

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC
Patent Owner.

Case IPR2024-01085
Patent 10,649,580

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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LIST OF EXHIBITS

APPLE-1001	U.S. Patent No. 10,649,580
APPLE-1002	U.S. Patent No. 10,649,580 File History
APPLE-1003	Declaration of Dr. Andrew Cockburn
APPLE-1004	Ramos et al., “Zliding: Fluid Zooming and Sliding for High Precision Parameter Manipulation,” <i>UIST: Proceedings of the ACM Symposium on User Interface Software and Technology</i> , 2005.
APPLE-1005	Zooming & Zliding (Gonzalo Ramos), December 28, 2007, available at https://www.youtube.com/watch?v=EcE3XBytN-U (“Ramos Video”)
APPLE-1006	US 2008/0094356 to Ording et al. (“Ording”)
APPLE-1007	Declaration of Kathryn Talbot
APPLE-1008	Gonzalo Alberto Ramos, <i>Press-Sensitive Pen Interactions</i> (2008) (Ph.D. thesis, University of Toronto) (“Ramos Thesis”)
APPLE-1009	Declaration of June Ann Munford
APPLE-1010	Webpage version of the Ramos Video, available at https://www.youtube.com/watch?v=EcE3XBytN-U
APPLE-1011	<i>Dictionary of Computing</i> , Sixth Edition (2010)
APPLE-1012	<i>Telecom Dictionary</i> , First Edition (2007)
APPLE-1013	<i>Wiley Electronical and Electronics Engineering Dictionary</i> , First Edition (2004)
APPLE-1014	<i>A Dictionary of Computing</i> , Sixth Edition (2008)

APPLE-1015	<i>The Facts on File Dictionary of Computer Science</i> , Revised Edition (2006)
APPLE-1016	U.S. Patent Pub. No. 2012/0176401 to Hayward et al. (“Hayward”)
APPLE-1017	U.S. Patent No. 7,479,949 to Jobs et al. (“Jobs”)
APPLE-1018	Bezerianos & Balakrishnan, “The Vacuum: Facilitating the Manipulation of Distant Objects,” PAPERS: Smart Interaction Techniques 2, April 2-7, 2005
APPLE-1019	Fitzmaurice et al., “Tracking Menus,” <i>UIST</i> , 2003
APPLE-1020	U.S. Patent Pub. No. 2012/0319959 to Saponas et al. (“Saponas”)
APPLE-1021	U.S. Patent No. 2012/0046071 to Brandis et al. (“Brandis”)
APPLE-1022	Declaration of Gonzalo Ramos
APPLE-1023	U.S. Patent Publication No. 2008/0316183 to Westerman et al. (“Westerman”)
APPLE-1024	U.S. Patent No. 8,164,573 to da Costa (“da Costa”)
APPLE-1025	U.S. Patent Publication No. 2012/0046071 to Brandis et al. (“Brandis”)
APPLE-1026	U.S. Patent Publication No. 2006/0026535 to Hotelling et al. (“Hotelling”)
APPLE-1027	U.S. Patent Publication No. 2006/0132457 to Rimas-Ribikauskas et al. (“Rimas-Ribikauskas”)
APPLE-1028	U.S. Patent Publication No. 2008/0024459 to Poupyrev et al. (“Poupyrev”)

APPLE-1029	United States District Courts — National Judicial Caseload Profile (Dec. 31, 2023) United States Courts (uscourts.gov), https://www.uscourts.gov/sites/default/files/fcms_na_distprofile1231.2023_0.pdf (last visited June 25, 2024)
APPLE-1030	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Guidance”)
APPLE-1031	Case Management Order, Smith Interface Technologies, LLC v. Apple Inc., 3-23-cv-01187, S.D. Cal. (June 20, 2024)
APPLE-1032	Supplemental Declaration of Dr. Andrew Cockburn
APPLE-1033	Transcript of the Deposition of Dr. Mark P. Mahon ¹
APPLE-1034	U.S. Patent Publication No. 2008/0122796 to Jobs et al. (“Jobs2”)

¹ Petitioner understands that Patent Owner intends for Dr. Mahon to perform a read-and-sign of this deposition transcript (APPLE-1033), per 37 C.F.R. § 42.53(f)(5). At the time of this filing, Petitioner has not received any communications from Patent Owner regarding the progress of Dr. Mahon’s read-and-sign. Petitioner assumes Patent Owner is facilitating Dr. Mahon’s review, that the review is ongoing, and that Patent Owner will raise any alleged errata. Should Patent Owner propose entry into the record of any alleged errata that does not seek to change the substance of Dr. Mahon’s testimony, Petitioner does not expect to object.

- APPLE-1035 iPhone Resolution by Edward Tufte, November 25, 2008,
available at <https://www.youtube.com/watch?v=YslQ2625TR4>
- APPLE-1036 Date Picker, Android Developers, captured August 20, 2010,
available at
[https://web.archive.org/web/20100820005027/http://developer.
android.com/resources/tutorials/views/hello-datepicker.html](https://web.archive.org/web/20100820005027/http://developer.android.com/resources/tutorials/views/hello-datepicker.html)

UPDATED LISTING OF CHALLENGED CLAIMS

UPDATED LISTING OF CLAIMS

Per ID	Per Petition and APPLE- 1003	
		Claim 1
1.	[1.pre]	An apparatus, comprising:
[1a]	[1.a]	at least one non-transitory memory;
[1b]	[1.b]	a touch screen;
[1c]	[1.c]	a camera; and
[1d]	[1.d]	one or more processors in communication with the at least one non-transitory memory, the touch screen, and the camera, wherein the one or more processors execute instructions stored in the non-transitory memory to cause the apparatus to:
[1e]	[1.e]	display, via the touch screen, a first virtual display layer including contents;
[1f]	[1.f]	display, via the touch screen, at least one user interface element;
[1g]	[1.g]	detect, via the touch screen, at least a portion of touch on the least one user interface element;
[1h]	[1.h]	when an aspect of the touch is detected to surpass a threshold, display, via the touch screen, a plurality of markings in a second virtual display layer that appears to have a lesser depth than the first virtual display layer,

[1i]		where at least a portion of the second virtual display layer is at least partially translucent so that at least a portion of the contents of the first virtual display layer is visible through the at least portion of the second virtual display layer;
[1j]	[1.i]	detect, via the touch screen, a touch movement on at least one of the plurality of marking; and
[1k]	[1.j]	during detection of the touch movement on the at least one of the plurality of marking in the second virtual display layer that appears to have the lesser depth than the first virtual display layer, display, via the touch screen, a movement of the markings in the second virtual display layer as a function of the touch movement; and
[11(i)]	[1.k]	perform a zoom operation on the at least portion of the contents of the first virtual display layer without performing the zoom operation on the plurality of markings in the second virtual display layer,
[11(ii)]		where the zoom operation correlates with the movement of the markings in the second virtual display layer, and
[11(iii)]		the at least portion of the second virtual display layer is at least partially translucent so that a result of the zoom operation on the at least portion of the contents of the first virtual display layer is visible through the at least portion of the second virtual display layer.
	Claim 2	
[2]	[2]	The apparatus of claim 1, wherein the apparatus is configured such that the contents of the first virtual display layer include input detected by the camera.
	Claim 3	

[3]	[3]	The apparatus of claim 1, wherein the apparatus is configured such that the plurality of markings in the second virtual display layer remains displayed for at least some time in response to detection of a cessation of the touch when the aspect of the touch is detected to surpass the threshold.
Claim 4		
[4]	[4]	The apparatus of claim 1, wherein the apparatus is configured such that the plurality of markings are displayed as part of a virtual dial.
Claim 6		
[6]	[6]	The apparatus of claim 1, wherein the apparatus is configured such that the at least portion of the touch is detected to be dynamic.
Claim 7		
[7]	[7]	The apparatus of claim 1, wherein the apparatus is configured such that the touch is detected to be part of the touch movement.
Claim 8		
[8]	[8]	The apparatus of claim 1, wherein the apparatus is configured such that the touch movement is part of another touch that is separate from the touch.
Claim 9		
[9]	[9]	The apparatus of claim 1, wherein the apparatus is configured such that the aspect of the touch includes a duration aspect and the threshold includes a duration magnitude threshold.
Claim 10		

[10]	[10]	The apparatus of claim 1, wherein the apparatus is configured such that the aspect of the touch includes a distance aspect and the threshold includes a distance magnitude threshold.
Claim 17		
[17]	[17]	The apparatus of claim 1, wherein the apparatus is configured such that the movement of the markings in the second virtual display layer result in an appearance that the markings are rotating.
Claim 18		
[18]	[18]	The apparatus of claim 1, wherein the apparatus is configured such that the plurality of markings in the second virtual display layer remains displayed for at least some time in response to detection of a cessation of the touch when the aspect of the touch is detected to surpass the threshold, and the touch movement is capable of including either a pinch gesture on at least part of the contents of the first virtual display layer or a slide gesture on at least one of the plurality of markings.
Claim 19		
[19]	[19]	The apparatus of claim 1, wherein the apparatus is configured such that the at least one user interface element is displayed in the second virtual display layer.
Claim 20		
[20pre]	[20.pre]	The apparatus of claim 1, wherein the apparatus is configured such that:
[20a]	[20.a]	the contents of the first virtual display layer include input detected by the camera;

[20b]	[20.b]	the plurality of markings in the second virtual display layer at least temporarily remain displayed after a cessation of the touch is detected when the aspect of the touch is detected to surpass the threshold;
[20c]	[20.c]	the plurality of markings is displayed by increasing a size of the second virtual display layer; and
[20d]	[20.d]	during detection of the touch movement on at least one of the plurality of markings, a magnitude of an operation is increased on the contents of the first virtual display layer, where the increase in the magnitude of the operation and the movement of the markings in the second virtual display layer both correlate with detection of a distance of the touch movement on the at least one of the plurality of markings.
Claim 22		
22.	[22.pre]	A method, comprising:
[22a]	[22.a]	at a device with at least one non-transitory memory, a touch screen, a camera, and one or more processors in communication with the at least one non-transitory memory, the touch screen, and the camera:
[22b]	[22.b]	displaying, via the touch screen, a first virtual display layer including contents;
[22c]	[22.c]	detecting, via the touch screen, at least a portion of touch;
[22d]	[22.d]	in response to an aspect of the touch being detected to surpass a threshold, displaying, via the touch screen, a plurality of markings in a second virtual display layer that appears to have a lesser depth than the first virtual display layer,

[22e]		where at least a portion of the second virtual display layer is at least partially translucent so that at least a portion of the contents of the first virtual display layer is visible through the at least portion of the second virtual display layer;
[22f]	[22.e]	detecting, via the touch screen, another touch on at least one of the plurality of marking; and
[22g]	[22.f]	in response to detection of the another touch on the at least one of the plurality of marking in the second virtual display layer that appears to have the lesser depth than the first virtual display layer, displaying, via the touch screen, a movement of one or more of the plurality of markings in the second virtual display layer; and
[22h(i)]	[22.g]	performing a zoom operation on the at least portion of the contents of the first virtual display layer without performing the zoom operation on the plurality of markings in the second virtual display layer,
[22h(ii)]		where the zoom operation is performed based on the movement of the one or more of the plurality of markings in the second virtual display layer, and
[22h(iii)]		the at least portion of the second virtual display layer is at least partially translucent so that a result of the zoom operation on the at least portion of the contents of the first virtual display layer is visible through the at least portion of the second virtual display layer.
Claim 23		
[23]	[23]	The method of claim 22, wherein the contents of the first virtual display layer include input detected by the camera.
Claim 24		

[24]	[24]	The method of claim 23, wherein the plurality of markings in the second virtual display layer remains displayed for a limited time in response to detection of a cessation of the touch with the aspect of the touch being detected to surpass the threshold.
Claim 25		
[25]	[25]	The method of claim 23, wherein the plurality of markings are displayed as part of a virtual dial.
Claim 26		
[26]	[26]	The method of claim 23, wherein the plurality of markings are displayed as part of a slider.
Claim 28		
[28]	[28]	The method of claim 23, wherein the another touch is detected to be dynamic.
Claim 29		
[29]	[29]	The method of claim 23, wherein the touch and the another touch are detected to be part of a single continuous gesture with constant contact with the electronic device.
Claim 30		
[30]	[30]	The method of claim 23, wherein the another touch is separate from the touch in that at least one cessation of contact is detected between the touch and the another touch.
Claim 32		
[32]	[32]	The method of claim 23, wherein the aspect of the touch includes a duration aspect and the threshold includes a duration magnitude threshold.
Claim 33		

[33]	[33]	The method of claim 23, wherein the aspect of the touch includes a distance aspect and the threshold includes a distance magnitude threshold.
Claim 36		
[36]	[36]	The method of claim 35, wherein the at least portion of the touch is detected on at least one user interface element in the second virtual display layer.
Claim 41		
[41]	[41]	The method of claim 23, wherein the movement of the markings in the second virtual display layer result in an appearance that the markings are rotating.
Claim 58		
58.	[58.pre]	A non-transitory computer readable storage medium storing one or more programs, the one or more programs comprising instructions, which when executed by an electronic device with at least one non-transitory memory, a touch screen, a camera, and one or more processors, cause the electronic device to:
[58a]	[58.a]	display, via the touch screen, a first virtual display layer including contents;
[58b]	[58.b]	detect, via the touch screen, at least a portion of touch;
[58c]	[58.c]	in response to an aspect of the touch being detected to surpass a threshold, display, via the touch screen, a plurality of markings in a second virtual display layer that appears to have a lesser depth than the first virtual display layer,

[58d]		where at least a portion of the second virtual display layer is at least partially translucent so that at least a portion of the contents of the first virtual display layer is visible through the at least portion of the second virtual display layer;
[58e]	[58.d]	detect, via the touch screen, another touch on at least one of the plurality of marking; and
[58f]	[58.e]	in response to detection of the another touch on the at least one of the plurality of marking in the second virtual display layer that appears to have the lesser depth than the first virtual display layer, display, via the touch screen, a movement of one or more of the plurality of markings in the second virtual display layer; and
[58g(i)]	[58.f]	perform a zoom operation on the at least portion of the contents of the first virtual display layer without performing the zoom operation on the plurality of markings in the second virtual display layer,
[58g(ii)]		where the zoom operation is performed based on the movement of the one or more of the plurality of markings in the second virtual display layer, and
[58g(iii)]	[58.g]	the at least portion of the second virtual display layer is at least partially translucent so that a result of the zoom operation on the at least portion of the contents of the first virtual display layer is visible through the at least portion of the second virtual display layer.
Claim 59		

[59]	[59]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the contents of the first virtual display layer include input detected by the camera.
Claim 60		
[60]	[60]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the plurality of markings in the second virtual display layer remains displayed for a limited time in response to detection of a cessation of the touch with the aspect of the touch being detected to surpass the threshold.
Claim 61		
[61]	[61]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the plurality of markings are displayed as part of a virtual dial.
Claim 62		
[62]	[62]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the plurality of markings are displayed as part of a slider.
Claim 64		

[64]	[64]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the another touch is detected to be dynamic.
Claim 65		
[65]	[65]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the touch and the another touch are detected to be part of a single continuous gesture with constant contact with the electronic device.
Claim 67		
[67]	[67]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the another touch is separate from the touch in that at least one cessation of contact is detected between the touch and the another touch.
Claim 69		
[69]	[69]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the aspect of the touch includes a duration aspect and the threshold includes a duration magnitude threshold.
Claim 70		

[70]	[70]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the aspect of the touch includes a distance aspect and the threshold includes a distance magnitude threshold.
Claim 73		
[73]	[73]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that the at least portion of the touch is detected at a predetermined location and as being static where the aspect of the touch includes a duration that is detected to surpass the threshold that includes a duration magnitude threshold, and the another touch is detected to begin at the predetermined location and as being dynamic.
Claim 77		
[77]	[77]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the movement of the markings in the second virtual display layer result in an appearance that the markings are rotating.
Claim 82		

[82]	[82]	The non-transitory computer readable storage medium of claim 58, wherein the one or more programs include instructions which, when executed by the electronic device, cause the electronic device to operate such that: the zoom operation is performed on the at least portion of the contents of the first virtual display layer without performing the zoom operation on the plurality of markings in the second virtual display layer, so that the plurality of markings in the second virtual display layer remain displayed regardless of the zoom operation being performed.
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CONVENTIONS OF THIS REPLY BRIEF

- All emphasis is added unless noted otherwise;
- The phrase “as discussed” and equivalent phrases incorporate fully the analysis of the cross-cited portion of the Reply Brief.
- Where claim limitations have different reference numbers, per the Updated Listing of Challenged Claims, both claim limitation reference numbers are provided with the Institution Decision’s nomenclature followed by Petitioner’s and Dr. Cockburn’s.

I. Introduction

The Petition establishes that the '580 Patent's putative invention is merely an obvious variant of the prior art. Smith contends otherwise, but not credibly. Arguing that rudimentary user interface features like user interface objects (e.g., widgets), semi-translucency, and zooming operations were new in 2011 is simply not credible, as is Smith's suggestion that the '580 Patent does anything more than combine these known elements using known techniques. The Petition shows, conclusively, that it does not.

The Board should find the Challenged Claims obvious and unpatentable.

II. The RROD Renders Obvious Claims 1-4, 6-10, 17, 19, 22-26, 28-30, 32-33, 36, 41, 58-62, 64-65, 67, 69-70, 73, 77, and 82

A. Smith's contention of failure to motivate is belied by record evidence of the benefits of implementing partially transparent widgets and the commonplace nature of doing so

Smith's arguments concerning motivation to combine rely on a flawed premise, which is that the proffered motivations are unrelated to translucency.

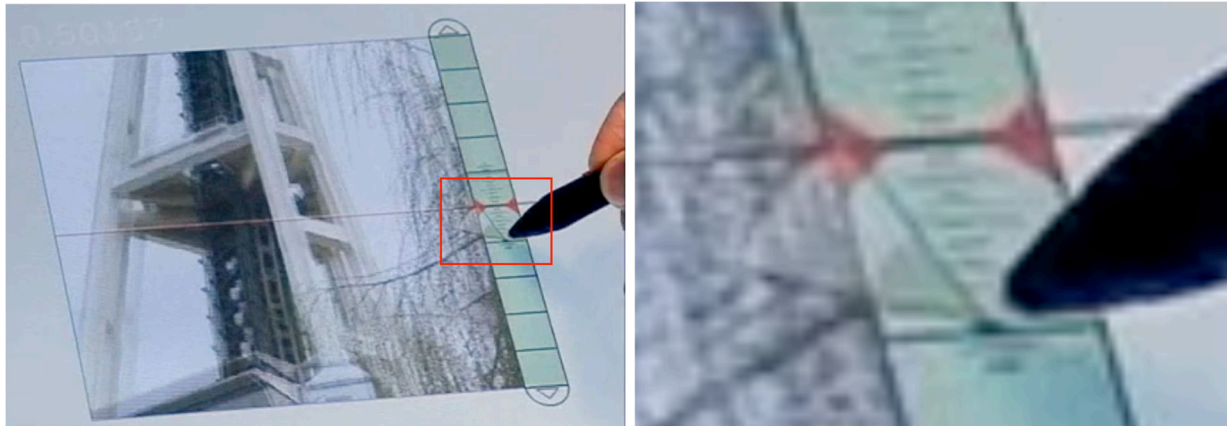
Preliminarily, Smith is wrong in broadly contending that "Petitioner fails to support its purported combination" (POR, 10), as Petitioner demonstrated with evidence several distinct reasons a POSITA would have been motivated to make the combination. Importantly, some of the motivations were not directly related to

semitransparency, and these motivations were simply ignored and thus unrebutted by Smith.

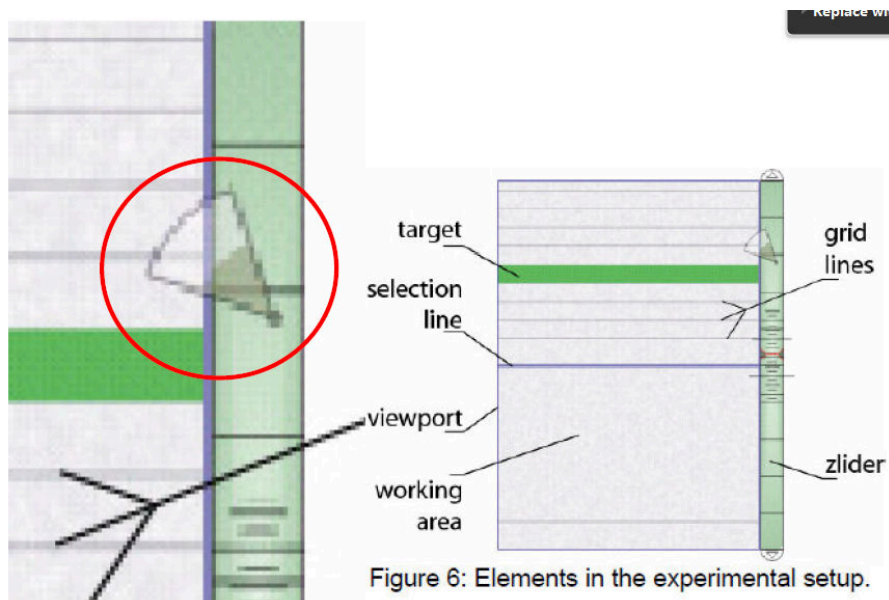
Indeed, Smith only attacks Petitioner's reasons for combining with Ording as it relates to translucency. As such, Smith fails to even address the Petition's first and second combination motivations, and instead merely contends that these motivations do not support transparency. Thus, for at least the Petitioner's unrebutted first two reasons, a POSITA would have been motivated to combine Ramos Paper, Ramos Video, and Ording. APPLE-1032, ¶16.

Second, as to the RROD rendering obvious translucency, Petitioner establishes that translucency is a feature of the Zlider within the Ramos Paper and the Ramos Video, and thus, a POSITA would not need to incorporate Ording's teachings relating to transparency to teach or render [1i]/[1.h] obvious. Pet., 54-57; APPLE-1032, ¶17. And Smith does not dispute but instead agrees that Zlider's pressure cursor is translucent. POR, 28 ("The translucency of the pressure cursor is seen"). Indeed, Ramos Video shows a Zlider "in which translucent markings (a wedge connecting the cursor location with a box top-left) appear on a second layer in response to an aspect of a touch." Pet., 56 (citing APPLE-1005, 3:57-4:15). For example, the figure below (from APPLE-1005, 3:18) shows tree branches visible through the translucent pressure cursor. Additionally, Figure 6 of Ramos Paper shows "the 'pressure cursor' of the Zlider is displayed in a second layer (i.e., it is

always above, for example, the image being displayed and manipulated by the Zlider) along with the other components of the Zlider (e.g., working area and Vernier).” *Id.* (citing APPLE-1004, FIG. 6; APPLE-1003, ¶91).

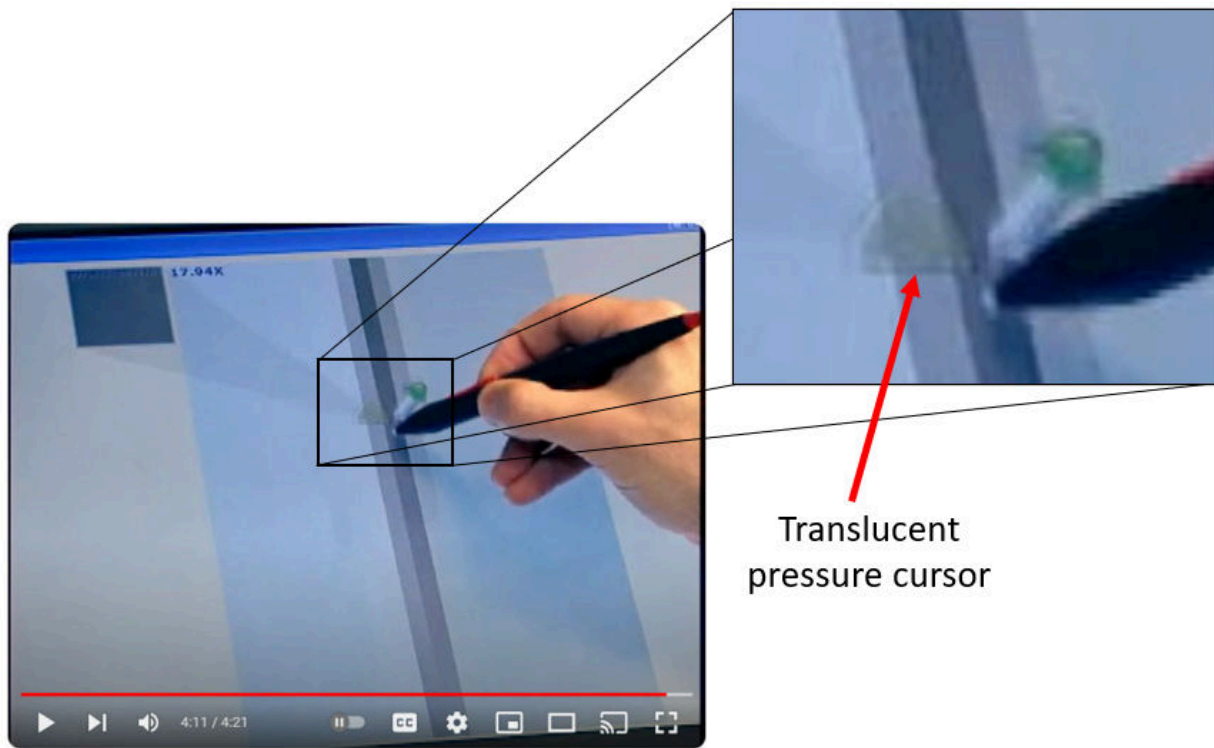


APPLE-1005, 3:18.



APPLE-1004, 127 (Figure 5-16) (annotated, zoomed in on left)

Pet., 56 (citing APPLE-1004, 127 (Figure 5-16)).



Pet., 57 (citing APPLE-1005, 4:11) (zoomed in; annotated).

The Petition further explains that a finite number of options exist for the Zlider’s working area—either it is adjacent to or overlaying the underlying image, so it would have been “obvious to try this finite number of identified predictable solutions, with a reasonable expectation of success.” Pet., 57 (citing APPLE-1003, ¶92). Separately, Ording corroborates that it was well-known to use at least semi-transparent widgets of the type found in the Ramos Paper and Video. Pet., 57-58; APPLE-1006, [0045]. As noted, Smith does not argue against the translucency of the Zlider’s pressure cursor. Rather, Smith argues that the Zlider’s pressure cursor

is in the same virtual display layer as the contents (POR, 24)—despite the pressure cursor clearly overlaying the contents, as explained in §II.B. APPLE-1032, ¶18.

Third, to the extent that the Zlider itself does not offer the requisite transparency (it does), Ordering demonstrates that transparency of [1i]/[1.h] is obvious, as observed in the Institution Decision. Similarly obvious is the asserted combination that incorporates Ording’s teaching of a “semitransparent object” to render, for example, the majority of the Zlider at least partially translucent. ID, 31; Pet., 57-59; APPLE-1006, [0045], [0094]. As Dr. Cockburn explained, “the Zlider widget of the combined disclosures would offer a UI widget that is at least partially transparent such that content below is visible, resulting in a widget that is minimally intrusive and reduces the amount of the underlying content that is blocked or not visible.” APPLE-1003, ¶60 (citing APPLE-1005, 3:16-3:19, 3:28); *see also id.*, ¶59; APPLE-1032, ¶19.

Smith’s argument that modifying Ramos’ Zlider to be semitransparent would make the Zlider “more intrusive” or “unusable” is based on a willfully ignorant example scenario. POR, 17-19; APPLE-1032, ¶20. Smith offers a scenario where the underlying content depicts a night sky, and it argues that the outline of a semi-transparent Zlider would therefore have been hard to see. POR, 18-19. But, this fails to account for the level of ordinary skill of a POSITA—which is acknowledged by Smith as informed by “at least a bachelor’s degree in computer science, computer

engineering, electrical engineering, human-computer interaction, or a related field, and would have had at least two years of relevant work experience in the design and development of graphical user interfaces (GUIs), human-computer interfaces, or equivalents thereof.” As Dr. Cockburn explains, it would have been well within the skill of a POSITA to make a straightforward adjustment to the Zlider in such a scenario, as illustrated below, to account for the content of the underlying layer, thus preserving visibility of the Zlider. APPLE-1032, ¶¶20-21.

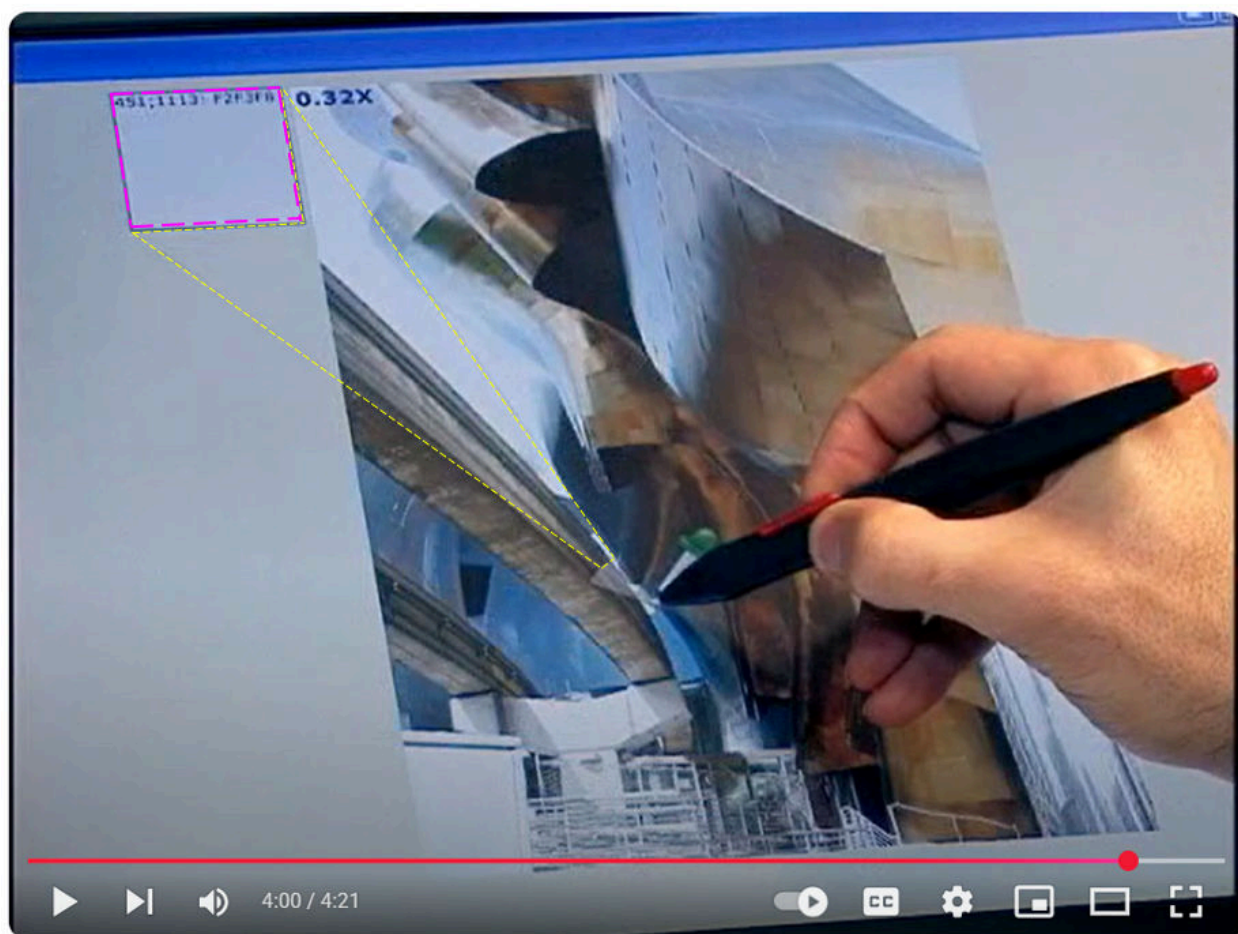


APPLE-1032, ¶21

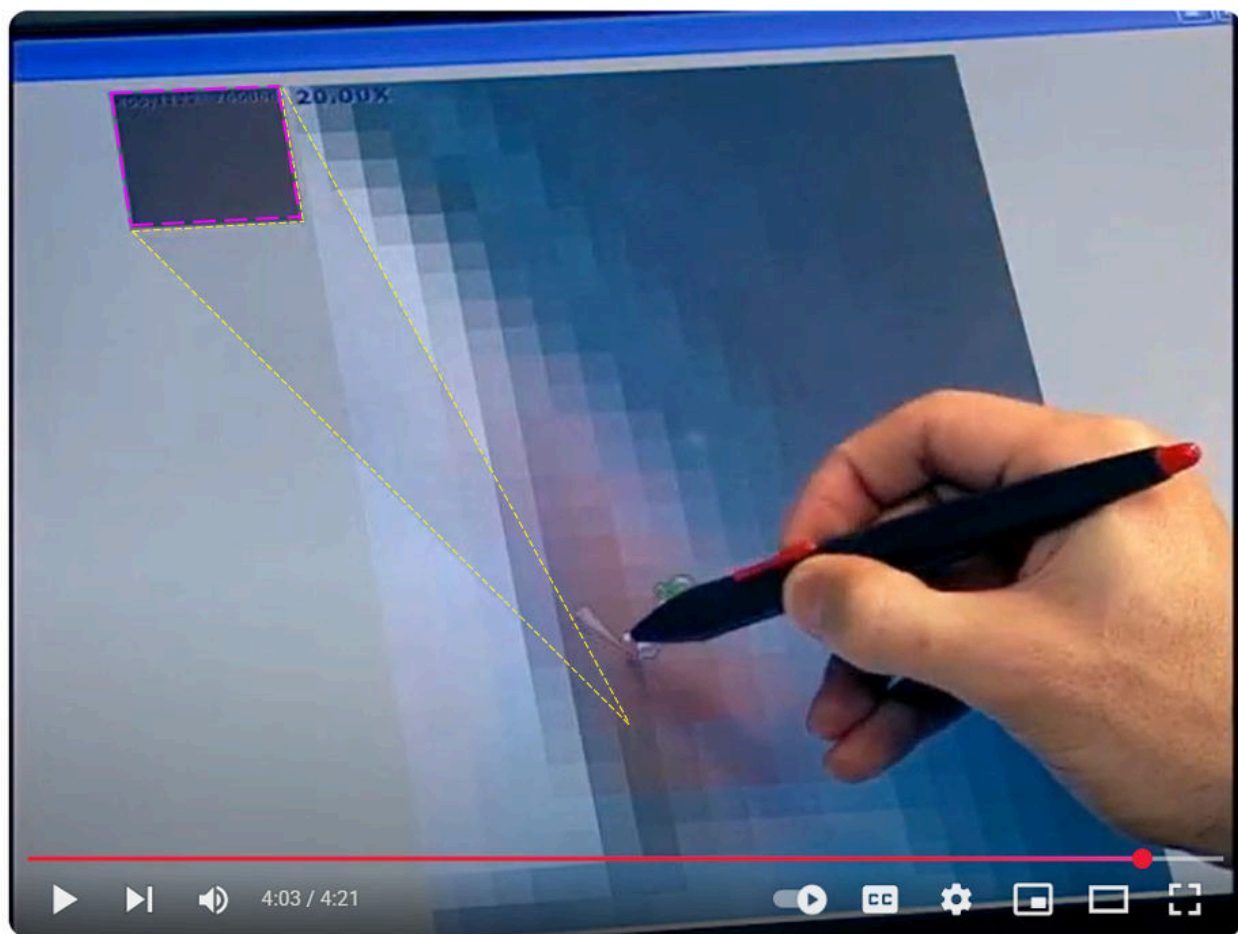
In fact, Dr. Mahon testified to the “use [of] standard graphics techniques for meeting the requirements of the end user.” APPLE-1033, 93:8-14; *see id.*, 92:8-93:6

(explaining that, in his previous research work and experience relating “interacting with and displaying data that appeared to have depth associated with it,” “object[s] could be represented in many different ways”). Simply said, Smith’s argument against the combination’s semitransparent Zlider is not convincing. APPLE-1032, ¶22.

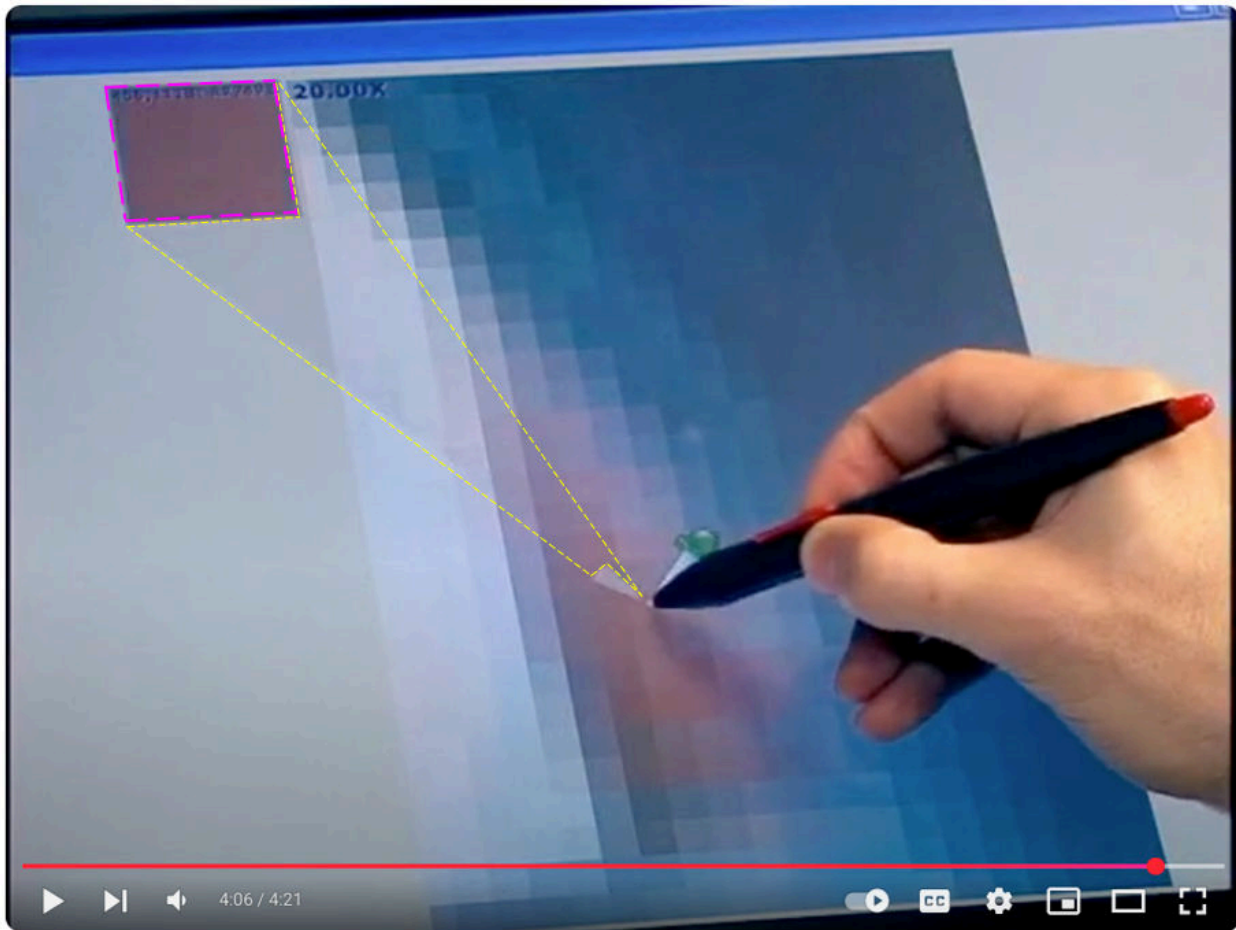
The Ramos Video offers further evidence as to the commonplace practice of adjusting transparency effects. At 4:00-4:18, Ramos Video shows a pressure cursor used in conjunction with an eyedropper tool for identifying the color of the portion of the underlying image selected by a user. APPLE-1005, 4:00-4:18; APPLE-1032, ¶23. The identified color is displayed at the top left (annotated below in a dashed magenta line), connected to the pressure cursor/eyedropper tool with a semi-translucent polygon shape (annotated below in a dashed yellow line). *Id.* Ramos Video shows modifications of the transparency effects of the polygon shape, depending on the user’s selection. *Id.*



APPLE-1005, 4:00 (annotated)



APPLE-1005, 4:03 (annotated)

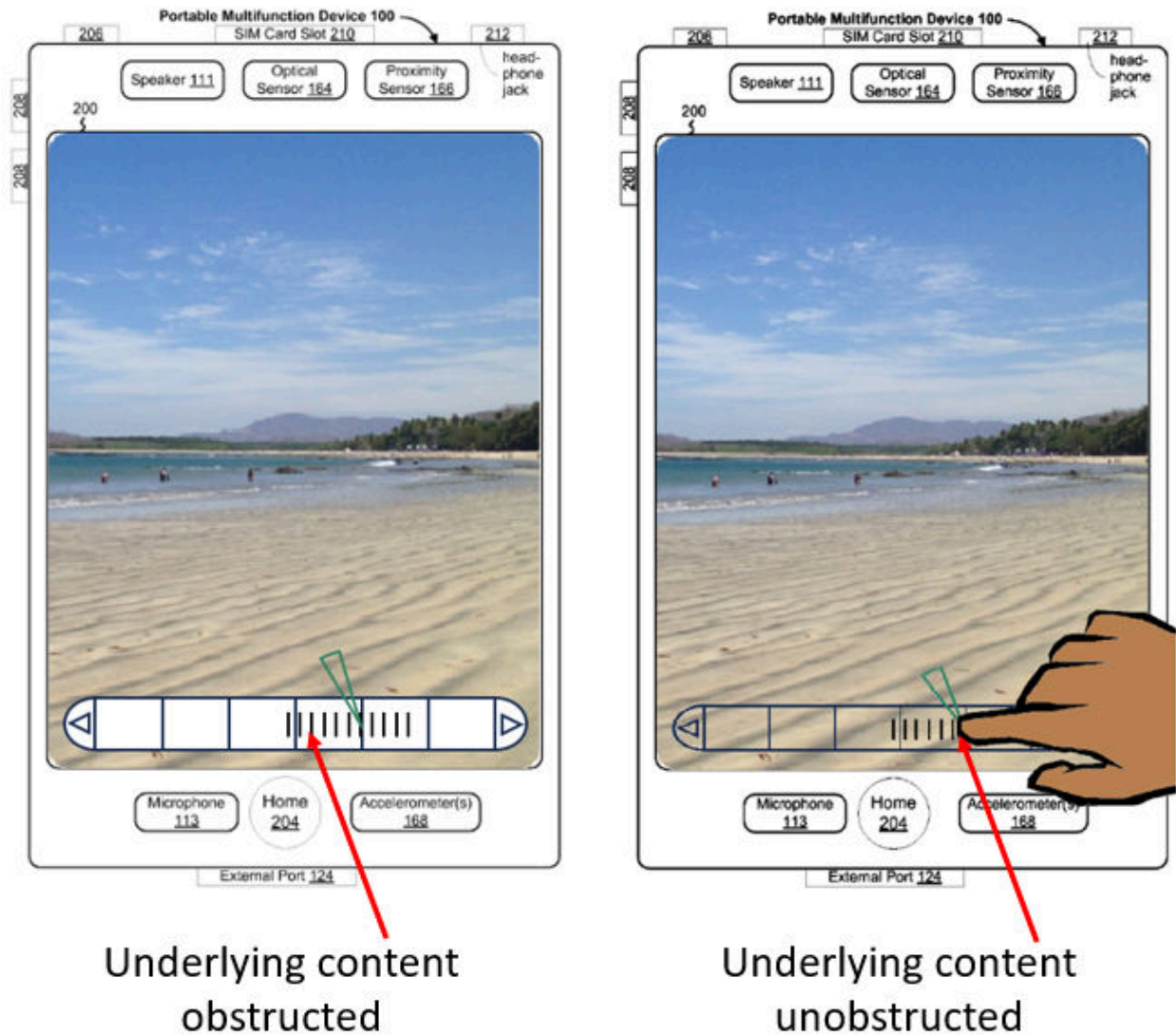


APPLE-1005, 4:06 (annotated)

Thus, Ramos Video, too, demonstrates the commonplace nature of adjusting transparency effects responsive to a particular selection or context. APPLE-1032, ¶23. Dr. Mahon reveals his failure to consider key aspects of the Ramos Video informing straightforward and well-known methods for adjusting transparency effects that existed prior to the Critical Date, when admitting that he “didn’t discuss ... Dr. Cockburn’s assertions of this particular section of the video” (APPLE-1033, 79:19-80:3) and correspondingly omitted any mention of this portion of the Ramos

Video in his declaration (*see, generally*, EX2012). Smith's Response is similarly silent. *See, generally*, POR.

As Petitioner points out with reference to Ording, displaying UI objects as “semitransparent” was well-known by the Critical Date. Pet., 58; APPLE-1003, ¶93; APPLE-1032, ¶24. Moreover, a POSITA would have found it obvious to modify the Zlider (if/as needed) to make it semitransparent and thus a “less intrusive,” because increased transparency would minimize obstruction on image content. *Id.* For instance, a POSITA would have understood that, if only part of the Zlider is translucent (e.g., pressure cursor), the working area of the Zlider would obstruct the underlying content that is otherwise visible through the modified Zlider (Pet., 59), as illustrated below. APPLE-1032, ¶24.



Comparison of unmodified Zlider (left) with Zlider modified with semitransparency, per Ording (right). APPLE-1032, ¶24

Indeed, the benefit of applying Ording's teaching of semitransparency is apparent in the images above, where a significant portion of the underlying image (left) is obstructed by the Zlider's working area. APPLE-1032, ¶25.

Finally, to the extent that Smith argues Petitioner failed to show that the Ramos Paper and Video disclose recited translucency limitations because the *entirety* of the Zlider is not translucent, they are wrong. APPLE-1032, ¶26. The independent claims require that “*at least a portion* of the second virtual layer is at least partially translucent.” Ramos Paper’s and Ramos Video’s pressure cursor is a translucent portion of the Zlider. Furthermore, dependent claims of the ’580 Patent confirm that the “at least a portion of the second virtual layer is at least partially translucent” limitation should be interpreted to cover only a portion of the second virtual layer being translucent. For example, claim 21 recites “the at least portion of the second virtual display layer is at least partially translucent, by only a portion of the second virtual display layer being at least partially translucent.” APPLE-1001, 105:4-8.

B. The RROD’s second virtual display layer—including all Zlider components—appears to have a lesser depth than the first virtual display layer at least because the Zlider’s pressure cursor is partially translucent, as Smith and Dr. Mahon admit

Smith admits that the pressure cursor of Ramos’ Zlider is translucent. POR, 28 (“The translucency of the pressure cursor is seen”); EX2012, ¶91.

Q. Is the portion of the pressure cursor that extends within the image region of the freeze frame [at 3:16 of the Ramos Video] at least partially translucent?

A. The change in appearance of the pressure cursor, as I said, does give the appearance that it is -- the image is underlying content of the

pressure cursor, based upon this freeze frame and to someone viewing this freeze frame.

Q. So, to clarify, does the pressure cursor appear at least partially translucent over the underlying content that is the image?

A. ... Well, the pressure cursor is certainly changing the appearance of what is underneath it, and that does include the image.

APPLE-1033, 65:11-66:5

In the absence of any legitimate debate that the Zlider's pressure cursor fails to satisfy the translucency requirement of second virtual display layer, Smith is left to argue that the uncontested translucent pressure cursor of the Zlider (and/or the Zlider Vernier) is distinct from the second virtual display layer and instead within the same virtual layer as the contents. POR, 21-26. This argument is not credible.

APPLE-1032, ¶27.

First, a POSITA would have understood that the Zlider—including its components—are in the same virtual display layer. APPLE-1032, ¶28; EX2007, 65:2-11. Ramos Paper teaches that the Zlider includes multiple components, referring to Figure 1 as the Zlider, and showing the Zlider as including the working area, the markings, and the pressure cursor. APPLE-1004, 1, FIG. 1. Dr. Mahon agrees. APPLE-1033, 52:10-53:3. Ramos Paper further states that the Zlider widget includes “a rectangular working area” and can include “a pressure cursor (Figure 2).” APPLE-1004, 3. “The Zlider also displays a Vernier.” APPLE-1004, 3.

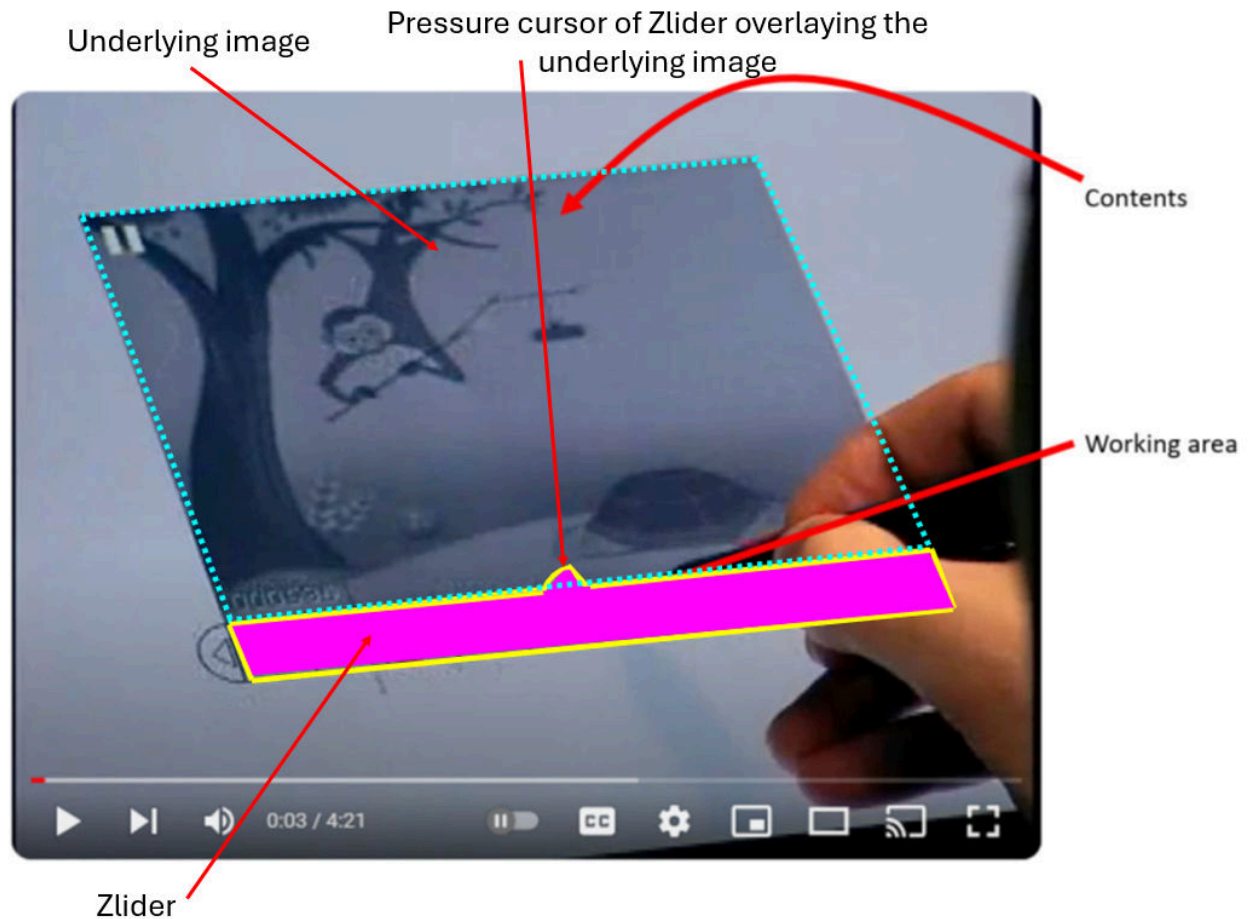
Indeed, as Dr. Cockburn explains, a POSITA would have naturally understood that the components constituting the Zlider exist on the same virtual display layer. APPLE-1032, ¶29.

A POSITA would have understood that when user interface widgets, such as the Zlider, are placed within a graphical user interface, they exist within a single layer of that interface. This is the case even when a widget consists of multiple sub-components that are drawn using a particular placement order such that some sub-components appear on top of others. For example, scrollbar widgets have been well-known since at least the early 1980s, and scrollbars are well-known to be comprised of multiple sub-components, including a scroll-trough, a scroll-knob (or thumb), and scroll up/down or left/right arrows. While it would be clear to a POSITA that a scrollbar widget would require that the scroll-knob appear above the scroll-trough (the user would not be able to see (absent transparency effects) or directly operate the scroll-knob if that were not the case), a POSITA would also have understood that when inserting a scrollbar widget into a user interface, it would be inserted into a single layer of that interface.

Id. Smith asks the Board to accept that Ramos' Zlider comprises separate components divorced from one another that must necessarily exist on separate planes rather than accepting, more reasonably, that the components of Ramos' Zlider (e.g., working area, pressure cursor, markings) are collective parts of the Zlider and should thus be considered to be on the same apparent "plane"—one that exists above the image below. POR, 27-33. To separate these components of the Zlider or consider them otherwise located on different "planes" would be counter to the overall idea

that these are simply parts of a whole widget. APPLE-1032, ¶30; APPLE-1004, 1, FIG. 1.

Second, because a POSITA would have considered the components of the Zlider to be in the same virtual display layer and because at least a portion of the Zlider (e.g., pressure cursor) is partially translucent, a POSITA would have further understood that the entirety of the virtual display layer comprising the Zlider is in a *different display layer than the content that can be seen through the pressure cursor*—specifically, the underlying content. APPLE-1032, ¶31. The Petition explains that the image being viewed (i.e., contents) exists on a first virtual display layer and RROD's Zlider exists on a second virtual display layer. Pet., 39-41, 49-59; APPLE-1003, ¶¶74-75, 83-93. As illustrated below from an image from the Ramos Video, because the Zlider includes the pressure cursor, which is *semitranslucent over the underlying image* (i.e., contents) (underlying image outlined in dashed cyan line), the entirety of the Zlider (outlined in yellow and filled in magenta) appears in a virtual display layer that appears to have a lesser depth than the underlying image. APPLE-1032, ¶31.



Pet., 40 (citing APPLE-1005, 0:03) (annotated); APPLE-1032, ¶31

Smith’s argument about playing “whack-a-mole” inaccurately characterizes the Petition and is also inconsistent with the claims of the ’580 Patent. *See* POR, 25.

First, Smith argues that, “if everything in the Ramos Paper and Ramos Video are in the same virtual layer, then there is no second virtual display layer.” POR, 25-26. This strawman does not reflect Petitioner’s position. To be certain, Petitioner explains that the underlying content is in a first virtual display layer, while the Zlider (including its components) are in a second virtual display layer that appears to have

a lesser depth than the first display layer. Pet., 50-59 (showing the RROD as including a widget, i.e., Zlider, that is at least partially translucent); APPLE-1032, ¶33. No carnival games are required.

Second, Smith argues that if “the pressure cursor is above the markings, and the markings are above the content, then the alleged translucency of the pressure cursor cannot satisfy the requirement ... of at least partial translucency in the second virtual display layer.” POR, 26. This, too, is wrong. Smith’s argument hinges on the assumption that the second virtual display layer cannot itself comprise multiple layers, or more specifically, that the pressure cursor and the markings cannot both be in the second virtual display layer—a possibility that Smith does not address. *See* POR, 24-26; APPLE-1032, ¶34.

Notably, the ’580 Patent’s claim 21 (dependent on claim 1) explicitly describes scenarios where the second virtual display layer comprises more than one layer. For instance, claim 21 recites “the second virtual display layer includes at least one of: an operation layer, an emphasis layer, or a clipboard layer,” thus contemplating the second virtual display layer including multiple layers. APPLE-1001, 104:42-43; *see also id.*, 106:47-48; *see* APPLE-1034, 44:18-45:9 (Dr. Mahon admitting he “didn’t recall citing to Claim 21” in his declaration); EX2012, *generally* (no reference to claim 21). Because claim 21 indicates that the second virtual display layer includes “at least one of” a number of layers, then the second virtual display

layer can include multiple layers—thus permitting the Zlider as whole to exist on the second virtual display layer despite components of it residing on sub-layers of the second virtual display layer. APPLE-1032, ¶35; *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999); *Kistler Instrumente AG. v. United States*, 628 F.2d 1303, 1318, 211 U.S.P.Q. 920 (Ct.Cl.1980) (“Anyone with even the most rudimentary understanding of the English language understands ‘at least one piezo-electric crystal means lodged within said component means,’ to mean one or more crystals.”).

And, because the Zlider’s pressure cursor is shown as being translucent over the underlying contents (*see, e.g.*, APPLE-1004, FIG. 6; APPLE-1005, 3:57-4:15), at least a portion of the second virtual display layer—including the Zlider’s pressure cursor—is at least partially translucent so that at least a portion of the contents of the virtual display layer is visible through the Zlider’s pressure cursor overlaying the underlying content. APPLE-1003, ¶¶57, 90-91; APPLE-1032, ¶36.

Additionally, where the majority of the Zlider is translucent, as in the example combination shown in the Petition at page 59, a POSITA would have understood that all components of the Zlider are on the same (e.g., second) virtual display layer. APPLE-1032, ¶37.

C. At least a portion of the RROD's second virtual display layer is at least partially translucent due to the Zlider pressure cursor's translucency and Ording's teachings

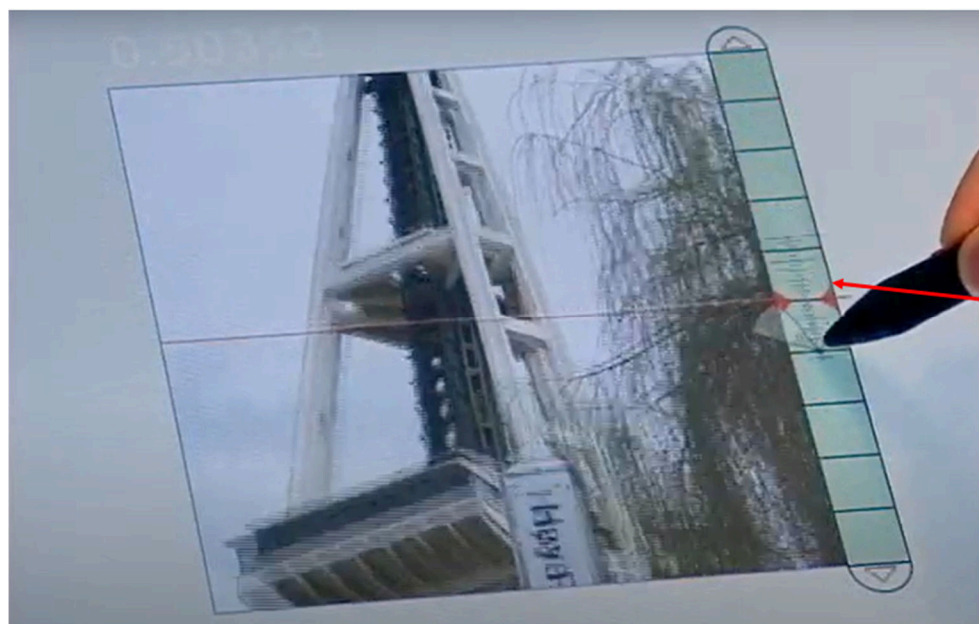
As discussed in §II.B, at least a portion of the second virtual layer of the RROD (Zlider's pressure cursor) is at least partially translucent. Smith and Dr. Mahon both concede the pressure cursor's translucency. POR, 28-29 ("The translucency of the pressure cursor is seen"); EX2012, ¶91; APPLE-1033, 64:19-66:5 ("the pressure cursor is certainly changing the appearance of what is underneath it, and that does include the image"). Thus, as discussed in §II.B, a POSITA would have considered the pressure cursor and the extended markings to be in the same (second) virtual display layer as the other parts of the Zlider. APPLE-1032, ¶38.

The Petition further cites to Ording, which supports the concept of at least a portion of the Zlider being semitransparent. Pet., 51-59 (citing APPLE-1006, [0045]); APPLE-1006, [0045] ("virtual click wheel ... may be either an opaque or semitransparent object"); ID, 18 ("Petitioner also relies on Ording's description of using a semitransparent virtual click wheel as an input control device."); APPLE-1003, ¶¶87-93; APPLE-1032, ¶39.

D. Smith’s arguments concerning “perform[ing] a zoom operation on ... the first virtual display layer” “without performing the zoom operation on the plurality of markings” misinterpret the claims ([11](i)-(iii)/[1.k], [22h](i)-(iii)/[22.g], [58g(i)-(iii)]/[58.f], [82]²)

Smith argues that, “as the user performs *a zoom operation* on the working area *the zoom operation* also occurs on the plurality of markings as seen in the video by the plurality of markings expanding.” POR, 37. Specifically, Smith alleges that the “Zlider zooming in on its marking as a *portion of image is enlarged* (zoomed), that it ‘*adapts its grid spacing*’ according to the zoom is just another way of saying that it also zooms in on the grid spacing.” POR, 38. Notably, however, any adapting of grid spacing on the Vernier is not the same zoom operation performed on the image, as shown below. APPLE-1032, ¶¶40-41; APPLE-1005, 3:17-3:20. Thus, Smith’s argument is not relevant to the claims to which it is directed, as those claims do not preclude *any* zoom on the markings but instead preclude “performing *the zoom operation*” on the markings.

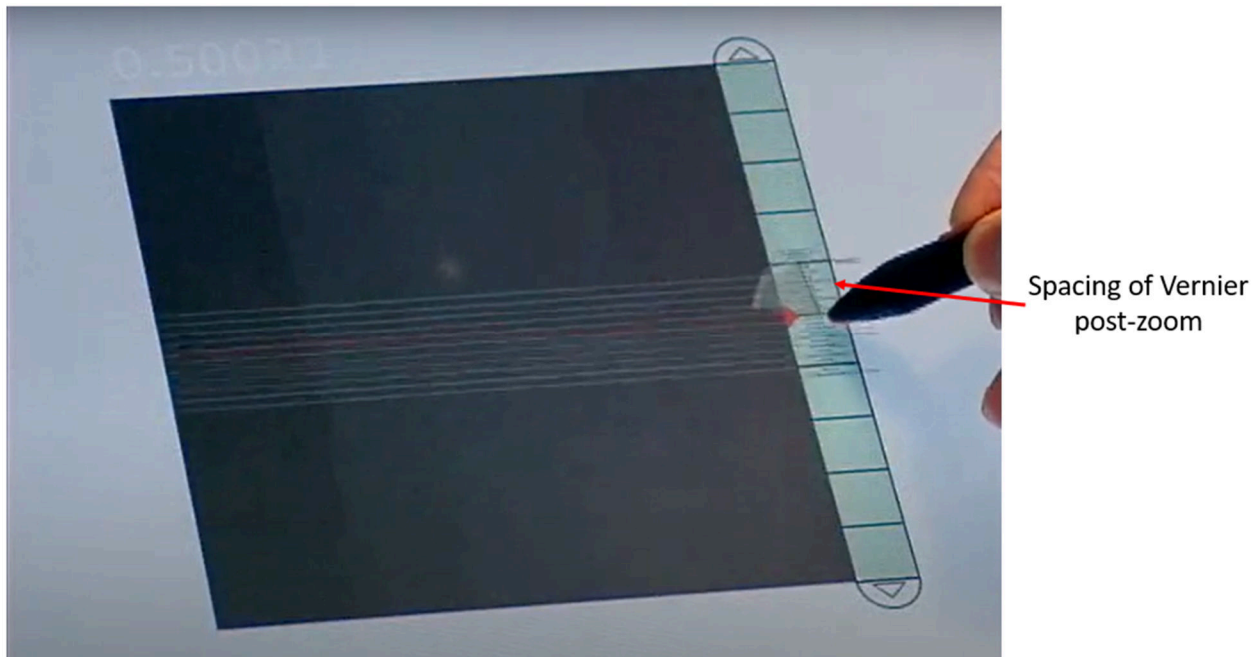
² The Petition inadvertently included claim 83 as a Challenged Claim. This was unintended, as indicated by the Petition’s reference to claim 47 in its discussion of claim 83 where claim 47 was not a Challenged Claim.



APPLE-1005, 3:17 (annotated)



APPLE-1005, 3:18 (annotated)



APPLE-1005, 3:20 (annotated)

Specifically, claims 1, 22, and 58 each recite “perform[ing] *a zoom operation* on the at least portion of the contents of the first virtual display layer,” while later reciting (in claims 1, 22, 58, and 82) “without performing *the zoom operation* on the plurality of markings in the second virtual display layer.” Accordingly, the Petition explains that performing the zoom operation does not cause *the same zoom operation* on the plurality of markings of the Zlider. Pet., 69 (“the zoom operation applied to the content is not applied to the Vernier”), 70 (“any change in scale of the Vernier is not the ‘zooming’ function applied to the content”), 71-72; APPLE-1032, ¶¶40-41.

To the extent that Smith seeks to distinguish these claims based on an interpretation of the claims as not permitting *any* zoom operation on the markings,

it is misinterpreting the claims in service of its argument. The antecedent basis of “*the* zoom operation” in claims 1, 22, 58, and 82 (dependent on claim 58) requires only that *the specific zoom operation performed on the content* is not performed on the Vernier. Pet., 69-72; APPLE-1032, ¶41. Smith instead interprets these claims as if they recited the limitations of claims 46, 47, 83, and 98, each of which more generally recite “without performing *any* zoom operation on the plurality of markings in the second virtual display layer.” *Netflix, Inc. v. DivX, LLC*, No. 20211931, 2022 WL 2298983, at *4 (Fed. Cir. June 27, 2022) (“the difference between claims ... provides guidance as to the scope”); *see, e.g.*, APPLE-1001, 109:15-21. However, the Challenged Claims do not recite that broader language.

E. Smith’s argument that a hover cannot satisfy the claims is belied by record evidence of a “touch” includes proximity ([1.h], [22.d], [58.c])

The Petition demonstrates that a user’s stylus hovering within a threshold distance of a touchscreen, which is used to trigger display of the Zlider, addresses the recitation of touch by the claims. *See* Pet., 50 (citing APPLE-1003, ¶86). Smith is wrong to contend otherwise. APPLE-1032, ¶42.

First, a POSITA would have understood “*an aspect of a touch*” to include “hover.” Pet., 47 (citing APPLE-1003, ¶80); APPLE-1032, ¶43. Contrary to Smith’s mischaracterization of Petitioner’s position (“But ‘touch’ is not the same as ‘no touch’ or a ‘hover.’”), Petitioner does not *equate* a hover with a touch. *See* POR, 41.

Rather, as the Board recognizes (ID, 26), the Petition posits that a hover is simply an “aspect” or “portion” or type of a touch. APPLE-1003, ¶80 (“A POSITA would have understood that a touch in the Ramos Paper and Ramos Video includes both contact with the touch screen and meeting a threshold proximity between the stylus and the touch screen.”).

The ’580 Patent supports this position, explaining that “the contact pressure level may be represented by a touch state,” which “refers to a predefined subset of the range of measurable contact pressures.” APPLE-1001, 17:22-25. “[C]ontact pressure levels may be represented as one of four *predefined touch states*: *no touch*, light touch, medium touch, and heavy touch. ... *[T]he lowest touch state may require some form of proximity*.” APPLE-1001, 17:25-29. That is, the lowest touch state (i.e., “no touch”) may require some form of proximity (e.g., threshold relating to hovering). The ’580 Patent further describes a “touch event” as having attributes that “refer to one or more measurable aspects of the user interaction,” where “measurable aspects” include “touch uncertainty.” APPLE-1001, 52:55-64. Indeed, a POSITA would have understood that a capacitive touch sensor has no knowledge of physical contact. APPLE-1032, ¶44. Rather, it measures electrical induction responsive to a measurable user interaction. For example, the ’580 Patent describes a device with “a capacitive touch sensor” where, “when an implement of interaction is *placed over* the conductive lines [of the sensor], there is a change in capacitance.”

APPLE-1001, 36:27-39 (“This current may be used to sense the touch *or proximity*”). That is, a capacitive sensor senses measurable aspects, which include electrical induction from proximity, not simply touch. *Id.*; APPLE-1032, ¶44.

Moreover, the ’580 Patent incorporates by reference U.S. Patent Publication No. 2008/0122796 (“Jobs2”), which further supports Petitioner’s position and not Smith’s. *See* APPLE-1001, 100:52-60. Jobs2 offers clear disclosure of how a capacitive touchscreen responds to approach and contact of touch data. APPLE-1034, [1188]-[1197], FIGS. 59A-59H, 60A-60F; APPLE-1032, ¶45 (discussing Jobs2). “[T]he finger may be deemed in contact with the screen if the capacitance between the two reaches the in-contact threshold *while the finger has not physically touched the screen.*” APPLE-1034, [1197].

Dr. Mahon testified that claim 1’s recitation of “when an *aspect of the touch* is detected to surpass a threshold” requires “a specific characteristic of the touch that is the *physical contact* surpass[ing] a threshold.” APPLE-1033, 28:20-29:9. Notably, Dr. Mahon admitted he did not specifically recall reviewing Jobs2 or any other application referenced in the ’580 Patent. APPLE-1033, 16:13-17:13, 18:21-21:5 (“if it is not cited in my declaration, I don’t recall going and reviewing a specific citation”); EX2012, *generally* (no reference to Jobs2). Thus, Dr. Mahon formed his flawed conclusion regarding the relationship between a hover and a touch without the benefit of Jobs2’s helpful teachings. *Id.*; APPLE-1032, ¶46.

For additional support, the Petition cites to Ording, as the Board recognized, “describing finger contact with a touch screen to be ‘a process involving multiple actions including the finger approaching the display, the finger being in contact with the display, and the finger leaving the display.’” ID, 26 (citing APPLE-1006, [0141]); *see* Pet., 47-48 (quoting APPLE-1006, [0141]); APPLE-1032, ¶47.

Nothing that Smith cites precludes a touch from including, as an aspect or portion of that touch, approach or hovering. That the ’580 Patent states that “a touch event refers to an event in which an implement of interaction comes into contact with an interaction surface” (APPLE-1001, 52:48-50), does not prevent hovering or proximity from being simply “an aspect of that touch” or “a portion of touch,” especially in light of the ’580 Patent’s broader discussion of a touch event, referenced above. Smith’s arguments that the “at least portion of touch” is detected “on the at least one user interface element” further does not preclude reliance on a hover. *See* POR, 41. As Dr. Cockburn explains, “the device does not consider ‘on’ in the physical sense, but rather in terms of x-y coordinates and the inputs, flags, and signals that represent the input.” APPLE-1032, ¶48. If a user input is within the x-y coordinates and measurable, then “over” suffices for “on.” *Id.* (citing APPLE-1034, [1197]). Ording’s teaching that, “[a] *finger contact with the touch screen display (e.g., a finger tap) is a process involving multiple actions including the finger approaching the display*” further supports this understanding. APPLE-1006, [0141].

Smith’s arguments inject a physical understanding of “on” that is not consistent with how an apparatus would detect a touch “on” an object on a touch screen. APPLE-1032, ¶48 (citing APPLE-1034, [1197]).

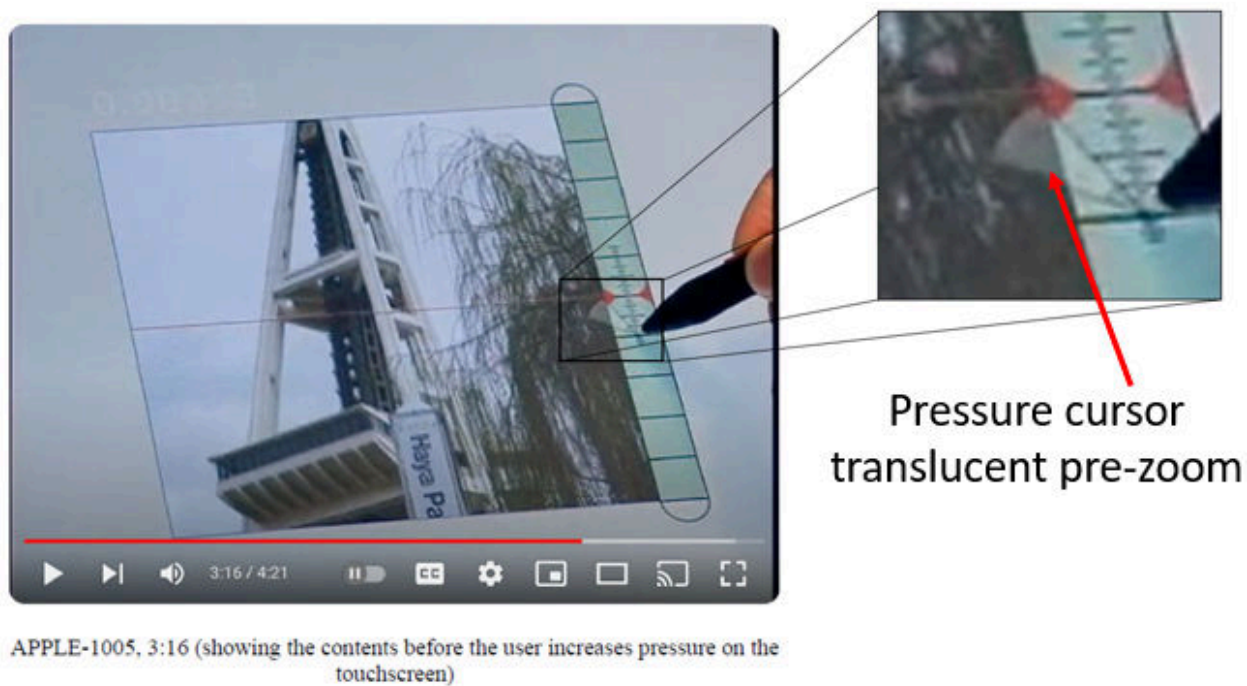
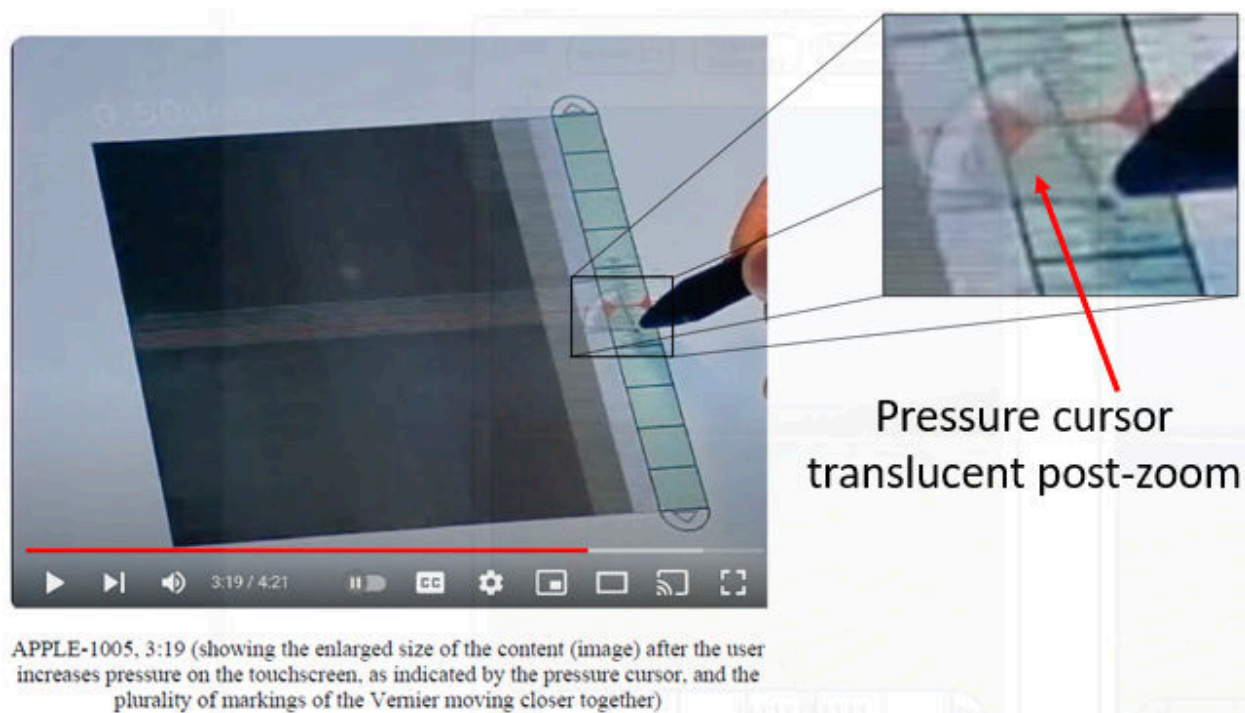
As the Petition explains, Ramos Paper and Ramos Video disclose displaying the Vernier in response to a hover, which is an aspect of a touch, for the reasons discussed above. Pet., 43-48. Since hover is a portion or aspect of touch, Petitioner’s reliance on Ramos Paper and Ramos Video’s hover threshold is entirely proper. APPLE-1032, ¶49.

F. Smith’s professed confusion as to Petitioner’s mapping is refuted by the Board’s understanding of the mapping and Smith’s ability to respond to the mapping

The Petition addresses [11(iii)]/[1.k] with sufficient particularity. As the Board correctly noted, “[a]fter discussing the zooming function in the Ramos Paper and the Ramos Video, Petitioner presents two images from Ramos Video,” where the Petition describes the first image as “showing the contents before the user increases pressure on the touchscreen” and the second image as “showing the enlarged size of the content (image) after the user increases pressure on the touch screen, as indicated by the pressure cursor, and the plurality of the markings of the Vernier moving closer together.” ID, 33 (citing Pet., 68-70, 71 (citing Ex. 1005, 3:16), 72 (citing Ex. 1005, 3:19)). With respect to earlier limitation [1i]/[1.h] (“...where at least a portion of the second virtual display layer is at least partially translucent...”), the Petition discusses

and shows various examples of such partial translucency, including the Zlider's pressure cursor and the majority of the Zlider in the RROD. APPLE-1003, ¶¶87-93. Again, the Board correctly notes that [11(iii)]/[1.k] "uses antecedent basis to indicate that the limitation [11(iii)] is the same partially translucent portion of the second virtual display layer recited in limitation [1i]." ID, 32-33; APPLE-1032, ¶50.

Smith's professed confusion as to Petitioner's mapping is refuted by the Board's clear understanding of the Petition's mapping, Smith's ability to respond to the Petition's mapping—albeit with faulty reasonings, and the Petition's presentation of evidence. Indeed, as illustrated below, the Petition's before-zoom and after-zoom images, referenced in the Institution Decision (ID, 33), clearly show the recited partial translucency with reference to the Zlider's pressure cursor in the second virtual display layer both before and after the "zoom operation on the at least portion of the contents of the first virtual display layer." Pet., 71-72; APPLE-1032, ¶51; *see In re Mraz*, 455 F.2d 1069, 173 USPQ 25 (CCPA 1972) (indicating that images can anticipate claims if they clearly show the claimed structure).



Pet., 71-72 (modified; annotated).

G. Smith’s argument that the Petition’s mapping does not show “a single continuous gesture in constant contact” relies on a mischaracterization of the Petition’s “first touch” and “second touch” (claims 29, 65)

Smith alleges that “Petitioner’s mapping fails because the Petitioner cannot show that the RROD prior art references disclose two independent touches that are detected to be part of a *single continuous* gesture in constant contact with the electronic device.” POR, 48. Smith’s allegation mischaracterizes the nature of the “first touch” (“touch” in claims 29 and 65) and the “second touch” (“another touch” in claims 29 and 65) to which the Petition maps the prior art. APPLE-1032, ¶52. Smith refers to the “first touch” as “the user moving the stylus within proximity of the touch screen (causing display of the Vernier on the working area)” and the “second touch” as “when the stylus ‘continue[s] moving on the touchscreen along the Zlider and during the continuous touch movement,” but this is not correct. *See* POR, 49.

Regarding the “first touch,” the Petition explicitly states that “[a] POSITA would have understood that a *touch* in the Ramos Paper and Ramos Video includes *both contact with the touch screen and meeting a threshold proximity* between the stylus and the touch screen.” Pet., 47; *see id.*, 43-48, 88, 92. Notably, Smith’s characterization of the “first touch” omits contact itself and focuses solely on proximity. POR, 49. Regarding the “second touch,” Petitioner references a “touch

movement” along the Zlider’s markings (Vernier). Pet., 59-62; *see id.*, 88, 92. With this corrected understanding of the Petition, both the “first touch” and “second touch” are clearly part of the same “single continuous gesture with constant contact with the electronic device.” APPLE-1032, ¶53.

H. Record evidence refutes Smith’s contention that a POSITA would not have been motivated to use duration (claims 9, 32, 69)

Smith’s argument that a POSITA would not have been motivated to use duration, as disclosed in Ording, because “the Zlider in the Ramos Paper and Video is not using duration” is misguided. Indeed, one of the reasons a POSITA would have been motivated to modify Ramos Paper and Video to use a well-known characteristic, such as time, to determine whether a touch is intentional is that the Ramos Paper and Video do not mention or otherwise foreclose the use of time/duration when discussing the Zlider. APPLE-1032, ¶54; *see also* APPLE-1003, ¶114 (“Ording recognizes a ‘time period’ associated with a finger’s contact with a touch screen”) (citing APPLE-1006³, [0141]; APPLE-1020, [0033]). Dr. Cockburn further testifies as to the obviousness of using “at least a duration and a length,” per Ording, “to recognize the type of gesture (e.g., a tap or a swipe).” APPLE-1003, ¶84. “Ording explains that a swipe gesture would not register as a tap, at least suggesting that the gesture was determined to have too long of a distance (as compared to a

³ EX2007, 16:8-13.

distance threshold) and/or *too long of a duration (as compared to a time threshold)* to be identified as a tap,” and “use of such thresholds was well-known by the Critical Date.” *Id.* (citing APPLE-1006, [0096], [0141]; APPLE-1020, [0031], [0033] (“ignore or reject any touches that have a duration that is less than a predetermined minimum amount of time, to ignore or reject touches that do not traverse a predetermined minimum portion of the touch element”); APPLE-1023, [0019], [0060]-[0062]). Thus, a POSITA would have been amply motivated to incorporate a duration magnitude threshold in RROD. APPLE-1003, ¶¶85-86; APPLE-1032, ¶54.

I. Smith Offers No Independent Arguments Against the Obviousness of Claims 2, 4, 6-10, 23, 25-26, 28-30, 32-33, 59, 61-62, 64-65, 67, 69-70, or 73

Smith offers no independent argument regarding these claims. *See, generally*, POR. Because claims 1, 22, and 58 are obvious, these dependent claims are also obvious. *See* §II, *supra*; APPLE-1032, ¶55.

III. The RROHD Renders Obvious Claim 48

A. The Petition Argues that a POSITA Would Have Been Motivated to Modify RROD with Hayward, Not the Other Way Around, as Smith Alleges

Smith’s criticism of the inclusion of Hayward is backward, arguing that “Hayward already discloses and illustrates a gesture (*see* Pet., 95) to accomplish what Petitioner seeks to make more complicated by adding Ramos’ Zlider.” *See*

POR, 56. This analysis is flawed. The question is not whether “Hayward’s approach to adjusting contrast was lacking” (POR, 56), but rather whether a POSITA would have modified the *Ramos’s Zlider*—or the *RROD*—which did not previously use the Zlider for image-capturing-related parameters. APPLE-1032, ¶56.

The Petition provides precisely this proper reasoning. Pet., 96-99. Indeed, Ramos Paper contemplates scenarios, such as those described in Hayward, where its Zlider could be deployed (e.g., graphic applications), thus providing the motivation for extending use of the Zlider to further graphic applications, such as the image-capturing related parameters disclosed in Hayward. APPLE-1004, 1 (“Interactions such as identifying and then picking a single pixel from a high resolution image...”), 2; APPLE-1032, ¶57.

IV. Conclusion

Petitioner respectfully requests that the Board find the Challenged Claims unpatentable.

Respectfully submitted,

Dated: August 21, 2025

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Reply to Patent Owner's Response totals 5,586 words, which is less than the 5,600 allowed under 37 CFR § 42.24(c)(1).

Dated: August 21, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on August 21, 2025, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response and corresponding exhibits were provided via email to the Patent Owner by serving the email correspondence addresses of record as follows:

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