

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,
v.
SMITH INTERFACE TECHNOLOGIES, LLC,
Patent Owner.

Case No. IPR2024-01085
U.S. Patent No. 10,649,580

PETITIONER'S NOTICE OF APPEAL

Pursuant to 28 U.S.C. § 1295(a)(4)(A), 35 U.S.C. §§ 141(c), 142, and 319, and 37 C.F.R. §§ 90.2(a), 90.3, and Federal Circuit Rule 15(a)(1), Apple Inc. (“Petitioner”) provides notice that it appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision of the Patent Trial and Appeal Board (“Board”) entered December 31, 2025 (Paper 33), and from all underlying and related orders, decisions, rulings, institutions, and opinions regarding U.S. Patent No. 10,649,580 (“the ’580 patent”) at issue in *Inter Partes* Review No. IPR2024-01085. This notice of appeal is timely filed because it is filed within 63 days of the December 31, 2025 Final Written Decision.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), the expected issues on appeal include, but are not limited to: the Board’s determination that Petitioner did not establish that claims 1-4, 6-10, 17, 19, 22-26, 28-30, 32, 33, 36, 41, 48, 58-62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 of the ’580 patent are unpatentable and all other issues decided adversely to Petitioner in any orders, decisions, rulings, or opinions in this proceeding.

Pursuant to 35 U.S.C. § 142 and 37 C.F.R. § 90.2(a), a copy of this Notice is being filed with the Director of the United States Patent and Trademark Office and with the Patent Trial and Appeal Board. In addition, a copy of this Notice and the required docketing fees are being filed with the Clerk’s Office for the United States Court of Appeals for the Federal Circuit via CM/ECF.

Dated: March 3, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE AND FILING

I hereby certify that on March 3, 2026, in addition to being filed and served electronically through the Patent Trial and Appeal Board's P-TACTS System, this NOTICE OF APPEAL is being provided to the Director of the USPTO by electronically filing to the email address as follows:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
efileSO@uspto.gov

I also hereby certify that on March 3, 2026, this NOTICE OF APPEAL and the requisite docketing fees were filed with the Clerk's Office of the United States Court of Appeals for the Federal Circuit via CM/ECF.

I also hereby certify that on March 3, 2026, this NOTICE OF APPEAL was served via electronic mail to the following counsel at the addresses designated for service by Patent Owner:

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC,
Patent Owner.

IPR2024-01085
Patent 10,649,580 B1

Before JAMESON LEE, JEFFREY S. SMITH, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

LEE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

We instituted an *inter partes* review of claims 1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 48, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 (“challenged claims”) of U.S. Patent No. 10,649,580 B1 (Ex. 1001, “the ’580 patent”) owned by Smith Technologies, LLC (“Patent Owner”). Paper 8 (“Decision to Institute” or “Inst. Dec.”). We have authority to conduct this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

Oral hearing was held on November 14, a transcript of which has been entered as Paper 31 (“Tr.”). We determine that Apple Inc. (“Petitioner”) has not proved by a preponderance of the evidence that any of claims 1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 48, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 of the ’580 patent is unpatentable.

A. Background

Petitioner filed a Petition requesting an *inter partes* review of the challenged claims pursuant to 35 U.S.C. §§ 311–319. Paper 2 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

The Decision to Institute was entered on January 27, 2025. Paper 8. Patent Owner filed a Response to the Petition (Paper 16, “PO Resp.”). Petitioner filed a Reply to the Patent Owner’s Response (Paper 22, “Reply”). Patent Owner filed a Sur-reply (Paper 26, “Sur-reply”).

B. Real Parties in Interest

Petitioner identifies itself as the real party in interest. Pet. 105. Patent Owner also identifies itself as the real party in interest. Paper 3, 1.

C. Related Matters

Each party identifies as related matter: (1) *Smith Interface Technologies, LLC v. Apple Inc.*, Case No. 3-23-cv-01187 (S. D. Cal.), filed June 27, 2023 (pending); and (2) *Smith Interface Technologies, LLC v. Samsung Electronics Co., Ltd. et al.*, 2-22-cv-00290 (E. D. Tex.), filed July 29, 2022 (terminated). Pet. 105; Paper 3, 1.

D. The '580 Patent

The '580 patent issued on May 12, 2020, from Application No. 16/664,777, filed October 25, 2019. Ex. 1001, codes (21), (22), (45). It claims priority through a chain of continuation applications to three provisional applications the earliest filed of which is Provisional Application No. 61/515,835, filed August 5, 2011. *Id.* at codes (60), (63).

The '580 patent is titled “Devices, Methods, and Graphical Use Interfaces for Manipulating User Interface Objects with Visual and/or Haptic Feedback.” Ex. 1001, code (54). The patent describes it generally relates “to touch screens.” *Id.* at 1:36–37. Figure 22, shown below, illustrates “a 3D layered user interface . . . in which displayed objects may exist in one of a plurality of layers.” *Id.* at 67:33, 41–44.

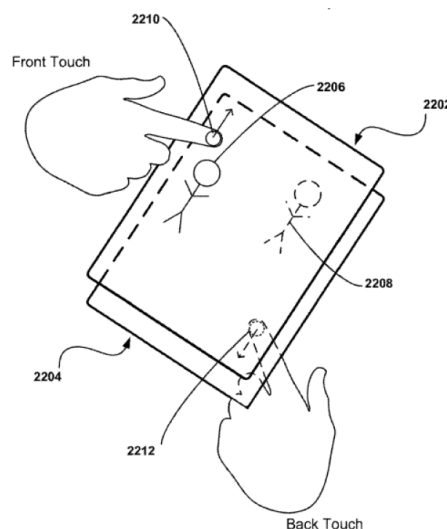


Figure 22 illustrates user interface 2200, including front layer 2202, back layer 2204, and objects 2206 and 2208. Ex. 1001, 67:45–50. Layers 2202 and 2204 “are depicted in a staggered arrangement” to illustrate depth. *Id.* at 67:46–47. “Object 2206 exists in the front layer, while object 2208 exists in the back layer.” *Id.* at 67:49–51.

The patent indicates that “virtual display layers may be given the appearance of depth through the use of 3D depth cues,” such as “an effect, manipulation, transformation, animation, or operation which gives a visual indication of simulated depth.” *Id.* at 68:25–30. Various techniques disclosed for a 3D depth cue include “a blur operation” with “layers located at successively greater depths may appear blurrier than those closer to the user”; “a shadow element” making elements “to appear to float above the next virtual display layer”; “a depth-based fog” making distant objects appear ““foggier”” than objects closer to the user; and “a depth-based apparent rate of movement,” such that “the layers closer to the user may appear to move faster than those more distant.” *Id.* at 68:25–58.

Of all challenged claims, claims 1, 22, and 58 are independent.

Claim 1 is illustrative and reproduced below:¹

- [1pre] An apparatus, comprising:
- [1a] at least one non-transitory memory;
- [1b] a touch screen;
- [1c] a camera; and
- [1d] 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

¹ The bracketed labels correspond to those used by Petitioner to reference the claim elements. *See* Pet. vii–vii. We use the same labels here for ease of reference, understanding, and consistency.

instructions stored in the non-transitory memory to cause the apparatus to:

- [1e] display, via the touch screen, a first virtual display layer including contents;
- [1f] display, via the touch screen, at least one user interface element;
- [1g] detect, via the touch screen, at least a portion of touch on the least one user interface element;
- [1h] 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] detect, via the touch screen, a touch movement on at least one of the plurality of markings; and
- [1k] during detection of the touch movement on the at least one of the plurality of markings 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
- [1.1] 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, where the zoom operation correlates with the movement of the markings in the second virtual display layer, and 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.

Ex. 1001, 102:12–54.

Claim 22 is a method claim including various steps largely corresponding to the functionalities recited in claim 1. Ex. 1001, 107:15–52. Claim 58 is directed to a non-transitory computer readable storage medium storing one or more programs comprising instructions which, when executed, cause the performance of functionalities largely the same as the functionalities recited in claim 1 and the steps recited in claim 22. *Id.* at 110:45–111:15.

E. References and Declarations

Petitioner relies on the following references:

Name	Patent Document/Publication	Exhibit
Ording ²	US 2008/0094356 A1	1006
Hayward ³	US 2012/0176401 A1	1016

Ramos, et al., “Zliding: Fluid Zooming and Sliding for High Precision Parameter Manipulation,” UIST ’05: Proceedings of the 18th Annual ACM Symposium on User Interface Software and Technology, Oct. 23, 2005, pp. 143–152 (Ex. 1004, “**Ramos Paper**”).

“Zooming & Sliding,” (available at [youtube.com/watch?v=EcE3XBytN-U](https://www.youtube.com/watch?v=EcE3XBytN-U)), December 28, 2007 (Ex. 1005, “**Ramos Video**”).

Petitioner relies on the Declaration and Supplemental Declaration of Andrew Cockburn, Ph.D. (Exs. 1003, 1032) regarding technical issues, and the Declarations of Kathryn Talbot (Ex. 1007), June Ann Munford (Ex. 1009), and Gonzalo Ramos (Ex. 1022) regarding publication dates of

² Published April 24, 2008. Ex. 1006, code (43).

³ Published July 12, 2012, from Application 13/052,994, filed March 21, 2011. Ex. 1016, codes (21), (22), (43).

the Ramos Paper and Ramos Video. Patent Owner relies on the Declaration of Mark P. Mahon, Ph.D. (Ex. 2012).

F. Asserted Ground of Unpatentability

Petitioner asserts that the following grounds of unpatentability:

Claims Challenged	35 U.S.C. § ⁴	Reference(s)/Basis
1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, 83	103(a)	Ramos Paper, Ramos Video, Ording
48	103(a)	Ramos Paper, Ramos Video, Ording, Hayward

Pet. 4, 94.

II. ANALYSIS

A. Burden of Proof

Petitioner has the burden of proving unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e). That burden never shifts to Patent Owner except in limited circumstances not present here. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016). “‘Preponderance of the evidence’ means ‘the greater weight of evidence, evidence which is, more convincing than the evidence which is offered in opposition to it.’” *United States v. C.H. Robinson Co.*, 760 F.3d 1376, 1383 (Fed. Cir. 2014) (internal quotations omitted).

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, (2011), amended 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the ’580 patent claims priority to an application filed before the AIA’s amendments to §§ 102 and 103, we apply the pre-AIA versions of §§ 102 and 103.

B. Level of Ordinary Skill in the Art

Petitioner relies on declaration testimony of Dr. Cockburn, who asserts that a person of ordinary skill in the art (hereinafter “POSITA”) “would have had 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.” Ex. 1003 ¶ 26.

Patent Owner asserts that Dr. Cockburn’s definition of the level of ordinary skill in the art “is overbroad to the extent it includes work experience in the design and development of human-computer interfaces.” PO Resp. 4. Instead, Patent Owner proposes the following: “[A] POSITA would have had at least a bachelor’s degree in computer science, computer engineering, electrical engineering, 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) or equivalents thereof.” PO Resp. 4.

The difference between the parties’ positions is solely that Petitioner includes “human-computer interaction” as a relevant degree and “human computer interfaces” as relevant working experience. We need not resolve that difference, because no matter which stated level of ordinary skill is applied, all of our findings and conclusions would be the same and because neither party asserts the other party’s expert is not qualified as an expert.

In the Decision on Institution, we adopted Petitioner’s stated level of ordinary skill in the art. Inst. Dec. 9. We continue to adopt Petitioner’s stated level of ordinary skill in the art.⁵

C. Claim Construction

We use the same claim construction standard that would be used to construe a claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b) (2022). The claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) is applicable.

Claim terms are generally given their ordinary and customary meaning as would be understood by one with ordinary skill in the art in the context of the specification, the prosecution history, other claims, and extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Phillips*, 415 F.3d at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

The specification may reveal a special definition given to a claim term by the patentee, or the specification or prosecution history may reveal an intentional disclaimer or disavowal of claim scope by the inventor. *Id.* at 1316. If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness,

⁵ Our findings and conclusions would be the same, however, had we applied Patent Owner’s articulation of the level of ordinary skill in the art.

and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998). The disavowal, if any, can be effectuated by language in the specification or the prosecution history. *Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016).

Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Petitioner asserts that “no claim terms need be construed to resolve issues of controversy in the present Petition.” Pet. 2. Patent Owner agrees that “no formal constructions of any claim terms are necessary.” PO Resp. 4. We agree with the parties that no express construction of any claim term is necessary.

D. Alleged Obviousness of Claims 1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 over Ramos Paper, Ramos Video, and Ordning

1. The Law on Obviousness

A claim is unpatentable under 35 U.S.C. § 103(a) “if the differences between the subject matter to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a); see *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and

content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs, failure of others, and unexpected results. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

2. *The Ramos Paper (Ex. 1004)*

The Ramos Paper describes an “interface widget” for zooming via pressure input and providing a high accuracy zoom and select task. Ex. 1004, 143.⁶ The Ramos Paper provides examples of user interface interactions for which such a widget would be useful. *Id.* Examples include “identifying and then picking a single pixel from a high resolution image, seeking a particular frame in a long video stream, or adjusting a continuous image color parameter.” *Id.*

The Ramos Paper uses the term “zsliding” for the notion of “zoom sliding” that uses both pressure and dragging movement of the input device to perform parameter manipulation. Ex. 1004, 143. For example, a user may use a pressure-sensitive stylus as an input device to interact with the “Zlider widget” described in the paper. *Id.* at 145. “Users use the pressure modality to fluidly and explicitly *zoom* or adjust the granularity of the parameter space, while *sliding* or dragging the input device to perform high precision parameter manipulation within that zoomed parameter space.” *Id.* at 143 (emphasis in original).

Figure 1 of the Ramos Paper shows the Zlider widget and is reproduced below, with caption (Ex. 1004, 143):

⁶ Citations are to page numbers in the original document at the left and right margins on the bottom of the pages.

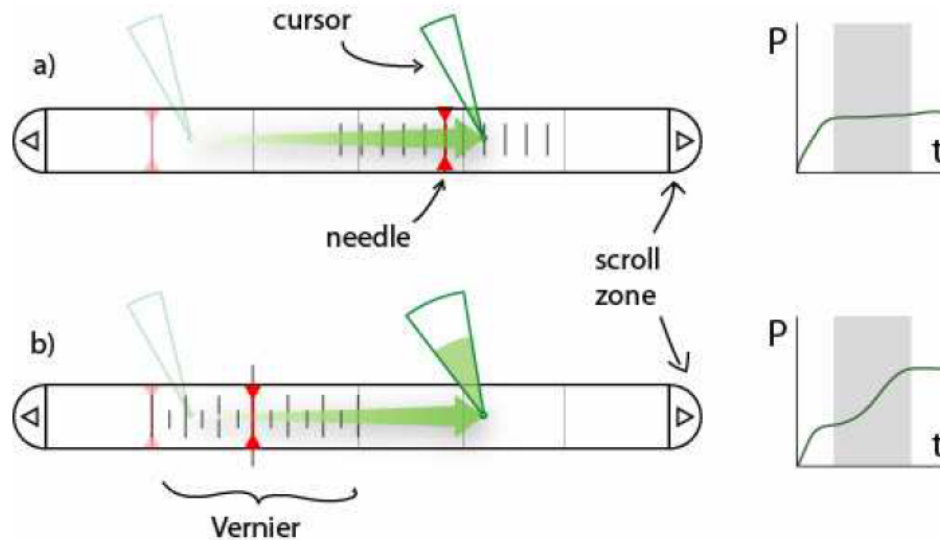


Figure 1: Zliding on the Zlider widget. a) A user manipulates a parameter at coarse granularity by sliding through the control while applying low pressure with the pressure transducer. b) The same x-y sliding action while pressing harder increases the granularity of the parameter space, allowing for more precise parameter manipulation when desired. The graphs on the right plot pressure over time, with the interval when the sliding occurs highlighted.

As shown in Figure 1, the Zlider widget includes a rectangular working area, Vernier, and pressure cursor. In use, the Zlider widget consists of a rectangular working area that the user “can scrub” to adjust a parameter from low to high values. Ex. 1004, 145. “To operate the Zlider the user taps and drags its pointer across the working area until the desired value is reached or effect is achieved.” *Id.* “At all times a red needle indicates the position of the value being adjusted relative to the possible minimum and maximum values at the extremes of the widget.” *Id.*

The Zlider widget shown in Figure 1 includes a wedge-shaped pressure cursor that “provides users with a real-time indicator of the pressure they are applying.” Ex. 1004, 145. “The wedge’s area fills as the pressure increases, until completely filled when the pressure reaches the maximum

level the device can sense.” *Id.* The Zlider widget “uses the release of the stylus from the interaction surface as an indication of selection.” *Id.* at 146.

The Ramos Paper describes experimental evaluation of the Zlider widget. Ex. 1004, 143, 147–150. Figure 6, reproduced below, illustrates the experimental setup used:

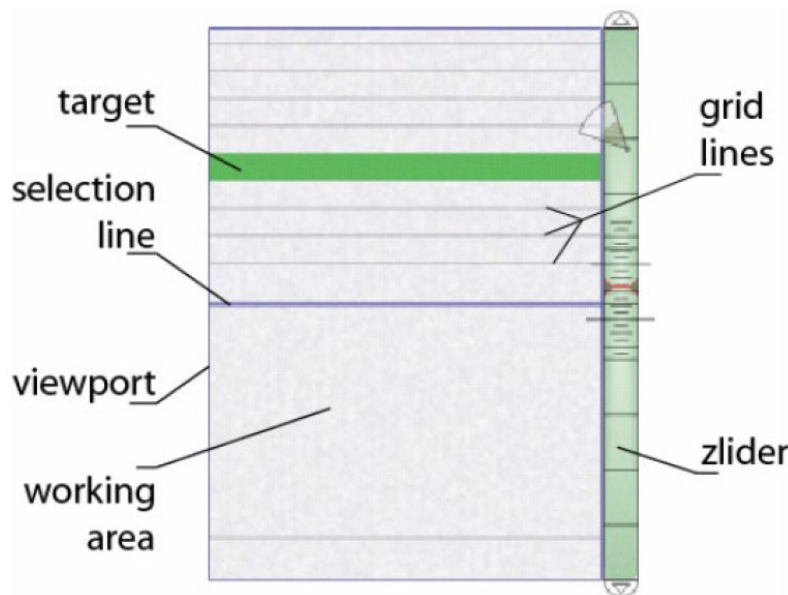


Figure 6: Elements in the experimental setup.

As shown, Ramos’s Figure 6 depicts user interface elements in an experimental setup of the Zlider widget used for a “serial target acquisition and selection task.” Ex. 1004, 148. As depicted in Figure 6, a Zlider widget having a rectangular working area, visible Vernier, and pressure cursor is adjacent to and to the right of a viewport displayed on an “interactive LCD graphics display tablet.” *Id.* A working area or workspace, thin selection line, and green target area are shown within the viewport. *Id.* In the experiment, a participant uses the Zlider widget to scroll through the workspace under the viewport to “locate and select a target in a workspace area” when “the target is inside the viewport, visible, and covering the selection line.” *Id.*

3. *The Ramos Video (Ex. 1005)*

The Ramos Video is an approximately four-minute video that illustrates the operation of the Zlider widget described in the Ramos Paper. *See* Pet. 13. The Ramos Video shows several examples of content being displayed on a touch screen with the Zlider widget (e.g., working area) displayed adjacent to the content. *See* Pet. 13. One example screen shot of the video included in the Petition is reproduced below. Pet. 14.



As depicted above, an example of video content showing a cartoon monkey in a tree dangling a stick above a turtle (labeled as “Contents” by Petitioner) is displayed on a touch screen. *See* Pet. 14. The Zlider widget (including the “Working area” labeled by Petitioner) is shown adjacent to the bottom edge of the example content. The vernier and wedge-shaped pressure cursor are also shown in the Zlider widget.

4. *Ording (Ex. 1006)*

Ording is a published patent application that relates “to portable devices that adaptively determine a cursor position from a finger contact with a touch screen display and then perform operations according to the

cursor position.” Ex. 1006 ¶ 3; *see id.* at code (54). Ording’s portable multifunction device has “a touch-sensitive display (also known as a ‘touch screen’) with a graphical user interface (GUI), one or more processors, memory and one or more modules, programs or sets of instructions stored in the memory for performing multiple functions,” including “digital videoing” and “digital video playing.” *Id.* ¶ 8. Figure 2, reproduced below, shows “a portable multifunction device having a touch screen.” *Id.* ¶ 16.

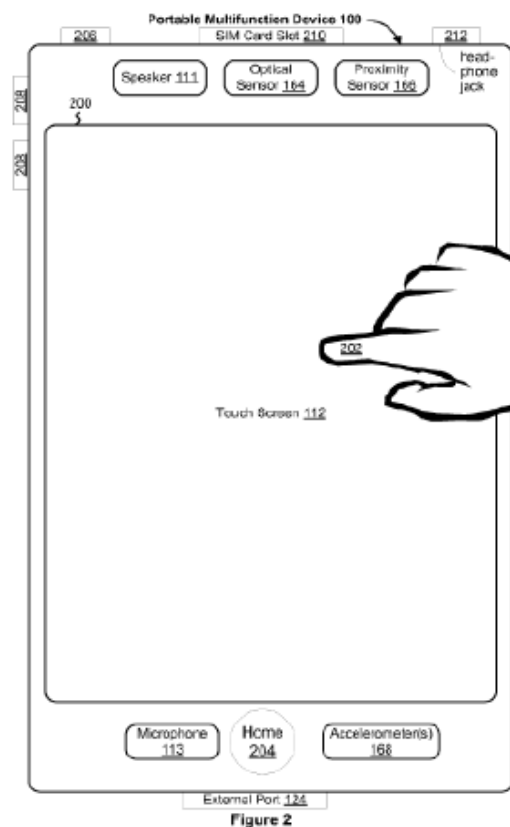


Figure 2 of Ording shows a portable multifunction device 100 having touch screen 112 that displays graphics within user interface 200. Ex. 1006 ¶ 96. A user may select one or more graphics by touching the graphics with one or more fingers 202. *Id.* Device 100 also includes “home” or menu button 204, push button 206 for powering the device on or off, volume

adjustment button 208, head set jack 212, and charging external port 124.
Id. ¶¶ 97–98.

Ording indicates that the device may include “a physical or virtual click wheel” used as an input control device to “navigate among and interact with one or more graphical objects (henceforth referred to as icons) displayed in the touch screen.” *Id.* ¶ 45. “The click wheel may also be used to select one or more of the displayed icons.” *Id.* “For a virtual click wheel, the click wheel may be either an opaque or semi transparent object that appears and disappears on the touch screen display in response to user interaction with the device.” *Id.*

5. *Dispositive Issue*

One issue is dispositive for this alleged ground of obviousness. Independent claims 1, 22, and 58 each include the following features: (1) displaying of a first virtual display layer including contents and a second virtual display layer that appears to have lesser depth than the first virtual display layer; (2) when a touch on a user interface element is detected to surpass a threshold, display a plurality of markings in the second virtual display layer; and (3) 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 layer is visible through the at least portion of the second virtual display layer. See, for example, limitations [1e], [1g], [1h], and [1i].

Below, we discuss and analyze Petitioner’s application and proposed combination of the Ramos Paper, the Ramos Video, and Ording to meet these requirements, including consideration of Patent Owner’s arguments with respect thereto and Petitioner’s rebuttal. Thereafter, we conclude that Petitioner has not proved by a preponderance of the evidence that any of claims 1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 58–62, 64, 65, 67,

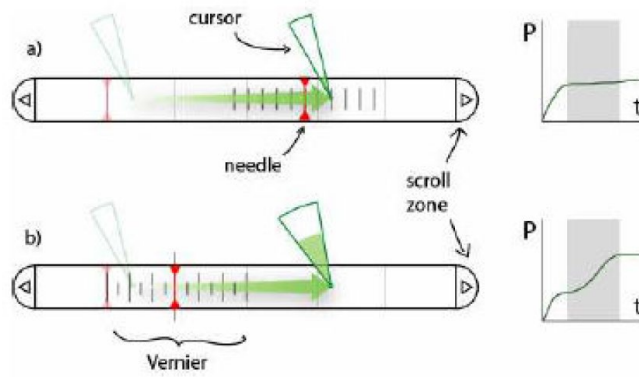
69, 70, 73, 77, 82, and 83 is unpatentable over the Ramos Paper, the Ramos Video, and Ording.

6. *Petitioner's Application and Proposed Combination of the Ramos Paper, Ramos Video, and Ording*

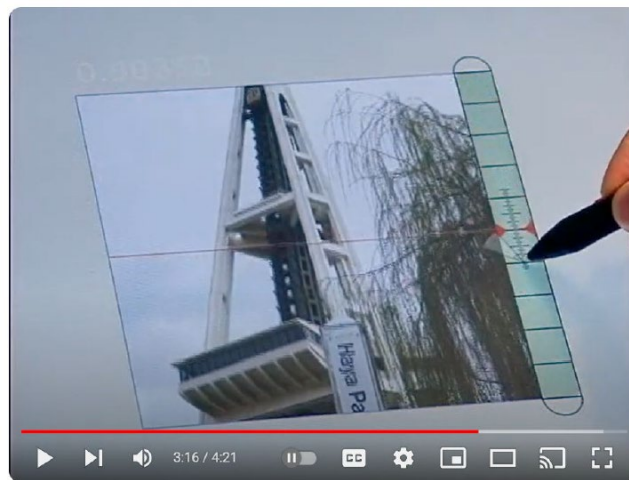
Petitioner asserts:

The Ramos Video demonstrates the use of the Zlider widget, showing how it can be used to zoom and pan *underlying image content*. See, generally, APPLE-1005. It further shows how at least a portion of the Zlider widget (e.g., pressure cursor, extended markings of the Vernier) is displayed in a semi-transparent manner such that content behind the Zlider remains visible through at least a portion of the Zlider. APPLE-1005, 0:13-0:26, 3:08-3:31. The combined disclosures of the Ramos Paper and the Ramos Video would have informed a POSITA about the operation and appearance of the Zlider, including how its use modifies the appearance of the *underlying image content* the Zlider was being used to adjust. APPLE-1003, ¶57; see, generally, APPLE-1004; APPLE-1005.

Thus, a POSITA would have considered the Ramos Paper and the Ramos Video together to fully understand functionality of the Zlider widget. APPLE-1003, ¶58. The combined disclosures of the Ramos Paper and the Ramos Video thus combine to inform various details of the Zlider widget, including its physical appearance (including a vernier), as shown in the Ramos Paper below, and its applications (e.g., allowing “users to use the pressure modality to fluidly and explicitly zoom or adjust the granularity of the parameter space, while sliding or dragging the input device to perform high precision parameter manipulation within that zoomed parameter space”), as well as its use in practice, including the changes in appearance of the *underlying image content* and the Zlider itself, as shown in the Ramos Video below. Apple-1004, 1, FIG. 1; APPLE-1005, 3:16-3:19 (illustrating the Zlider’s zooming action and the change in appearance of the Vernier in response to the zooming and sliding action); APPLE-1003, ¶58.



APPLE-1004, FIG. 1



APPLE-1005, 3:16



APPLE-1005, 3:19

The combination of the Ramos Paper and the Ramos Video would beneficially inform provision of a widget that allows a user to adjust the level of zoom by modifying the pressure applied to a touch sensitive display, as the Ramos Paper teaches, while further displaying a change in appearance of markings, e.g., of a Vernier, in response to the zoom scale factor, as both Ramos Paper and Ramos Video teach, where at least a portion of the widget is at least semi-transparent to enable viewing of the underlying content, as Ramos Video shows. APPLE-1003, ¶59; APPLE-1004, 1, 3, FIG. 1; APPLE-1005, 0:16-0:21 (showing a change in the appearance of the Vernier markings), 3:16-3:19 (showing a change in the appearance of the Vernier markings, the zoom effect, and at least a portion Zlider widget as semi-transparent), 3:28 (showing at least a portion Zlider widget as semitransparent). The resulting widget would offer several advantages. First, it would allow for “high precision manipulation” in “touch-sensitive platforms,” for applications not just limited to zooming and panning. APPLE-1004, 2-3; APPLE-1005, 0:07-0:12; APPLE-1003, ¶60. Second, the 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-1005, 3:16-3:19, 3:28; APPLE-1003, ¶60. Third, the widget would offer a “real-time visual indicator” of the pressure applied to the touchscreen (and thus the amount of zoom) and of the “current scale factor,” as shown by the changing “grid spacing” of the Vernier. APPLE-1004, 3; APPLE-1005, 0:16-:021, 0:28-0:41, 3:16-3:19; APPLE-1003, ¶60.

Pet. 26–30 (emphasis added).

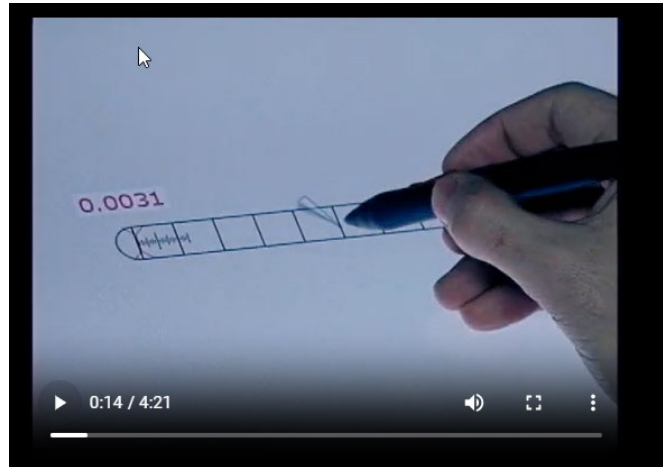
We find no problem with Petitioner’s combining the teachings of the Ramos Paper and the Ramos Video, except for Petitioner’s multiple references to “underlying image content” beneath the Zlider widget and the reference to “content below” the Zlider widget. Petitioner points to nothing in either the Ramos Paper or the Ramos Video showing that there is

“underlying image content,” either beneath or underlying the Zlider widget. None of the above illustrations reproduced by Petitioner from the Ramos Paper and the Ramos Video shows “underlying image content” relative to the Zlider widget. Rather, the illustrations from the Ramos Video clearly show the contrary, that the Zlider widget and the image data are displayed side-by-side. We have also viewed the identified portions of the Ramos Video, i.e., Ex. 1005, 3:28, 3:16-3:19, which purportedly show at least a portion of the Zlider widget as semi-transparent thus allowing viewing of image content beneath. But we see no such translucency over image content. Thus, at least this aspect of petitioner’s understanding and application of the Ramos Paper and the Ramos Video is incorrect and unpersuasive.

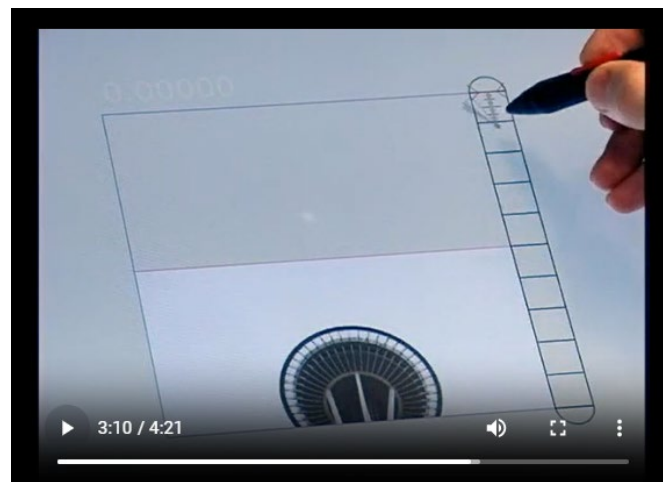
Petitioner similarly asserts:

The Ramos Video further shows that the Vernier is displayed *over* the image, so a POSITA would have understood the Vernier is in a second virtual display layer that appears to have lesser depth than the first virtual display layer in which the image content is located. APPLE-1003, ¶89; APPLE-1005, 0:14, 3:10-3:11. This is further evidenced, for example, by the appearance of extended elements of the Vernier that appear when the scale is greater than one, as shown below. APPLE-1005, 3:28.

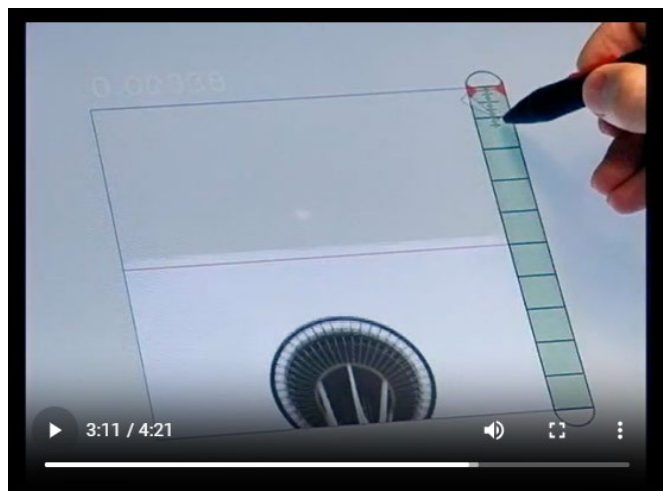
Pet. 54. We disagree, and refer to the Ramos Video at 0:14 and 3:10-3:11, as identified by Petitioner, reproduced below, none of which shows the vernier, which Petitioner identifies as the plurality of markings within the Zlider widget, as being displayed over the underlying image content:



[The illustration is a screen shot of the Zlider in the Ramos Video]



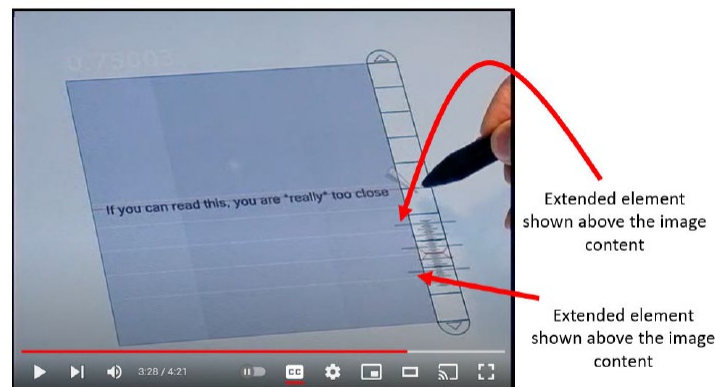
[The illustration is another screen shot of the Zlider in the Ramos Video]



[The illustration is a further screen shot of the Zlider in the Ramos Video]

These illustrations clearly do not show the vernier, i.e., markings within the Zlider widget, which according to the claims should be in a second virtual display layer at a lesser depth than the first virtual display layer including content, to be “over” underlying image content as Petitioner asserts.

The following screen shot from the Ramos Video, identified by Petitioner (Pet. 54–55), does show that sometimes, at least temporarily until markings are reset, the vernier has some lines extending slightly into area reserved for image content:



APPLE-1005, 3:28 (annotated)

[The illustration is a screen shot from the Ramos Video with Petitioner’s annotations identifying certain marking lines which extend slightly into area intended for image]

But we disagree that that is sufficient to show either the vernier or the Zlider widget is in a second virtual display layer at a lesser depth than the first virtual display layer including content, i.e., over or above image content. The intrusion of the markings is slight and temporary, and does not change that the vernier and the Zlider widget are side-by-side with image content. The Zlider widget and vernier are not in a virtual display layer at a lesser depth than, i.e., above, the first virtual display layer including content.

Furthermore, Petitioner has mapped the Zlider widget, which includes the cursor and the vernier markings, to be on the second virtual display

layer. According to the '580 patent, a “visual display layer refers to a collection of display elements which have all been assigned the same apparent depth within the 3D layered user interface.” Ex. 1001, 68:6–9. But the cursor is not assigned the same depth as the other objects of the Zlider widget—it hovers above the vernier and over the content depending on the user movement of it on the screen. *See illustrations above.* The same goes for the vernier and its markings. Though they are part of the Zlider widget, the vernier and its markings appear as an object that is at a different depth than the working area, which is also part of the Zlider widget. These apparent different depth within that alleged “second virtual display layer” do not comport with the description of the '580 patent that the “same apparent depth within the 3D layered user interface.” Ex. 1001, 68:6–9; *see* Tr. 30:19–31:6, 65:8–19. Petitioner alleges that the '580 patent allows for the same virtual layer to have multiple levels. Tr. 63:17–64:3. But such a contention has not been developed sufficiently and the Petition does not present such a contention. Pet. 51 (plurality of markings are displayed on a second virtual layer that appears to have a lesser depth than the first virtual layer); 54 (“a POSITA would have understood the Vernier is in a second virtual layer that appears to have lesser depth than the first virtual display layer in which the image content is located”). Additional discussion of this point is included further below.

Patent Owner asserts: “None of Petitioner’s examples disclose ‘a second virtual display layer that appears to have a lesser depth than the first virtual display layer,’ and “Nor do Petitioner’s mappings [of the Ramos Paper and the Ramos Video] show a second virtual layer overlaying the image content.” PO Resp. 22. For reasons discussed above, we agree.

Petitioner further advances an “obvious-to-try” theory, asserting:

[A] POSITA would have understood that there are two options: either the Zlider is shown to the side of the underlying image, or the Zlider is shown on top of the underlying image (i.e., on a second layer). APPLE-1003, ¶92. As such, a POSITA would have found it obvious to try this finite number of identified, predictable solutions, with a reasonable expectation of success.
Id.

Pet. 57. This contention is misplaced. Our reviewing court has explained the application of “obvious-to-try” as follows:

An “obvious-to-try” situation exists when a general disclosure may *pique the scientist’s curiosity*, such that further investigation might be done as a result of the disclosure, but the disclosure itself does not contain a sufficient teaching of how to obtain the desired result, or that the claimed result would be obtained if certain directions were pursued. *See generally In re O’Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir.1988) (defining obvious-to-try as when prior art gives “only general guidance as to the particular form of the claimed invention or how to achieve it”).

In re Eli Lilly & Co., 902 F.2d 943, 945 (Fed. Cir. 1990) (emphasis added).

Here, the Ramos paper and the Ramos Video consistently and without exception, place the Zlider widget to the side of the image content, never above the image content. Petitioner has not identified any disclosure in the Ramos Paper or the Ramos Video which would have piqued the interest of one of ordinary skill in the art to consider and explore the possibility of placing the Zlider widget directly above image content. Rather, we find that, if anything, the opposite would be the more reasonable expectation for one of ordinary skill in the art, i.e., one of ordinary skill in the art would have immediately recognized that if the Zlider widget is placed over image content, then either the image content would obscure the Zlider widget or the

Zlider widget would obscure the image content. That does not support Petitioner’s “obvious-to-try” rationale. Note, for instance, the following depiction of Patent Owner of the case where the Zlider widget is placed over the image content rather than aside from it:



[The illustration is Patent Owner’s depiction of the Zlider widget placed over image content (PO Resp. 20).

The above-noted misreading of the disclosure of the Ramos Paper and the Ramos Video taints Petitioner’s proposed combination of the Ramos Paper, the Ramos Video, and Ording. Nonetheless, we proceed below to discuss Petitioner’s proposed reasoning to add the Zlider widget of the Ramos Paper and the Ramos Video to Ording’s device to meet the claimed features.

Petitioner explains:

Additionally, as the Ramos Paper and Ramos Video offer limited detail on how to implement a widget in a particular device (e.g., including hardware and software components), a POSITA would have naturally looked to prior art references, such as Ording, that also are directed to touch screen devices with user interfaces for user interaction and that have applications that necessitate precise parameter manipulation, as Ording provides. APPLE-1003, ¶61. Ording describes a “portable device with a

touch screen display [that] detects a contact area of a finger with the touch screen display.” APPLE-1006, Abstract. Ording further describes the hardware and software components included in such a devices (e.g., memory, processors, camera modules, peripherals interfaces). APPLE-1006, [0030], [0047]. Ording additionally teaches the use of semitransparent widgets (e.g., click wheel) for use as an input control device. APPLE-1006, [0045]. It further describes the use of various applications, including digital camera applications that benefit from precise parameter application, including for use with zoom. APPLE-1006, [0027], [0047]; APPLE-1003, ¶62.

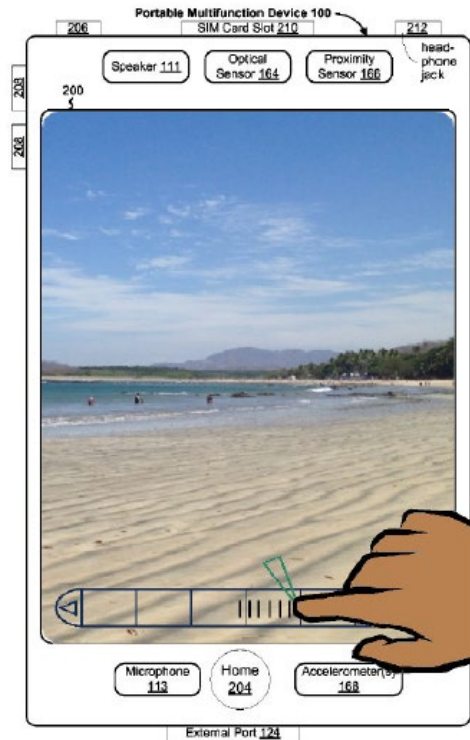
The combined disclosures of the Ramos Paper, Ramos Video, and Ording would have amply motivated a POSITA to implementation of a widget in a “multifunctional device,” e.g., the device taught in Ording, which includes various software and hardware components and additionally provides semitransparent user input control devices, resulting in the Ramos Paper-Ramos Video-Ording device (“RROD”). APPLE-1003, ¶63. A POSITA would have found obvious that combining the teachings of the Ramos Paper, Ramos Video, and Ording would introduce multiple advantages. *Id.* First, Ording offers foundational hardware (including processor and memory) for implementing a widget, where such components were well-known by the Critical Date and a POSITA would have understood those components were present in known devices configured to implement widgets, e.g., the Zlider. APPLE-1006, [0030], [0047]; APPLE-1003, ¶64. Second, Ording teaches the use of various applications configured to use a widget in the RROD, including “an e-mail application,” “a photo management application, a digital camera application, a digital video camera application, a web browsing application,” and “a digital video player application.” APPLE-1006, [0027]. A POSITA would have understood that any one of these applications would benefit from the resulting widget, and indeed, Ramos Paper and Ramos Video both at least contemplate the use of these types of applications. APPLE-1003, ¶65; APPLE-1004, 2-3 (“Graphic applications,” “Browsing on ZUIs,” “Integrated scale and parameter manipulation”); *see, generally* APPLE-1005 (showing the Zlider used with still images and moving images). Moreover, a POSITA would have

recognized, for example, that an application such as a digital camera application would particularly benefit from the precise parameter manipulation that the widget offers when adjusting various parameters in addition to zoom (e.g., saturation, contrast, ISO, brightness, focal length, depth of field, etc.). APPLE-1003, ¶65. Third, *Ording further explicitly teaches providing “user interfaces that are intuitive and transparent,” such as a “virtual click wheel” that can be a “semitransparent object.”* APPLE-1006, [0028], [0045]; APPLE-1003, ¶66. *A POSITA would have recognized the benefits of transparent or semitransparent UI objects that are minimally intrusive to the user.* APPLE-1003, ¶66. Moreover, Ramos Paper, Ramos Video, and Ording are complementary references that describe similar—or in the case of the Ramos Paper and Video, the same—technology. *Id.* Given the similarities among the references and their complementary nature, a POSITA would have reasonably expected success in the combination. *Id.*

Pet. 30–33 (emphasis added).

Petitioner additionally explains:

Moreover, Ording discloses presentation of a “semitransparent object.” Apple-1006, [0045] (“User commands and Navigation commands provided by the user via the click wheel may be processed by an input controller 160 as well as one or more of the modules and/or sets of instructions in memory 102.”), [0094] (“This device moves a griddled palette of tools, commonly presented as a transparent overlap, on the user’s desktop.”). Thus, a POSITA would have found it obvious to implement a widget, per the Ramos Paper and Ramos Video, using the well-known approach to provide UI objects as “semitransparent,” per Ording. APPLE-1003, ¶93. Indeed, such an implementation of the widget would have the benefit of *providing a less intrusive UI element that permits a user to use the widget while minimizing the obstruction on the image content caused by the UI element.* *Id.* An example of the RROD with the semitransparent widget is shown below. *Id.*



[The illustration is Patent Owner's depiction of
The Resulting Combination of the
Ramos Paper, Ramos Video, and Ording]

Pet. 57–59 (emphasis added).

In the above depiction by Petitioner, the claimed features at issue are purportedly all satisfied, i.e., (1) displaying of a first virtual display layer including contents and a second virtual display layer that appears to have lesser depth than the first virtual display layer; (2) when a touch on a user interface element is detected to surpass a threshold, display a plurality of markings in the second virtual display layer; and (3) 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 layer is visible through the at least portion of the second virtual display layer. However, for reasons discussed below, we determine Petitioner has not articulated sufficient reasoning with rational underpinning to combine the teachings of the Ramos paper, the

Ramos Video, and Ording in the manner proposed by Petitioner to arrive at the above-shown depiction.

We agree that one of ordinary skill in the art would have desired to use the Zlider widget of the Ramos Paper/Ramos Video on the pictures captured by the camera in Ording's device. However, that does not mean placing the Zlider widget directly over image content, or making the entirety of the Zlider widget transparent as shown in Petitioner's depiction above. Neither the Ramos Paper nor the Ramos Video includes such disclosure or suggestion. In the Ramos Paper/Ramos Video, in the embodiment relied on by Petitioner, only a portion of the pressure cursor is transparent, not the remainder of the Zlider widget, i.e., the rectangular working area and the vernier. As we discuss below, Petitioner's additional reliance on Ording still does not provide sufficient reasoning or motivation to make these modifications of the Zlider widget when using it on Ording's device to manipulate pictures.

Petitioner's reasoning for making the entirety of the Zlider widget semitransparent or transparent is that that makes the user interface minimally intrusive to the user (Pet. 30–33), and providing a less intrusive user interface element that permits a user to use the widget while minimizing the obstruction on the image content caused by the user interface element (Pet. 57–59). But, as Patent Owner correctly notes:

[N]either the Petition nor Petitioner's expert offer any explanation as to why the semitransparent Zlider as Petitioner envisions in the [proposed combination] would be less intrusive than the Zlider is in Ramos itself. EX2012, ¶62. Nor would it. *Id.*

Instead, in the [proposed combination], the Zlider is noticeably **more intrusive** than in its original implementation in the Ramos paper and Ramos Video. EX2012, ¶63. Specifically,

in the [proposed combination] (inset below), the Zlider is pushed inward from the edge of the screen such that the Zlider overlaps—and directly interferes with the user’s perception of—the image itself. EX2012, ¶63.

[Illustration Omitted]

This overlap is wholly unnecessary. *Id.* As shown in the Ramos video (inset below), disposing the Zlider at the edge of the display avoids overlap and maximizes the uninterrupted area in which to display the image. *Id.*

[Illustration Omitted]

PO Resp. 17–18.

The Zlider widget already is the least intrusive in the form as disclosed in the Ramos Paper/Ramos Video, placed off to the side of image content, not above and overlapping with image content. Petitioner’s semitransparency solution is for a self-created problem that otherwise does not exist, i.e., blocking the image by placing the Zlider widget directly over image content in Ording’s device. This is not reasoning with rational underpinning for making the Zlider widget partially semitransparent. Even assuming that the Zlider widget is properly placed directly over a camera image, making the Zlider widget semitransparent does not solve the intrusion problem, because the image and the Zlider widget may obscure each other, as shown in these illustrations provided by Patent Owner:



[The illustrations show interference between a semitransparent Zlider widget and an underlying image]

In its Reply, Petitioner asserts that it would have been well within the skill level of one of ordinary skill in the art to make adjustments to address a problem caused by such obscuring, such as by making the Zlider widget more visible as shown below:



APPLE-1032, ¶21

[The illustration shows one way Petitioner asserts one of ordinary skill in the art may apply to solve the obscuring issue (Reply 5–6)]

Petitioner’s argument is misplaced. Although there may be graphic display techniques one of ordinary skill in the art may adopt to reduce the visibility problem if the Zlider widget were moved to directly above the image content as Petitioner proposes, that does not cure the problem of lacking a reasonable motivation to place the Zlider widget of the Ramos Paper/Ramos Video directly over image content. Still, there is the least obscuring and the least intrusion with the Zlider widget remaining where it is shown to be in the Ramos Paper/Ramos Video, side-by-side relative to the image content. It is irrational to make a modification that creates a problem, solely on the basis that a solution may be available to reduce the severity of the problem. Indeed, such a strained rationale shows that hindsight has played a part on Petitioner’s contention that a person of ordinary skill in the art would have put the Zlider widget over content as required by the claims.

Petitioner further asserts that it was commonplace for one of ordinary skill to adjust transparency effects citing, *inter alia*, to a combined pressure

cursor/eyedropper tool in the Ramos Video for identifying the color of the portion of the underlying image selected by a user. The assertion is misplaced, because at issue is not whether one of ordinary skill in the art would have known of ways to adjust the level of transparency to a level that is more desired. The key issue and deficiency of Petitioner's accounting is that Petitioner has not shown adequate motivation for one of ordinary skill in the art to move the Zlider widget of the Ramos Paper/Ramos Video, including its rectangular working area and the vernier, to a position directly over and above image content. The position of least intrusion, indeed no intrusion, still is that of a side-by-side arrangement as disclosed in the Ramos paper/Ramos Video, without modification.

As explained above, the Ramos Paper/Ramos Video do not, by themselves, reasonably suggest moving the Zlider widget including its rectangular working area and the vernier to a position directly above image content.

Petitioner further asserts: "Ording further explicitly teaches providing 'user interfaces that are intuitive and transparent,' such as a 'virtual click wheel' that can be a 'semitransparent object.'" Pet. 32 (citing Ex. 1003 ¶ 66; Ex. 1006 ¶¶ 28, 45). However, this reliance on Ording's disclosure is unpersuasive.

We agree with Patent Owner (PO Resp. 13) that when Ording refers to user interfaces that are "intuitive and transparent," "transparent" in that context does not mean optically transparent but something readily understandable, like the preceding word "intuitive." That makes more sense in context. Patent Owner's expert, Dr. Mahon, explains that Ording's paragraph 28, where the phrase "intuitive and transparent" is found, is not

concerned with optical transparency, but with increasing user satisfaction with portable devices by offering multifunctional operations on user interfaces based on finger input. Ex. 2012 ¶ 54. Neither Petitioner nor Dr. Cockburn explains why “transparent” in that context should mean optically transparent. We credit the testimony of Dr. Mahon, and reproduce paragraph 28 of Ording below:

The various applications that may be executed on the device may use at least one common physical user interface device, such as the touch screen. One or more functions of the touch screen as well as corresponding information displayed on the device may be adjusted and/or varied from one application to the next and/or within a respective application. In this way, a common physical architecture (such as the touch screen) of the device may support the variety of applications with user interfaces that are intuitive and transparent.

Ex. 1006 ¶ 28. We credit Dr. Mahon’s testimony that “Ording is addressing [in paragraph 28] user interfaces that are user-friendly and intuitive to navigate and operate.” Ex. 2012 ¶ 55.

Paragraph 45 of Ording, referenced by Petitioner as disclosing a semitransparent virtual “click wheel” on a display screen, reads as follows:

In some embodiments, the device 100 may include a physical or virtual click wheel as an input control device 116. A user may navigate among and interact with one or more graphical objects (hence forth referred to as icons) displayed on the touch screen 112 by rotating the click wheel or by moving a point of contact with the click wheel (e.g., where the amount of movement of the point of contact is measured by its angular displacement with respect to a center point of the click wheel). The click wheel may also be used to select one or more of the displayed icons. For example, the user may press down on at least a portion of the click wheel or an associated button. User commands and navigation commands provided by the user via the click wheel may be processed by the input controller 160 as well as one or more of the modules and/or sets of instructions in

memory 102. For a virtual click wheel, the click wheel and click wheel controller may be part of the touch screen 112 and the display controller 156, respectively. For a virtual click wheel, the click wheel may be either an opaque or semitransparent object that appears and disappears on the touch screen display in response to user interaction with the device. In some embodiments, a virtual click wheel is displayed on the touch screen of a portable multifunctional device and operated by user contact with the touch screen.

Ex. 1006 ¶ 45.

Patent Owner makes arguments which are sufficient to undermine Petitioner's accounting relying on Ording's virtual click wheel.

Patent Owner notes: "That a click wheel [in Ording] might be semitransparent does not suggest that Ramos' precision Zlider should be semitransparent." PO Resp. 14. We agree with Patent Owner. Ording's virtual click wheel is used to navigate among different icons on the screen or to make a selection of an icon. Ex. 1006 ¶ 45. Ording does not disclose that its virtual click wheel is displayed over and above substantive image content such as camera pictures, which might be subject to precise manipulation by Ramos's Zlider widget.⁷ Thus, Ording provides no motivation for one of ordinary skill in the art to place the Zlider widget over and above image content, which would then lead, indirectly, one of ordinary skill in the art to make the Zlider widget semitransparent to minimize intrusion relative to the obscured image content underneath.

As we explained above, the Zlider widget, unmodified, is already in a least intrusive position relative to the image content it manipulates, i.e., off

⁷ At oral hearing, counsel for Petitioner acknowledges that Ording does not graphically illustrate the positioning of its virtual click wheel on the display screen, relative to anything. Tr. 27:15–28:23.

to the side of the image content. Patent Owner correctly notes that keeping the Zlider widget unmodified when applying it to the Ording device preserves the lack of any intrusion aspect of the Ramos Paper/Ramos Video disclosure and also maintains whatever benefits Ording describes for its click wheel with regard to icon navigation and selection. PO Resp. 16. Thus, it remains true, as Patent Owner asserts and we noted above: “[N]either the Petitioner nor Petitioner’s expert offer any explanation as to why the semitransparent Zlider as Petitioner envisions in [Petitioner’s proposed combination] would be less intrusive than the Zlider is in Ramos itself. EX2012, ¶62. Nor would it. *Id.*” *Id.* at 17.

In paragraph 66 of his declaration, Dr. Cockburn states: “A POSITA would have recognized the benefits of transparent or semitransparent UI objects that are minimally intrusive to the user as was well-known by the Critical Date.” Ex. 1003 ¶ 66 (citing Exs. 1025, 1026). But as discussed above, the Zlider widget of the Ramos Paper/Ramos Video is already in its least intrusive state, unmodified, without being moved to be directly above underlying image content. Further, Petitioner cites this testimony to show benefits for making an interface element semitransparent, where it already imposes intrusion by not being semitransparent, not to move an interface element from a position of non-intrusion, as in the case of the Zlider widget of the Ramos Paper/Ramos Video, to a position of intrusion.

In any event, we have reviewed the cited portions of Exhibits 1025 (¶¶ 77, 94, 101) and 1026 (¶¶ 153, 162). Petitioner has not explained how either exhibit shows a user interface element positioned directly above an underlying image which is subject to precision manipulation by the interface element in a fashion or manner similar to that accomplished by the Zlider

widget of the Ramos Paper/Ramos Video, and we can see none. The contrast is stark. For example, Figure 9 of Exhibit 1025 is reproduced below:

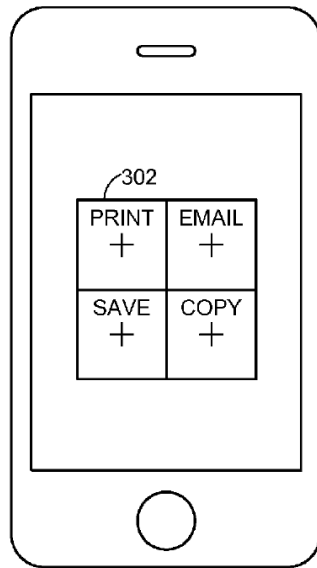


FIG. 9

[Figure 9 shows a user interface element. Exhibit 1025 ¶ 29.]

Figures 34C and 35C of Exhibit 1026 are reproduced below:

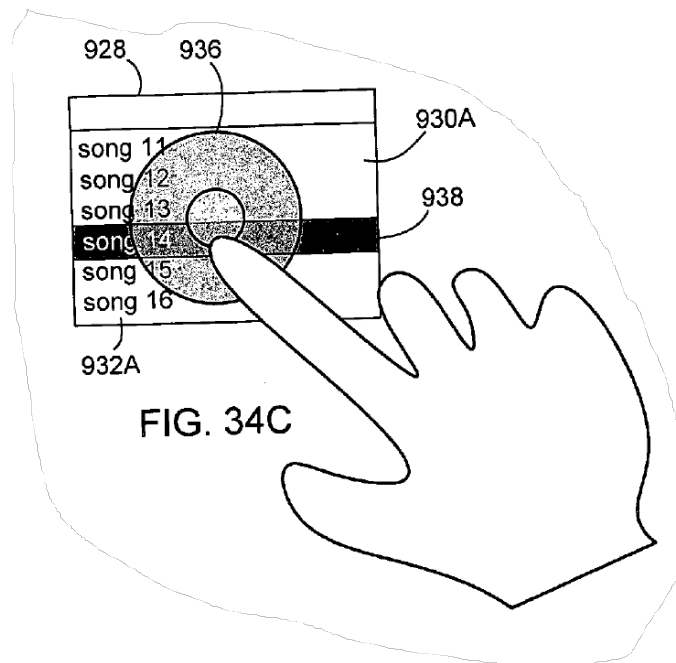
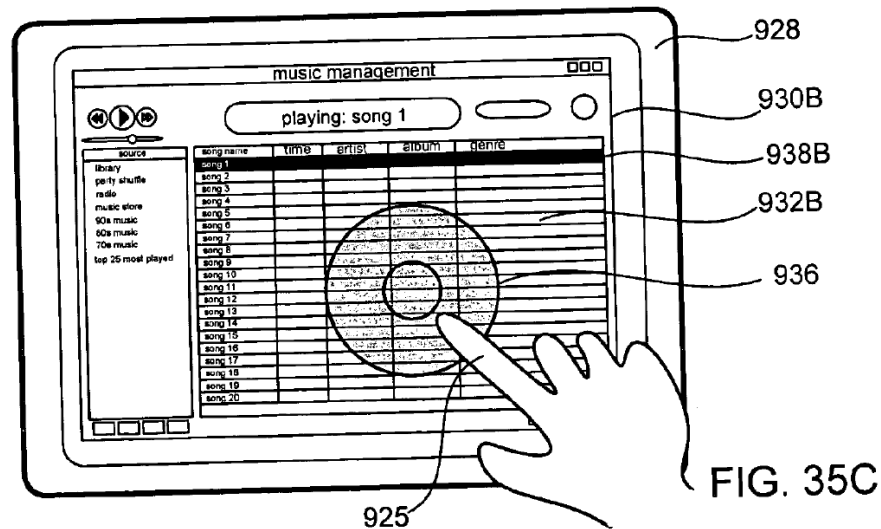


FIG. 34C



[Figures 34C and 35C illustrate respective screen shots of a user interacting with a user interface element, in different embodiments. Ex. 1026 ¶¶ 57, 58.]

None of these illustrations shows anything comparable to what the Zlider widget of the Ramos Paper/Ramos Video does to perform precise manipulation of image content. There is no image content directly underneath a user interface element, subject to precise manipulation via the user interface.

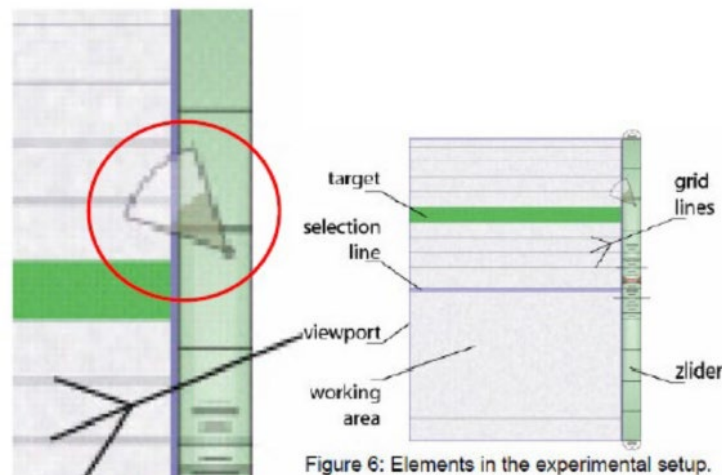
In its Reply, Petitioner reverts back to the Zlider widget of the Ramos Paper/Ramos Video, and notes that at least the pressure cursor of the Zlider widget is semitransparent and the challenged independent claims only require that a portion of the second virtual display layer, not the entirety thereof, be at least partially transparent. Reply 13. We understand Petitioner to be arguing that the rest of the Zlider widget, i.e., rectangular working area and the vernier, need not be placed over image content, because the pressure cursor is semitransparent and sometimes over image content. This is a new argument changing the thrust of what is argued in the Petition, that the Zlider widget including the rectangular working area and

the vernier would be placed over substantive image content. The new argument is not entitled to consideration and we decline to consider it.

Even if we were to consider the new argument, it is unavailing because we agree with Patent Owner that the pressure cursor in the Zlider widget of the Ramos Paper/Ramos Video is not in the second virtual display layer identified by Petitioner to meet the independent claims.

Patent Owner explains:

Ramos' pressure cursor is translucent over both the image content region and the Zlider's working area and Vernier markings, and even casts a shadow over those elements in the Ramos Video. POR, 28–32. This directly and unambiguously shows the pressure cursor at a different depth (and layer) from both the image contents and the Zlider widget. POR. 28–32.



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

[The illustration shows Figure 6 of the Ramos Paper on the right, and an enlarged portion thereof on the left, with an annotated red circle around the pressure cursor]

Sur-reply, 11–12.

Patent Owner further explains: “Because the pressure cursor is not in the same display layer as the Zlider’s markings, its transparency cannot satisfy the requirement that ‘at least a portion of the second virtual display

layer is at least partially translucent’ when the claims ‘plurality of markings’ is in that second layer. POR, 32–33.” Sur-reply 12.

Petitioner, in its Reply, argues that the second virtual display layer may itself include multiple layers, citing claim 21 of the ’580 patent, which depends indirectly from claim 1 and recites, in pertinent part: “the second virtual display layer includes at least one of: an operation layer, an emphasis layer, or a clipboard layer.” Reply 18–19 (citing Ex. 1001, 104:42–43). It appears that, on that basis, Petitioner believes the pressure cursor may be regarded as in the same second virtual display layer as the rectangular working area and the vernier of Ramos’s Zlider widget. Patent Owner asserts otherwise, specifically identifying the following explicit language in the Specification of the ’580 patent regarding what is meant by a virtual display layer: “a virtual display layer refers to a collection of display elements which have all been assigned the same apparent depth within the 3D layered user interface.” Sur-reply 11 (citing Ex. 1001, 68:7–11).

We agree with Patent Owner who occupies the better side of this issue. The independent claims require the plurality of markings, which Petitioner has mapped to the vernier of the Zlider widget, to be in a second virtual display layer at a lesser depth than the first virtual display layer. Because the pressure cursor of the Ramos Paper/Ramos Video is above the working area and the vernier markings, the pressure cursor is not in the second virtual display layer and thus cannot satisfy the requirement that at least a portion of the second virtual display layer is at least partially translucent. Notwithstanding the disclosure that a virtual display layer may include at least one of an operation layer, an emphasis layer, or a clipboard layer, according to the ’580 patent they still must appear to have the same

apparent depth. Ex 1001, 68:7–11. Further, Petitioner does not identify the pressure cursor as occupying an operation layer, emphasis layer, or a clipboard layer. If anything, the rectangular working area and the vernier of the Zlider widget are in an operation layer, and the pressure cursor appears to be in none of an operation layer, emphasis layer, or clipboard layer.

For the foregoing reasons and despite Ording’s disclosure regarding the display of a virtual click wheel, Petitioner still has not provided sufficient or reasonable motivation for one of ordinary skill in the art to move the Zlider widget of the Ramos Paper/Ramos Video to a position over and above image content subject to its precise manipulation and to make at least a portion of the Zlider widget semitransparent to minimize the intrusion resulting from the move.

7. Conclusion

For the foregoing reasons, Petitioner has not proved by a preponderance of the evidence that any of independent claims 1, 22, and 58 is unpatentable over the Ramos paper, the Ramos Video, and Ording.

Claims 2–4, 6–10, 17, and 19 each depend, directly or indirectly, from claim 1. The deficiencies discussed above for claim 1 apply equally to claims 2–4, 6–10, 17, and 19. Accordingly, Petitioner has not proved by a preponderance of the evidence that any of claims 2–4, 6–10, 17, and 19 is unpatentable over the Ramos Paper, the Ramos Video, and Ording.

Claims 23–26, 28–30, 32, 33, 36, and 41 each depend, directly or indirectly, from claim 22. The deficiencies discussed above for claim 22 apply equally to claims 23–26, 28–30, 32, 33, 36, and 41. Accordingly, Petitioner has not proved by a preponderance of the evidence that any of claims 23–26, 28–30, 32, 33, 36, and 41 is unpatentable over the Ramos Paper, the Ramos Video, and Ording.

Claims 59–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 each depend, directly or indirectly, from claim 58. The deficiencies discussed above for claim 58 apply equally to claims 59–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83. Accordingly, Petitioner has not proved by a preponderance of the evidence that any of claims 58–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 is unpatentable over the Ramos Paper, the Ramos Video, and Ording.

*E. Alleged Obviousness of Claim 48
Over the Ramos Paper, the Ramos Video, Ording and Hayward*

Claim 48 depends from claim 23 which, in turn, depends from claim 22. Ex. 1001, 107:15–55, 109:29–38.

The deficiencies of Petitioner’s accounting for claim 22 apply equally to claim 48. Hayward, as applied by Petitioner, does not make up for that deficiency. Thus, Petitioner has not proved by a preponderance of the evidence that claim 48 is unpatentable over the Ramos Paper, the Ramos Video, Ording, and Hayward.

III. CONCLUSION

We determine that Petitioner has not proved by a preponderance of the evidence that any of claims 1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 48, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 of the ’580 patent is unpatentable.

In summary:

Claims	35 U.S.C. §	References/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, 83	103(a)	Ramos Raper, Ramos Video, Ording		1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, 83
48	103(a)	Ramos Raper, Ramos Video, Ording, Hayward		48
Overall Outcome				1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 48, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, 83

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that claims 1–4, 6–10, 17, 19, 22–26, 28–30, 32, 33, 36, 41, 48, 58–62, 64, 65, 67, 69, 70, 73, 77, 82, and 83 of the '580 patent have not been proved unpatentable by a preponderance of the evidence; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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