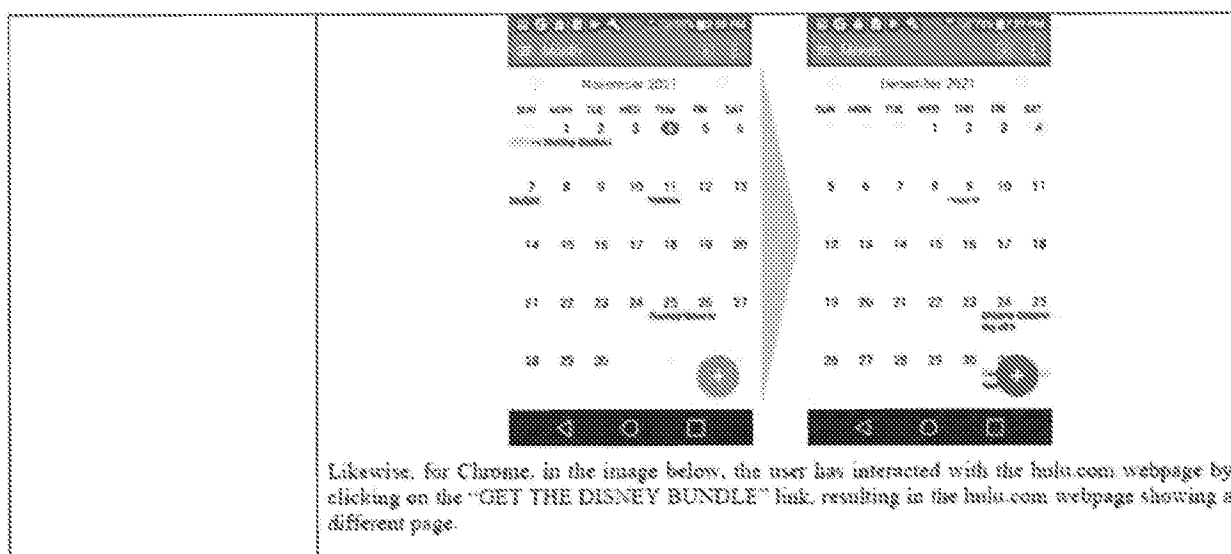
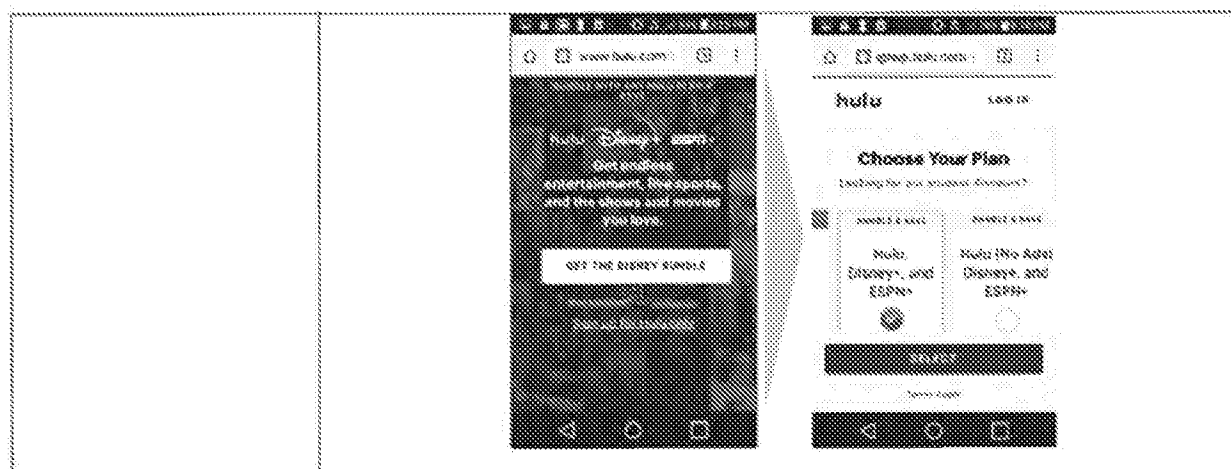
FIGURE 21.4
The Start page
provides links to
the main features
of Outlook Express.



Ex. 1005, at 272 (FIG. 7.1), 575 (FIG. 19.1), 639 (FIG. 21.4).

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations, where the Patent Owner alleged that interacting with the Calculation app infringes the claim limitation. *See* Ex. 1020, at 184-88, 222-26, 258-62; Ex. 1025, at 133-35, 157-59, 178-80; Ex. 1011, at ¶ 163.

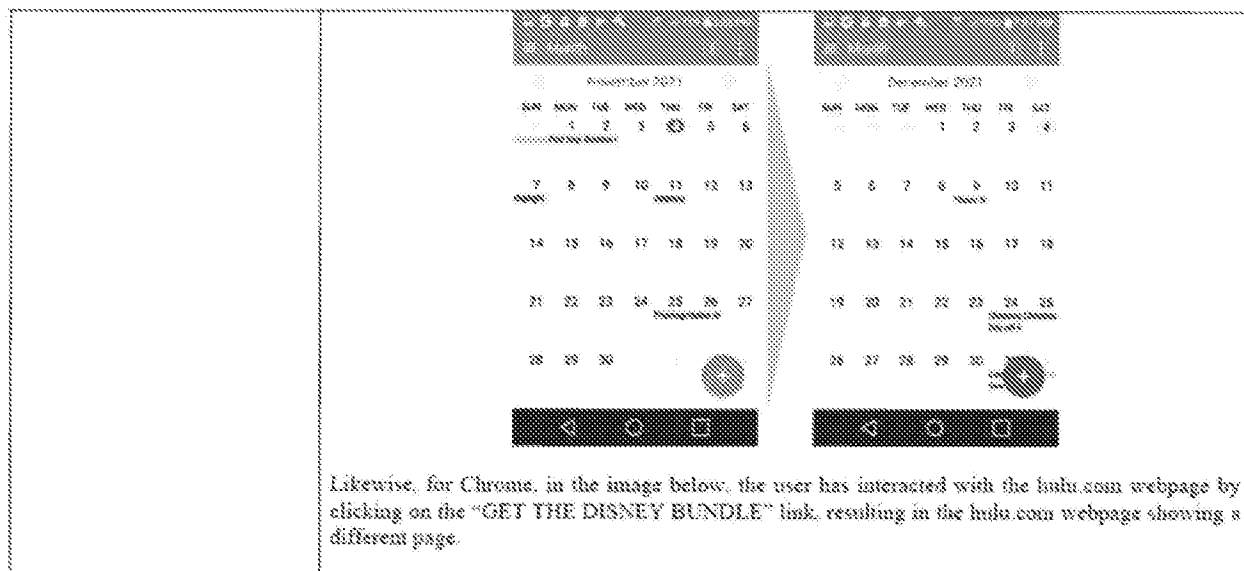
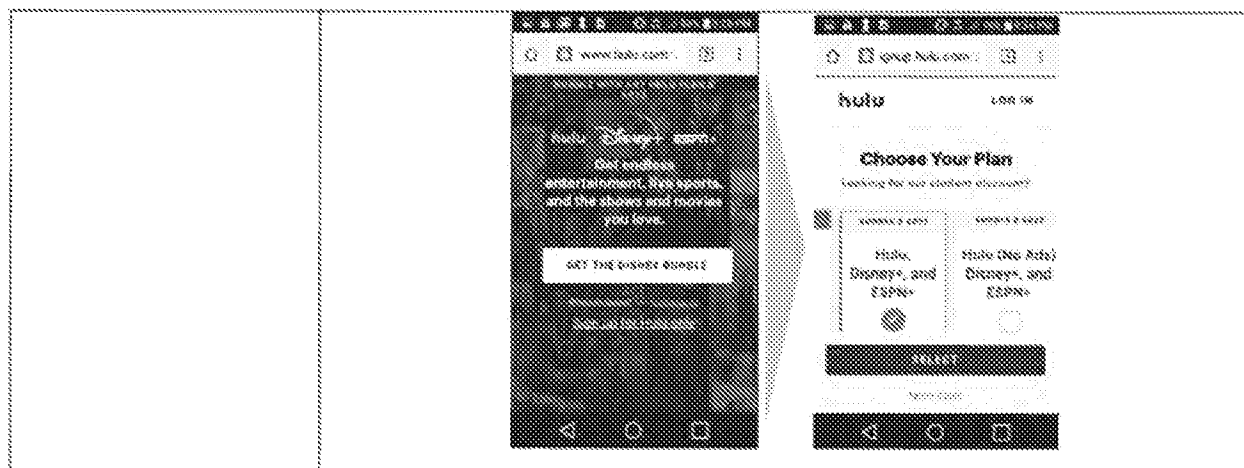
[1-k] receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and	<p>The Zone 3 receives at least one interaction from the user with the first, second, and third objects within said 2D space.</p> <p>For example, in the image below, the user has interacted with the Calendar application on the Zone 3, resulting in the Calendar application showing a different month.</p>
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[1-1] modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

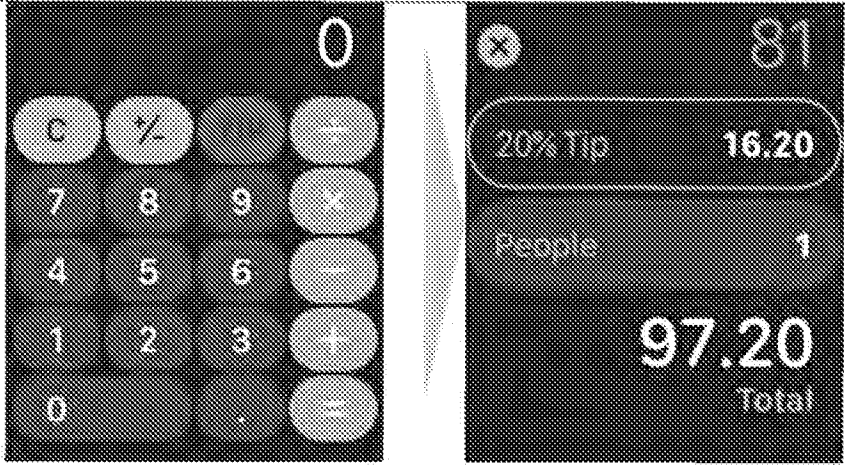
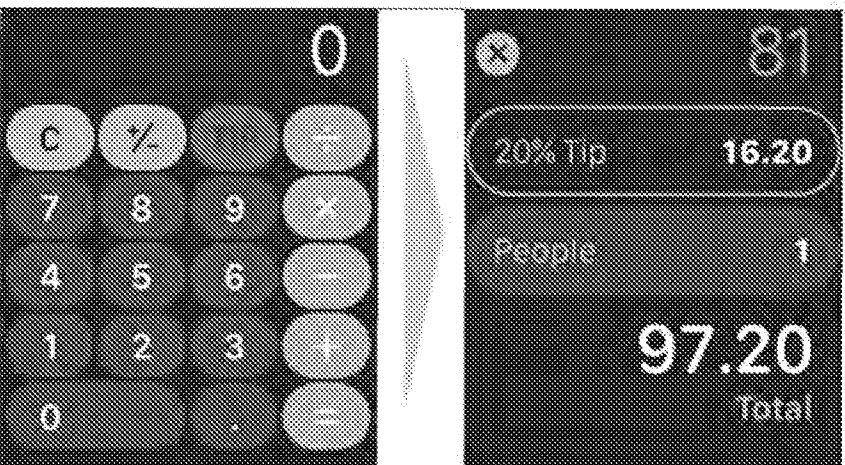
The Zone 3 modifies one of said first, second, and third application-specific data in response to at least one user interaction.

For example, in the image below, the user has interacted with the Calendar application on the Zone 3, resulting in the Calendar application showing a different month.



Ex. 1020, at 184-88 (excerpt of infringement contentions of the LG Litigation).

[1-k] receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and	<p>The Apple Watch receives at least one interaction from the user with the first, second, and third objects within said 2D space.</p> <p>For example, in the image below, the user has interacted with the Calculator application on the Apple Watch, resulting in the Calculator application showing a 20% tip on \$81 (<i>i.e.</i>, \$16.20, or a total of \$97.20).</p>
--	---

	
<p>[1-4] modifying said one of said first, second, and third application-specific data in response to said at least one interaction.</p>	<p>The Apple Watch modifies one of said first, second, and third application-specific data in response to at least one user interaction.</p> <p>For example, in the image below, the user has interacted with the Calculator application on the Apple Watch, resulting in the Calculator application showing a 20% tip on \$81 (<i>i.e.</i>, \$16.20, or a total of \$97.20).</p>
	

Ex. 1025, at 133-35 (excerpt of infringement contentions of the Apple Litigation).

3. **Claim 2:** “The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.”

Miller '542 alone or in view of *Holecek* and/or *Mastering Windows* renders obvious claim

2 under the broadest reasonable interpretation. Ex. 1011, at ¶ 164.

Miller '542 discloses displaying a plurality of window images with a plurality of icons. For example, *Miller '542* discloses that “[i]cons, first developed as a way of launching applications, were later employed to represent running application program windows.” Ex. 1003, at 1:48-50, 1:53-2:6, FIGS. 1, 4; Ex. 1011, at ¶ 165.

Similarly, *Holecek* discloses an indicium and title on each window. *Id.*, at ¶ 166. For example, *Holecek* states that each window 202 through 212 may include “an indicium . . . corresponding to the application program using the window. Each window in FIG. 2A is shown to include an indicium.” Ex. 1004, at 9:39-43, FIG. 2A. *Holecek*’s Figure 2A indicates that windows 202, 206, and 210 include icons 230, 232, and 234 on the top left of each window, along with a window title (which is relevant to claim 3).

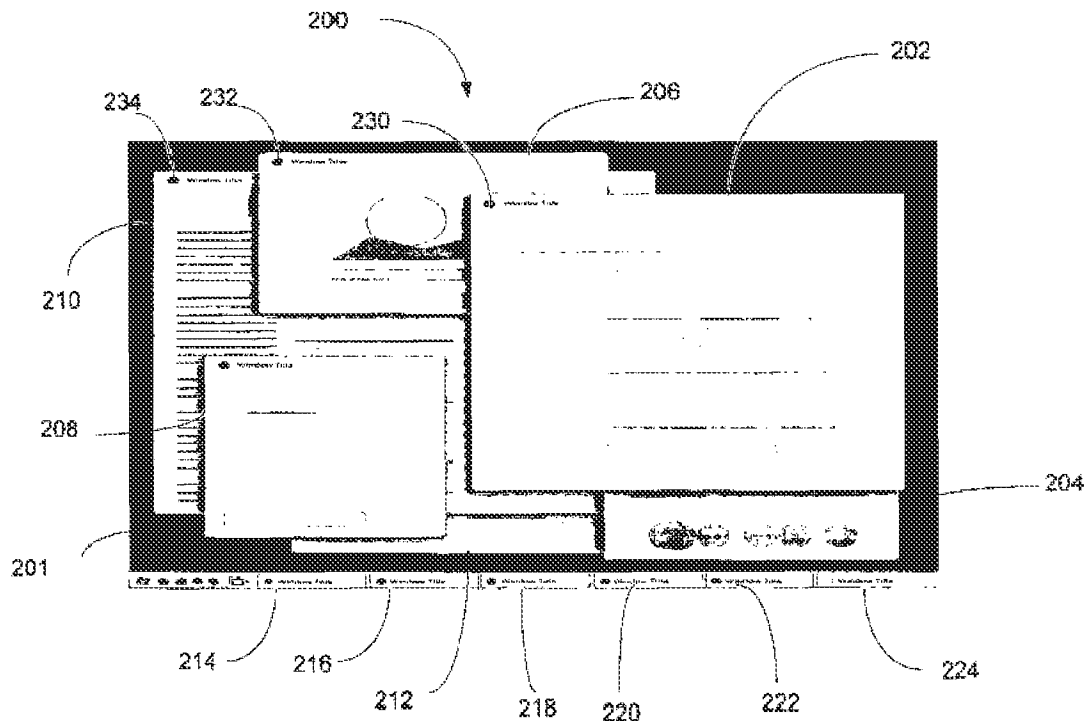
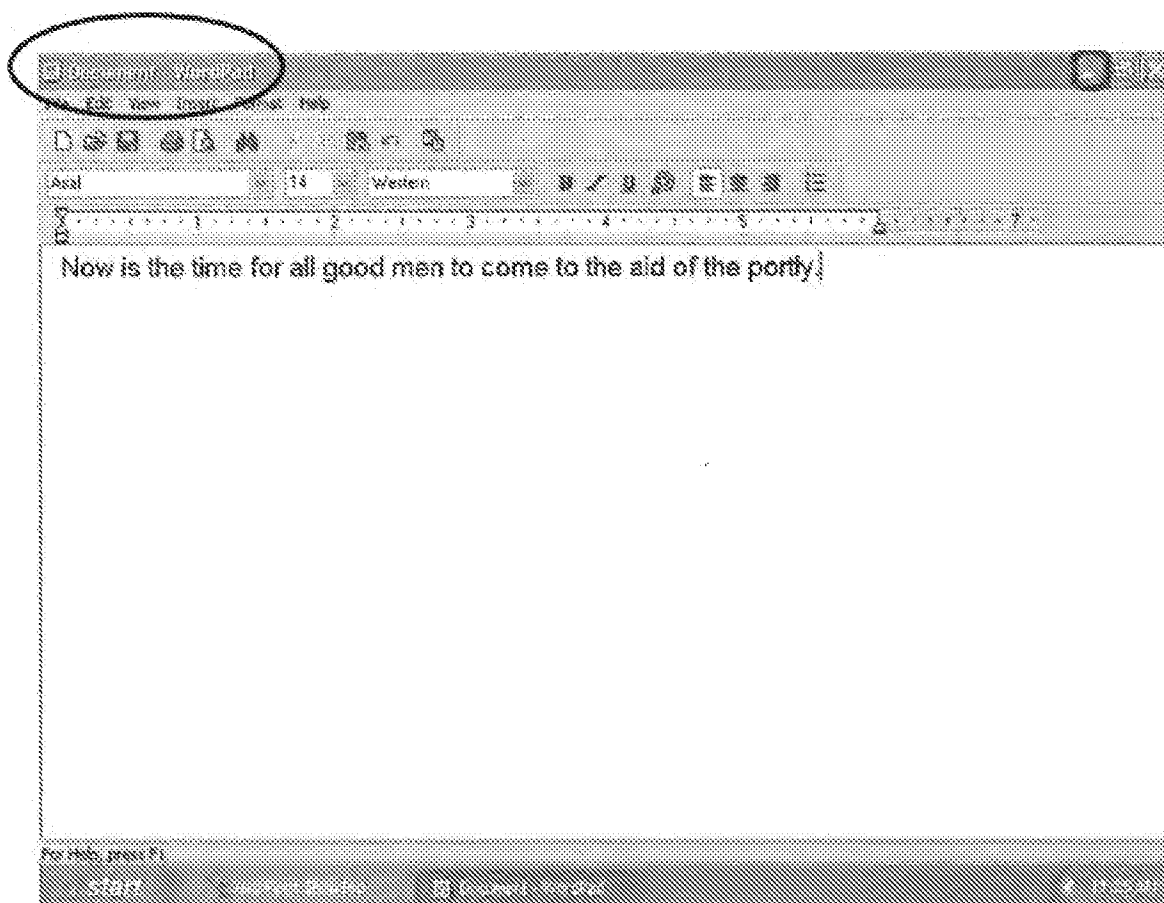


FIG. 2A

Id., at FIG. 2A (icons 230, 232, and 234).

In addition, *Mastering Windows* also teaches this claim limitation. It was a well-known feature of Windows XP that each window would include an icon and a text description (relevant to claim 3) on the top left corner indicating the underlying application. *See* Ex. 1005, at 10. For instance, the following figure shows an icon and description “Document – WordPad” on the top left corner of the window for the WordPad application:



Ex. 1005, at 10 (annotated); Ex. 1011, at ¶ 167.

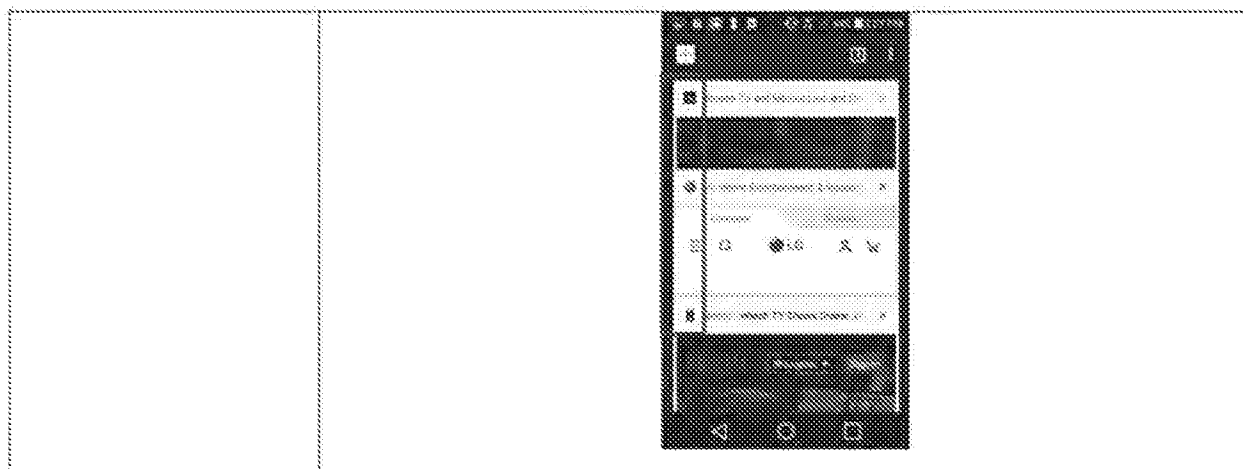
A POSITA would have been motivated to provide this same functionality disclosed in *Holecek* and/or *Mastering Windows* in the 3D system of *Miller '542* to enhance the usability of

the system for the user and because users expect such functionality to be present due to its prevalence in Windows systems. Ex. 1011, at ¶ 168.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by displaying icons on the top left of the applications on Apple Watch. *See* Ex. 1020, at 188-90, 226-28; Ex. 1025, at 135-36, 159-60; Ex. 1011, at ¶ 169.

<p>[2] The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.</p>	<p>The Zone 3 infringes Claim 1, as described above. Claim 2 depends from Claim 1. The Zone 3 also practices the additional limitations of Claim 2, as described below, so the Zone 3 infringes Claim 2.</p> <p>The Zone 3 displays the plurality of images on its display together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.</p> <p>For example, in the image below, the image of each open application has an icon positioned at the top left of its respective tab in the stack view. The image of each application therefore is displayed with its corresponding icon.</p>
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	<div data-bbox="834 1003 1081 1434" data-label="Image"> </div> <p>Likewise, for Chrome, in the image below, the image of each open webpage has an icon positioned at the top left of its respective tab in the stack view. The image of each webpage therefore is displayed with its corresponding icon.</p>
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Ex. 1020, at 188-90 (excerpt of infringement contentions of the LG Litigation).

<p>[2] The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.</p>	<p>The Apple Watch infringes Claim 1, as described above. Claim 2 depends from Claim 1. The Apple Watch also practices the additional limitations of Claim 2, as described below, so the Apple Watch infringes Claim 2.</p> <p>The Apple Watch displays the plurality of images on its display together with a plurality of icons, wherein each one of said plurality of images has a corresponding one of said plurality of icons.</p> <p>For example, in the image below, the image of each open application has an icon positioned at the top left of its respective tab in the Dock. The image of each application therefore is displayed with its corresponding icon.</p>

Ex. 1025, at 135-36 (excerpt of infringement contentions of the Apple Litigation).

4. **Claim 3: “The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions.”**

Under the broadest reasonable interpretation, claim 3 is rendered obvious by *Miller '542* alone or in view of *Holecek* and/or *Mastering Windows* for the same reasons discussed above for claim 2, namely, the text description of the application on the top left corner of each window. Ex. 1011, at ¶ 170.

For example, *Miller '542* discloses displaying a plurality of window images with a plurality of descriptions, e.g., “Microsoft Word,” “CNN Interactive — Netscape.” Ex. 1003, at FIGS. 1, 4, 5; Ex. 1011, at ¶ 171.

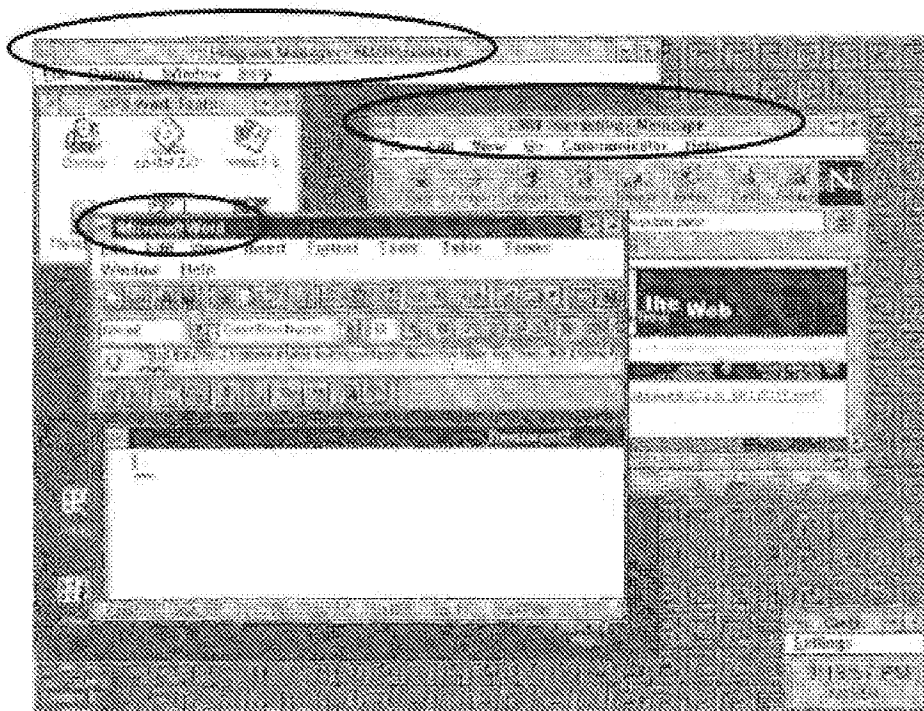
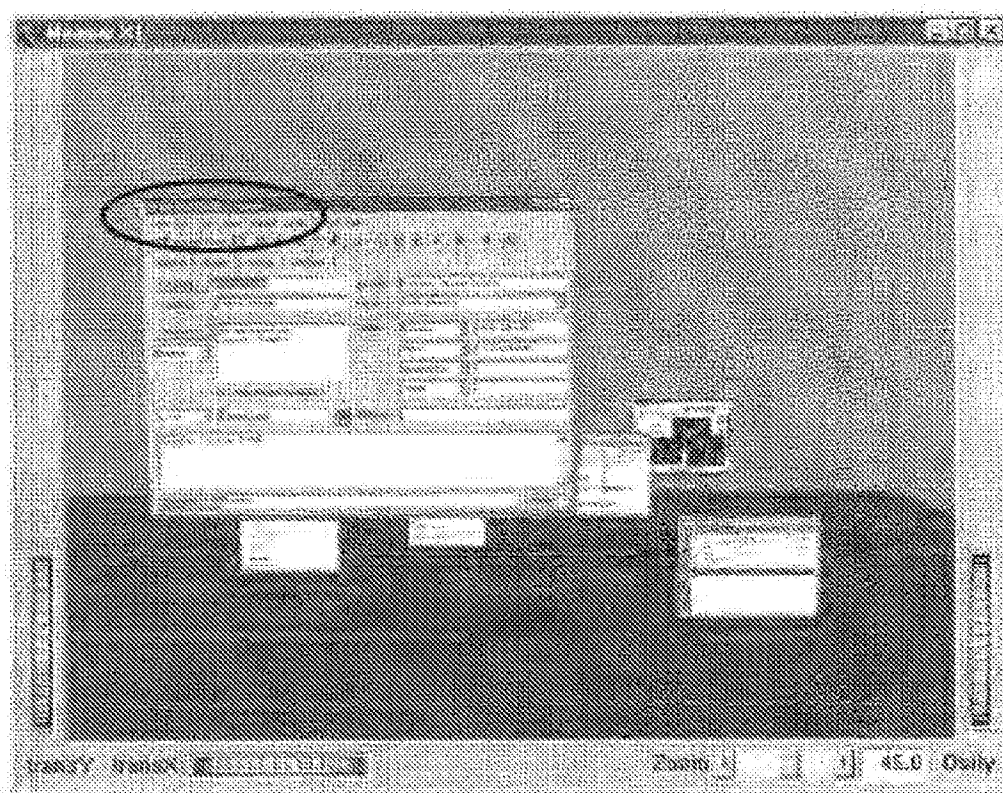


FIG. 1
(Prior Art)

**FIG. 4**

Ex. 1003, at FIG. 1 (annotated), FIG. 4 (annotated).

Holecek discloses this same feature, namely, a title on each window. For example, *Holecek*'s Figure 2A indicates icons 230, 232, and 234 on the top left corner of each window along with a window title. Ex. 1011, at ¶ 172.

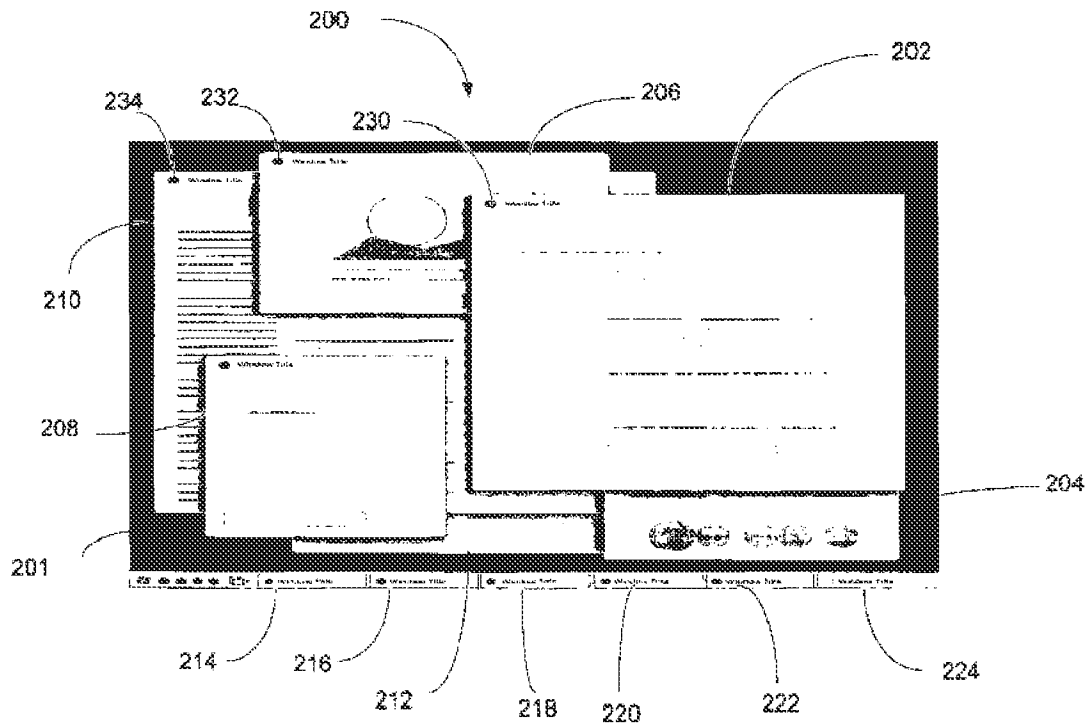
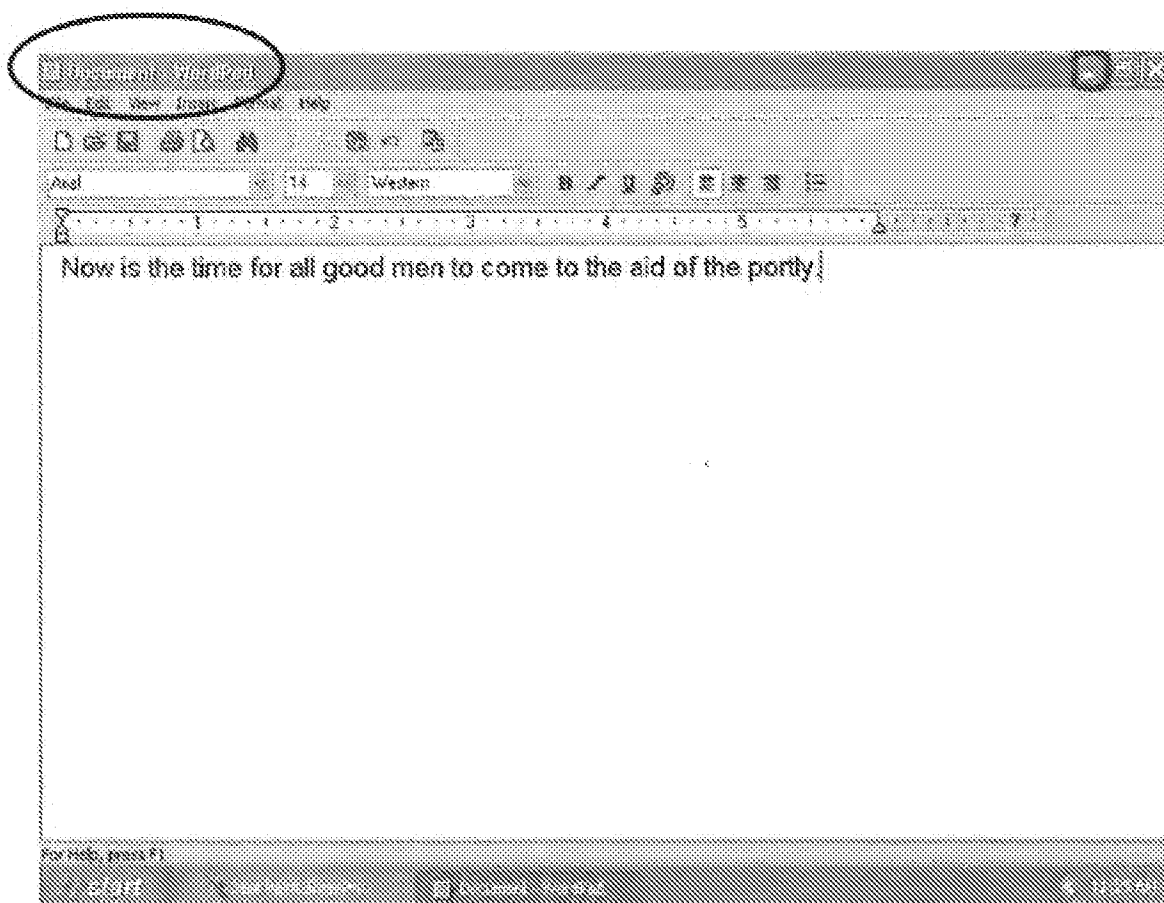


FIG. 2A

Ex. 1004, at FIG. 2A (window titles next to 230, 232, and 234).

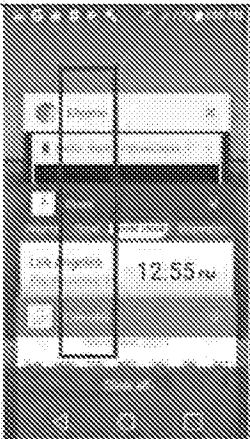
In addition, *Mastering Windows* also teaches this claim limitation. For example, in this WordPad window as shown below, the text description “Document – WordPad” is displayed on the top left corner of the window. Ex. 1011, at ¶ 173.

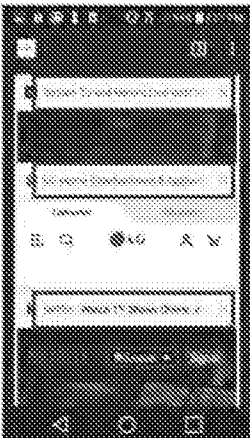


Ex. 1005, at 10 (annotated).

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by displaying e.g., the label of "Calculator" at the top of the application. *See* Ex. 1020, at 190-92, 226-28; Ex. 1025, at 136-37, 159-60; Ex. 1011, at ¶ 174.

<p>[3] The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions.</p>	<p>The Zone 3 infringes Claim 1, as described above. Claim 3 depends from Claim 1. The Zone 3 also practices the additional limitations of Claim 3, as described below, so the Zone 3 infringes Claim 3.</p> <p>The Zone 3 displays the plurality of images on the Zone 3's display with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions.</p> <p>For example, in the image below, the image of each open application has an identifying description positioned at the top of its respective tab in the stack view. The image of each application therefore is displayed with a corresponding description. For instance, the image of the Calendar application has "Calendar" labeled at the top of its card, the image of the Clock application has "Clock" labeled at the top of its card, and the image of the Chrome application has "Chrome" labeled at the top of its tab.</p>
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	 <p>Likewise, for Chrome, in the image below, the image of each open webpage has an identifying description positioned at the top of its respective tab in the stack view. The image of each application therefore is displayed with a corresponding description. For instance, the image of the hulu.com webpage has "Stream TV and Movies Live and ..." labeled at the top of its tab, the image of the lg.com webpage has "LG: Home Entertainment & ..." labeled at the top of its tab, and the image of the netflix.com webpage has "Netflix - Watch TV Shows Online ..." labeled at the top of its tab.</p>
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Ex. 1020, at 190-92 (excerpt of infringement contentions of the LG Litigation).

<p>[3] The method of claim 1, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions.</p>	<p>The Apple Watch infringes Claim 1, as described above. Claim 3 depends from Claim 1. The Apple Watch also practices the additional limitations of Claim 3, as described below, so the Apple Watch infringes Claim 3.</p> <p>The Apple Watch displays the plurality of images on the Dock with a plurality of descriptions, wherein each one of said plurality of images has a corresponding one of said plurality of descriptions. For example, in the image below, the image of each open application has an identifying description positioned at the top of its respective tab in the stack view. The image of each application therefore is displayed with a corresponding description. For instance, the image of the Mail application has "Mail" labeled at the top of its tab, the image of the Calculator has "Calculator" labeled at the top of its tab, and the image of the Clock application has "World Clock" labeled at the top of its tab.</p>
	

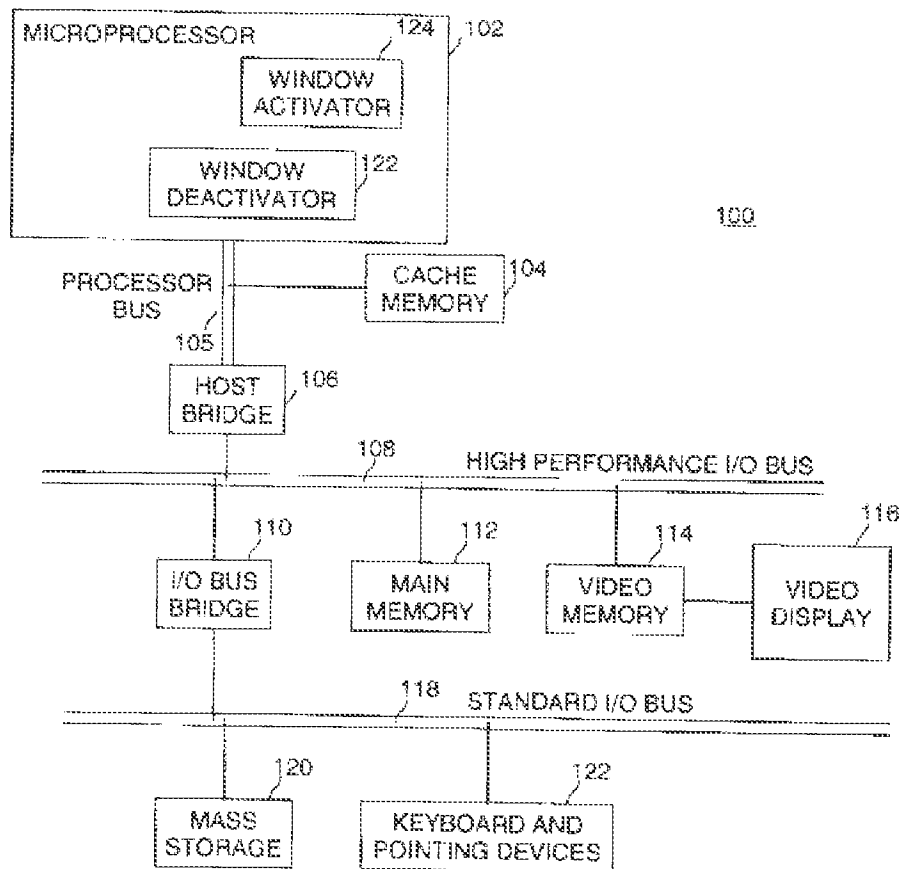
Ex. 1025, at 136-37 (excerpt of infringement contentions of the Apple Litigation).

- 5. Claim 4: “The method of claim 1, further comprising the step of storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.”**

Miller '542 alone or in view of *Mastering Windows* and/or *Holecek* teaches this limitation under the broadest reasonable interpretation. Ex. 1011, at ¶ 175.

As shown in Figure 6 (reproduced below), *Miller '542* discloses that its system 100 includes a series of memories and storages, including “cache memory 104,” “main memory 112,” “video memory 114,” and “[m]ass storage 120[, which] may comprise, for example, a hard disk drive, a floppy disk drive, a CD-ROM device, a flash memory device, or other storage device. Mass storage may comprise one or a plurality of the described data storage devices.” Ex. 1003, at

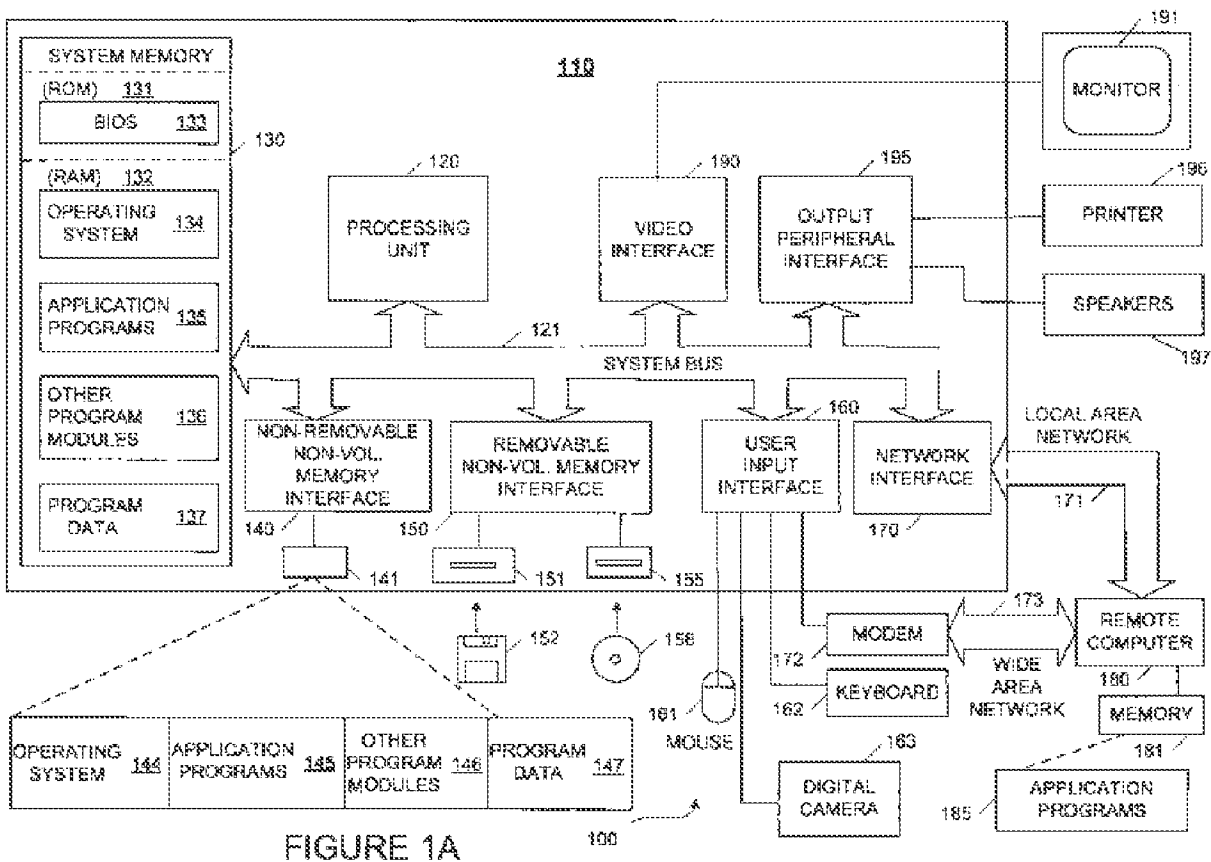
4:56-5:4, FIG. 6. These memories and storages are coupled with microprocessor 102 and video display 116. *Id.* The memories and storages are the claimed database, i.e., a collection of stored data because they are used to provide storage “for the executable instructions for [the] embodiments of methods for managing windows . . . during execution by microprocessor 102. Window deactivator 122 represents a set of instructions, which when executed by the microprocessor, deactivate a selected window. Window activator 124 represents a set of instructions, which when executed by the microprocessor, activate a previously deactivated window.” Ex. 1003, at 5:5-18; Ex. 1011, at ¶ 176. *Miller* '542 also discloses “allocat[ing] at least one display window on the computer screen for each executing application program and allows the user to resize and move the windows as desired.” Ex. 1003, at 1:16-20. Thus, *Miller* '542 teaches its memories and storages (“database”) stores data linking the 3D window display images (the claimed “each one of said plurality of images”) with a corresponding application program (the claimed “one of said plurality of applications.”); Ex. 1011, at ¶ 176.

**FIG. 6**

Ex. 1003, at FIG. 6.

Miller '542 also teaches storing data linking the window images (the claimed “each one of said plurality of images”) with a corresponding ordering information of these windows (the claimed “a corresponding one of said order in which said plurality of images are displayed on said display device”) by disclosing that “[t]he [screen] space has dimensions of horizontal and vertical coordinates, as well as **an order for overlapping windows**. . . . The windowing system maintains state information about . . . their position, extents, and sometimes even their contents.” *Id.*, at 1:40-45 (emphases added); Ex. 1011, at ¶ 177.

Similarly, *Holecek* also teaches storing application/program-related data in its in-memory database by disclosing “RAM 132 typically contains data and/or program modules that are immediately accessible to and/or presently being operated on by processing unit 120. . . . FIG. 1A illustrates operating system 134, application programs 135, other program modules 136, and program data 137.” Ex. 1004, at 3:64-4:3, FIG. 1A. Similar to *Miller* ’542, this disclosure demonstrates that application programs and related data are saved into an organized data structure maintained in memory—i.e., an in-memory database. Patent Owner appears to assert that this board construction of a database is within the scope of the claims as evidenced by its prior assertions in litigation, as discussed below. Ex. 1011, at ¶ 178.



Ex. 1004, at FIG. 1A.

Further, as discussed in claim 1[e], it would have been obvious for a POSITA to combine the teachings of *Miller '542* with *Holecek* to display a plurality of window images in a 3D space in an order based on a last time a user opens a corresponding application and interacts with a corresponding application object. *See id.*, at 10:31-35 (“[T]he ordering [of windows] may be based on 1) the order in which the windows were last in focus from most recent to least recent . . .”), FIG. 2B. Thus, it would have been obvious to a POSITA to store in the memories and storages (the claimed “database”) data linking each window image (the claimed “one of said plurality of images”) with corresponding ordering information (the claimed “a corresponding one of said order in which said plurality of images are displayed on said display device”). *Ex. 1011*, at ¶ 179. This way, when there are multiple windows on the display, the ordering information allows the system in *Miller '542* to select, activate and/or deactivate a window correctly using its window deactivator 122 and window activator 124 of the microprocessor 102. *Id.*

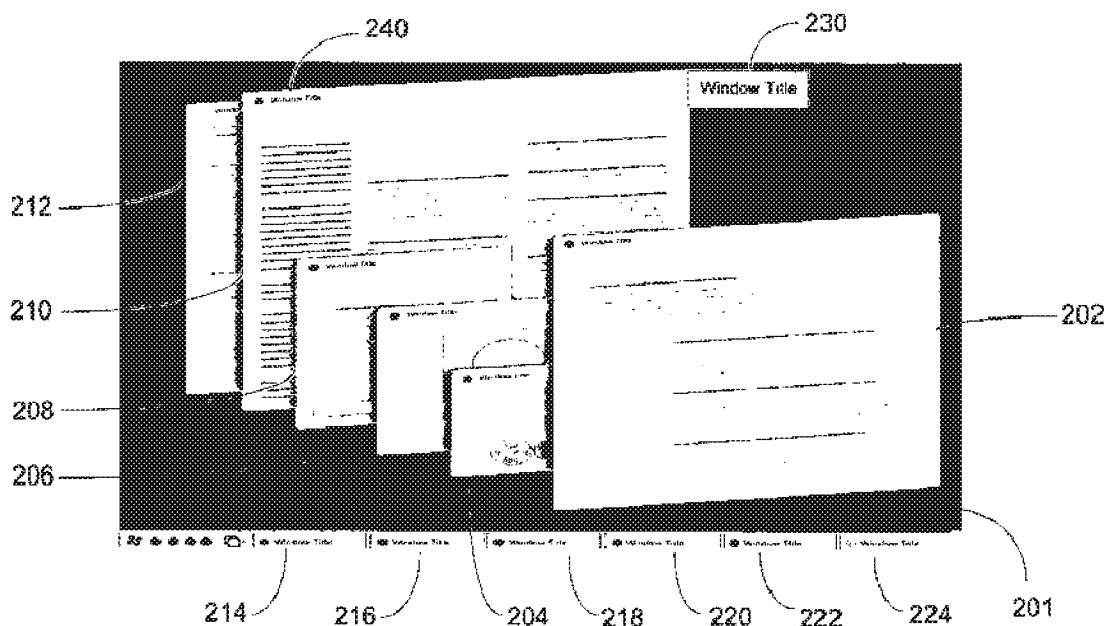


FIG. 2B

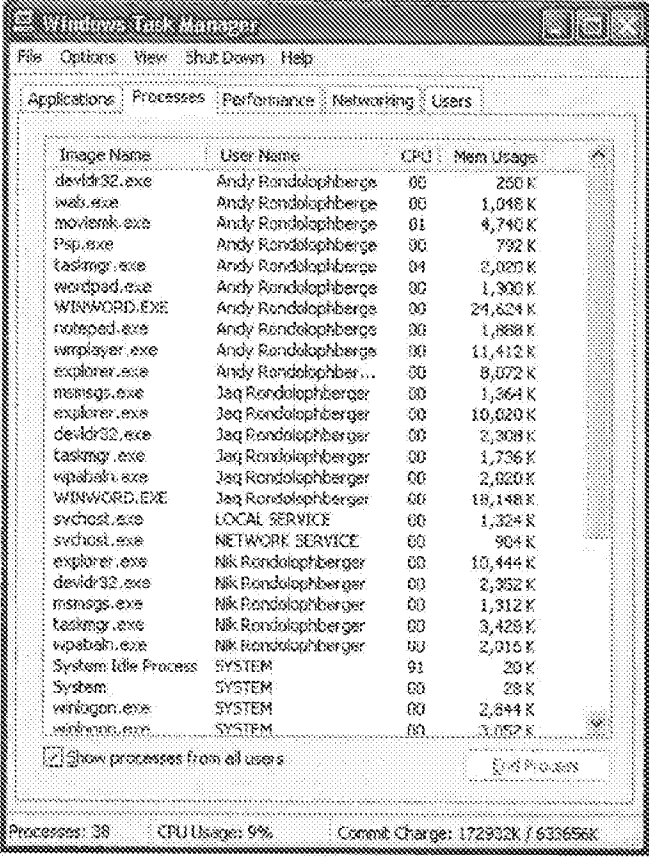
Ex. 1004, at FIG. 2B.

In addition, *Mastering Windows* also teaches storing application-related data into database by disclosing, for example, multiple users can access the same application, such as WordPad and access or update the inherent database. Ex. 1005, at 199 (“most database files are designed so that they can routinely be accessed by dozens, hundreds, or even thousands of users at the same time”); Ex. 1011, at ¶ 180.

Mastering Windows further discloses a task manager, which manages the database of the applications. See Ex. 1005, at 143 (FIG. 3.6) (reproduced below). For example, the task manager shows the application WINWORD.EXE (Word for Windows) used by Andy is taking up 24,624 K of the memory. Ex. 1011, at ¶ 181.

FIGURE 3.6

Use the Processes page of Task Manager to see which programs the other users are running.



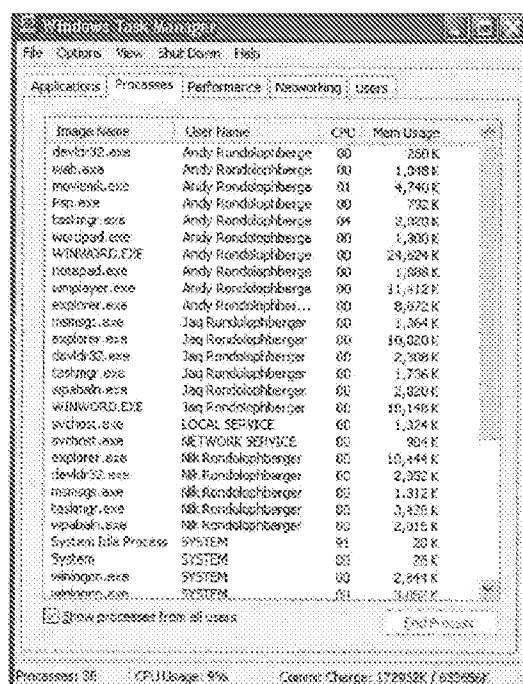
The screenshot shows the 'Processes' tab of the Windows Task Manager. The window title is 'Windows Task Manager'. The menu bar includes 'File', 'Options', 'View', 'Shut Down', and 'Help'. The tabs at the top are 'Applications', 'Processes' (selected), 'Performance', 'Networking', and 'Users'. The main area contains a table with the following columns: 'Image Name', 'User Name', 'CPU', and 'Mem Usage'. The table lists various processes, including user applications like 'devldr32.exe', 'web.exe', 'moviemk.exe', 'Psp.exe', 'taskmgr.exe', 'wordpad.exe', 'WINWORD.EXE', 'notepad.exe', 'winplayer.exe', 'explorer.exe', 'msgs.exe', 'explorer.exe', 'devldr32.exe', 'taskmgr.exe', 'wpabsh.exe', 'WINWORD.EXE', 'svchost.exe', 'svchost.exe', 'explorer.exe', 'devldr32.exe', 'msgs.exe', 'taskmgr.exe', 'wpabsh.exe', and system processes like 'System Idle Process', 'System', 'winlogon.exe', and 'wininit.exe'. At the bottom, there is a checkbox for 'Show processes from all users' and a button for 'End Processes'. The status bar at the very bottom shows 'Processes: 38', 'CPU Usage: 9%', and 'Commb Charge: 172932K / 633656K'.

Image Name	User Name	CPU	Mem Usage
devldr32.exe	Andy Randolophberge	00	250 K
web.exe	Andy Randolophberge	00	1,048 K
moviemk.exe	Andy Randolophberge	01	4,740 K
Psp.exe	Andy Randolophberge	00	792 K
taskmgr.exe	Andy Randolophberge	04	2,020 K
wordpad.exe	Andy Randolophberge	00	1,300 K
WINWORD.EXE	Andy Randolophberge	00	24,624 K
notepad.exe	Andy Randolophberge	00	1,888 K
winplayer.exe	Andy Randolophberge	00	11,412 K
explorer.exe	Andy Randolophber...	00	8,072 K
msgs.exe	Jaq Randolophberger	00	1,364 K
explorer.exe	Jaq Randolophberger	00	10,020 K
devldr32.exe	Jaq Randolophberger	00	3,308 K
taskmgr.exe	Jaq Randolophberger	00	1,736 K
wpabsh.exe	Jaq Randolophberger	00	2,820 K
WINWORD.EXE	Jaq Randolophberger	00	18,148 K
svchost.exe	LOCAL SERVICE	00	1,324 K
svchost.exe	NETWORK SERVICE	00	904 K
explorer.exe	Nik Randolophberger	00	10,444 K
devldr32.exe	Nik Randolophberger	00	2,952 K
msgs.exe	Nik Randolophberger	00	1,312 K
taskmgr.exe	Nik Randolophberger	00	3,428 K
wpabsh.exe	Nik Randolophberger	00	2,016 K
System Idle Process	SYSTEM	91	20 K
System	SYSTEM	00	28 K
winlogon.exe	SYSTEM	00	2,644 K
wininit.exe	SYSTEM	00	3,052 K

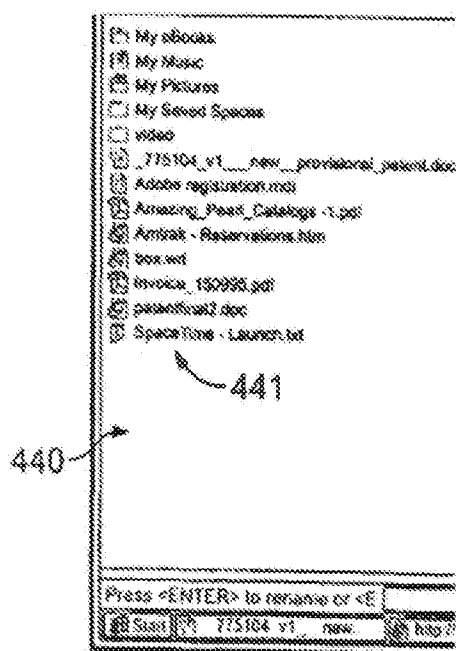
Processes: 38 CPU Usage: 9% Commb Charge: 172932K / 633656K

Ex. 1005, at 143 (FIG. 3.6). The data links “each one of said plurality of images with a corresponding one of said plurality of applications” because a user may end the process of an application by selecting a name under “Image Name” and click “End Process” button to end corresponding application. Ex. 1005, at 143 (FIG. 3.6), 222. Once an application is closed, its corresponding window image will disappear and its memory will be released. Ex. 1011, at ¶ 181.

The layout of task manager disclosed in *Mastering Windows* is also similar to the layout of the database module 440 in the '868 patent. *Id.*, at ¶ 182.



Ex. 1005, at FIG. 3.6 (cropped).

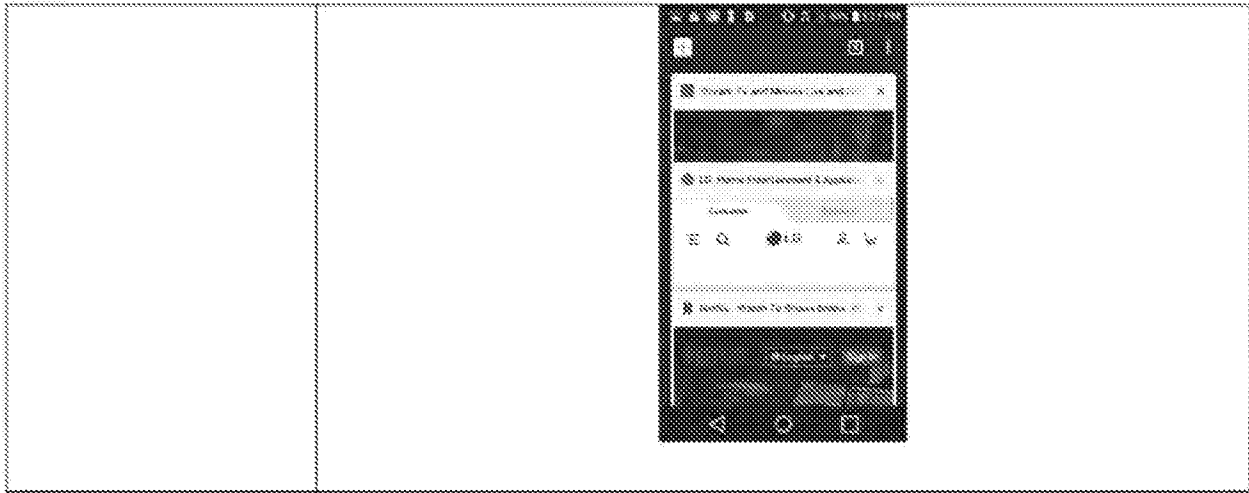


Ex. 1001, at FIG. 13A (cropped).

It would have been obvious to a POSITA to combine the 3D space disclosed in *Miller '542* with the teaching of database disclosed in *Mastering Windows* and/or *Holecek* to manage the applications more easily in the 3D space. Ex. 1011, at ¶ 183. Databases were well-known to a POSITA, and storing image data related to applications in a database would have been within the skill of a POSITA and would have led to predictable results. *Id.*

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations, where the Patent Owner alleged Apple Watch infringes this claim because "the memory on the Apple Watch includes a collection of stored data that contains data linking the images with their corresponding applications in the order in which they are displayed on the Dock." *See* Ex. 1025, at 137-38; Ex. 1020, at 192-94; Ex. 1011, at ¶ 184.

<p>[4] The method of claim 1, further comprising the step of storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.</p>	<p>The Zone 3 infringes Claim 1, as described above. Claim 4 depends from Claim 1. The Zone 3 also practices the additional limitations of Claim 4, as described below, so the Zone 3 infringes Claim 4.</p> <p>The Zone 3 comprises storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.</p> <p>The Zone 3 is known to include at least 1.5 GB of RAM memory modules and flash memory modules, and is also compatible with microSD, which supports up to 32 GB. <i>See</i> https://www.lg.com/us/cell-phones/lg-V5423PP-optimus-zone-3.</p> <p>On information and belief, the memory on the Zone 3 includes a collection of stored data that contains data linking the images with their corresponding applications in the order in which they are displayed on the Zone 3's display screen. The result generated, at least in part from the collection of stored data, can be seen in the image below, in which the open applications are arranged in the order</p>
	<p>in which they were opened and in which each open application is linked to an image, at least by way of being included on the tab for that application.</p> <div data-bbox="836 1071 1084 1507" data-label="Image"> </div> <p>Likewise, for Chrome, as can be seen in the image below, the open webpages are arranged in the order in which they were opened and in which each open webpage is linked to an image, at least by way of being included on the tab for that webpage.</p>



Ex. 1020, at 192-94 (excerpt of infringement contentions of the LG Litigation).

<p>[4] The method of claim 1, further comprising the step of storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.</p>	<p>The Apple Watch infringes Claim 1, as described above. Claim 4 depends from Claim 1. The Apple Watch also practices the additional limitations of Claim 4, as described below, so the Apple Watch infringes Claim 4.</p> <p>The Apple Watch comprises storing in a database data linking each one of said plurality of images with a corresponding one of said plurality of applications and a corresponding one of said order in which said plurality of images are displayed on said display device.</p> <p>On information and belief, the memory on the Apple Watch includes a collection of stored data that contains data linking the images with their corresponding applications in the order in which they are displayed on the Dock. The result generated, at least in part from the collection of stored data, can be seen in the image below, in which the open applications are arranged in the order in which they</p>
	<p>were opened and in which each open application is linked to an image, at least by way of being included on the tab for that application.</p> 

Ex. 1025, at 137-38 (excerpt of infringement contentions of the Apple Litigation).

6. **Claim 5: “The method of claim 1, wherein a reduction in size of an object or portion thereof is used to depict said object or**

portion thereof as being behind at least one other object or other portion of said object.”

Under the broadest reasonable interpretation, *Miller* '542 teaches this limitation by disclosing “[t]his depth dimension addresses the window overcrowding problem by allowing windows to be positioned and arranged within a true three-dimensional (3D) space. Because of ‘perspective foreshadowing’, objects appear visually **smaller when they are further away**, and these smaller shapes occupy fewer pixels on the screen.” Ex. 1003, at 3:8-14 (emphases added), 3:62-4:1, FIGS. 4-5. For example, in Figure 4, a “window 50 is shown as being active by its representation in the foreground of the 3D desktop window 52. Other windows 54, 56 are currently shown as inactive by their representation in the **background** of the 3D desktop window. These inactive windows are represented by **smaller images** in the 3D desktop window than if they were currently active.” *Id.*, at 3:62-4:1 (emphases added), FIG. 4; Ex. 1011, at ¶¶ 185-186.

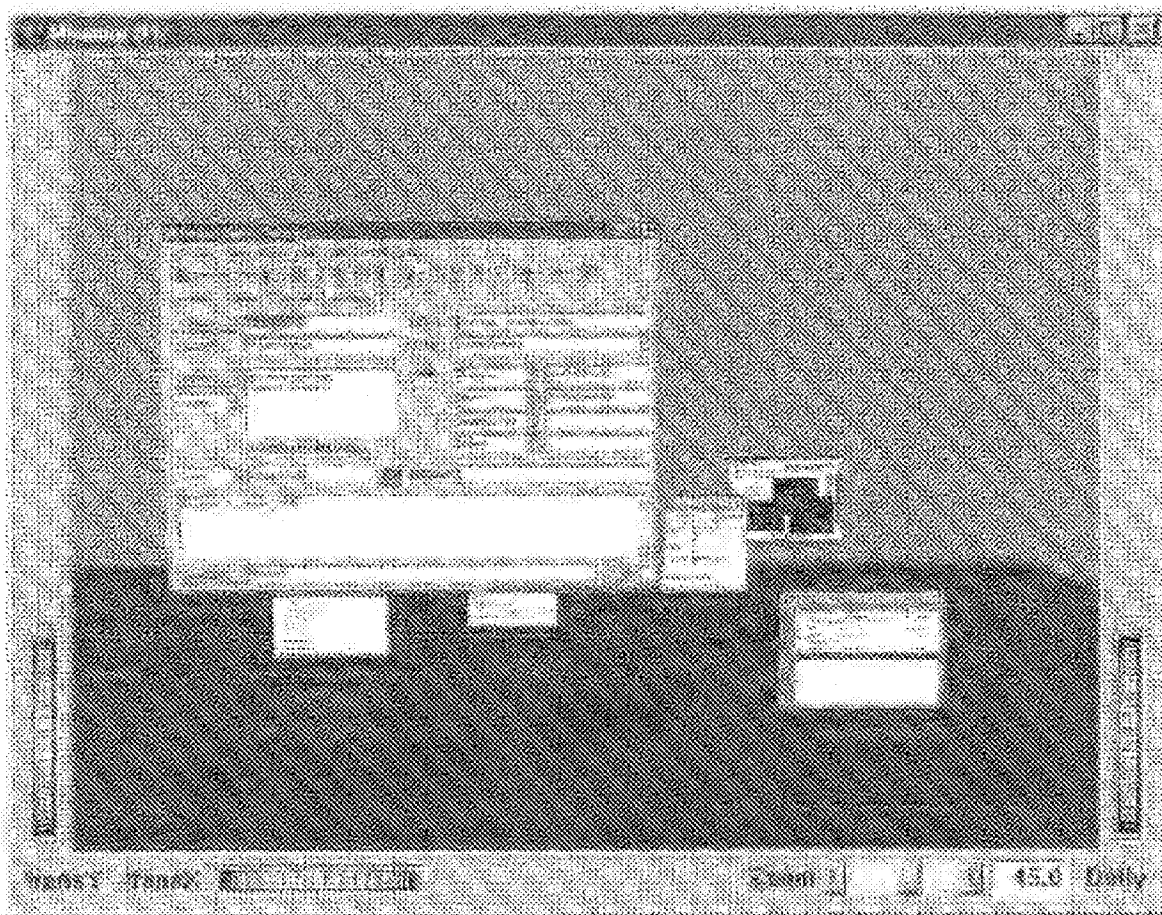


FIG. 4

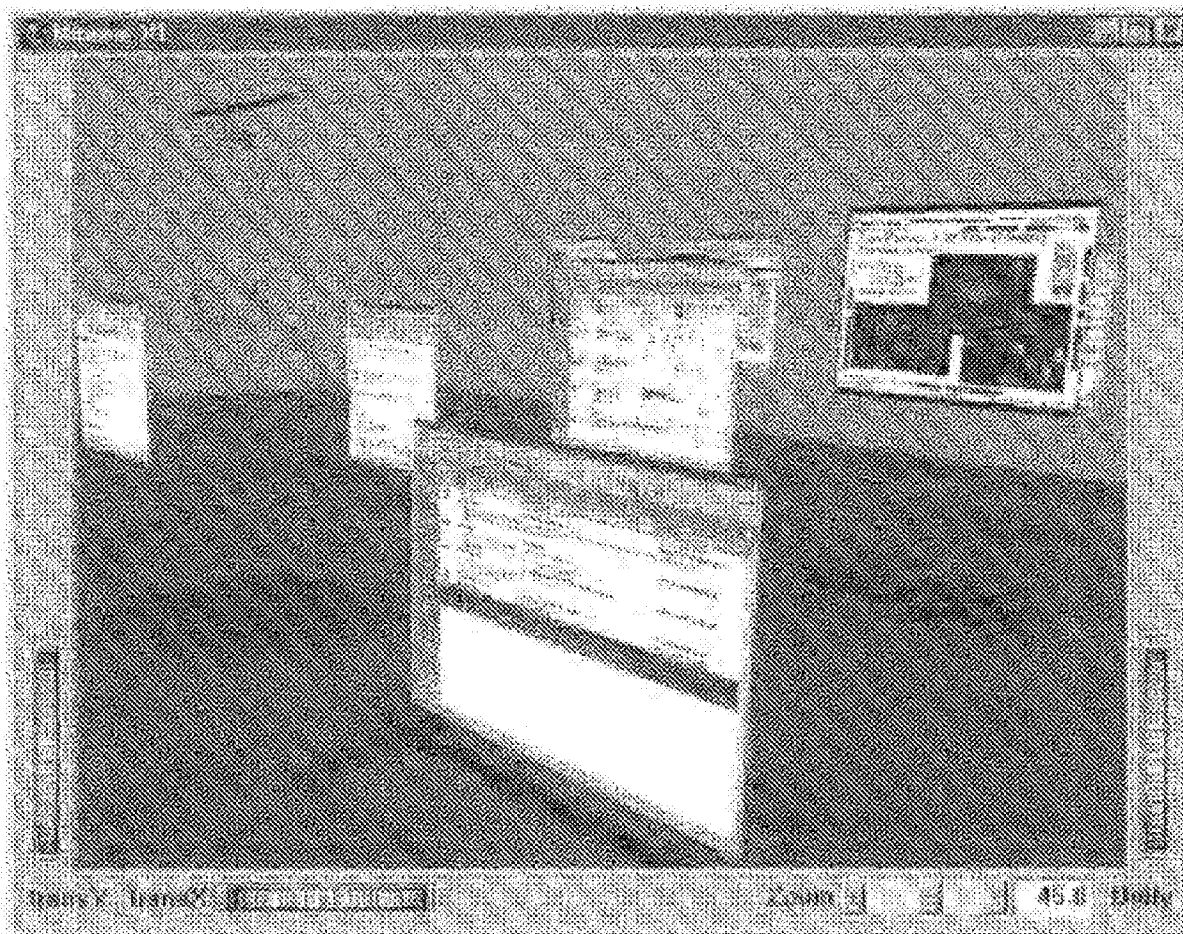
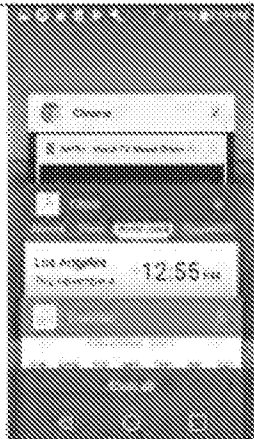


FIG. 5

Ex. 1003, at FIGS. 4, 5.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim is satisfied when the image of the Calculator is smaller and behind the image of the Mail application on Apple Watch. *See* Ex. 1020, at 194-96, 233-35; Ex. 1025, at 138-39, 162-63; Ex. 1011, at ¶ 187.

<p>[5] The method of claim 1, wherein a reduction in size of an object or portion thereof is used to depict said object or portion thereof as being behind at least one other object or other portion of said object.</p>	<p>The Zone 3 infringes Claim 1, as described above. Claim 5 depends from Claim 1. The Zone 3 also practices the additional limitations of Claim 5, as described below, so the Zone 3 infringes Claim 5.</p> <p>The Zone 3 depicts an object or a portion thereof as being behind at least one other object or other portion of said object by reducing the size of the said first object or portion thereof. For example, in the image below, the image of the Chrome application is smaller in size and is depicted as being behind a portion of the image of the Clock application. The portion of the image of the Clock application, in turn, is smaller in size and is depicted as being behind a portion of the image of the Calendar application.</p>
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	 <p>Likewise, for Chrome, in the image below, the image of the hulu.com webpage is smaller in size and is depicted as being behind a portion of the image of the lg.com webpage. The portion of the image of the lg.com webpage, in turn, is smaller in size and is depicted as being behind a portion of the image of the netflix.com webpage.</p>
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Ex. 1020, at 194-96 (excerpt of infringement contentions of the LG Litigation).

[5] The method of claim 1, wherein a reduction in size of an object or portion thereof is used to depict said object or portion thereof as being behind at least one other object or other portion of said object.	<p>The Apple Watch infringes Claim 1, as described above. Claim 5 depends from Claim 1. The Apple Watch also practices the additional limitations of Claim 5, as described below, so the Apple Watch infringes Claim 5.</p> <p>The Apple Watch depicts an object or a portion thereof as being behind at least one other object or other portion of said object by reducing the size of the said first object or portion thereof. For example, in the image below, the image of the Calculator application is smaller in size and is depicted as being behind a portion of the image of the Mail application. The portion of the image of</p>
	<p>the Clock application, in turn, is smaller in size and is depicted being behind a portion of the image of the Calculator application.</p> 

Ex. 1025, at 138-39 (excerpt of infringement contentions of the Apple Litigation).

7. Claim 6

Claim 6 is rendered obvious by *Miller '542* in view of *Mastering Windows* under the broadest reasonable interpretation. Ex. 1011, at ¶ 188.

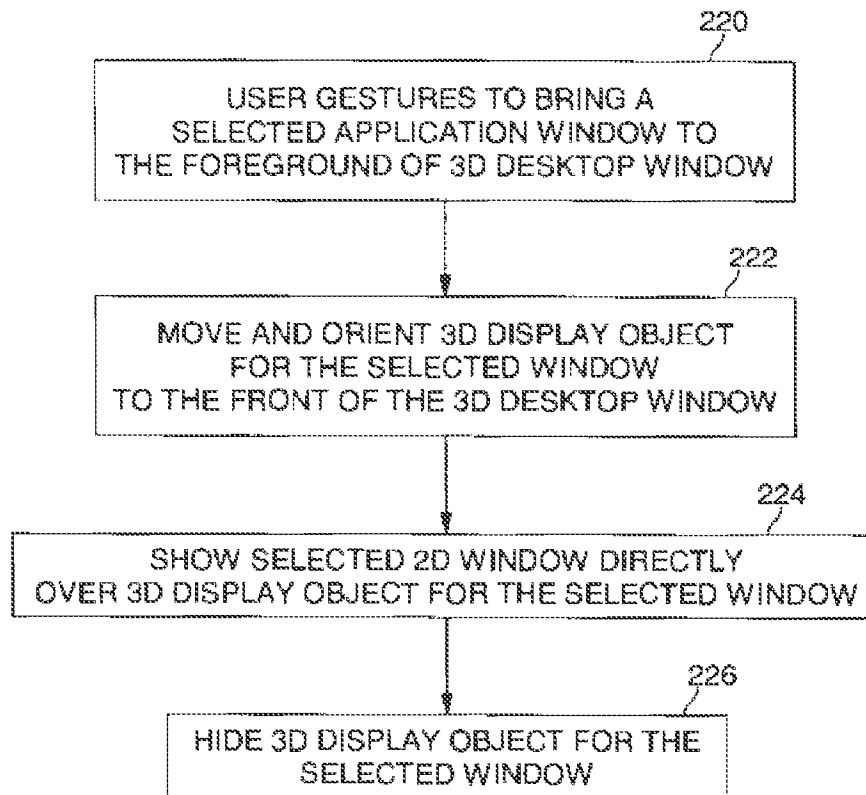
- a. Claim 6[a]: “The method of claim 1, further comprising the steps of: displaying a fourth image on said display device, said fourth image being an image of a desktop having at least one other application; and”**

Mastering Windows discloses Remote Desktop, an application that displays another user’s screen and lets the local user control the remote computer. Ex. 1005, at 931-33 (“For example, if your computer at work runs XP Professional and your computer at home runs XP Home, you could connect from your home computer to your work computer.”); Ex. 1011, at ¶ 189. *Mastering Windows* also teaches the remote desktop could have at least one other application by disclosing a user could switch “between programs” in the remote desktop. Ex. 1005, at 942; Ex. 1011, at ¶ 189.

It would have been obvious to incorporate Remote Desktop into the 3D space of *Miller '542* because Remote Desktop was a well-known feature of Windows XP (Ex. 1005, at 931), and a POSITA would be motivated to provide this well-known remote desktop feature to users of the *Miller '542* system to allow a user to access and control one computer from another computer. Ex. 1005, at 931-33; *supra* § VI.A.1; Ex. 1011, at ¶ 190. The window image of the remote desktop in the 3D space of *Miller '542* would be the recited “fourth image.” The applications opened in the remote desktop would be the recited “at least one other application.”

- b. Claim 6[b]: “allowing said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.”**

As established in limitation 1[h]-1[j], *Miller '542* alone or in view of *Mastering Windows* describes bringing the selected window from the 2D space to the front of the 3D display. Ex. 1003, at 3:26-30, 3:39-45, 3:33-36, 7:33-37, FIG. 8, 6:7-31, 7:20-51; Ex. 1005, at 964; Ex. 1011, at ¶ 191.

**FIG. 8**

Ex. 1003, at FIG. 8.

It would have been obvious to a POSITA to select the window of the Remote Desktop (the recited “allowing said user to select said fourth image”) in the 3D space of *Miller '542* as described above in claim 6[a]. Ex. 1011, at ¶ 192. Upon doing so, the Remote Desktop window would be brought into focus in the 2D display (the recited “replacing said fourth image with said desktop in response to said selection”). See limitation 1[h]-1[j]. *Mastering Windows* also discloses a user could select and open an application in the Remote Desktop (the recited “receiving an interaction from said user with said other application, and opening said other application in response to said interaction”). Ex. 1005, at 942 (“Once you’ve reached the remote Desktop, you can work more or

less as if you were sitting at the computer.”) A POSITA would be motivated to provide this functionality in the *Miller* '542 system to provide assistance to a remote user, described above in claim 6[a]. Ex. 1011, at ¶ 192.

- 8. Claim 7: “The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.”**

Miller '542 alone in view of *Holecek* and/or *Mastering Windows* renders obvious this limitation under the broadest reasonable interpretation of the claims. Ex. 1011, at ¶ 193.

For example, Figure 1 of *Miller* '542 shows a Netscape web browser. Ex. 1003, FIG. 1; Ex. 1011, at ¶ 194.

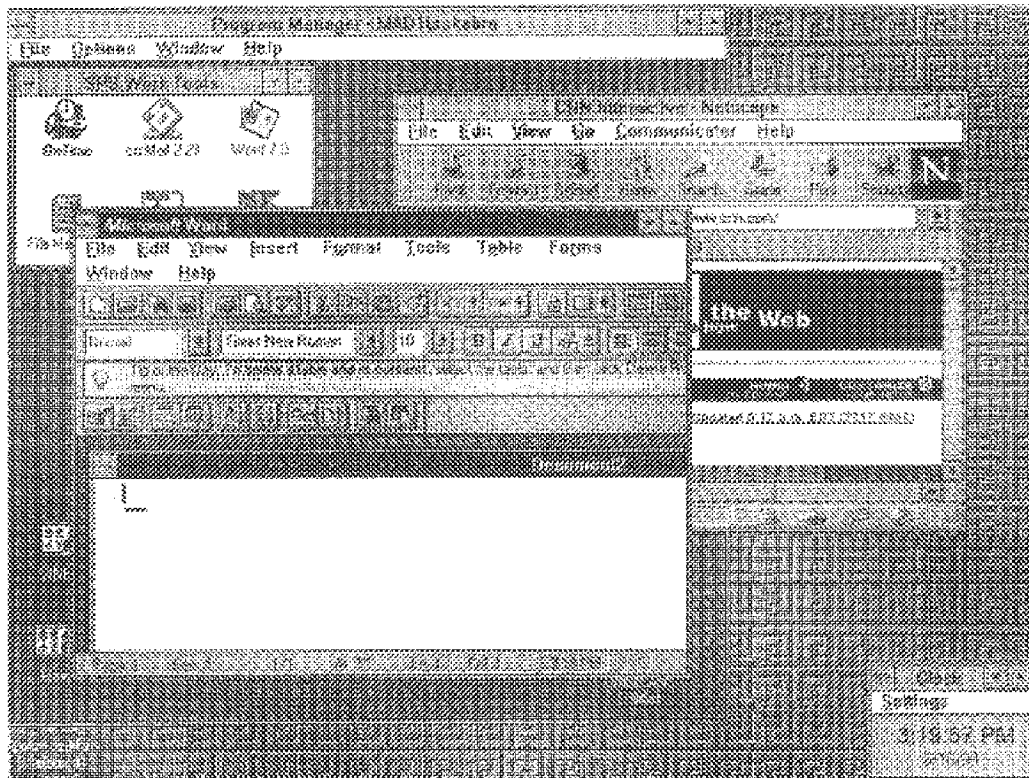


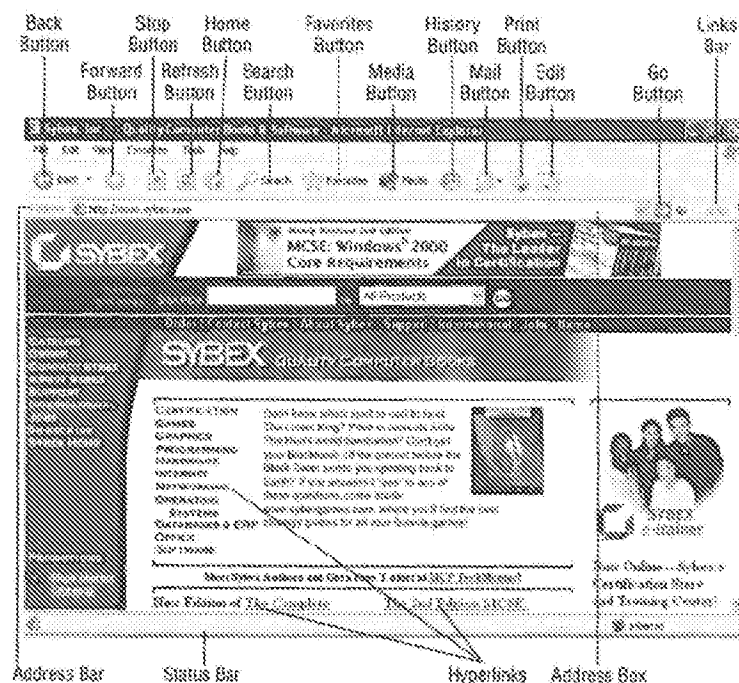
FIG. 1
(Prior Art)

Ex. 1003, at FIG. 1.

Similarly, *Holecsek* discloses that “[a]ny of various conventional web browsers can be used to display and manipulate data on web pages.” Ex. 1004, at 5:14-22. *Mastering Windows* also discloses that program applications comprises web browser applications. Ex. 1005, at 575 (FIG. 19.1). Ex. 1011, at ¶ 195.

FIGURE 19.1

The main features of the Internet Explorer window

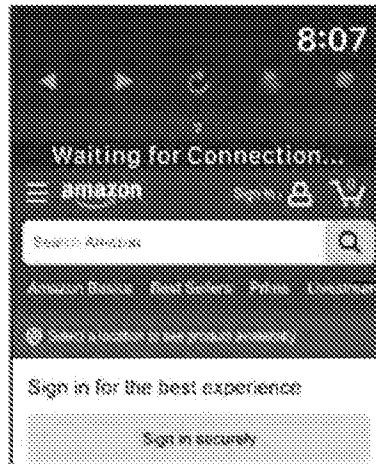


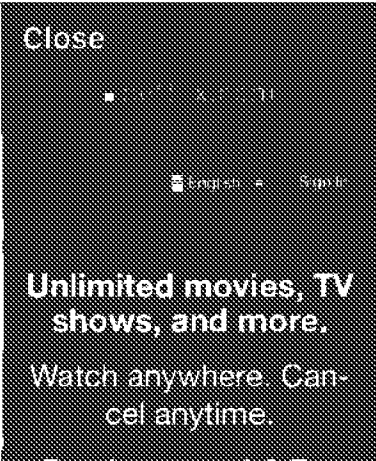
Ex. 1005, at 575 (FIG. 19.1).

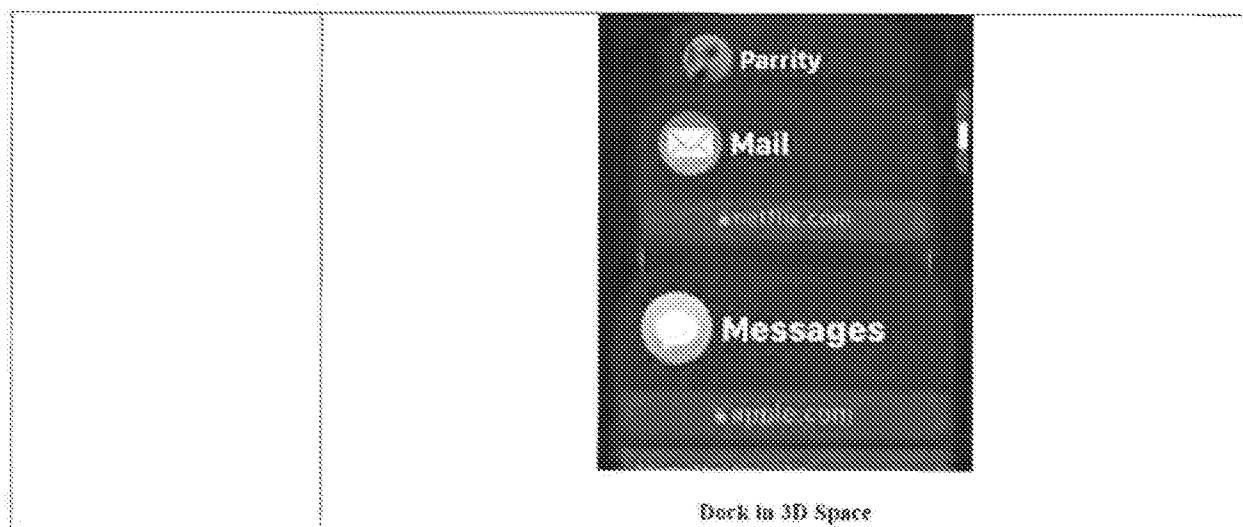
In light of these disclosures, it would have been obvious to a POSITA to open three different web browser application instances in the 3D system of *Miller '542*. Ex. 1011, at ¶ 196. For example, a POSITA could have done this by opening an Internet Explorer window, a Netscape window, and a Mozilla window, and a POSITA would have known different web browsers often print web pages differently, especially a web page's images and frames. Ex. 1011, at ¶ 196. This would have led a POSITA to open multiple browsers to determine which browser best prints a

given web page. *Id.* A POSITA may also open three different webpages using the same web browser, e.g., Internet Explorer. Doing so would allow a POSITA to view three different webpages without navigating away from a webpage previously opened in Internet Explorer. It would have been well within the skill of a POSITA, would have led to predictable results, and would have been fully compatible with the system described in *Miller '542*. Ex. 1011, at ¶ 196.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations, where Patent Owner contended that this claim can be satisfied by opening three webpages (e.g., Parrrity, Mail, and Messages). *See* Ex. 1025, at 139-43, 163-67; Ex. 1020, at 196-98, 235-37; Ex. 1011, at ¶ 197.

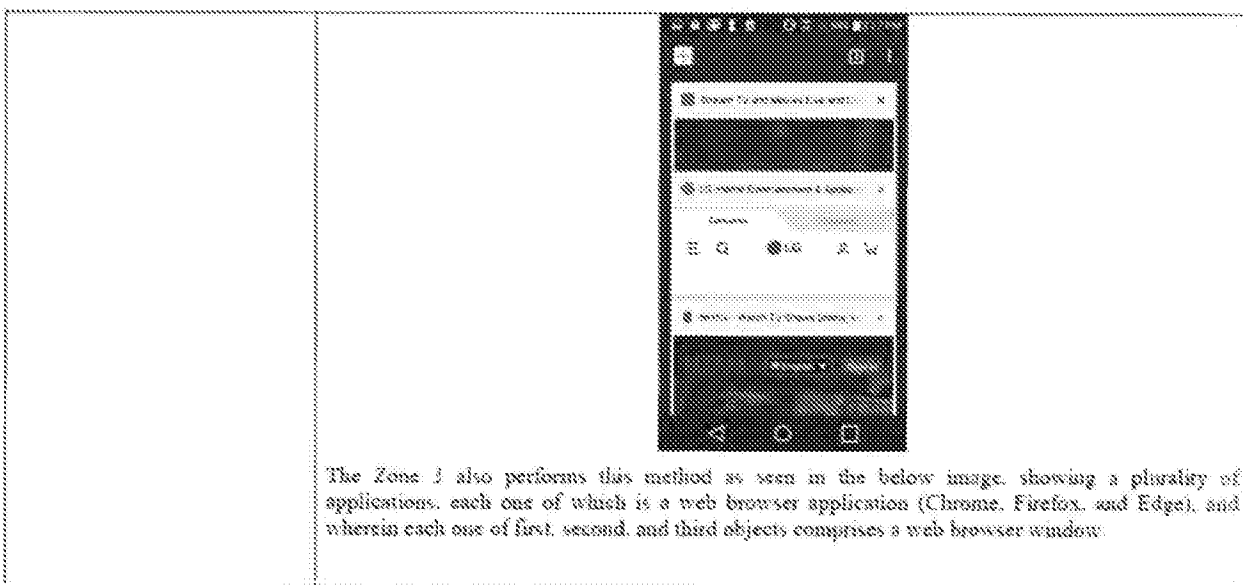
<p>[7] The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.</p>	<p>The Apple Watch infringes Claim 1, as described above. Claim 7 depends from Claim 1. The Apple Watch also practices the additional limitations of Claim 7, as described below, so the Apple Watch infringes Claim 7.</p> <p>The Apple Watch performs the method wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window. For example, in the first image below, the Apple Watch has opened the Parrrity application, which is a web browser for the Apple Watch available in the App Store. <i>See, e.g.,</i> https://apps.apple.com/us/app/parrrity/id1448268309. Parrrity displays the amazon.com webpage.</p>
	<p>In the second image below, the Apple Watch has opened the Mail application. As discussed above, the Apple Watch is preloaded with at least "WebKit," which is a browser engine developed by Apple. <i>See, e.g.,</i> https://developer.apple.com/videos/guides/vwddc2018/239/. Using WebKit, the end user can tap links to webpages in emails and text messages (e.g., via the Mail and Messages applications, which are also preloaded on the Apple Watch) to view and interact directly with webpages. <i>See, e.g.,</i> https://developer.apple.com/videos/play/vwddc2018/239/.</p> <div data-bbox="768 1331 1141 1791">  </div> <p style="text-align: center;">First Webpage in Parrrity</p>

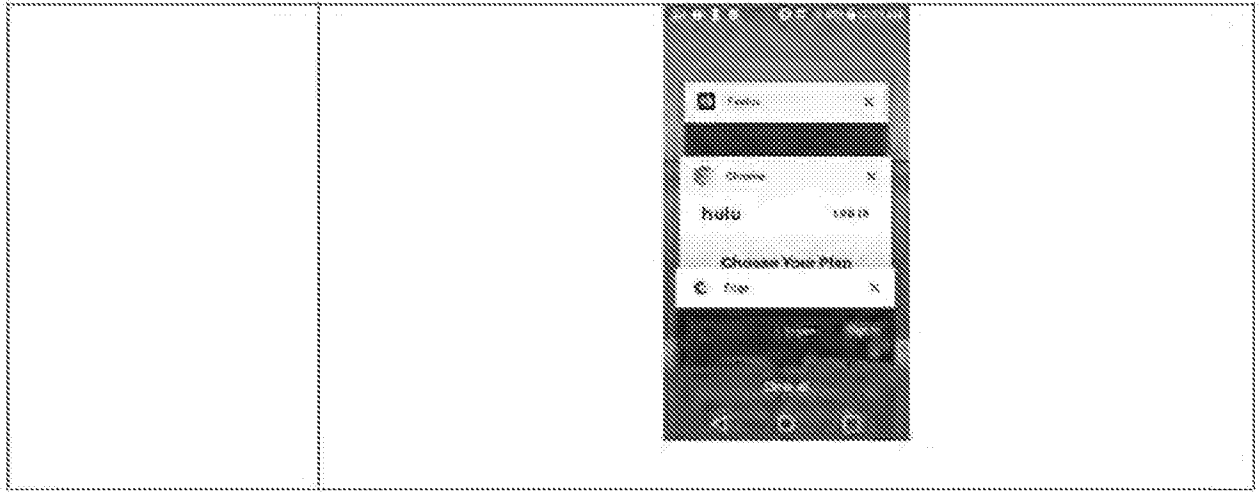
	 <p>Close</p> <p>Unlimited movies, TV shows, and more.</p> <p>Watch anywhere. Cancel anytime.</p> <p>Second Webpage in Mail</p>
<p>The Apple Watch can then be used to generate images of the first webpage (in the Parrrity application), the second webpage (in the Mail application), and the third webpage (in the Messages application), and present those images in the Dock in 3D space, in the order recited in Claim 1.</p>	 <p>Close</p> <p>MacBook Air</p> <p>Third Webpage in Messages</p>



Ex. 1025, at 139-43 (excerpt of infringement contentions of the Apple Litigation).

<p>[7] The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.</p>	<p>The Zone 3 infringes Claim 1, as described above. Claim 7 depends from Claim 1. The Zone 3 also practices the additional limitations of Claim 7, as described below, so the Zone 3 infringes Claim 7.</p> <p>The Zone 3 performs the method wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window. This can be seen in Claim 1 above and in the below image, where Chrome infringes the claim.</p>
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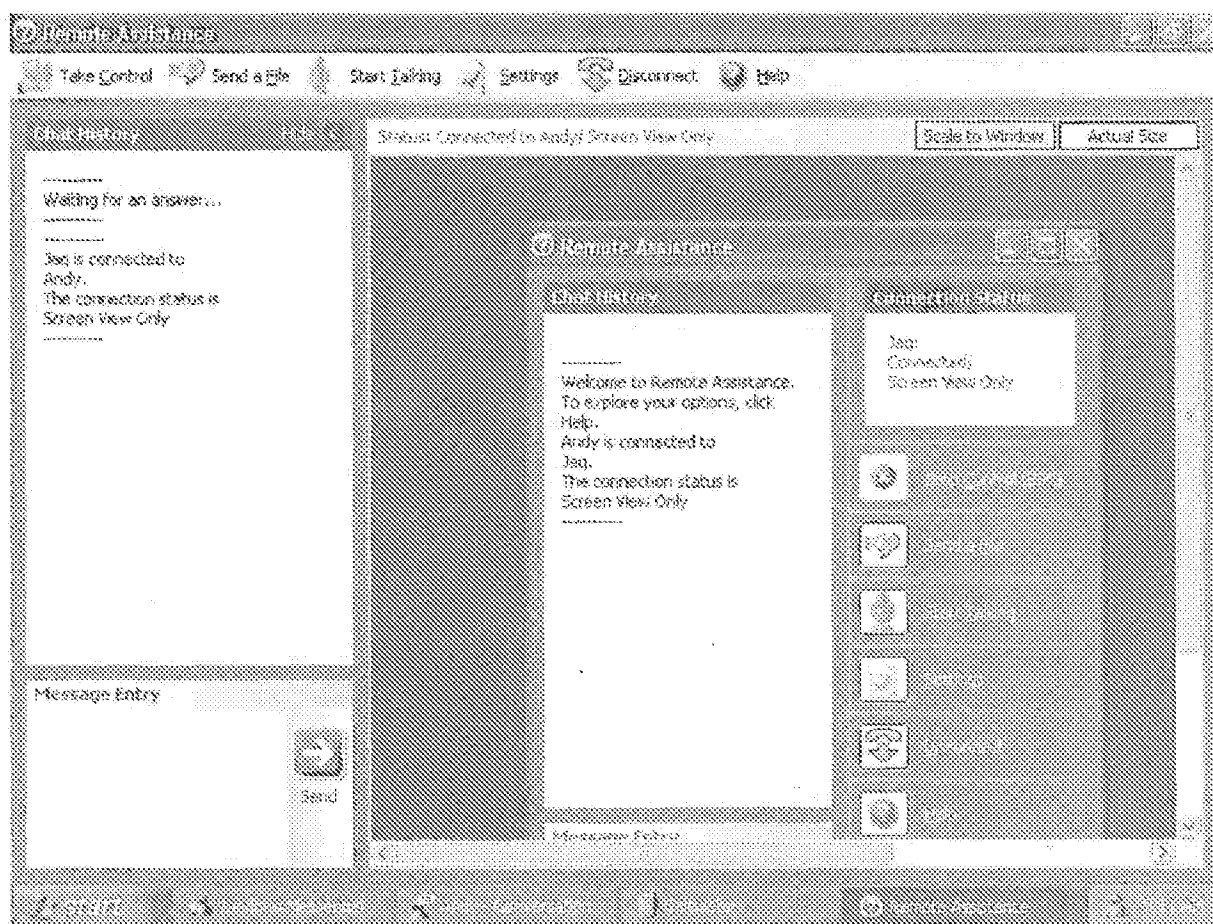
Ex. 1020, at 196-98 (excerpt of infringement contentions of the LG Litigation).

9. Claim 8

- a. Claim 8[a]: “The method of claim 7, further comprising the steps of: displaying at least fourth and fifth images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and”**

Miller '542 in view of *Holecek* and/or *Mastering Windows* renders obvious this limitation under the broadest reasonable interpretation. Ex. 1011, at ¶ 198.

Mastering Windows discloses Remote Assistance and Remote Desktop applications that display another user’s screen and lets the local user control the remote computer:



Ex. 1005, at 729-30, 743-44; *see also id.*, at 931-33; Ex. 1011, at ¶ 199.

In the 3D space of *Miller '542*, it would have been obvious to a POSITA to open three browser windows on a remote computer of a remote user, as described for claim 7. Motivation to do so arises from a desire to assist the remote user by diagnosing problems with the browsers. Ex. 1005, at 729-30, 743-44, 931-33; Ex. 1011, at ¶ 200. Additional motivation is set forth for limitations 1[a] and 1[b], claim 7, as well as in § VI.A.1. It also would have been obvious to include *Miller '542*'s 3D browsing on the remote computer and view the remote browser windows in that interface. Ex. 1011, at ¶ 200. Motivation to do so arises from the fact that the 3D space is an efficient mechanism for scanning quickly through windows. *Id.*

In this use case, the recited “fourth image” is the window corresponding to the Remote Assistance application window or the Remote Desktop window in 3D space. Ex. 1011, at ¶ 201. This fourth image would show the remote computer’s three browser windows in a 3D space. These nested skewed browser windows images are the recited “plurality of images.” The remote computer’s 3D space is the “3D space” of claim 1. The local computer’s 3D space is the recited “second 3D immersive space.” The recited “fifth image” is a skewed image in the local 3D space corresponding to a “fourth application” opened by the user locally, as disclosed in Figure 5 of *Miller* ’542. See also limitation 1[b].

It would have been obvious to incorporate Remote Assistance and/or Remote Desktop into the 3D space of *Miller* ’542 because Remote Assistance/Remote Desktop were features of Windows XP (*Mastering Windows*, at 729 and 931), and a POSITA would be motivated to provide this well-known remote assistance or remote desktop features to users of the *Miller* ’542 system to allow a user to access and control one computer from another computer. Ex. 1005, at 729-30, 743-44, 931-33; *supra* § VI.A.1; Ex. 1011, at ¶ 202.

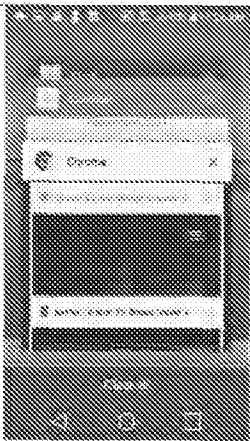
If the Patent Office finds that a Remote Assistance window is not an “image” due to its interactive features, then it would have been obvious to a POSITA to disable those interactive features unless and until a user clicks on the window to activate it and its interactive features. Ex. 1011, at ¶ 203.

Alternatively, *Holecek* also discloses dividing the screen real estate into subsections. Ex. 1004, at 11:56-67 (“[A] subset of the open (visible or hidden) windows could be browsed through. . . . In these scenarios, the windows on the desktop could be segmented into a particular group and the browsing would only be carried out among those windows in the particular group. The screen real estate could be used entirely for the browsing action or could be subdivided as

needed. Thus, in certain implementations, only the windows for a certain group would be present in the visual stack.”). It would have been obvious to a POSITA to use the teaching of dividing the screen real estate in *Holecek* to divide the 3D immersive space in *Miller* ’542 into multiple sub-section 3D immersive spaces, where only images of a subset of windows would be displayed in each sub-section 3D space. Ex. 1011, at ¶ 204. For example, all Internet Explorer web pages could be grouped into one subsection of 3D immersive space. The “fourth image” could be the window image of this subsection of 3D immersive space for Internet Explorer web pages, which is within the entire 3D space, the recited “second 3D immersive space.” This subsection of 3D immersive space may include a first, second, and third windows images corresponding to three Internet Explorer web pages. The fourth image of the Internet Explorer sub-section 3D space could be used to interact with the first, second, or third Internet Explorer web page images. The “fifth image” is another window corresponding to a “fourth application,” which is not an Internet Explorer web page and is outside the Internet Explorer subsection 3D space. Ex. 1011, at ¶ 204.

This mapping corresponds to similar view Patent Owner took in its infringement contentions served in the LG litigation. Ex. 1020, at 198-99 (“[T]he Zone 3 displays a fourth image (i.e. the image of Chrome) which in itself contains an image of a plurality of images within a 3D immersive space (i.e. images of hulu.com and netflix.com). The Zone 3 further displays at least a fifth image (i.e. the image of Calendar).”), 237-38; Ex. 1011, at ¶ 205.

Claim 8	
[8 – Preamble] The method of claim 7, further comprising the steps of:	The Zone 3 infringes Claim 7, as described above. Claim 8 depends from Claim 7. The Zone 3 also practices the additional limitations of Claim 8, as described below, so the Zone 3 infringes Claim 8.
[8-a] displaying at least fourth and fifth images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened	<p>The Zone 3 displays at least fourth and fifth images in a second 3D immersive space, where the fourth image is an image of said plurality of images within said 3D immersive space and the fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by the user.</p> <p>For example, in the image below, the Zone 3 displays a fourth image (i.e. the image of Chrome) which in itself contains an image of a plurality of images within a 3D immersive space (i.e. images of hulu.com and netflix.com). The Zone 3 further displays at least a fifth image (i.e. the image of Calendar).</p>

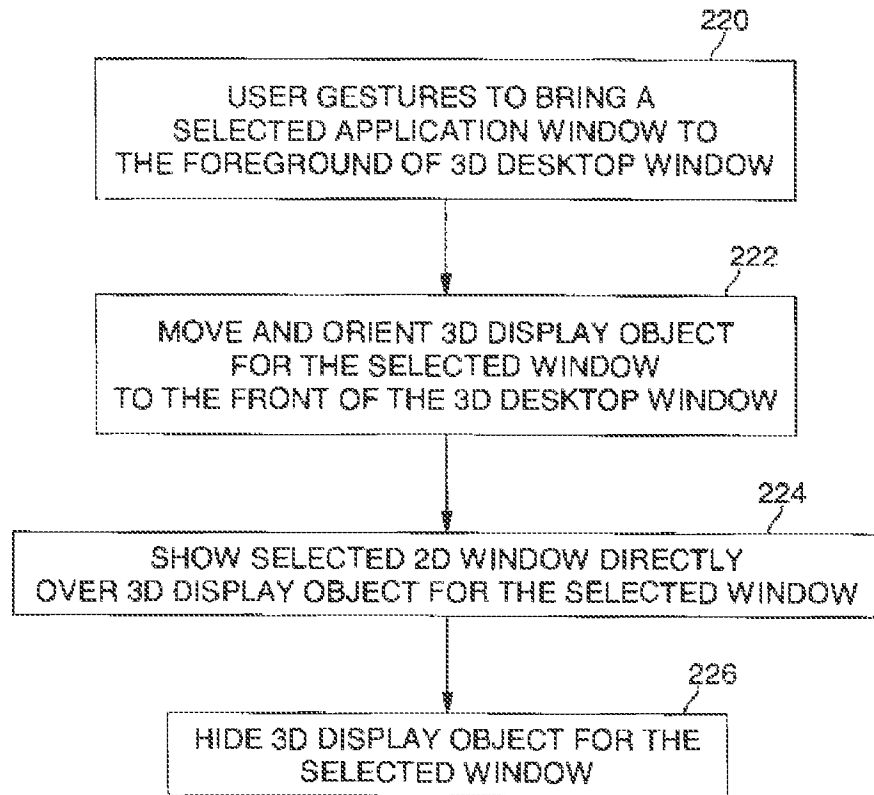
by said user; and	
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Ex. 1020, at 198-99 (excerpt of infringement contentions of the LG Litigation).

- b. Claim 8[b]: “allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”**

Miller '542 in view of *Holecek* and/or *Mastering Windows* renders obvious this limitation under the broadest reasonable interpretation. Ex. 1011, at ¶ 206.

As established in limitation 1[h]-1[j], *Miller '542* alone or in view of *Mastering Windows* describes bringing the selected window from the 2D space to the front of the 3D display. Ex. 1003, at 3:26-30, 3:39-45, 3:33-36, 7:33-37, FIG. 8, 6:7-31, 7:20-51; Ex. 1005, at 964; Ex. 1011, at ¶ 207.

**FIG. 8**

Ex. 1003, at FIG. 8.

Holecek also discloses the user may select any skewed image in Figure 2B to bring the corresponding application window into focus in the 2D environment (Figure 2A). Ex. 1011, at ¶ 208.

It would have been obvious to a POSITA to select the window (the fourth image) corresponding to the Remote Assistance/Remote Desktop window in the 3D space of *Miller* '542 as described above in claim 8[a]. Ex. 1011, at ¶ 209. Upon doing so, the Remote Assistance/Remote Desktop window would be brought into focus in the 2D display. *See* limitation

1[h]-1[j]. A POSITA would be motivated to provide this functionality in the *Miller '542* system to provide assistance to a remote user, described above in claim 8[a]. Ex. 1011, at ¶ 209.

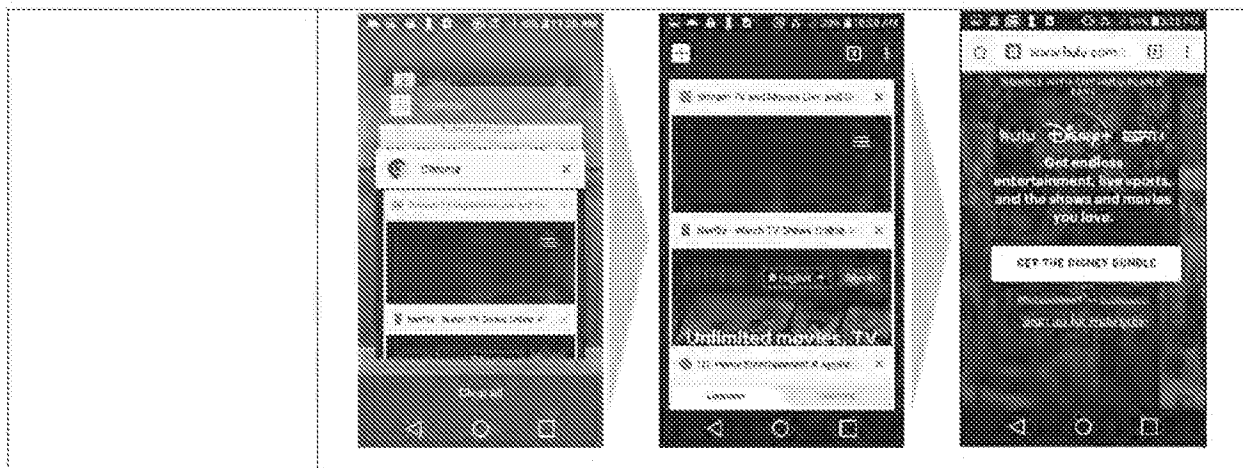
It also would have been obvious to a POSITA to select one of the windows in the 3D space of the remote computer (the recited “selecting said one of said plurality of images”). Motivation to do so arises out of a desire to use one of the applications in those windows when providing assistance to the remote user. Ex. 1011, at ¶ 210. The remote computer would then display the selected browser application in focus in a 2D display. *See* limitation 1[h]-1[j]. It would have been obvious for a POSITA to interact with that browser window via Remote Assistance/Remote desktop for the same reasons the POSITA opened the remote browser window in the first place, including to provide assistance to the remote user relating to the browser window. *See* limitations 1[h]-1[j]; Ex. 1011, at ¶ 210.

This limitation is also obvious to a POSITA over *Miller '542* in view of *Holecek*. Ex. 1011, at ¶ 211. As discussed in limitation 8[a], it would have been obvious to a POSITA to combine *Holecek* and *Miller '542* to divide the 3D immersive space in *Miller '542* into multiple sub-section 3D immersive spaces. *Id.* For example, one of the sub-section 3D immersive spaces may group all websites opened by Internet Explorer. It would have been obvious for a POSITA to select the window of this sub-section 3D space (the fourth image), and interact with all the different websites opened by Internet Explorer (said plurality of images corresponding to said one of said plurality of applications) in this sub-section 3D space. *Id.* It would have been obvious to a POSITA that there could be at least three different websites (said one of said first, second, and third objects corresponding to said one of said plurality of applications). *Id.*

This teaching is also similar to Patent Owner’s argument in its infringement contentions served in the LG litigation, where the Patent Owner argued that this limitation is infringed when

“if the user wants to interact with the hulu.com webpage session, the user first selects the image of the Chrome application from the images of the plurality of open applications (Clock, Calendar, and Chrome), and then selects the image of the hulu.com webpage session from the images of the plurality of webpage sessions (hulu.com, netflix.com, and lg.com).” Ex. 1020, at 199-200, 238-39; Ex. 1011, at ¶ 212.

<p>[8-b] allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.</p>	<p>The Zone 3 allows the user to interact with one of said first, second, and third applications by selecting a fourth image, selecting one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to one of said plurality of applications.</p> <p>For example, in the image below, if the user wants to interact with the hulu.com webpage session, the user first selects the image of the Chrome application from the images of the plurality of open applications (Clock, Calendar, and Chrome), and then selects the image of the hulu.com webpage session from the images of the plurality of webpage sessions (hulu.com, netflix.com, and lg.com).</p>
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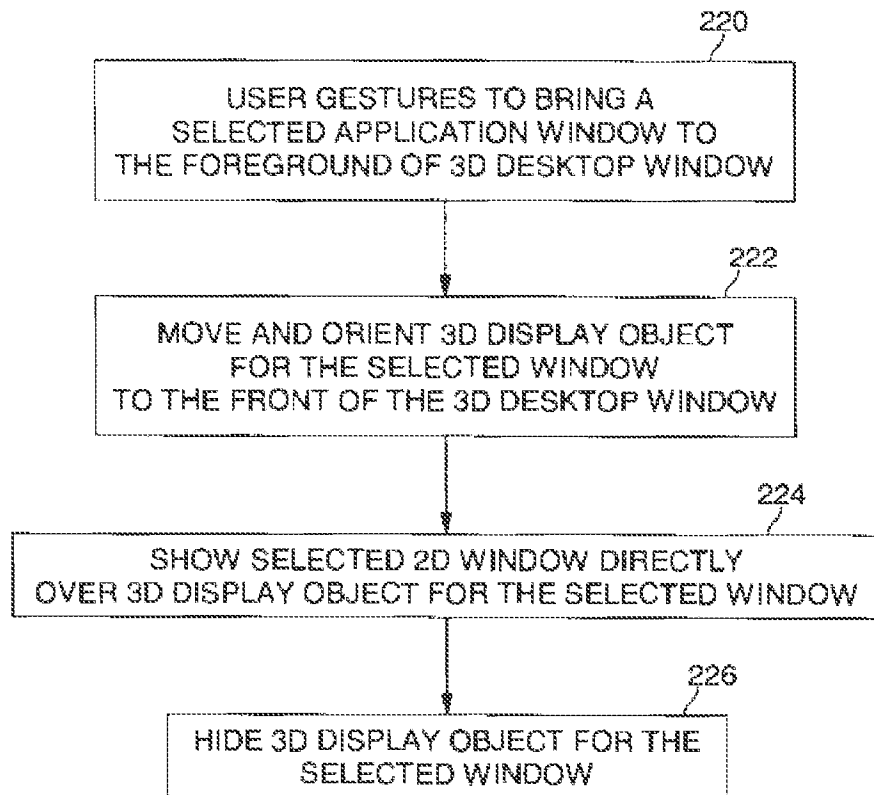


Ex. 1020, at 199-200 (excerpt of infringement contentions of the LG Litigation).

10. **Claim 9: “The method of claim 1, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.”**

Under the broadest reasonable interpretation, *Miller '542* alone or in view of *Holecek* and *Mastering Windows* renders obvious this limitation. Ex. 1011, at ¶ 213.

As discussed in claim 1[j], *Miller '542* discloses, in response to a user interaction, a selected 2D windows is “brought to the **foreground**” and “is **positioned over the top** of the 3D display object.” Ex. 1003, at 3:39-45, 3:26-30, 3:33-36 (emphases added). The “3D display object for the selected window is hidden from current display.” *Id.*, at 7:33-37, FIG. 8; *see also id.*, at 6:7-31, 7:20-51; Ex. 1011, at ¶ 214.

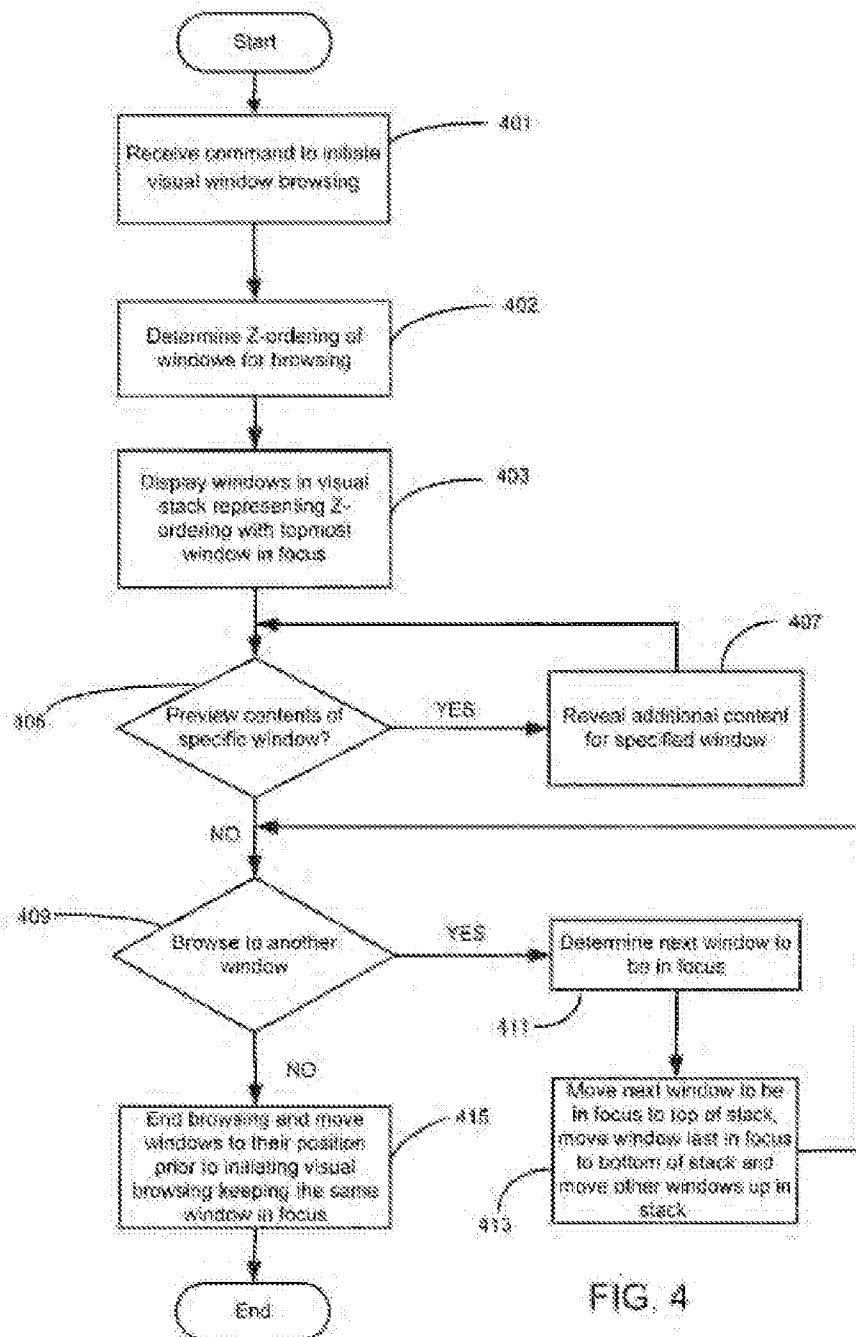
**FIG. 8**

Ex. 1003, at FIG. 8.

Miller '542 further discloses “[b]ecause of ‘perspective foreshadowing’, objects appear **visually smaller** when they are further away.” *Id.*, at 3:8-14 (emphases added). Thus, *Miller* '542 teaches or suggests the claimed “enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.” Ex. 1011, at ¶215.

In addition, *Holecsek* discloses maximized windows in the 2D display are scaled down for the 3D visual browsing display. *See* Ex. 1004, at 11:24-27; *see also id.*, at 13:25-28 (“[T]he

windows may animate back to their [2D] presentation prior to initiating visual window browsing (FIG. 2A)”), FIG. 4 (step 415). In light of these disclosures, in the use case described for limitation 1[h]-1[j], where the 3D display transitions to a 2D display with a maximized window, a POSITA would have understood *Holecek*’s transition animation to the prior presentation necessarily would **enlarge** the size of the appropriate skewed image in the 3D display and eventually **replace** the skewed image with a maximized application instance (object) in the 2D display. Ex. 1011, at ¶ 217. For example, the skewed image would be enlarged because it is smaller than the corresponding maximized application instance (object). Ex. 1004, at 11:24-27. Applying this functionality in the 3D space of *Miller* ’542 would result in this limitation being performed. Ex. 1011, at ¶ 216.



Ex. 1004, at FIG. 4 (step 415).

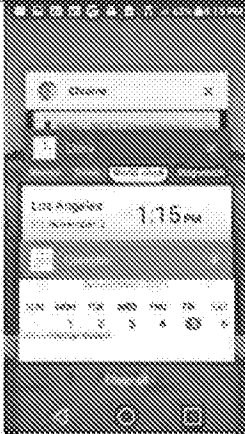
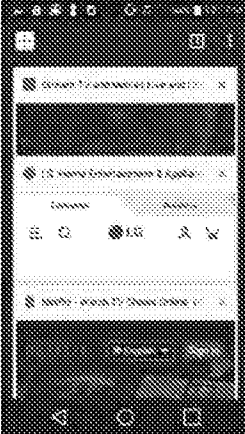
A POSITA would have been motivated to provide the functionality in *Miller '542*, as the animation described in *Holecsek* is visually interesting for the user and helps the user track movement and placement of windows within the desktop. Ex. 1011, at ¶ 217.

Further, *Mastering Windows* discloses a “Maximize button to maximize its window. XP expands the window to take up all the Desktop and replaces the Maximize button with Restore Down button.” Ex. 1005, at 964. It would have been obvious to a POSITA that maximizing a window as described in *Mastering Windows* causes the window (image) to enlarge in the 3D display and eventually replace the skewed image with a maximized application instance (object) in the 2D display as established in claim limitations 1[h]-1[j]. Ex. 1011, at ¶ 218. Applying this functionality in the 3D space of *Miller ’542* would result in this limitation being performed.

Moreover, a POSITA would have understood something moving along the z-axis is orthogonal to the plane of the display and appears larger to the user as it moves closer to the user. *Id.*, at ¶ 219. A POSITA would have understood enlarging the skewed image and replacing it with the maximized application instance (object) simulates movement of the skewed image along the z-axis in a direction towards the user. *Id.*

These disclosures are also similar to the Patent Owner’s own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied when the Apple Watch enlarges the size of the selected app. *See* Ex. 1020, at 200-02, 239-41, 262-64; Ex. 1025, at 143-44, 167-68, 180-81; Ex. 1011, at ¶ 220.

<p>[9] The method of claim 1, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display</p>	<p>The Zone 3 infringes Claim 1, as described above. Claim 9 depends from Claim 1. The Zone 3 also practices the additional limitations of Claim 9, as described below, so the Zone 3 infringes Claim 9.</p> <p>The Zone 3 enlarges the size of at least said one of the plurality of images before replacing the plurality of images with one of the first, second, or third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.</p> <p>For example, the Zone 3 can receive a user input of selecting an open application by tapping on the application’s corresponding image from the stack. The stack can be seen in the image below.</p>
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device	 <p>After the Zone 3 receives an input (for example, the user tapping on the image of the Calendar application), the Zone 3 enlarges the size of the image of the application that was tapped, thereby simulating movement of the image in the z-axis of the display, before replacing the image with the corresponding object in 2D.</p> <p>Likewise, Chrome can receive a user input of selecting an open webpage by tapping on the webpage's corresponding image from the stack. The stack can be seen in the image below.</p>
	 <p>After Chrome receives an input (for example, the user tapping on the image of the netflix.com webpage), Chrome enlarges the size of the image of the webpage that was tapped, thereby simulating movement of the image in the z-axis of the display, before replacing the image with the corresponding object in 2D.</p>

Ex. 1020, at 200-02 (excerpt of infringement contentions of the LG Litigation).

<p>[9] The method of claim 1, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby</p>	<p>The Apple Watch infringes Claim 1, as described above. Claim 9 depends from Claim 1. The Apple Watch also practices the additional limitations of Claim 9, as described below, so the Apple Watch infringes Claim 9.</p> <p>The Apple Watch enlarges the size of at least said one of the plurality of images before replacing the plurality of images with one of the first, second, or third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.</p> <p>For example, the Apple Watch can receive a user input of selecting an open application by tapping on the application's corresponding image from the Dock. The Dock can be seen in the image below.</p>
<p>simulating movement of said one of said plurality of images in a z-axis of said display device.</p>	<div data-bbox="771 514 1144 976" data-label="Image"> </div> <p>After the Apple Watch receives an input (for example, the user tapping on the image of the Calculator application), the Apple Watch enlarges the size of the image of the application that was tapped, thereby simulating movement of the image in the z-axis of the display, before replacing the image with the corresponding object in 2D space.</p>

Ex. 1025, at 143-44 (excerpt of infringement contentions of the Apple Litigation).

11. Independent Claim 10

Miller '542 in view of *Holecek* and *Mastering Windows* renders obvious claim 10 under the broadest reasonable interpretation. Ex. 1011, at ¶221. Motivation for combining *Miller '542*, *Holecek*, and *Mastering Windows* is discussed in § VI.A.1.

- a. **Claim 10[preamble]: “A system for using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a computing device and a three-dimensional (3D) space to switch between said plurality of application, comprising:”**

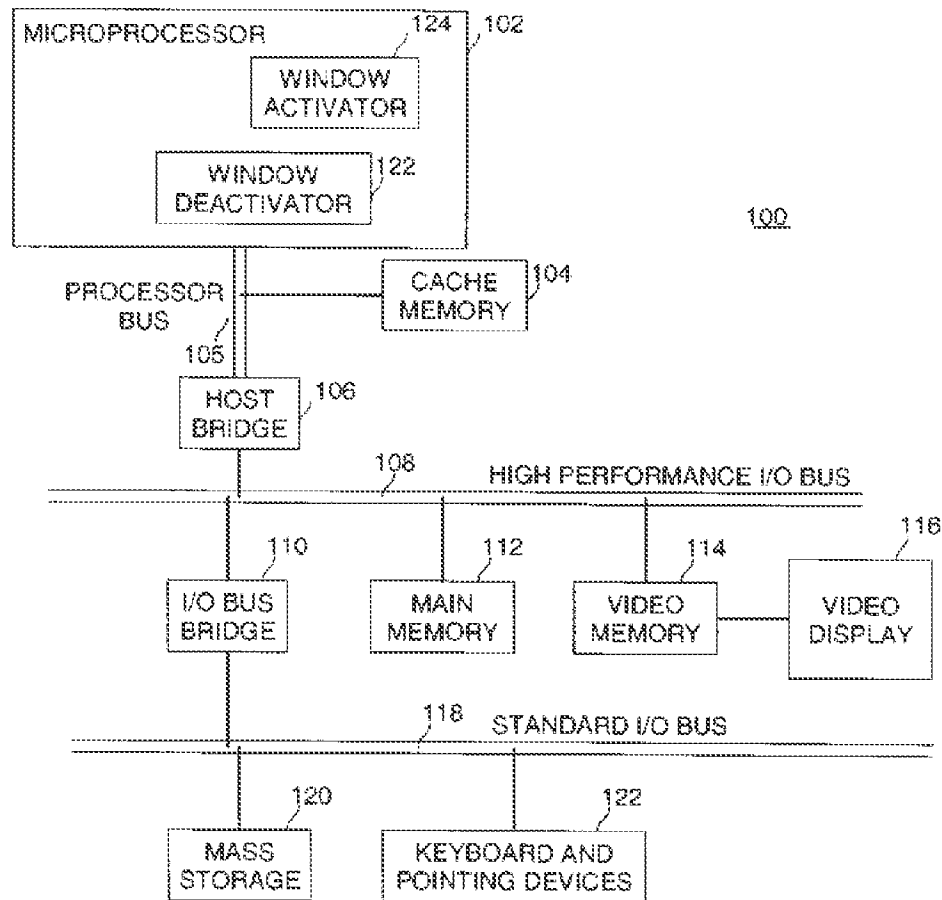
To the extent this preamble is limiting, it is disclosed by *Miller '542*, *Holecek*, and/or *Mastering Windows* under the broadest reasonable interpretation. Ex. 1011, at ¶ 222.

Miller '542 discloses that “FIG. 6 is a diagram illustrating a sample computer system suitable to be programmed according to an embodiment of a method for managing windows in 3D within a 2D windowing system” Ex. 1003, at 4:41-44; Ex. 1011, at ¶ 223.

Similarly, *Holecek* discloses a “computing system environment 100” (system) that includes computer 110 and monitor 191 “or other type of display device” (for displaying), on which its disclosed embodiments may be implemented. Ex. 1004, at 2:43-45, 3:9-19, 4:46-48, FIG. 1A. A POSITA would have understood *Holecek*’s graphical user interfaces of Figures 2A-C and Figure 3 would be displayed on monitor 191 or other type of display device in computer system 100. This system can perform the limitations of 10[preamble] for the same reasons discussed for limitation 1[preamble]. Ex. 1011, at ¶ 224.

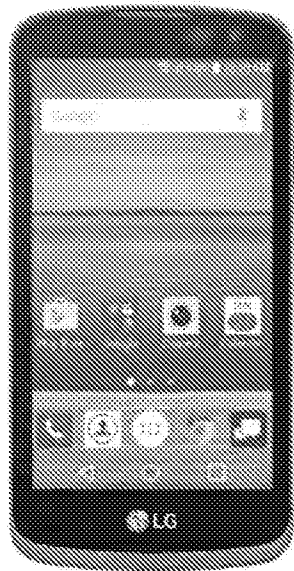
b. Claim 10[a]: “a display device;”

Under the broadest reasonable interpretation, *Miller '542* discloses a video display 116. Ex. 1003, at 4:52-5:4 (“Coupled to video memory 114 is **video display 116**.” (emphases added)), FIG. 6; Ex. 1011, at ¶ 225.

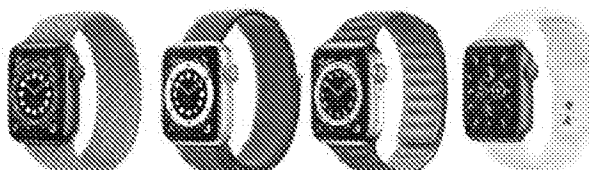
**FIG. 6**

Ex. 1003, at FIG. 6.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by the display screen of the device. Ex. 1025, at 145; Ex. 1020, at 203; Ex. 1011, at ¶ 226.

<p>[10-a] a display device;</p>	<p>The Zone 3 comprises a display screen, as seen in the image below.</p>  <p>Source: https://www.lg.com/us/cell-phones/lg-VS425PP-optimus-zone-3</p>
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Ex. 1020, at 203 (excerpt of infringement contentions in LG Litigation).

<p>[10-a] a display device;</p>	<p>The Apple Watch comprises a display screen (fixed resolution display), as seen and advertised by Apple, in the images below:</p> <p>Apple Watch Series 6 – Technical Specifications</p>  <p>Display</p> <ul style="list-style-type: none"> ▪ 44mm 368 by 448 pixels 977 sq mm display area ▪ 40mm 324 by 394 pixels 759 sq mm display area ▪ Always-On Retina LTPO OLED display 1000 nits brightness <p>Source: https://support.apple.com/kb/SP826?locale=en_US</p>
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Ex. 1025, at 145 (excerpt of infringement contentions in Apple Litigation).

c. Claim 10[b]: “at least one input device;”

Under the broadest reasonable interpretation, *Miller* '542 teaches this claim limitation by disclosing keyboard and pointing devices 122. Ex. 1003, at 4:65-5:4 (“Coupled to standard I/O bus 118 are mass storage 120, and **keyboard and pointing devices 122.**” (emphases added)), FIG. 6; Ex. 1011, at ¶ 227.

These disclosures are also similar to the Patent Owner’s own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by input devices, such as touchscreens and buttons. Ex. 1025, at 145; Ex. 1020, at 203-04; Ex. 1011, at ¶ 228.

[10-b] at least one input device.	The Zone 3 comprises at least one input device, its touchscreen, which allows multiple inputs to be entered by a user. See, e.g., Verizon LG Optimus Zone 3 User Guide, https://www.lg.com/in/support/products/documents/lg_optimus_zone_3_ug.pdf , at 18-19 (outlining multiple ways that users can interact with touchscreen, including touch or tap; touch and hold; drag; swipe, slide, or flick; double-tap; and multi-touch).
	The Zone 3 includes a “Recent Apps Button,” which pulls up a user’s recently used apps and open websites, as described in the Zone 3’s user guide. See Verizon LG Optimus Zone 3 User Guide, https://www.lg.com/in/support/products/documents/lg_optimus_zone_3_ug.pdf , at 21.

Ex. 1020, at 203-04 (excerpt of infringement contentions in LG Litigation).

[10-b] at least one input device;	The Apple Watch comprises at least one input device, its touchscreen, which allows multiple inputs to be entered by a user.
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Ex. 1025, at 145 (excerpt of infringement contentions in Apple Litigation).

d. Claim 10[c]: “at least one processor operatively coupled to said display device and said at least one input device; and”

Under the broadest reasonable interpretation, *Miller* '542 teaches this claim limitation by disclosing microprocessor 102 operatively coupled to video display 116 and keyboard and pointing devices 122. Ex. 1003, at FIG. 6, 4:41-5:4 (“Sample system 100 includes microprocessor 102 and cache memory 104 coupled to each other through processor bus 105. Sample system 100 also includes high performance I/O bus 108 and standard I/O bus 118. Processor bus 105 and high

performance I/O bus 108 are bridged by host bridge 106, whereas high performance I/O bus 108 and standard I/O bus 118 are bridged by I/O bus bridge 110. Coupled to high performance I/O bus 108 are main memory 112 and video memory 114. Coupled to video memory 114 is video display 116. Coupled to standard I/O bus 118 are mass storage 120, and keyboard and pointing devices 122.”); Ex. 1011, at ¶ 229.

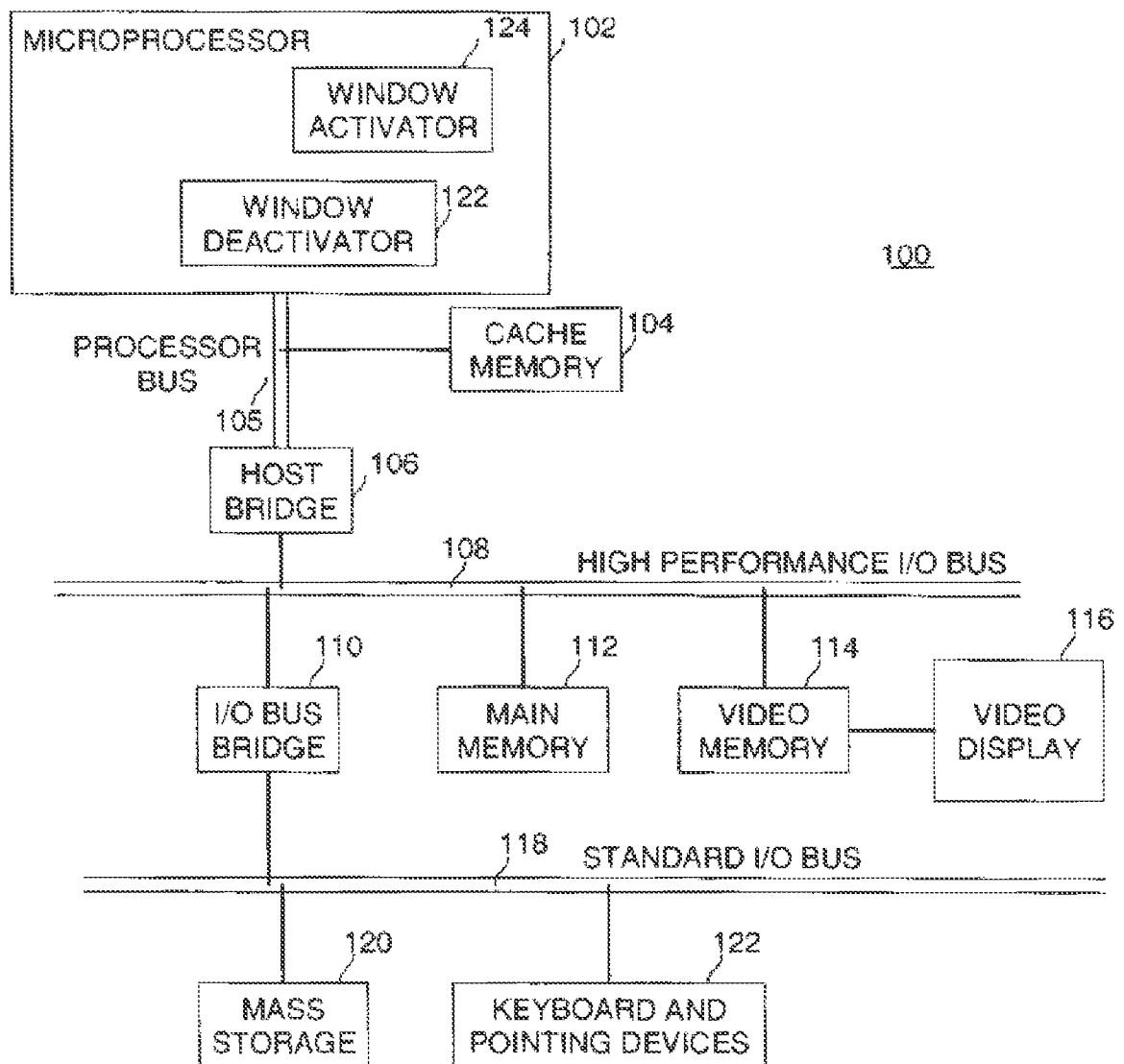


FIG. 6

Ex. 1003, at FIG. 6.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by the processor of the mobile devices. Ex. 1025, at 145-46; Ex. 1020, at 204; Ex. 1011, at ¶ 230.

[10-c] at least one processor operatively coupled to said display device and said at least one input device; and	<p>The Zone 3 comprises a processor module operatively coupled to the display screen and the user input device.</p> <p>The Zone 3 includes a 1.1 GHz Quad Core (Qualcomm M5518969) processor. See http://www.lg.com/us/cell-phones/lg-V542SPP-optimus-zone3</p> <p>The processor is operatively coupled to the display screen and the input device at least because the processor communicates, directly or indirectly, with the display screen and the input device.</p>
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Ex. 1020, at 204 (excerpt of infringement contentions in LG Litigation).

[10-c] at least one processor operatively coupled to said	The Apple Watch comprises a processor module operatively coupled to the display screen and the user input device. For example, the Apple Watch Series 6 (model A2292) includes a S6 SiP with
display device and said at least one input device; and	64-bit dual-core chip. See https://support.apple.com/kb/sp774?locale=en_US . The processor is operatively coupled to the display screen and the input device at least because the processor communicates, directly or indirectly, with the display screen and the input device.

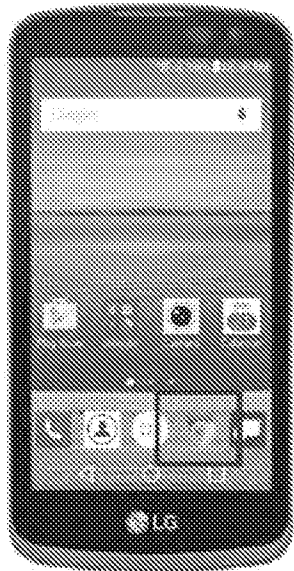
Ex. 1025, at 145-46 (excerpt of infringement contentions in Apple Litigation).

e. Claim 10[d]: “a memory device comprising executable code for:”

Under the broadest reasonable interpretation of the claims, *Miller '542* teaches this claim limitation by disclosing cache memory 104 and main memory 112 comprising executable software code. Ex. 1003, at 4:41-5:4. (“Sample system 100 includes microprocessor 102 and cache memory 104 coupled to each other through processor bus 105. Sample system 100 also includes high performance I/O bus 108 and standard I/O bus 118. Processor bus 105 and high performance I/O bus 108 are bridged by host bridge 106, whereas high performance I/O bus 108 and standard I/O bus 118 are bridged by I/O bus bridge 110. Coupled to high performance I/O bus 108 are main memory 112 and video memory 114”), FIG. 6; Ex. 1011, at ¶ 231.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied by memory of the devices. Ex. 1025, at 146-47; Ex. 1020, at 204-05; Ex. 1011, at ¶ 232.

[10-d] a memory device comprising executable code for:	The Zone 3 comprises a memory module operatively coupled to the processor module, the memory module comprising executable code for the processor module. The Zone 3 is known to include at least 1.5 GB of RAM memory modules and flash memory modules, and is also compatible with microSD, which supports up to 32 GB. See https://www.lg.com/us/cell-phones/lg-VS425PP-optimus-zone-3 . The memory module(s) comprises executable code for the processor module to execute. For example, Chrome can be seen loaded on the Zone 3 in the image below. Chrome is located within one or more or all of the memory module of the Zone 3.
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	 <p>Chrome Loaded on Zone 3</p> <p>Source: https://www.lg.com/us/cell-phones/lg-VS425PP-optimus-zone-3</p>
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Ex. 1020, at 204-05 (excerpt of infringement contentions in LG Litigation).

[10-d] a memory device comprising executable code for:	The Apple Watch comprises a memory module operatively coupled to the processor module, the memory module comprising executable code for the processor module. The Apple Watch Series 6 comes with 32GB of memory capacity.
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	<p>Features</p> <ul style="list-style-type: none"> ▪ GPS, GLASS ▪ Compass ▪ Always-on altimeter ▪ Water resistant 50 meters ▪ Blood oxygen sensor <i>iBlood Oxygen app</i> ▪ Electrical heart sensor <i>iECG app</i> ▪ Third-generation optical heart sensor ▪ International emergency calling ▪ Emergency SOS ▪ Accelerometer <i>up to 32 g-forces with fall detection</i> ▪ Gyroscope ▪ Ambient light sensor ▪ Speaker ▪ Microphone ▪ Apple Pay ▪ GymKit ▪ Capacity 32GB ▪ Ceramic and sapphire crystal back <p>Source: https://support.apple.com/kb/SP826?locale=en_US</p> <p>The memory module(s) comprises executable code for the processor module to execute. For example, the Mail, Messages, Calculator, and Clock applications can be seen loaded on the Apple Watch. See images in [1-b] above. As discussed above, WebKit is also loaded on the Apple Watch, and can be used by end users to view and interact with webpages. See, e.g., https://developer.apple.com/videos/play/wwdc2018/239.</p>
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Ex. 1025, at 146-47 (excerpt of infringement contentions in Apple Litigation).

- f. Claim 10[e]: “receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;”**

See limitation 1[a]; Ex. 1011, at ¶ 233.

- g. Claim 10[f]: “opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in said 2D space on said fixed resolution display, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;”**

See limitation 1[b]; Ex. 1011, at ¶ 234.

- h. Claim 10[g]: “allowing a user to switch between said plurality of application, comprising;**

See limitation 1[c]; Ex. 1011, at ¶ 235.

- i. Claim 10[h]: “generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;”**

See limitation 1[d]; Ex. 1011, at ¶ 236.

- j. Claim 10[i]: “replacing said object corresponding to one of said plurality of applications that is being interacted with by said user in said 2D space with said plurality of images, said plurality of images being displayed in said 3D space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein a first one in said order is displayed in a foreground of said 3D space in front of at least said second one in said order, said second one in said order is displayed in said 3D space behind at least said first one in said order, and a third one in said order is displayed in said 3D space behind at least said second one in said order;”**

See limitation 1[e]; Ex. 1011, at ¶ 237.

- k. Claim 10[j]: “allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to**

said user that said one of said plurality of images is moved off of said fixed resolution display; and”

See limitation 1[f]; Ex. 1011, at ¶ 238.

- l. Claim 10[k]: “allowing said user to delete at least one of said plurality of images from said 3D space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D space where said second one in said order was located prior to said deletion; and”**

See limitation 1[g]; Ex. 1011, at ¶ 239.

- m. Claim 10[l]: “allowing said user to interact with one of said first, second, and third applications, comprising:”**

See limitation 1[h]; Ex. 1011, at ¶ 240.

- n. Claim 10[m]: “receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;”**

See limitation 1[i]; Ex. 1011, at ¶ 241.

- o. Claim 10[n]: “replacing said plurality of images within said 3D space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space in response to said selection;”**

See limitation 1[j]; Ex. 1011, at ¶ 242.

- p. Claim 10[o]: “receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.”**

See limitation 1[k]; Ex. 1011, at ¶ 243.

- 12. Claim 11: “The system of claim 10, wherein said step of displaying said plurality of images on said display device further comprises displaying said plurality of images together with a plurality of icons and a plurality of descriptions, wherein each one of said plurality of images has a**

corresponding one of said plurality of icons and a corresponding one of said plurality of descriptions.”

See claim 2 (icons) and claim 3 (descriptions); Ex. 1011, at ¶ 244.

- 13. Claim 14: “The system of claim 10, wherein a reduction in size of an object or portion thereof is used to depict said object or portion thereof as being behind at least one other object or other portion of said object.”**

See claim 5; Ex. 1011, at ¶ 245.

14. Claim 15

- a. Claim 15[a]: “The system of claim 10, wherein said executable code is further configured to: display a fourth image on said display device in said 3D space, said fourth image being an image of a desktop having at least one other application; and”**

See claim 6[a]; Ex. 1011, at ¶ 246.

- b. Claim 15[b]: “allow said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.”**

See claim 6[b]; Ex. 1011, at ¶ 247.

- 15. Claim 16: “The system of claim 10, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.”**

See claim 7; Ex. 1011, at ¶ 248.

16. Claim 17

- a. Claim 17[a]:** “The system of claim 16, wherein said executable code is further configured to: display at least fourth and fifth images in a second 3D space, wherein said fourth image is an image of said plurality of images within said 3D space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and”

See limitation 8[a]; Ex. 1011, at ¶ 249.

- b. Claim 17[b]:** “allow said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”

See limitation 8[b]; Ex. 1011, at ¶ 250.

- 17. Claim 18:** “The system of claim 10, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.”

See claim 9; Ex. 1011, at ¶ 251.

18. Claim 19

Under the broadest reasonable interpretation, claim 19 is obvious over *Miller* '542 in view of *Holecek* and *Mastering Windows*. Ex. 1011, at ¶ 252. Motivation for combining *Miller* '542, *Holecek*, and *Mastering Windows* is discussed in § VI.A.1.

- a. **Claim 19[preamble]: “A method for using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a device and a three-dimensional (3D) space to switch between said plurality of application, comprising:”**

See limitation 1[preamble] and claim 1; Ex. 1011, at ¶ 253.

- b. **Claim 19[a]: “receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;”**

See limitation 1[a]; Ex. 1011, at ¶ 254.

- c. **Claim 19[b]: “opening said plurality of applications in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an output is generated having application-specific data, (ii) displaying said output in said 2D space on said fixed resolution display, and (iii) allowing said user to modify at least a portion of said application-specific data by interacting with said output;”**

See limitation 1[b]. The “output” element of this limitation corresponds to the “object” of limitation 1[b]. Ex. 1011, at ¶ 255.

- d. **Claim 19[c]: “allowing a user to view information on said plurality of application, comprising[:]”**

See limitation 1[c]. The “information” of this limitation is satisfied by the disclosures showing the “timeline” of limitation 1[c]. *Holecek* further discloses that “each three dimensional visual representation exposes at least **title information** for each window displayed,” referring to the window title. Ex. 1004, at 15:52-54 (emphases added)²; *see also id.*, at 10:34 (“title of the

² This passage in *Holecek*’s claim 10 dates to its application dated January 18, 2005. Ex. 1010 (Jan. 18, 2005 application from *Holecek* file history), 24 (claim 13).

window”), 13:2 (“titlebar 240 for window 210 as shown in FIG 2B”), FIG. 5, 12:63-13:2; Ex. 1011, at ¶ 256.

- e. **Claim 19[d]: “generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;”**

See limitation 1[d]; Ex. 1011, at ¶ 257.

- f. **Claim 19[e]: “replacing said output corresponding to one of said plurality of applications that is being interacted with by said user in said 2D space with said plurality of images, said plurality of images being displayed in said 3D space and in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object, wherein said 3D space comprises at least a foreground and a background, a first one in said order is displayed in said foreground, and second and third ones in said order are displayed in one of a foreground and a background;”**

See limitation 1[e]. The “output corresponding to one of said plurality of applications” in this limitation corresponds to any of the “objects corresponding to said plurality of applications” in limitation 1[e]. Ex. 1011, at ¶ 258.

- g. Claim 19[f]: “allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and”**

See limitation 1[f]; Ex. 1011, at ¶ 259.

- h. Claim 19[g]: “allowing said user to delete at least one of said plurality of images from said 3D space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D space where said second one in said order was located prior to said deletion; and,”**

See limitation 1[g]; Ex. 1011, at ¶ 260.

- i. Claim 19[h]: “allowing said user to interact with one of said first, second, and third applications, comprising:”**

See limitation 1[h]; Ex. 1011, at ¶ 261.

- j. Claim 19[i]: “receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;”**

See limitation 1[i]; Ex. 1011, at ¶ 262.

- k. Claim 19[j]: “replacing said plurality of images within said 3D space with one of said first, second, and third outputs corresponding to said one of said plurality of applications within said 2D space in response to said selection;”**

See limitation 1[j]; Ex. 1011, at ¶ 263.

- l. Claim 19[k]: “receiving at least one interaction by said user with said one of said first, second, and third outputs within said 2D space; and modifying said one of said first, second, and third application-specific data in response to said at least one interaction.”**

See limitation 1[k]; Ex. 1011, at ¶ 264.

- 19. Claim 20: “The method of claim 19, wherein said step of replacing said plurality of images with one of said first, second, and third objects, further comprises enlarging a size of at least said one of said plurality of images before replacing said one of said plurality of images with said one of said first, second, and third objects, thereby simulating movement of said one of said plurality of images in a z-axis of said display device.”**

See claim 9; Ex. 1011, at ¶ 265.

B. Ground 2: Claims 12-13 Are Obvious Over References of Ground 1 in Further View of *Dalal*.

As explained below, references of Ground 1 in further view of *Dalal* render obvious claim 1 under the broadest reasonable interpretation. Ex. 1011, at ¶ 266.

1. Motivation to Combine *Miller* '542 in view of *Holecek*, *Mastering Windows*, and *Dalal*.

A POSITA would have been motivated to combine the references of Ground 1—*Miller* '542, *Holecek*, and *Mastering Windows*—with *Dalal*. Ex. 1011, at ¶ 267. Like the '868 patent, all four references relate to GUIs on a computer display and the ability of a user to view and navigate among different windows and to interact with the windows. All four references also discuss the viewing of webpages within a window. The fact that all four references are from the same technology area and address the same set of challenges—such as how to display multiple windows in an organized manner while providing the same functionality that users are accustomed to in a 2D environment—such as the ability for a window to be updated with information—provides motivation for a POSITA to combine their teachings together. *Id.* The creation of such a combination would have been well within the skillset of a POSITA at the time of the invention and would require no undue experimentation. *Id.* Further, such a combination would have an easily predictable result. Accordingly, a POSITA would have had a reasonable expectation of success. *Id.*

2. **Claim 12: “The system of claim 10, further comprising periodically replacing at least one of said plurality of images with at least one other image, said other image showing at least one change to application specific data of a corresponding to one of said plurality of applications while said plurality of images are being displayed in said 3D space.”**

Under the broadest reasonable interpretation of the claims, the references of Ground 1 in further view of *Datal* render obvious the additional limitation of claim 12. Ex. 1011, at ¶ 268. *Datal* discloses texture-mapping “markup documents” onto a three-dimensional model, such as the cube of Figure 4. Ex. 1006, at 6:45-56, at Abstract; Ex. 1011, at ¶ 269.

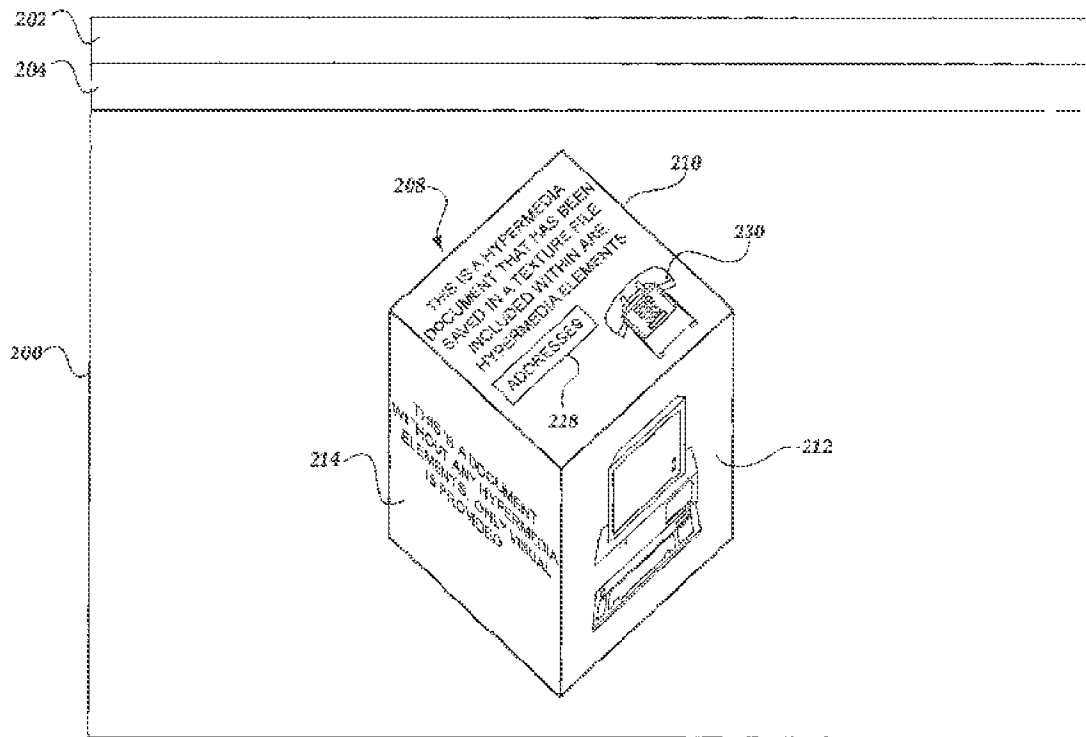


Fig.4

Ex. 1006, at FIG. 4.

Datal further discloses “[w]hen a change occurs in a portion of the mapped document, the three-dimensional engine will remap the entire document regardless of how little has changed on

the document.” *Id.*, at 1:38-41; *see also id.*, at 6:25-36, FIG. 3 (steps 116-120), 7:10-22; Ex. 1011, at ¶ 270.

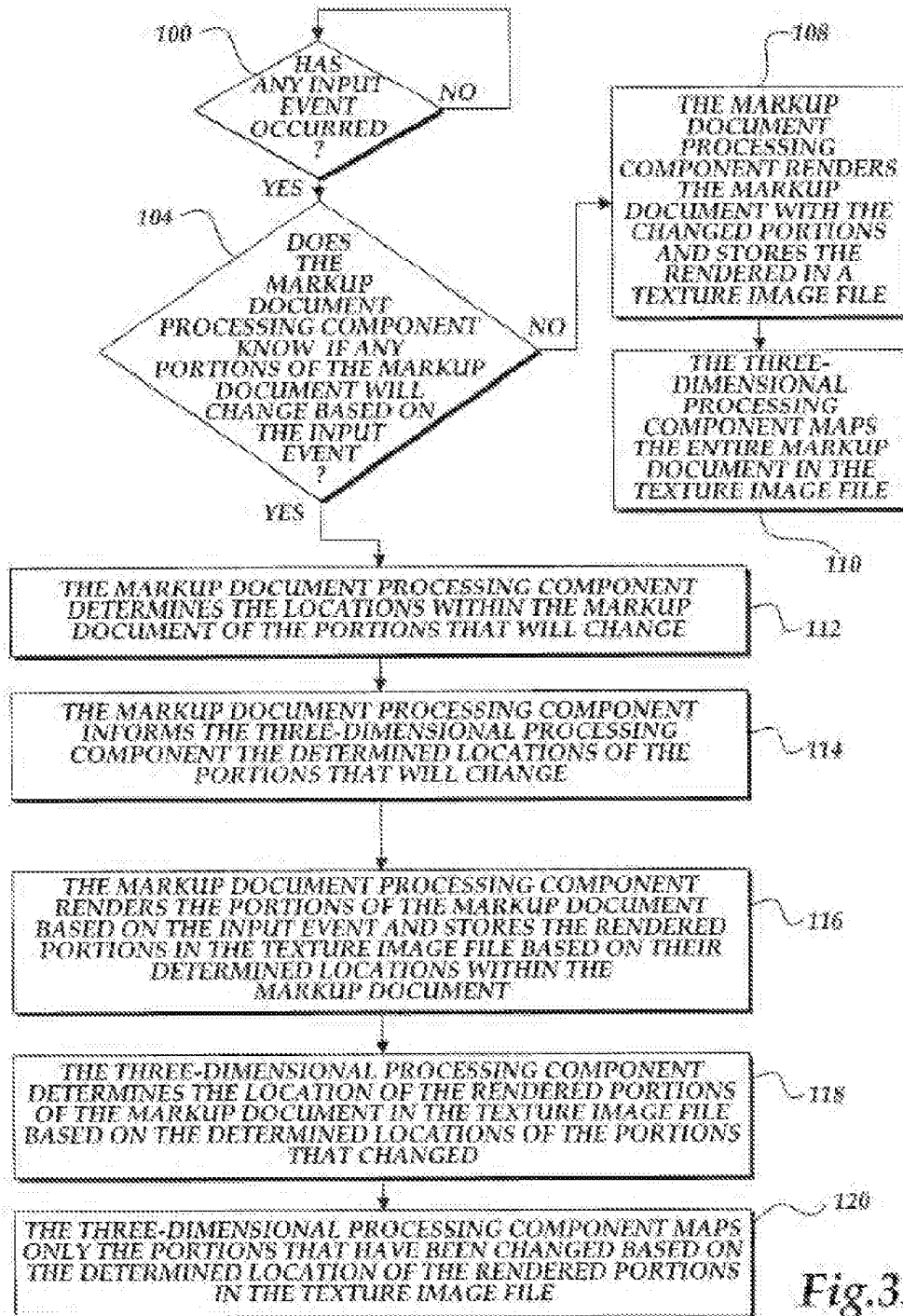


Fig.3.

Ex. 1006, at FIG. 3.

It would have been obvious to a POSITA that in order for a system to monitor for changes in the “mapped document,” a system would have to periodically check each “mapped document” and remap that document if a change is detected. Ex. 1011, at ¶ 271. The update could be periodically, for example, for applications, such as Calendar, Clock, Windows Explorer, or web browsers which are refreshed periodically by the system. For example, *Mastering Windows* discloses “[p]eriodically, [an Explorer window] will reread the contents of the folder and update the display.” Ex. 1005, at 237. It is also obvious to a POSITA that Clock and Calendar will update periodically to sync the time and date. Ex. 1011, at ¶ 271. In other words, *Dalal* discloses periodically replacing an image in a 3D space to reflect any changes in the underlying document.

In light of *Dalal*, it would have been obvious to a POSITA to similarly update the windows in the 3D space of *Miller* '542 to reflect any changes in the underlying document (e.g., an HTML web page) in those windows. Ex. 1011, at ¶ 272. A POSITA could have done so by determining the underlying document (e.g., web page) has changed (as disclosed by *Dalal*), generating a plurality of skewed images based on the current document (as disclosed by *Holecek*, *see* discussion on limitation 1[d]), and replacing the old images in the 3D space with new images (as disclosed by *Dalal*). *Id.*

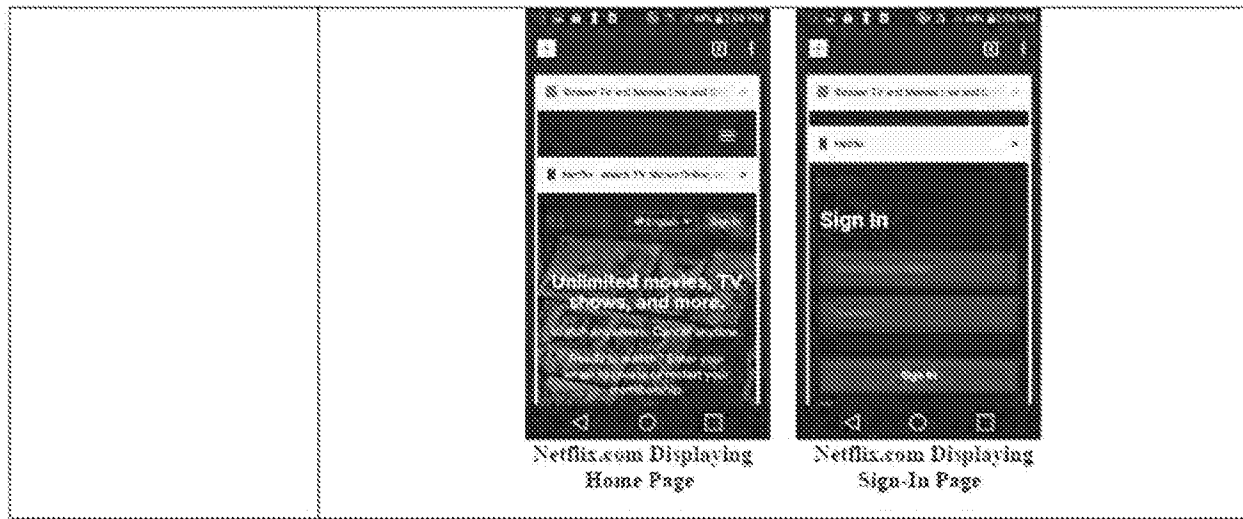
Motivation to do so arises from a desire for the windows in 3D space to resemble the application windows from 2D space as much as possible, which would include reflecting any changes that would be shown in the application windows in 2D space. Ex. 1011, at ¶ 273. Motivation arises to combine the references of claim 1 with *Dalal* because a user would want and expect the windows to display accurate and current application-specific data in the 3D space, described in Ground 1, and that the application-specific data be updated as described in *Dalal*.

Ex. 1006, at 1:38-41, 6:25-36; Ex. 1011, at ¶ 273. A POSITA would have been further motivated to combine the references of Ground 1 with *Dalal* for the reasons discussed in § VI.B.1. Ex. 1011, at ¶ 273.

These disclosures are also similar to the Patent Owner's own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied when the contents change within the application window (e.g., the number changes in the Calculator app). Ex. 1025, at 160-61; Ex. 1020, at 228-30; Ex. 1011, at ¶ 274.

<p>[12] The system of claim 10, further comprising periodically replacing at least one of said plurality of images with at least one other image, said other image showing at least one change to application specific data of a corresponding to one of said plurality of applications while said plurality of images are being displayed in said 3D space.</p>	<p>The Zone 3 infringes Claim 10, as described above. Claim 12 depends from Claim 10. The Zone 3's memory module comprises executable code that also practices the additional limitations of Claim 12, as described below, so the Zone 3 infringes Claim 12.</p> <p>The Zone 3's memory module comprises executable code that can periodically replace at least one of said plurality of images with at least one other image, said other image showing at least one change to application-specific data of a corresponding application while said plurality of images are being displayed in said 3D space.</p> <p>For example, below, the images of the Calendar application show a change to application-specific data—the change to display the month of December, rather than the month of November—while the plurality of images is being displayed in the 3D space.</p>
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	<div data-bbox="695 1123 941 1558" data-label="Image"> </div> <div data-bbox="699 1579 920 1633" data-label="Caption"> <p>Calendar Application Displaying November</p> </div> <div data-bbox="974 1123 1221 1558" data-label="Image"> </div> <div data-bbox="997 1579 1218 1633" data-label="Caption"> <p>Calendar Application Displaying December</p> </div> <p>Likewise, for Chrome, the images of the netflix.com webpage show a change to application-specific data while the plurality of images is being displayed in the 3D space.</p>
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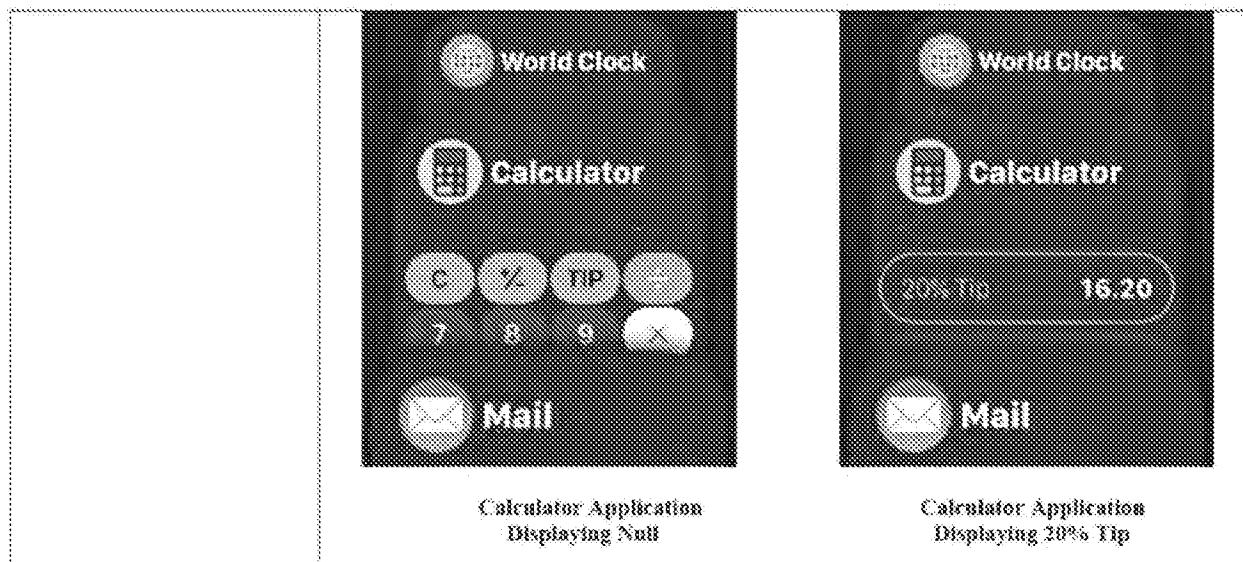
Ex. 1020, at 228-30 (excerpt of infringement contentions of the LG Litigation).

[12] The system of claim 10, further comprising periodically replacing at least one of said plurality of images with at least one other image, said other image showing at least one change to application specific data of a corresponding to one of said plurality of applications while said plurality of images are being displayed in said 3D space.

The Apple Watch infringes Claim 10, as described above. Claim 12 depends from Claim 10. The Apple Watch's memory module comprises executable code that also practices the additional limitations of Claim 12, as described below, so the Apple Watch infringes Claim 12.

The Apple Watch's memory module comprises executable code that can periodically replace at least one of said plurality of images with at least one other image, said other image showing at least one change to application-specific data of a corresponding application while said plurality of images are being displayed in said 3D space.

For example, below, the images of the Calculator application show a change to application-specific data—the change from a zero (or null) to a 20% tip on \$81—while the plurality of images is being displayed in the 3D space.

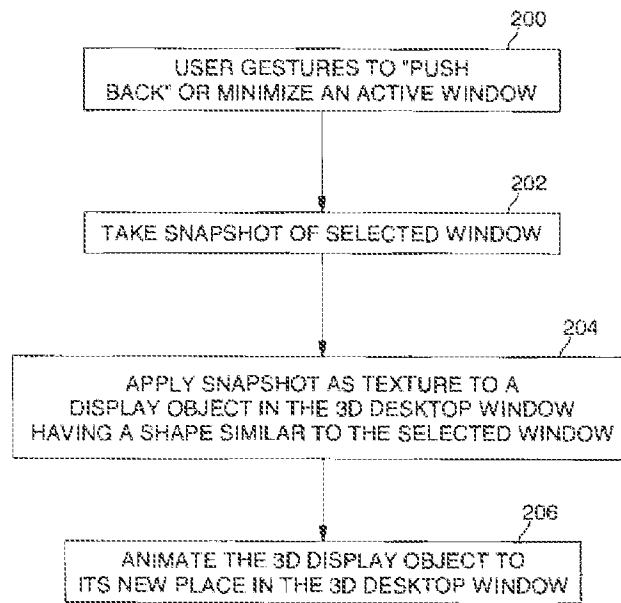


Ex. 1025, at 160-61 (excerpt of infringement contentions of the Apple Litigation).

- 3. Claim 13: “The system of claim 12, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprises replacing said object in said 2D space with said plurality of images in response to receiving said request to switch from said 2D space to said 3D space.”**

Under the broadest reasonable interpretation of the claims, this limitation is disclosed by *Miller '542* in view of *Dalal*. Ex. 1011, at ¶ 275. As discussed in § VI.B.2, *Miller '542* in view of *Dalal* teaches or suggests claim 12, on which claim 13 depends. *Miller '542* further discloses the ability to interact with a window in conventional 2D space and to view and manipulate multiple windows in a 3D space, where the user causes objects in 2D space to be replaced with a 3D space displaying all windows: “2D windows may be ‘pushed back’ by a user into the 3D desktop image by transforming the pixels of the 2D windows onto similarly shaped 3D display objects in the 3D desktop image.” Ex. 1003, at 3:36-45, 6:66-7:19, FIG. 7; *see also* § VI.A.2.f (claim 1[e]). A POSITA would have been motivated to combine the references of *Miller '542* with *Dalal* for the reasons discussed in § VI.B.1. Ex. 1011, at ¶ 275.

For example, as shown in Figure 7 of *Miller '542*, a user gestures to push back or minimize an active window in 2D (the recited “objects of the plurality of applications”). Ex. 1011, at ¶ 276; *see also* claim 1[b]. The disclosed “the pixels of the 2D windows” indicate that the 2D window application objects are “visible in said 2D space,” as recited in the claim. The system takes a snapshot of the selected window and transforms the snapshot into a 3D display (the recited “plurality of images, said plurality of images being displayed in said 3D immersive space”).

**FIG. 7**

Ex. 1003, at FIG. 7.

The transformed 3D display replaces the original 2D application objects, as shown in Figure 5 (reproduced below). Ex. 1011, at ¶ 277.

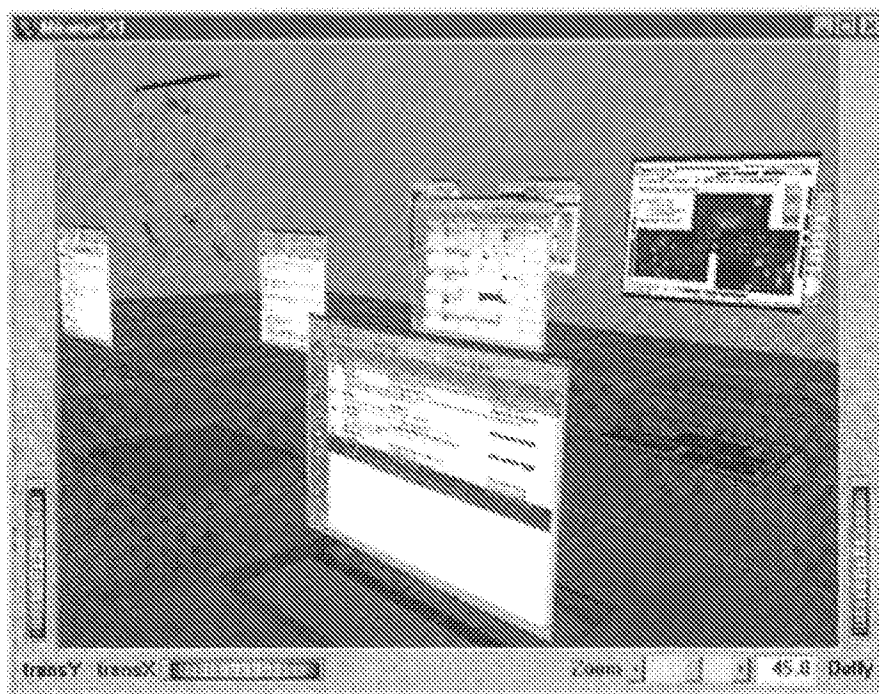


FIG. 5

Ex. 1003, at FIG. 5.

Figure 5 shows “2D windows texture-mapped onto **window-shaped objects in a 3D space** according to an embodiment of the present invention.” *Id.*, at 4:6-8 (emphases added), FIG. 5. In Figure 5, each window is skewed and has depth. *Id.*, at 3:5-25, 6:54-65, FIG. 5. *Miller '542* explains that the advantage of replacing 2D objects with 3D images is that “[t]he user is provided with more space on his or her virtual desktop upon which to manipulate multiple application program windows. Windows may be pushed back into 3D space in full resolution when they are not currently being used. The user is provided with a better context regarding inactive windows. Instead of displaying small icons with a minimal amount of identifying information or symbols as

is currently done by graphical user interfaces such as is implemented in WINDOWS™, with embodiments of the present invention background application windows retain their appearance in a 3D space. In an alternate embodiment of the present invention, the ‘pushed’ back windows may be implemented as being fully active despite being in the background of the 3D desktop window. Therefore, the ability to integrate true 3D objects into the computer user’s workspace is provided. . . . The present invention displays 2D objects in a 3D space, where other 3D objects may also reside. Anecdotal evidence suggests that users prefer a 3D display environment over a complicated 2D display environment having many overlapping windows. The 3D desktop window of the present invention provides a more natural and intuitive graphical user interface than the traditional 2D desktop interface.” *Id.*, at 4:17-40, 3:5-11 (“An embodiment of the invention improves windowing systems by extending the representation of a window to include true depth (i.e., three spatial dimensions as opposed to two dimensions plus and overlapping order). This depth dimension addresses the window overcrowding problem by allowing windows to be positioned and arranged within a true three dimensional (3D) space.”); Ex. 1011, at ¶ 278.

These disclosures are also similar to the Patent Owner’s own assertion in the infringement contentions in the Apple and LG Litigations that this claim can be satisfied when the Apple Watch replaces the 2D application with a stack of tabs after a user presses a button. Ex. 1025, at 161-62; Ex. 1020, at 228-30; Ex. 1011, at ¶ 279.

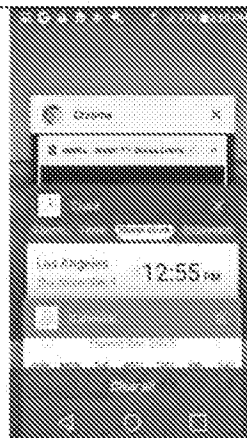
<p>{13} The system of claim 12, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprises replacing said object in said 2D space with said plurality of images in response to receiving said request to</p>	<p>The Zone 3 infringes Claim 12, as described above. Claim 13 depends from Claim 12. The Zone 3’s memory module comprises executable code that also practices the additional limitations of Claim 13, as described below, so the Zone 3 infringes Claim 13.</p> <p>The Zone 3 comprises receiving a request from a user to switch from said 2D space to said 3D space. The Zone 3’s replacement of the object in 2D space with a plurality of images is in response to receiving a user request to switch from the 2D space to 3D space.</p> <p>For example, LG refers to the square with rounded edges on the bottom right-hand corner of the screen as a “Recent Apps Button.” See, e.g., Verizon LG Optimus Zone 3 User Guide, https://www.lg.com/us/support/products/documents/lg_optimus_zone_3_user_guide.pdf, at 21 (“Recent Apps Button: Tap to display the apps you recently used as well as all of your open websites.”).</p>
--	--

switch from said 2D space to said 3D space.

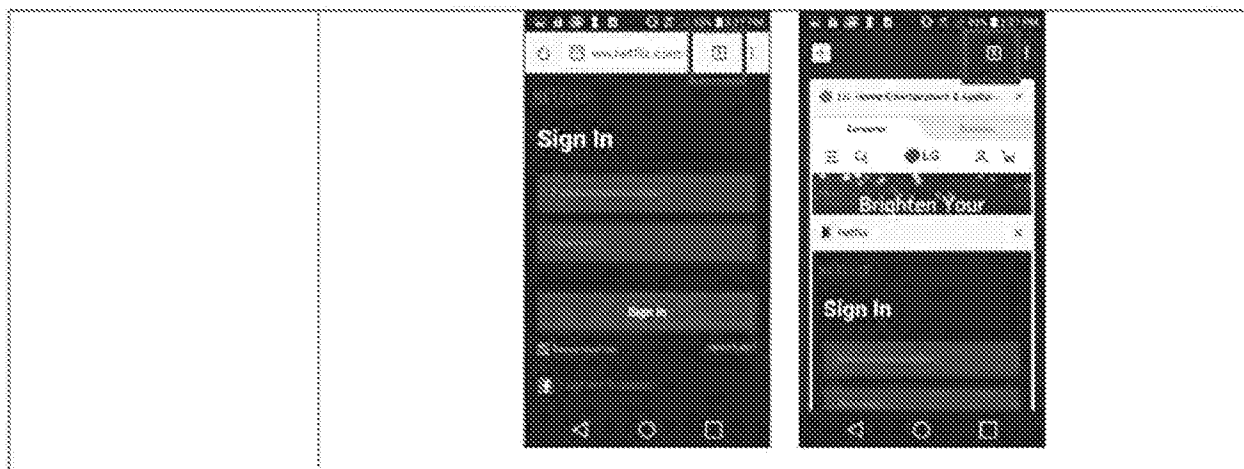


Source: https://www.lg.com/us/cell-phones/lg_VS425PP_optimus-zone_3

In the images below, the user has clicked on the Recent Apps Button while the Zone 3 was displaying the Calendar application in 2D space (left image). In response to that user request, the Zone 3 switches from the 2D space displaying the Calendar application (left) to the 3D space displaying images of at least three open applications.



Likewise, Chrome features a square button in the upper-right corner of the application that allows the user to transmit a toggle interaction (the button inside the red annotation in the below images). In the images below, the user has clicked on the toggle button while Chrome was displaying the netflix.com webpage in 2D space (left image). In response to that user request, Chrome switches from the 2D space displaying the netflix.com webpage (left) to the 3D space displaying images of at least two open webpages.



Ex. 1020, at 228-30 (Excerpt of infringement contentions in LG Litigation).

[13] The system of claim 12, further comprising the step of receiving a request from said user to switch from said 2D space to said 3D space, wherein said step of replacing said object in said 2D space with said plurality of images further comprises replacing said object in said 2D space with said plurality of images in

The Apple Watch infringes Claim 12, as described above. Claim 13 depends from Claim 12. The Apple Watch's memory module comprises executable code that also practices the additional limitations of Claim 13, as described below, so the Apple Watch infringes Claim 13.

The Apple Watch comprises a system receiving a request from a user to switch from said 2D space to said 3D space. The Apple Watch's replacement of the object in 2D space with a plurality of images is in response to receiving a user request to switch from the 2D space to 3D space.

For example, in the images below, the user presses the "Side Button" on the Apple Watch, which results in the Apple Watch switching from the 2D space displaying, for example, the Clock

response to receiving said request to switch from said 2D space to said 3D space.

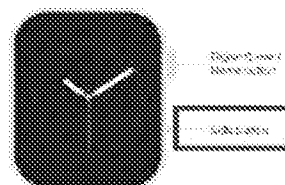
application in 2D space (see, e.g., [1-b]) to the Dock in 3D space displaying images of at least three open applications (see, e.g., [1-e]).

How to use your Apple Watch

Learn how to use the Digital Crown, side button, and gestures.

Press or rotate the Digital Crown

- Press to see the watch face or Home screen.
- Double-click to return to the last app.
- Press and hold to use Siri.
- Turn to zoom, scroll, or adjust what's on the screen.
- On Apple Watch Series 2 or later and Apple Watch SE, turn to unlock the screen during a swimming workout.



Press the side button

- Press to show or hide the Dock.
- Press and hold to use SOS.
- Double-click to use Apple Pay.
- Press and hold to turn your watch on or off.

Side Button on Apple Watch (Annotation Added)
Source: <https://support.apple.com/en-us/HT205552>

Ex. 1025, at 161-62 (Excerpt of infringement contentions in Apple Litigation).

C. Ground 3: Claims 1-11 and 14-20 Are Obvious In View Of the References of Ground 1 in Further View of *Miller '358* and *Koga*.

Under the broadest reasonable interpretation, claims 1-11 and 14-20 are obvious over the references of Ground 1 in further view of *Miller '358* and *Koga*, both of which provide additional details on generating a 3D space and replacing a 3D space with a 2D space. *Koga* additionally teaches the use of a database as part of its bookmark management system that enables a user to find the desired web page easily even if there are many bookmarked web pages. Ex. 1011, at ¶ 280.

1. Motivation to Combine the References of Ground 1 with *Miller '358* and *Koga*.

A POSITA would have been motivated to combine the references of Ground 1 with *Miller '358* and *Koga* for the same reasons as in § VI.A.1. Like the '868 patent, all five references address the same set of challenges, such as how to display multiple windows in a tidy and well-organized manner. Ex. 1011, at ¶ 281.

In addition, a POSITA would have been motivated to combine *Miller '542* with *Miller '358* because they shared the same inventor. It would have been obvious for a POSITA who read *Miller '542* to consider other publications and patents by the same inventor. Ex. 1011, at ¶ 282.

2. “3D Immersive Space” and “3D Space” Limitations

As discussed in § III.F.1, Patent Owner has agreed that both “3D Immersive Space” and “3D Space” have the same meaning of “a virtual space defined by a three-dimensional coordinate system” in previous Samsung, LG, and Apple Litigations. *See* Ex. 1019, at 19; Ex. 1022, at 5; Ex. 1023, at 1. If the Patent Office finds the references of Ground 1 do not disclose the “3D immersive space” or “3D space” limitations of claims 1-11 and 14-20, then those claims are still rendered obvious by combining the references of Ground 1 with *Miller '358* and *Koga*. Ex. 1011,

at ¶¶ 283-284. *Koga* contains substantial details on generating a 3D space using a 3D coordinate system:

[0013] First, the object management database will be described. The object management database is used for storing and managing object information by object unit, that is, for each object ID. The storage area for the object information comprises storage areas for web page names, URLs, absolute coordinates, image pointers, and the like. A web page name of the website to be managed, such as the “Patent Office homepage,” is stored and managed under the web page name. The URL stores and manages the URL of the website to be managed, Such as “http://www.miti-jpo.go.jp/.” **In the absolute coordinates, position information is stored and managed about the coordinates where the website to be managed is to be disposed in the virtual space displayed in the window 51, such as (X coordinate, Y coordinate, Z coordinate).** In the image pointer, a pointer is stored and managed for asking about the thumbnail image 22 that becomes the original image of the thumbnail display image 52 displayed in the window 51, such as the image file name of the thumbnail display image 52. In addition, the object information of the object management database preferably can store, as items other than the above, the date when the website was most recently updated, the date when the user most recently accessed the website, and so forth.

...

[0019] . . . That is, the relative coordinate calculation means 33 is a program for calculating the relative coordinates of all the objects by subtracting the viewpoint coordinates stored in the viewpoint coordinate storage area 23 from the absolute coordinate data of each of the plurality of objects stored in the object management database. As an example, a case will be described in which the absolute

coordinates of the object management database and the viewpoint coordinate data of the viewpoint coordinate storage area 23 are shown as below.

Object ID	: Absolute coordinates		
	: X coordinate	: Y coordinate	: Z coordinate
R1	: X1	: Y1	: Z1
R2	: X2	: Y2	: Z2
R3	: X3	: Y3	: Z3

Viewpoint data	: Viewpoint coordinates		
	: X coordinate	: Y coordinate	: Z coordinate
Viewpoint T	: Xt	: Yt	: Zt

Ex. 1008, at ¶¶ [0013] (emphases added) and [0019].

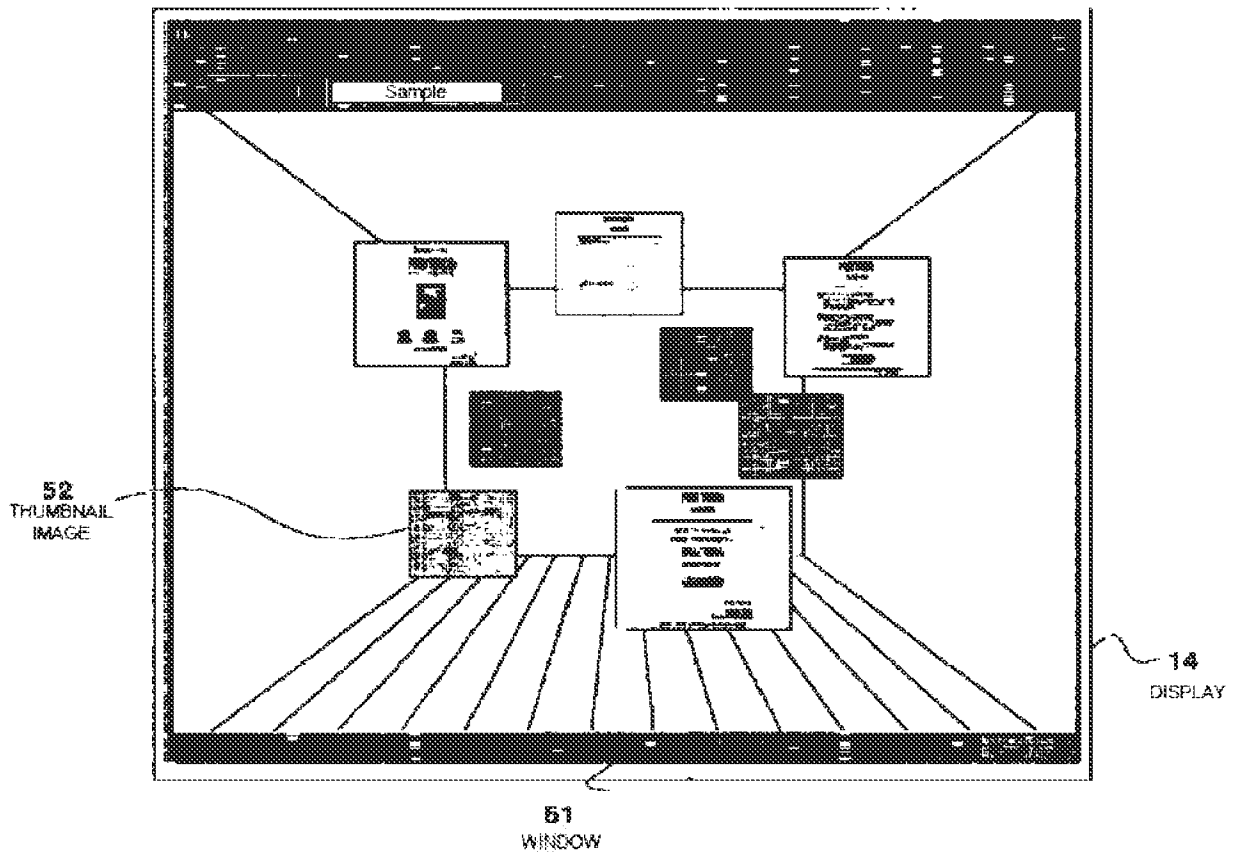


FIG. 5

Id., at FIG. 5.

Thus, *Koga* teaches additional implementation details of the three-dimensional space (“a virtual space defined by a three-dimensional coordinate system”). A POSITA would have been motivated to apply the three-dimensional coordinate system of *Koga* to *Miller* '542, as both utilize 3D space, and to the extent a POSITA was not sure how to implement the system of *Miller* '542, it could do so using the teachings of *Koga*. Ex. 1011, at ¶ 285. A POSITA would have been motivated to combine the references of Ground 1 with *Koga* because a POSITA implementing a 3D space as described by Ground 1 would necessarily look for examples of coordinate systems and other existing implementations, like those described in *Koga*. Ex. 1008, at ¶¶ [0019], [0028], [0029]; Ex. 1011, at ¶ 285. A POSITA would have been motivated to combine the references of Ground 1 with *Koga* for the reasons discussed in § VI.C.1. Ex. 1011, at ¶ 285.

3. “Replacing . . .” Claim Limitations

If the Patent Office finds the references of Ground 1 do not disclose the “replacing . . .” claim limitations, then the claims are still obvious over the references of Ground 1 in further view of *Miller* '358 and *Koga*. Ex. 1011, at ¶ 286.

Miller '358 provides additional details regarding replacing a 3D space with an application window in 2D space:

For example, by performing a right mouse button click via the user-input device 240 on one of the surfaces 620 of the cube 710, **may cause the computer application appearing on that surface 620 to occupy the entire application workspace 120 of the display 130.**

Ex. 1007, at 6:61-65 (emphases added), FIG. 6.

A POSITA would have been motivated to provide this functionality in the 3D system of *Miller* '542 for the reasons contained in § VI.C.1 and for the additional reason that the combination would provide an interface that allows a user to maximize the size of an application when the user

needs to focus on details in the application. Ex. 1011, at ¶ 288. Such details can be challenging for older users to read, which is why they will prefer the application to be maximized for the entire screen when they click one of the images displayed in the 3D space. For example, a POSITA would appreciate that the 3D system of *Miller* '542 could be improved by the addition of the system of *Miller* '358 where a user input, such as a click of a mouse button, would cause an application to maximize and take up the entire display. *See* Ex. 1007, at FIG. 6, 6:61-65; Ex. 1011, at ¶ 288.

Koga also provides additional details regarding replacing a 3D space with a window in 2D space:

Next, the browsing processing will be described. FIG. 6 is a diagram illustrating the browsing processing. As shown in the drawing, **the user double-clicks the desired thumbnail display image 52 in the window 51 to send a browsing request to the bookmark management system 20, for example. Once the bookmark management system 20 has received a browsing request from the user, the URL search means 37 first inquires about the object image pointer corresponding to the thumbnail image 22 from the thumbnail display image 52 specified by the user, a search is then made for the URL of this object, and this URL is sent to the user's web browser. Therefore, a web page having the same URL as the searched-for URL is displayed in the page display area of the web browser.**

Ex. 1008, at ¶ [0029] (emphases added).

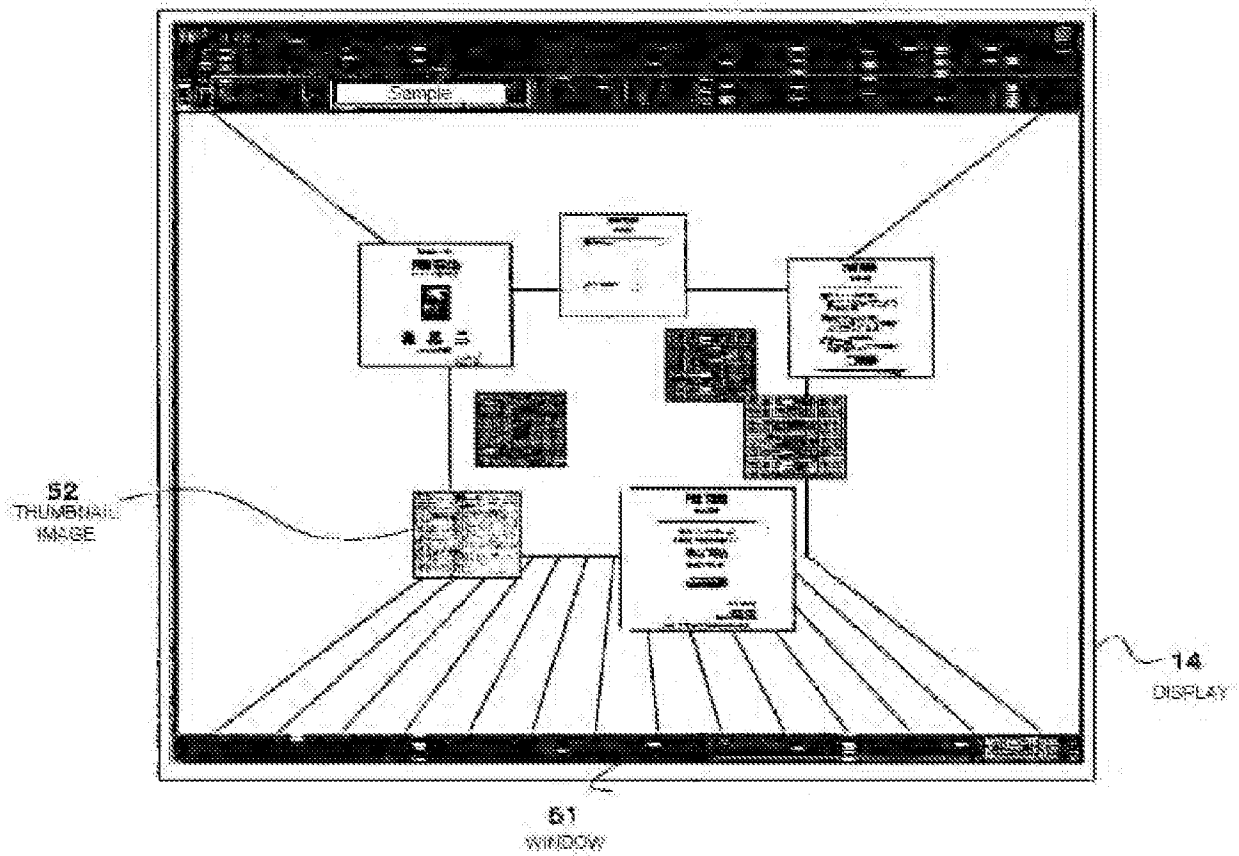


FIG. 5

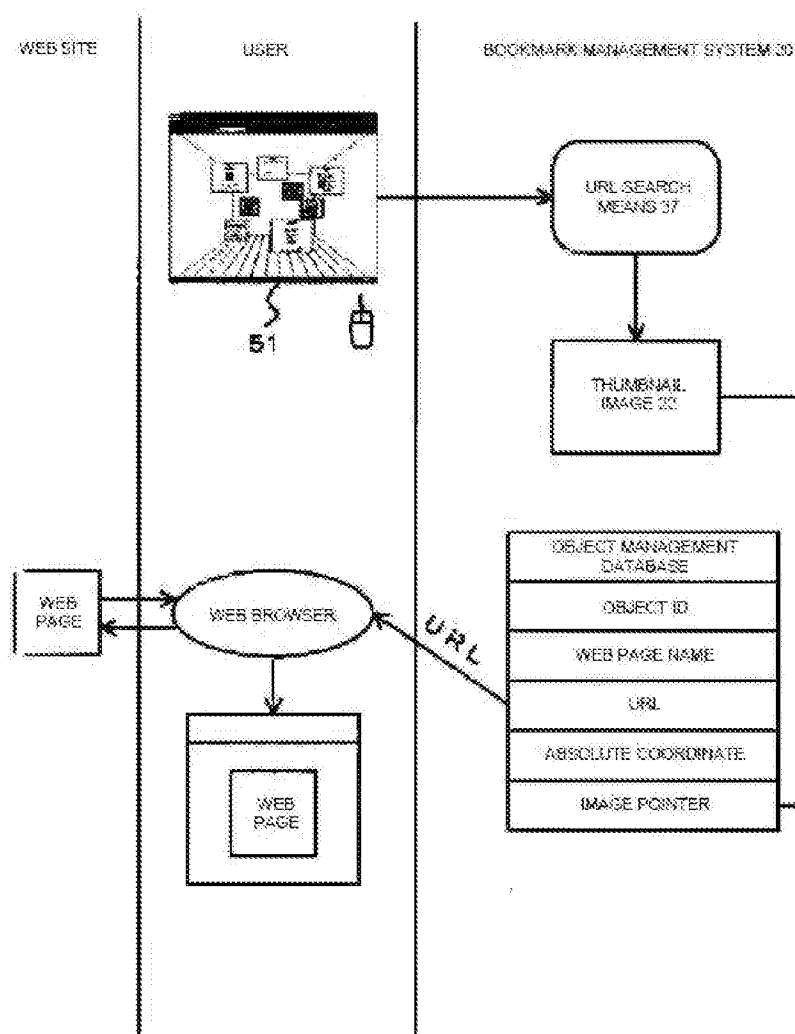


FIG. 6

Id., at FIGS. 5 and 6.

A POSITA would have been motivated to apply this aspect of *Koga* to *Miller '542* for the reasons discussed in § VI.C.1 and for the additional reason that *Koga* provides useful functionality to allow a user to easily view a web page of interest. Ex. 1011, at ¶ 290. A user would be motivated to maximize the window so that the user can view details in the window, which is useful particularly for older users who have difficulty viewing small fonts. *Id.*

4. “Database” Claim Element

Under the broadest reasonable interpretation, if the Patent Office finds the references of Ground 1 do not disclose the claim element “database,” then this claim element is still obvious over those references of Ground 1 in further view of *Koga*. *Koga* discloses an object management database that satisfies claim 4:

[0013] . . . The **object management database** is used for storing and managing object information by object unit, that is, for each object ID. The storage area for the object information comprises **storage areas for web page names, URLs, absolute coordinates, image pointers, and the like**. A web page name of the website to be managed, such as the “Patent Office homepage,” is stored and managed under the web page name. The URL stores and manages the URL of the website to be managed, such as “http://www.miti-jpo.go.jp/.” . . . In the image pointer, a pointer is stored and managed for asking about the thumbnail image 22 that becomes the original image of the thumbnail display image 52 displayed in the window 51, such as the image file name of the thumbnail display image 52.

Ex. 1008, at ¶ [0013] (emphases added); Ex. 1011, at ¶ 291. A POSITA would have been motivated to apply this aspect of *Koga* to the references of Ground 1 because a POSITA would have appreciated that the creation of objects an image in a 3D space, as disclosed in Ground 1, would be improved by a management database to keep track of the various aspects of objects, such as their coordinates, URL, and other application-specific data. Ex. 1008, at ¶ [0013]. A POSITA would have been further motivated to apply this aspect of *Koga* to the references of Ground 1 for the reasons discussed in § VI.C.1. Ex. 1011, at ¶ 291.

D. Ground 4: Claims 12-13 Are Obvious Over References of Ground 3 in Further View of *Dalal*.

Claims 12-13 depend on claim 10. Claim 10 is rendered obvious by the references of Ground 3, as discussed in § VI.C. The additional features of claims 12-13 are rendered obvious by combining the references of Ground 3 with *Dalal* for the same reasons discussed in Ground 2. *Supra*, § VI.B. Ex. 1011, at ¶ 292.

A POSITA would have been motivated to combine the references of Ground 3 with *Dalal* for the same reasons discussed in §§ VI.B.1 and VI.C.1. Ex. 1011, at ¶ 293.

E. Ground 5: Claims 6-8 and 15-17 Are Obvious Over References of Ground 1 in Further View of *Anderson*.

Under the broadest reasonable interpretation, references of Ground 1 in further view of *Anderson* teach or suggest claims 6-8 and 15-17, as explained below. Ex. 1011, at ¶ 294.

1. Motivation to Combine the References of Ground 1 with *Anderson*.

A POSITA would have been motivated to combine the references of Ground 1—*Miller '542*, *Holecek*, and *Mastering Windows*—with *Anderson*. Ex. 1011, at ¶ 295. Like the '868 patent, all four references relate to GUIs on a computer display and the ability of a user to view and navigate among different windows and to interact with the windows. All four references also discuss the viewing of application windows. The fact that all four references are from the same technology area and address the same set of challenges—such as how to display multiple windows in an organized manner while providing the same functionality that users are accustomed to in a 2D environment—such as the ability for a window to be updated with information—provides motivation for a POSITA to combine their teachings together. Ex. 1011, at ¶ 295. The creation of such a combination would have been well within the skillset of a POSITA at the time of the invention and would require no undue experimentation. Ex. 1011, at ¶ 295. Further, such a

combination would have an easily predictable result. Accordingly, a POSITA would have had a reasonable expectation of success. Ex. 1011, at ¶ 295.

In addition, *Miller '542* and *Holecek* describe the use of a Microsoft Windows environment, and *Mastering Windows* focuses on the Microsoft Windows environment. *Anderson* is owned by Microsoft. A POSITA would have been motivated to look at Microsoft's patents, such as *Anderson*, and to combine *Anderson* with the other references, which aim at improving the Microsoft Windows user experience. Ex. 1011, at ¶ 296. In particular, a POSITA would have been motivated to combine *Anderson*'s teaching on managing multiple virtual desktop windows with *Miller '542* to improve user experience in 3D space.

As discussed in Ground 1, the references of Ground 1 render obvious independent claim 1, which claims 6-8 depend on, and independent claim 10, which claims 15-17 depend on. *Anderson* disclosed the additional features recited in claims 6-8 and 15-17. Ex. 1011, at ¶ 297.

2. Claim 6

Under the broadest reasonable interpretation, the references of Ground 1 in further view of *Anderson* render this limitation obvious. Ex. 1011, at ¶ 298.

- a. Claim 6[a]: “The method of claim 1, further comprising the steps of: displaying a fourth image on said display device, said fourth image being an image of a desktop having at least one other application; and”**

As discussed in § IV.A.7, *Anderson* discloses a method for a user to preview multiple virtual desktops in a graphical user interface, as shown in Figure 6. Ex. 1009, at Abstract, FIG. 6; Ex. 1011, at ¶ 299.

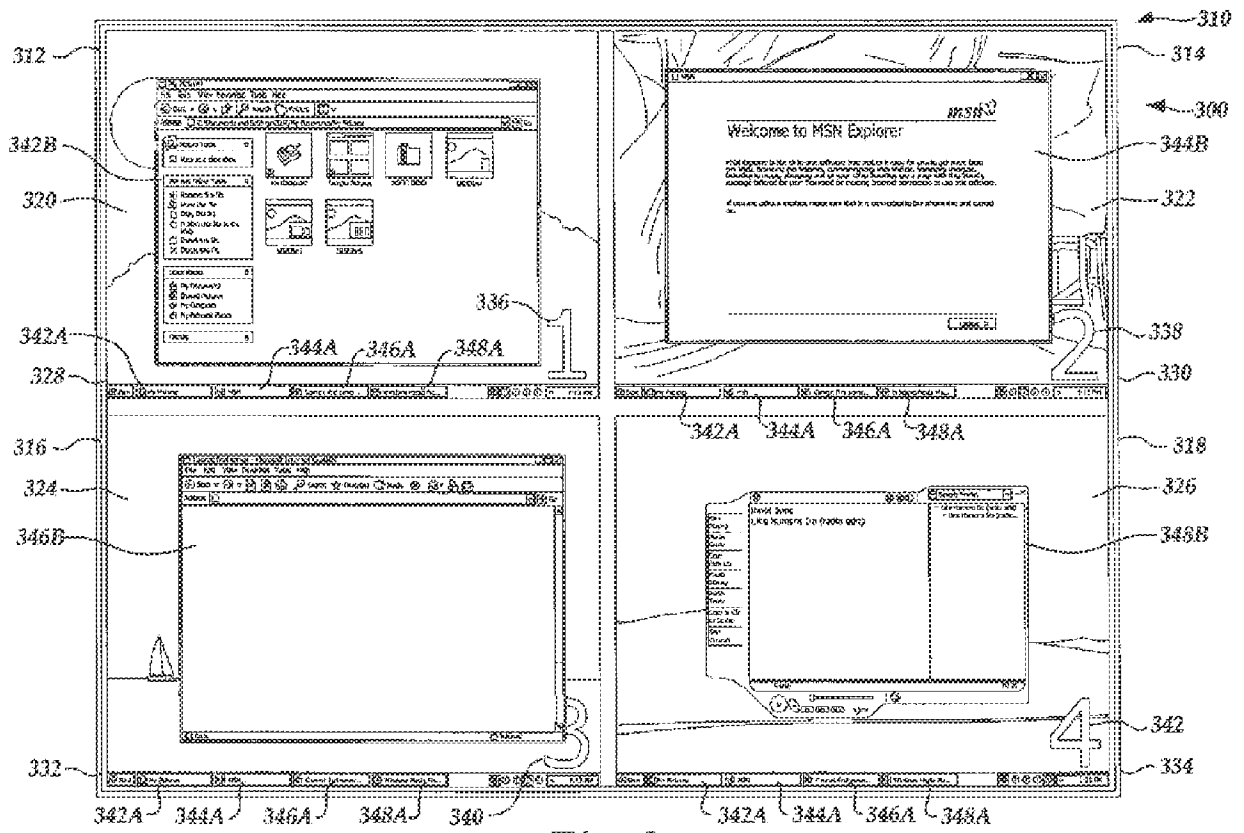


Fig. 6.

Ex. 1009, at FIG. 6.

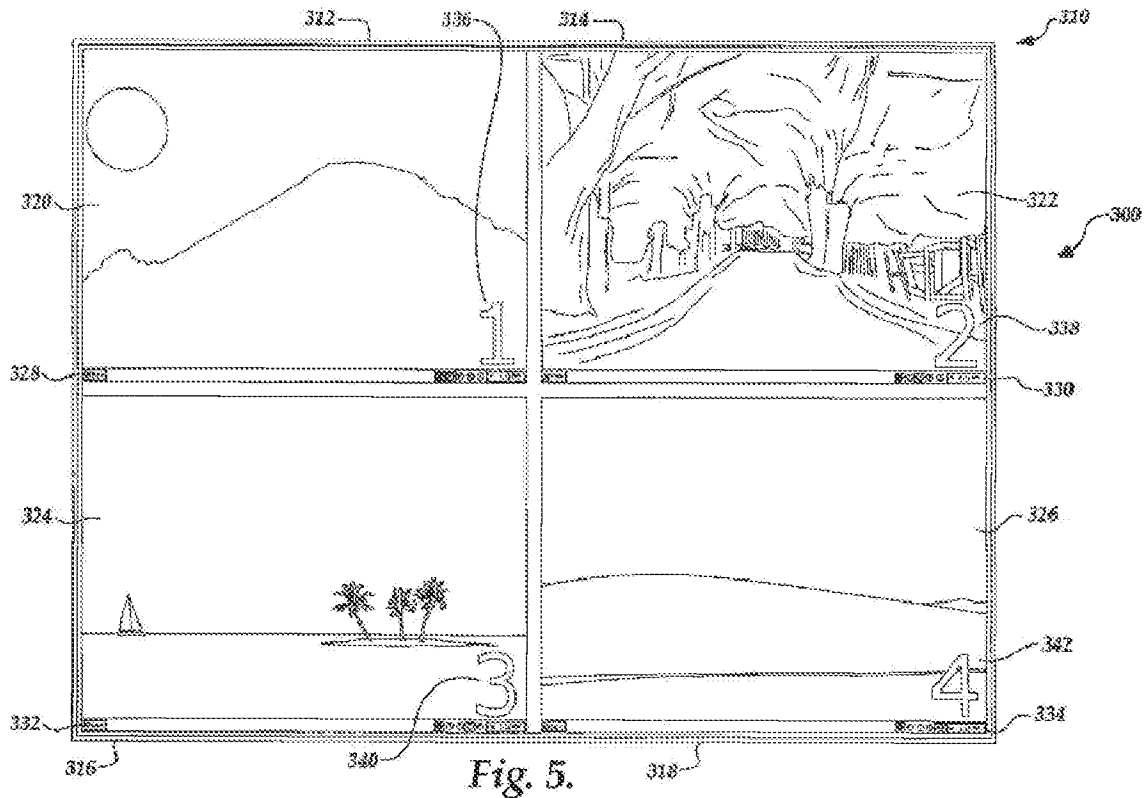
Thus, the image of one of the 3D virtual desktop windows 320 in a 3D immersive space corresponds to the claimed “fourth image.” Ex. 1011, at ¶ 300. The virtual desktop window 320 (“the fourth image”) has at least one other application 342B.

As discussed in § VI.E.1, it would have been obvious to combine *Anderson* with references of Ground 1 to implement the virtual desktop preview mechanism of *Anderson* in the 3D space of *Miller '542* to help a user preview multiple virtual desktops in a graphical user interface and keep the desktop tidy. Ex. 1011, at ¶ 301.

- b. Claim 6[b]: “allowing said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.”**

As discussed in claim 1[h]-[j], the references in Ground 1 teach or suggest selecting a 3D image and replacing it with corresponding 2D application. Similarly, by introducing the virtual desktop in *Anderson* in the 3D GUI of *Miller* '542, a user could also select the 3D virtual desktop window (“fourth image”) and replace the 3D window display of the virtual desktop with the corresponding 2D desktop (the recited “replacing said fourth image with said desktop in response to said selection”). Ex. 1009, at 5:10-12 (“Selecting one of the quick switch buttons 311-316 allows a user to cause a corresponding full-size virtual desktop to be displayed.”); Ex. 1011, at ¶ 302.

For example, *Anderson* teaches selecting one virtual desktop (the recited “allowing said user to select said fourth image”) and replacing it with a full-size desktop by disclosing “the user **selects the virtual desktop 320** located in the upper left hand pane 312 of FIG. 5 **by clicking on that pane 312** while the preview window 310 is displayed. The animation capability of the virtual desktop manager 306 operates in the opposite manner and **progressively expands (zooms) the dimensions of the scaled virtual desktop 320 until it has the dimensions of and becomes the full-size virtual desktop 300, which occupies all or substantially all of the viewable area of the display.**” Ex. 1009, at 5:45-53 (emphases added); Ex. 1011, at ¶ 303.



Ex. 1009, at FIG. 5.

Anderson also teaches “receiving an interaction from said user with said other application, and opening said other application in response to said interaction” by disclosing “[w]hen the user desires to open an application window in a current, full-size virtual desktop that is open in another full-size window, the user activates the associated icon. This action results in the desired application window being shifted to the current full-size virtual desktop.” *Id.*, at 2:65-3:2; *see also id.*, at 4:52-57 (“A graphical user interface is a visual computer environment that represents programs, files, and options with graphical images, such as icons, menus, and dialog boxes on the screen. The user can select and activate these options by pointing and clicking with a mouse or, often, with a keyboard.”), 4:60-63 (“the graphical user interface provides standard software

routines to handle these elements and report the user's actions (such as a mouse click on a particular icon or at a particular location in text, or a key press)"); Ex. 1011, at ¶ 304.

3. Claim 7: "The method of claim 1, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window."

Under the broadest reasonable interpretation, the references of Ground 1 in further view of *Anderson* render this limitation obvious. Ex. 1011, at ¶ 305.

It would have been obvious to a POSITA that the application windows may be web browser applications because *Anderson* is about organizing all kinds of applications in general and thus is applicable to web browser applications. Ex. 1011, at ¶ 306. Thus, it would have been obvious to a POSITA that the disclosed application windows 344B, 346B, and 348B may show up in one virtual desktop, e.g., 320, and that their corresponding application objects correspond to the claimed "each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window." Ex. 1011, at ¶ 306.

4. Claim 8

Under the broadest reasonable interpretation, the references of Ground 1 in further view of *Anderson* render claim 8 obvious. Ex. 1011, at ¶ 307.

a. Claim 8[a]: "The method of claim 7, further comprising the steps of: displaying at least fourth and fifth images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and"

The references of Ground 1 in further view of *Anderson* render this limitation obvious.

As discussed in § VI.E.1, it would have been obvious to combine *Anderson* with references of Ground 1 to organize the 3D application windows in *Miller '542* with the virtual desktops in *Anderson*. Ex. 1011, at ¶ 308.

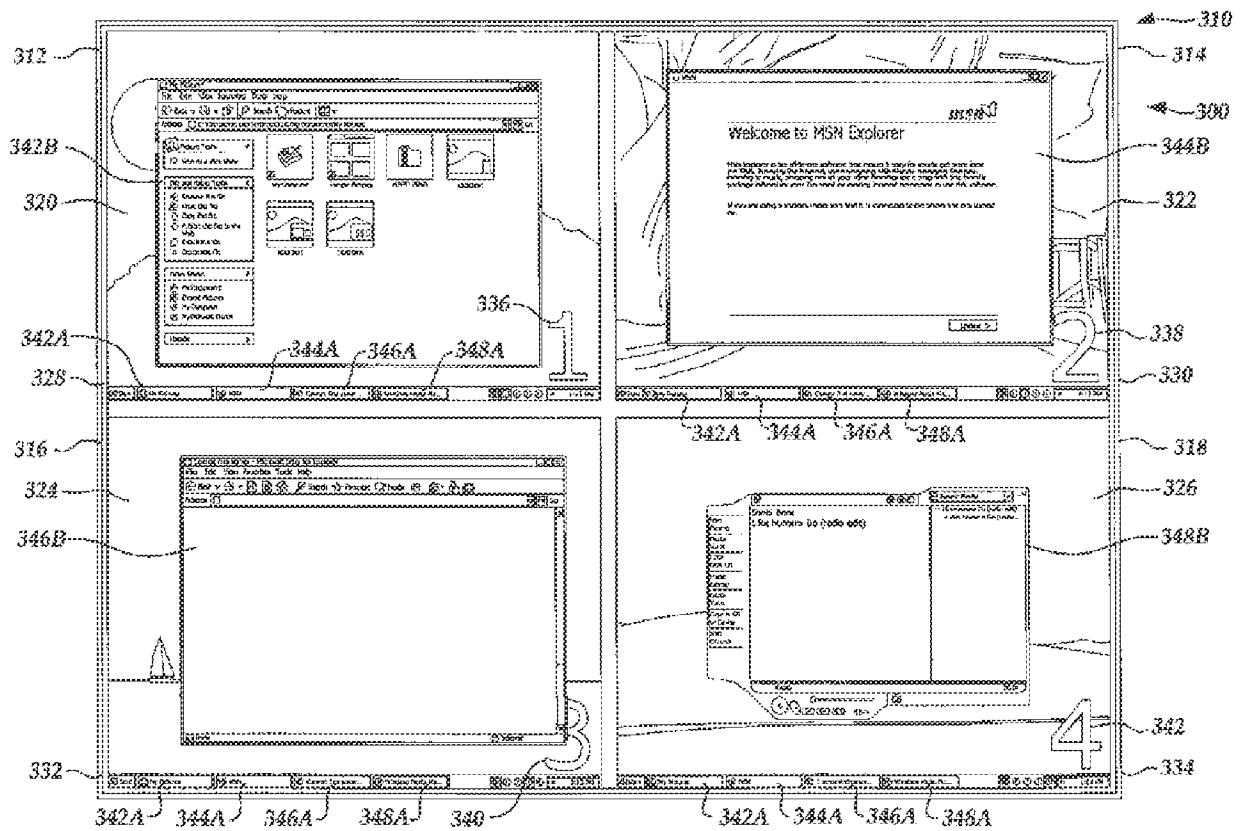


Fig. 6.

Ex. 1009, at FIG. 6.

Thus, in a 3D immersive space in *Miller '542*, each of the virtual desktops represents a separate 3D immersive space. For example, preview window 310 represents a second 3D immersive space. The image of the virtual desktop 320 corresponds to the claimed “at least fourth . . . images in a second 3D immersive space, wherein said fourth image is an image of said plurality of images within said 3D immersive space.” Ex. 1011, at ¶ 309.

The image of another virtual desktop, e.g., 324, which is part of the preview window 310 corresponding to the claimed “fifth images in a second 3D immersive space, wherein . . . said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user.” Ex. 1011, at ¶ 310.

- b. Claim 8[b]: “allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”**

The references of Ground 1 in further view of *Anderson* render this limitation obvious. As explained in § IV.A.7 and claim 7 above, the disclosed application windows 344B, 346B, and 348B and their corresponding application objects correspond to the claimed “each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.” *Anderson* also discloses a user may interact with one or more application windows, e.g., 342B-348B, in any of the virtual desktop by activating a corresponding icon on the graphical user interface. *See* Ex. 1009, at 2:65-3:2; *see also id.*, at 4:52-63. Thus, the combination of references of Ground 1 with *Anderson* teaches the claimed “allowing said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.” Here, as in claim 8[a], the image of virtual desktop 320 corresponds to the claimed “fourth image.” The shadow images of application windows 344B-348B correspond to the claimed “plurality of images corresponding to said one of said plurality of applications.” The objects of application windows 344B-348B correspond to the

claimed “one of said first, second, and third objects corresponding to said one of said plurality of applications.” Ex. 1011, at ¶ 311.

5. Claim 15

- a. Claim 15[a]:** “The system of claim 10, wherein said executable code is further configured to: display a fourth image on said display device in said 3D space, said fourth image being an image of a desktop having at least one other application; and”

See claim 6[a]; Ex. 1011, at ¶ 312.

- b. Claim 15[b]:** “allow said user to open said other application by allowing said user to select said fourth image, replacing said fourth image with said desktop in response to said selection, receiving an interaction from said user with said other application, and opening said other application in response to said interaction.”

See claim 6[b]; Ex. 1011, at ¶ 313.

- 6. Claim 16:** “The system of claim 10, wherein each one of said plurality of applications comprises a web browser application, and each one of said first, second, and third objects comprises a web browser window.”

See claim 7; Ex. 1011, at ¶ 314.

7. Claim 17

- a. Claim 17[a]:** “The system of claim 16, wherein said executable code is further configured to: display at least fourth and fifth images in a second 3D space, wherein said fourth image is an image of said plurality of images within said 3D space and said fifth image is an image of at least a portion of a fourth object generated by a fourth application previously opened by said user; and”

See limitation 8[a]; Ex. 1011, at ¶ 315.

- b. Claim 17[b]: “allow said user to interact with said one of said first, second, and third applications by selecting said fourth image, selecting said one of said plurality of images corresponding to said one of said plurality of applications, and interacting with said one of said first, second, and third objects corresponding to said one of said plurality of applications.”**

See limitation 8[b]; Ex. 1011, at ¶ 316.

F. Ground 6: Claims 6-8, 15-17 Are Obvious Over References of Ground 3 in Further View of *Anderson*.

1. Motivation to Combine the References of Ground 3 with *Anderson*.

Similar to the motivation to combine rationale in §§ V.I.C.1 and V.I.E.1, a POSITA would have been motivated to combine the references of Ground 3 with *Anderson*. Like the '868 patent, all references address the same set of challenges, such as how to display multiple windows in a tidy and well-organized manner. Ex. 1011, at ¶ 317.

In addition, *Anderson* is owned by Microsoft. A POSITA would have been motivated to look at Microsoft's patents, such as *Anderson*, and to combine *Anderson* with the other references, which aim at improving the Microsoft Windows user experience. *Id.*, ¶ 318. In particular, a POSITA would have been motivated to combine *Anderson* with *Miller '542*, *Miller '348*, and *Koga* to improve user experience in 3D space by e.g., allowing a user to preview multiple virtual desktops in a 3D space. *Id.*

2. Claims 6-8, 15-17.

As discussed in Ground 3, the references of Ground 3 render obvious independent claims 1 and 10, which claims 6-8 and 15-17 depend on, respectively. The additional features of claims 6-8 and 15-17 are rendered obvious by *Anderson* for similar reasons discussed above in Ground 5 at § V.I.E. Ex. 1011, at ¶ 319.

VII. DISCRETIONARY DENIAL UNDER 325(D) IS INAPPROPRIATE

Section 325(d) denial is inappropriate under the framework established by the PTAB in *Advanced Bionics*, IPR2019-01469, Paper 6, and *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017).

Under the *Advanced Bionics* step 1 and *Becton, Dickinson* factors (a), (b), and (d), none of the prior art relied upon herein—*Miller '542*, *Holecek*, *Mastering Windows*, *Dalal*, *Miller '358*, *Anderson*, and *Koga*—was before the Examiner during prosecution. *See* Ex. 1001, at cover page; Ex. 1002.

The Grounds of this Request rely on combinations of references. Thus, as the Board pointed out in the institution decision of the Apple IPR, “§ 325(d) inquiry in this case must consider the combination . . . to meaningfully evaluate *Becton, Dickinson* factors under the *Advanced Bionics* framework.” Ex. 1016, at 16. In instituting the Apple IPR, the Board credited the Petitioner’s argument that “[d]uring the prosecution of the ’868 patent (or the ’708 application that led to the ’868 patent), the Examiner did not reject any claims but instead allowed the claims as filed in the applicant’s preliminary amendment In view of this record, although the ’868 patent lists on its face a number of prior art references cited by the Examiner, we agree with Petitioner that no combination of prior art substantially similar to the asserted combination of Anthony and Hanggie was considered during the prosecution of the ’868 patent.” *Id.* Similar to this reasoning in the Board’s institution decision, in this Request, no combination of prior art substantially similar to the asserted combination of any of Ground 1-6 was considered during the prosecution.

In addition, the Board has also determined that “the claims considered during the prior prosecution [of the ’868 patent] were materially different from [claims 1-20 of the ’868 patent]. Thus, there is no evidence that any combinations cumulative to the asserted combinations of

Anthony and Hanggie were considered during the prior prosecution with respect to the teachings of Anthony and Hanggie on which Petitioner relies to meet the limitations of the challenged claims in this proceeding.” *Id.*, at 18. Similar to this reasoning in the Board’s institution decision, in this Request, none of the reference combinations are cumulative of the reference combinations previously presented to the Office.

Thus, for the *Becton, Dickinson factors* (a) the similarities and material differences between the asserted art and the prior art involved during examination, and (b) the cumulative nature of the asserted art and the prior art evaluated during examination, no combination of prior art substantially the same as the asserted combinations in Grounds 1-6 was considered during the prosecution of the ’868 patent or during the prosecution of the predecessor applications.

For factor (d)—the extent of the overlap between the arguments made during examination and the manner in which Requester relies on the prior art or Patent Owner distinguishes the prior art—similar to the Board’s institution decision in the Apple IPR, “no arguments were presented during the prosecution of the ’868 patent because the Examiner did not reject any claims during the prosecution but instead allowed the claims as filed the Examiner’s amendments.” *Id.* Thus, this Request does not present the same or substantially the same arguments previously presented to the Office.

Because neither condition of the *Advanced Bionics* step 1 is satisfied, there is no need to proceed to the *Advanced Bionics* step 2. Even if any condition of the *Advanced Bionics* step 1 and *Becton, Dickinson factors* (a), (b), and (d) is found to be satisfied, which should not be the case, under the *Advanced Bionics* step 2 and *Becton, Dickinson factors* (c), (e), and (f), the Office presented material errors in finding patentability of the challenged claims. The Examiner did not evaluate any of the prior art presented in this Request, any combinations thereof, or any

substantially similar combinations. None of the prosecution art was used for a rejection against the challenged claims. This Request presents, for the first time, the prior art that has never been considered before, with corroborative evidence and facts supported by expert testimony. The challenged claims should be evaluated by the USPTO against the prior art and the combinations presented in this Request.

Some of those references—*Holecek*, *Mastering Windows*, and *Dalal*—were relied upon in the Samsung IPR. But with a different primary reference and other secondary references, the Samsung IPR was based on different grounds and arguments. *Id.* Further, the Samsung IPR was terminated before institution and the PTAB did not issue any analysis or examination of the claims in view of those references. *See* Ex. 1018. None of those references are relied upon in the Apple IPR or the LG IPR. *See* Exs. 1015-1017.

Accordingly, a discretionary denial under 35 U.S.C. 325(d) is inappropriate for this Request.

VIII. CONCLUSION

For at least the reasons cited above, the prior art patents cited in this Request present substantial new questions of patentability with respect to claims 1-20 of the '868 patent. Moreover, the proposed grounds of rejection set forth in this Request show that claims 1-20 are disclosed and taught by the prior art, and the claims are unpatentable as being obvious, for at least the above reasons. Accordingly, the Office should grant reexamination of claims 1-20 of the '868 patent and reject these claims based on at least the separate and independent grounds detailed in this Request.

If there are any additional fees due in connection with the filing of this paper not already paid, please charge the fees to our Deposit Account No. 06-0916.

Respectfully submitted,
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Attachments: (1) Certificate of Service to Patent Owner

(2) Information Disclosure Statement and Form PTO/SB/08