

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC,
Patent Owner.

IPR2024-01089
Patent 10,671,212 B1

Before BARBARA A. BENOIT, NATHAN A. ENGLES, and
SHARON FENICK, *Administrative Patent Judges*.

FENICK, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background and Summary

Apple, Inc., (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1, 2, 9–11, 13–16, 56–64, and 84 (the “challenged claims”) of U.S. Patent 10,671,212 B1 (Ex. 1001, “the ’212 patent”). Smith Interface Technologies, LLC, (“Patent Owner”) timely filed a preliminary response (Paper 6, “Prelim. Resp.”).

The Board has authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we institute *inter partes* review as to the challenged claims of the ’212 patent on all grounds of unpatentability presented.

B. Real Parties in Interest

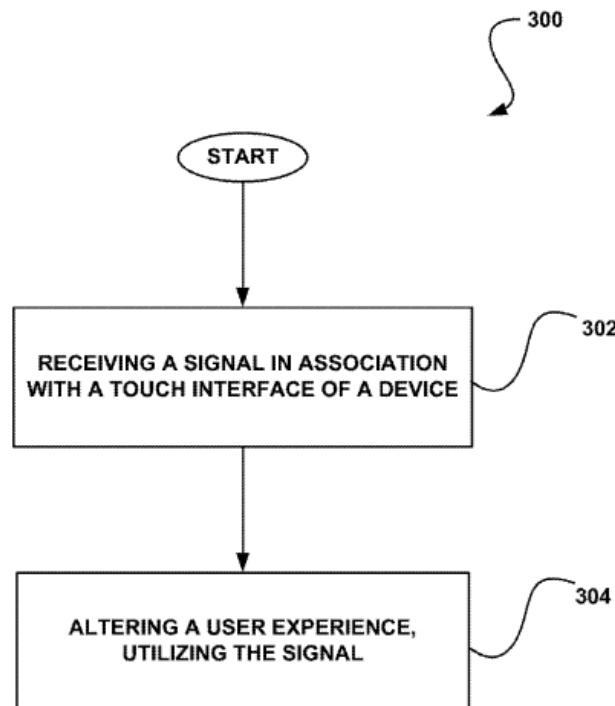
Petitioner names only itself as a real party in interest. Pet. 68. Patent Owner names only itself as a real party in interest. Paper 3 (Patent Owner’s Mandatory Notices), 1.

C. Related Matters

Petitioner and Patent Owner each informs us of the following related matters: *Smith Interface Technologies, LLC v. Samsung Electronics Co., Ltd*, 2-22-cv-00290 (EDTX) (terminated) and *Smith Interface Technologies, LLC v. Apple Inc.*, 3-23-cv-01187 (SDCA) (pending) (the “District Court Litigation”). Pet. 68; Paper 3, 1.

D. The '212 Patent

The '212 patent is entitled “Gesture-Equipped Touch Screen System, Method, and Computer Program Product,” and describes electronic devices with touch-sensitive surfaces (e.g., touch-sensitive screens). Ex. 1001, codes (54), (57), 1:37–38. Figure 3 of the '212 patent, reproduced immediately below, “shows a method for altering a user experience based on a received signal.” *Id.* at 3:49–51.



The two step method in Figure 3 includes a step of receiving a signal in association with a touch interface (element 302) and then altering a user experience utilizing that signal (element 304). *Id.* at 15:9–10, 15:57–59. The signal referenced in element 302 of Figure 3 “may include a pressure signal which is indicative of a magnitude of pressure.” *Id.* at 15:11–12. Figure 4, reproduced immediately below, describes “a method for defining a selection made within a user interface based in part on contact pressure” and

illustrates that the application of a “sufficient pressure” can be used to select objects on the screen. *Id.* at 3:55–56, 16:43–54.

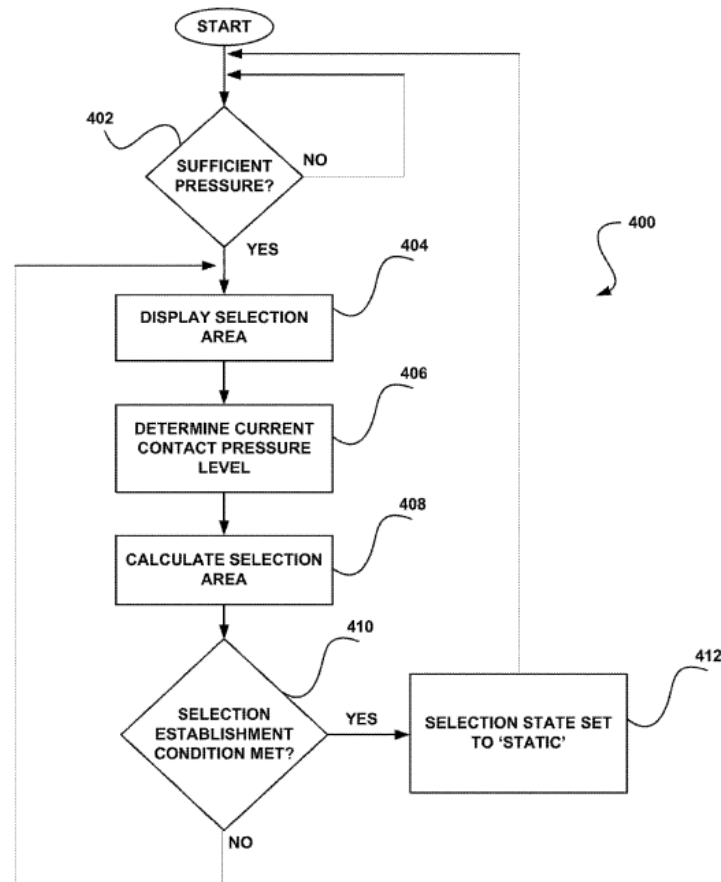


FIGURE 4

The method in Figure 4 describes a method which determines whether sufficient pressure has been used on the screen, and if it has, determines the contact pressure level and the selection area of the contact. *Id.* at 16:43–54, 18:16–60. Based on the applied pressure, the context of touch from the user can be determined, for example, within a context determination zone that may be initially defined as a function of one or more elements of user input upon which the selection itself is based, such as the touch or pressure of that input. *Id.* at 27:20–58, Fig. 6.

E. Illustrative Claim

Of the challenged claims, claims 1, 16, and 84 are independent claims. Claim 1 is illustrative of the challenged claims and is reproduced immediately below, with identification of claim limitations in brackets corresponding to those used by the parties.

1. A non-transitory computer-readable media storing computer instructions that; when executed by at least one processor of a mobile device including a touch screen, a memory, and an actuator coupled to the at least one processor; cause the mobile device to:

- [1.a] display indicia associated with an application, utilizing the touch screen;

- [1.b] when a first duration of a touch being applied to the touch screen is detected as ceasing in connection with the indicia, perform an operation;

- [1.c] when a second duration of the touch, that is different than the first duration of the touch, being applied to the touch screen is detected in connection with the indicia after the first duration is detected without the ceasing, output feedback that is perceptible by touch, utilizing the actuator;

- [1.d] when the second duration of the touch being applied to the touch screen is detected in connection with the indicia after the first duration of the touch is detected without the ceasing, display at least one menu including a plurality of particular actions;

- [1.e] when a selection touch being applied to the touch screen is detected in connection with at least one of the particular actions of the at least one menu after the second duration of the touch being applied to the touch screen is detected in connection with the indicia after the first duration of the touch is detected without the ceasing, perform the at least one particular action; and

[1.f] when a slide or swipe gesture being applied to the touch screen is detected after the second duration of the touch being applied to the touch screen is detected in connection with the indicia after the first duration of the touch is detected without the ceasing, change at least one aspect of the display of the at least one menu.

Ex. 1001, 95:66–96:21.

F. Evidence

The Petitioner relies on the following published patent references as evidence.

Name	Patent Document	Exhibit
Martyn	US 2004/0051726 A1	Ex. 1005
Hotelling	US 2006/0197753 A1	Ex. 1004
Cho	US 2011/0252362 A1	Ex. 1006
Chaudhri	US 2011/0252380 A1	Ex. 1007

G. Prior Art and Asserted Grounds of Unpatentability

Petitioner asserts that claims 1, 2, 9–11, 13–16, 56–64, and 84 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 9–11, 13–16, 58–64, and 84	103 ¹	Hotelling, Martyn, Cho

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. The ’212 patent issued from an application filed on August 30, 2019 that claims priority through continuation and provisional applications. Ex. 1001 codes (22), (63), (60). Petitioner asserts that the claims of the ’212 patent are not entitled to the earliest claimed priority date of August 5, 2011, while noting that all prior art applied precedes that date. Pet. 3, 5. Patent Owner does not address this contention. While Petitioner’s declarant and Patent Owner’s declarant each describes obviousness “at the time of the alleged invention” (Ex. 1003 ¶ 21; Ex. 2001 ¶ 28), which appears to relate to pre-AIA

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
56, 57	103	Hotelling, Martyn, Cho, Chaudhri

II. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion does not shift to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious . . . to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences

obviousness statute, it does not appear that the record at this time contains arguments relating to the specific date of the analysis or specific to which version of the statutes applies. Our analysis here does not depend on which version applies.

between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness,² i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

Petitioner asserts, citing the testimony of Dr. Andrew Cockburn (Ex. 1003) that a person of ordinary skill in the art (“POSITA”) would have had “a bachelor’s degree in computer science, computer engineering, or a comparable field and at least two years of professional experience working with graphical user interfaces and applications for computers” and that “[a]dditional years of experience could substitute for an advanced-level degree (and vice-versa).” Pet. 6 (citing Ex. 1003 ¶ 34). Petitioner adds that:

the POSITA would have possessed extensive background knowledge and understanding of the pertinent technologies employed by the ’212 patent, including touch screen mobile devices, menus in computer graphical user interfaces, tactile feedback in touch screen mobile devices, duration-based touch gestures, and edge swiping touch gestures. These technologies were developed and commercially adopted before 2011.

Pet. 6 (citations omitted) (citing Ex. 1003 ¶¶ 36–60). For the purposes of institution, Patent Owner did not dispute this level of skill. Prelim. Resp. 5 (“Patent Owner does not necessarily agree with all aspects of Petitioner’s

² The present record contains no arguments regarding objective evidence of nonobviousness.

proposed level of ordinary skill, but does not believe that resolving that level is necessary to resolve the issues raised in this preliminary response.”)

The portion of the definition proposed by the Petitioner requiring “a bachelor’s degree in computer science, computer engineering, or a comparable field and at least two years of professional experience working with graphical user interfaces and applications for computers” (Pet. 6) appears to be consistent with the problems and solutions in the ’212 patent and prior art of record and is supported by declarant testimony. We adopt this as the definition of one of ordinary skill in the art for the purposes of this Decision.

We note that since it is unclear whether the bachelor’s degree in the proposed definition is considered by Petitioner to be “an advanced-level degree” we do not adopt the portion of the definition relating to the substitution of years of experience for a degree at this time. Additionally, we do not herein adopt Petitioner’s proposed additional requirement that one of ordinary skill “would have possessed extensive background knowledge and understanding of the pertinent technologies employed by the ’212 patent.” Pet. 7.

C. Claim Construction

Petitioner asserts that no claims require express construction. Pet. 7. Patent Owner also notes that in the pending District Court Litigation, Petitioner contends that two terms in the challenged claims are indefinite: “perform an operation” and “adjacent.” Prelim. Resp. 5 (citing Ex. 2004, 9, 31. Patent Owner further notes that, contrary to its position in the pending District Court Litigation, Petitioner does not assert that any of these terms are indefinite in this proceeding. *Id.* Patent Owner asserts that neither term requires construction. *Id.* at 5–6.

For institution and on our present record, we determine that none of these claim terms, and no other claim terms, require construction. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

*D. Obviousness of Claims 1, 2, 9–11, 13–16, 58–64, and 84
Over a Combination of Hotelling, Martyn, and Cho*

Petitioner argues that 1, 2, 9–11, 13–16, 58–64, and 84 would have been obvious over a combination of Hotelling, Martyn, and Cho. Pet. 11–52. Patent Owner counters that the Petitioner’s proposed combination of Hotelling, Martyn, and Cho is improper because it “mixes distinct embodiments” of Hotelling without asserting a motivation to combine them, and because the supplied motivation to combine teachings from Hotelling and Martyn are deficient. Prelim. Resp. 16–32. Additionally, Patent Owner argues that limitation 1.c of claim 1 (and similarly recited limitations of claims 16 and 84) are not taught or suggested by the Petitioner’s proposed combination. *Id.* at 33–38.

We begin with a description of the prior art references and then discuss the parties’ contentions and provide our analysis.

1. Hotelling

Hotelling is entitled “Multi-Functional Hand-Held Device,” and was published on September 7, 2006. Ex. 1004, codes (54), (43). Hotelling generally describes a multi-functional hand-held device with a configurable GUI for each of the different functions of the device. *Id.* ¶ 74, code (57). Hotelling teaches that, before one of the multiple functionalities of the device can be used, it must be selected for use, for example from a main

menu GUI (graphical user interface) which includes icons/buttons for launching each device functionality, or by flipping through GUIs until the GUI for the desired functionality is found. *Id.* ¶¶ 84–86, Fig. 18. GUIs may be customized by the user. *Id.* ¶ 93.

Hotelling’s device uses a touch screen as the primary input device, which generates input signals when an object such as a finger or stylus touches or is moved across the surface of the touch screen. *Id.* ¶¶ 61, 97. Touch gestures may comprise contact by one or more fingers and motions associated with the contact. *Id.* ¶ 135. Pressure exerted on the screen may be combined with location of touch and other information regarding touch screen input to form a “touch vocabulary.” *Id.* ¶ 145. Duration of the touch may also be used. *Id.* ¶ 149. Determinations may be made regarding the pressure, number of touches, motion (if any) of the touches, duration, and location of the touches, and an action performed based on these determinations. *Id.* ¶ 150, Fig. 26. A UI mode related to the mode or state of the device may also be considered. *Id.* ¶¶ 146, 150, Figs. 26, 27A–27E. For example, a device may include cell phone, media player, PDA, game player, camera, GPS receiver, “hand top,” and remote control modes of operation. *Id.* ¶¶ 49, 74–83, 85 Figs. 9–18.

Hotelling provides an “example of a touch vocabulary associated with a music player” in its Figures 27A–E, which is a table which includes columns for “UI Mode,” “Light Touch or Tactile Click,” “# Fingers used,” “Movement during touch or click,” “Duration,” “Touchdown location (virtual button?),” “Proposed Behavior,” and “Feedback.” *Id.* at Figs. 27A–E. For example, in “List Nav.” UI mode, a “click” with one finger and no movement, lasting a “short” “Duration” on the a “virtual button / list item” corresponds to the following “Proposed Behavior”: “On touch-down, do

nothing. On click-down highlight item under touch (if any). On un-click execute the item clicked.” *Id.* at Fig. 27A (second entry). In the same UI mode, a “LONG” click on a “virtual button” will “highlight item under touch (if any)” on “click-down” and then, “[a]fter delay, bring up [a] context sensitive menu.” *Id.* at Fig 27A (fourth entry).

Hotelling’s device provides output feedback, including from a haptics mechanism, which can make virtual UI feel more like physical UI. *Id.* ¶¶ 160–161, 163, 173.

2. *Martyn*

Martyn is entitled “Computing Device with Improved User Interface for Applications,” and was published March 18, 2004. Ex. 1005, codes (54), (43).

Martyn describes that, in a computing device with a small screen, different user functions in different applications may be available to a user. *Id.* ¶¶ 2, 4. To assist a user attempting to locate a desired function, Martyn describes providing a “snap-shot” view of an application that brings together, in one summary window, a limited list of common functions and commonly accessed stored data. *Id.* ¶¶ 9–10, 15, 18. This “summary window,” which Martyn calls an “App Snapshot,” is accessible directly from the Martyn main view, which lists several applications, by selecting the name of the application. *Id.* ¶ 17. Figures 2 and 3 of Martyn, reproduced immediately below, show the summary window snap-shot view of functions in the screen of a device. *Id.*



Figure 2



Figure 3

As seen in these figures, a window associated with the Messages application includes links to common functions (e.g. “Create message”) and commonly requested data associated with the application (e.g. “3 unread emails”). *Id.* ¶¶ 16–18, 25, Figs. 1–3.

The selection of an item from the snap-shot window may be accomplished by using scrolling functionality to highlight the name of an application for a certain amount of time, by executing “a press and hold . . . when an application name is highlighted,” or by using a cursor key. *Id.* Highlighting is available for the list in the snap-shot window, and when an item in that list is selected, the required application may be automatically opened. *Id.* ¶ 18.

3. Cho

Cho is entitled “Mobile Terminal and Method of Controlling Operation of the Mobile Terminal,” and was published October 13, 2011. Ex. 1006, codes (54), (43). Cho deals with scrolling through an electronic document on a mobile device, in response to a scroll command. *Id.* code (57).

In part, Cho describes that a scroll command might include user input on a touch pad which may be implemented as a “mutual layer structure” with a display. *Id.* ¶¶ 41, 50, 67, 79. This scroll command may be a “touch-

and-flick” or “touch-and-drag,” and in response to the detection of such a command the electronic document is scrolled. *Id.* ¶¶ 79, 91. Cho discloses that a “touch-and-flick” is a gentle scratch of the surface of the display module with a finger, and is distinguished from a “touch” by how long the touch is in contact with the surface of the display module. *Id.* ¶ 80.

Cho additionally discloses that, upon the detection of a touch of a predefined item, an information window may be displayed relevant to that predefined item. *Id.* ¶ 107. A touch-and-drag input may be used to resize this window, a touch on a hyperlink object in the window may display information on the hyperlink object, a scroll command may be used to scroll the information window, and a command to end display of the information window makes the information window disappear. *Id.* ¶¶ 107–109, Fig. 6B.

Similarly, if a webpage screen is being displayed, user inputs may be used to scroll the webpage, to open an information window, to display information relevant to a hyperlink object in an information window, to enlarge or reduce the size of an information window. *Id.* ¶¶ 124, 126–128. An information window may additionally be displayed for an email in an email inbox screen or a news article in a screen displaying a list of news articles. *Id.* ¶¶ 129–132.

4. Claim 1

a. Motivation to Combine Hotelling, Martyn, and Cho

i. Petitioner’s Contentions

Petitioner describes a combination of Martyn’s teachings regarding its snap-shot menu and associated gestures, and of Cho’s teachings regarding slide/swipe touch gestures for interfacing with information windows, with Hotelling’s user interface teachings. Pet. 11–20, 35–40.

Petitioner argues that one of ordinary skill would have integrated these teachings because they “would have involved nothing more than applying known solutions to known problems” in the field with predictable outcomes and one of ordinary skill would have had a reasonable expectation of success. Pet. 12, 13, 17, 18 (citing Ex. 1003 ¶¶ 36–54, 75, 87, 89–92, 94–97, 99).

More specifically, Petitioner argues that one of ordinary skill would have supplemented Hotelling’s GUI with application icons with Martyn’s teaching of “a contextual shortcut menu in response to a press-and-hold input on an application icon,” such that a held touch by a user on an icon would cause the display of a contextual menu. *Id.* at 13–14 (citing Ex. 1003 ¶ 75). Petitioner asserts that such shortcut menus were a ubiquitous feature in GUIs in 2011. *Id.* at 14 (citing Ex. 1003 ¶¶ 38–44, 78, 79). Petitioner contends that this addition would have improved the usability of Hotelling’s main page GUI, which would then have been more attractive to consumers. *Id.* at 15 (citing Ex. 1003 ¶¶ 80–82). Petitioner further contends that a motivation for the combination could be found in Hotelling’s existing teaching that a long touch on a GUI would cause the display of a “context sensitive menu pop-up.” *Id.* at 16 (citing Ex. 1004 ¶ 151, Figs. 27A–27B; Ex. 1005 ¶¶ 15–24, Figs. 1–3; Ex. 1003 ¶¶ 83–84). Petitioner additionally cites Martyn’s discussion of the advantages of the Martyn “App Snapshot” as motivating one of ordinary skill in the art to consider the pop-up menu. *Id.* at 17 (citing Ex. 1005 ¶¶ 4–8, 15; Ex. 1003 ¶¶ 85–86). In addition to Martyn’s pop-up, Petitioner argues that one of ordinary skill would have combined Martyn’s teachings regarding scrolling through its pop-up window with Hotelling’s disclosure of sliding and swiping gestures, as a known solution to providing scrolling in a menu such as Martyn’s, or dismissing

such a menu with a swiping or sliding gesture. *Id.* at 34–36 (citing, *inter alia*, Ex. 1004 ¶¶ 61, 87, 148; Ex. 1005 ¶¶ 18, 20–23, 29; Ex. 1003 ¶¶ 139–144).

With respect to the integration of Cho’s swipe and slide gestures to interface with the information windows in the Hotelling/Martyn combination, Petitioner argues Hotelling’s description of touch gestures with motion to have motivated one of ordinary skill to seek a predictable solution to the question Petitioner argues was posed by the combination of Hotelling and Martyn, which Petitioner describes as: “[H]ow to leverage motion-based touch gestures on a mobile device to interact with a menu window?” *Id.* at 18 (citing Ex. 1004 ¶¶ 87, 148; Ex. 1003 ¶ 88). Petitioner asserts that one of ordinary skill would have seen in Hotelling suggestions regarding customization of UI by the user and would have sought out references such as Cho for allowing such user customization through touch gestures, and to supply details regarding similar gestures used in commercially available products at the time. *Id.* at 19–20 (citing Ex. 1004 ¶ 93; Ex. 1003 ¶¶ 91, 93–98). Petitioner additionally argues that in the Hotelling/Martyn combination one of ordinary skill would have considered using sliding gestures from Hotelling for dismissing the pop-up menu, and to look to Cho for providing details regarding this use. *Id.* at 37–40 (citing, *inter alia*, Ex. 1003 ¶¶ 38–44, 143, 145–152).

ii. Patent Owner’s Contentions

Patent Owner argues that Petitioner’s showing regarding the combination of Hotelling, Martyn, and Cho fails. Prelim. Resp. 1–2, 15–32.

Patent Owner contends that the Petition improperly “mixes and matches” disclosures from Hotelling’s main menu GUI (as shown in Hotelling Figure 18) and touch vocabulary associated with the music player

GUI (as shown in Figure 11). *Id.* at 1–2, 16–22 (citing Ex. 1004 ¶¶ 22, 29, 51, 85; Figs. 11, 18). Patent Owner argues that “the Petition treats these two embodiments interchangeably,” arguing that Hotelling’s main menu GUI is used by Petitioner for teachings regarding “display indicia” of limitations 1.a, 1.c, and 1.d of claim 1, and Hotelling’s the music player is used to describe functionality recited in limitations 1.b–1.f of this claim. *Id.* at 17–20 (citing Ex. 2001 (Declaration of Rajeev Surati, Ph.D.) ¶¶ 48–53, 62–63, 68). But Patent Owner contends that these are different embodiments that are being combined by Petitioner, and that no motivation for the combination is provided. *Id.* 1–2, 15, 16–22. Patent Owner asserts that the main menu GUI is only disclosed in Hotelling as “simple,” with limited functionality, and purposefully so, quoting its declarant’s testimony that “a complicated main menu would have strayed too far from a user’s past experience, thereby increasing confusion.” *Id.* at 20–21 (quoting Ex. 2001 ¶ 71, citing Ex. 2001 ¶¶ 70–71). For similar reasons, Patent Owner additionally asserts error in Petitioner’s assertion that one of ordinary skill would have been motivated by the suggestion, in Hotelling’s discussion of a pop-up menu within Hotelling’s music player interface, to combine Martyn’s menu with Hotelling’s main menu. *Id.* at 29–30 (citing Ex. 2001 ¶¶ 83, 90).

In addition to this contention that two embodiments within Hotelling are improperly combined by Petitioner, Patent Owner asserts Petitioner does not sufficiently show that one of ordinary skill would have combined Hotelling and Martyn. *Id.* at 2, 15–16, 22–32. Patent Owner argues that Hotelling and Martyn are “different menus for different devices with different design constraints” and that Petitioner does not adequately show why Martyn’s teachings would be combined with Hotelling’s touch screen,

which would provide expanded access to application functionality through its larger display. *Id.* at 23–25 (citing Ex. 2001 ¶¶ 74, 75–77, 79). Patent Owner contends that one of ordinary skill in the art would not have looked to Martyn, “which addressed problems faced by older mobile devices” as properly combinable with Hotelling’s newer device. *Id.* at 24–25 (citing Ex. 2001 ¶¶ 77, 79). For similar reasons, Patent Owner asserts that Petitioner’s argument that Hotelling’s usability would have been improved via the Martyn menu is deficient; Patent Owner contends that “[t]he usability issues faced by Martyn and any hypothetical usability issues faced by Hotelling are too different to look back to Martyn to design a new touch screen user interface.” *Id.* at 25–28 (citing Ex. 2001 ¶¶ 80–86). Patent Owner contends that touch screen devices are substantially different from Martyn’s non-touch screen interface, and that one of ordinary skill would never have looked to Martyn’s “outdated interface for the solutions of the future.” *Id.* at 27 (citing Ex. 2001 ¶ 85). For similar reasons, Petitioner asserts that one would not have looked to Martyn’s advantages to improve touch screen navigation approaches. *Id.* at 30–32 (citing Ex. 2001 ¶¶ 92–94).

iii. Analysis – Motivation to Combine

We determine that, on this record and for the purposes of institution, Petitioner has sufficiently shown the propriety of its proposed combination of Hotelling, Martyn, and Cho.

First, we determine, on the present record, that Petitioner has not improperly combined embodiments of Hotelling. Petitioner sufficiently shows that Hotelling describes a device which is “designed to recognize touch gestures applied to a touch screen” and which “recognizes the occurrence of gestures” and informs associated software agents of “the

gestures and/or what action(s) to take in response to gestures.” Ex. 1004 ¶ 135 (cited at Pet. 9, 24, 35). While Hotelling’s disclosed example of a touch vocabulary relates to the music player embodiment (Ex. 1004 ¶ 151, Figs. 27A–E), Hotelling generally teaches “[a] hand-held electronic device . . . designed to recognize touch gestures applied to a touch screen” and which upon receipt of gestures “executes instructions to carry out operations associated with the gestures.” Ex. 1004 ¶ 135 (cited at Pet. 8, 9, 24, 35). After considering Hotelling and the parties’ arguments and testimony, we determine that, on the present record, Petitioner has sufficiently shown that Hotelling’s general teachings regarding gestures received on a touch screen includes the recognition of touch gestures (pressing a button, sliding a finger or stylus, moving the entire device spatially) while Hotelling’s main page is being displayed. Ex. 1004 ¶¶ 84, 85, 87; Ex. 1003 ¶¶ 64–66. While we agree that the “touch vocabulary” provided in the “example” of Figures 27A–E (*see* Ex. 1004 ¶ 151) relates to a music player, we do not, on the present record, determine that Hotelling limits its disclosed recognition of touch gestures and execution of instructions to carry out operations associated with the gestures (including via a touch vocabulary) as relating only to the music player or to the other specific functionalities of the device, rather than to all user input GUIs.

Additionally, even were Hotelling’s teachings regarding “touch vocabulary” limited to the GUIs for device functionalities such as the music player, we do not understand Hotelling to be directed to two embodiments – one a main menu GUI and a second relating to a GUI for functionalities. Hotelling teaches a device which displays a main menu GUI and, upon selection of a device function, provides a GUI for that function. Ex. 1004 ¶ 84 (“[T]he selection [of a device functionality] may be made via a main

menu that includes soft buttons . . . that, when selected, activate the device functionality associated with the soft button. During activation, the GUI for that particular device is brought into view on the display.”); *but see* Ex. 2001 ¶¶ 47–50 (“[A] POSITA would understand that Figures 18 and 11 disclose separate embodiments of different GUIs.”). On the current record, it does not appear that two different embodiments are being referenced by Petitioner. We additionally note that Patent Owner’s citation to *Microsoft Corp. v. Biscotti, Inc.* to support its argument that the Petitioner must articulate how separate embodiments are combined is inapposite, as that case relates to combinations of multiple embodiments in anticipation, rather than obviousness. *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1068–70 (Fed. Cir. 2017). Rather, the relevant inquiry is what the combined teachings of the references would have suggested to those having ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (C.C.P.A. 1981).

With respect to the combination of Hotelling and Martyn, for the purposes of institution and on the present record, we find Petitioner has sufficiently shown a motivation to combine. While we acknowledge Patent Owner’s contentions regarding the differences between Hotelling and Martyn, in time and device input capabilities (Prelim. Resp. 25–28; Ex. 2001 ¶¶ 80–86), we find persuasive Petitioner’s arguments that Martyn teaches “providing a menu of options for invoking common application functions” and that one of ordinary skill in the art would consider those to allow a user to “make accessing those functions easier and more efficient,” especially with respect to recurring tasks (Pet. 15; Ex. 1003 ¶¶ 80–81).

Additionally, reviewing Petitioner’s arguments (as summarized above), we find Petitioner sufficiently shows a motivation to add Cho’s teachings using sliding/swiping gestures to the Hotelling-Martyn

combination. *See* Pet. 18–20, 37–40 (citing Ex. 1004 ¶¶ 87, 93, 148; Ex. 1003 ¶¶ 38–44, 88, 91, 93–98, 143, 145–152).

b. Further Analysis and Conclusion – Obviousness of Claim 1 Over Hotelling, Martyn, and Cho

i. Preamble and Limitations 1.a and 1.b of claim 1

Petitioner argues that the preamble of claim 1 is taught or suggested in Hotelling’s mobile device with a touch screen, memory, and tactile feedback devices, and in its microprocessor controller and memory. Pet. 20–21 (citing Ex. 1004 ¶¶ 169–171, Fig. 28; Ex. 1003 ¶¶ 101–103).

Petitioner asserts that limitation 1.a, requiring the mobile device be caused to display indicia associated with an application on the touch screen, Petitioner argues that this is taught or suggested by Hotelling’s main menu page which includes icons for launching device functionalities such as cell phone functionality, music player functionality, and gameplayer functionality. *Id.* at 22–23 (citing Ex. 1004 ¶¶ 85, 97, 172–173, Fig. 18; Ex. 1003 ¶¶ 105–109).

Petitioner contends that, in its proposed combination, Hotelling teaches limitation 1.b, which requires that the mobile device is caused, “when a first duration of a touch being applied to the touch screen is detected as ceasing in connection with the indicia,” to “perform an operation.” Ex. 1001, 95:62–64; *see* Pet. 24–25. Petitioner asserts that this is taught by Hotelling’s device designed to recognize touch gestures on the touch screen and determine actions to take. Pet. 24–25 (citing Ex. 1004 ¶¶ 135, 145, 149–150, Figs. 27A–27B; Ex. 1003 ¶¶ 114–118). Petitioner additionally asserts that one of ordinary skill would have understood that, in Hotelling’s device, selecting a button on the main page would involve a

short touch of a specific duration. *Id.* (citing Ex. 1004 ¶ 85; Ex. 1003 ¶¶ 49–54, 115, 117, 119).

At this time, Patent Owner presents no additional arguments regarding these contentions.

On the present record, and for the purposes of institution, we determine that Petitioner sufficiently shows that Hotelling, in the combination of Hotelling, Martyn, and Cho, teaches or suggests the preamble and limitations 1.a and 1.b of claim 1. As we find Petitioner’s showing sufficiently shows that the preamble is taught or suggested, we do not need to determine whether the preamble is limiting. *See Nidec Motor Corp.*, 868 F.3d at 1017.

ii. Limitation 1.c

Limitation 1.c of claim 1 recites that the mobile device is caused to “when a second duration of the touch, that is different than the first duration of the touch, being applied to the touch screen is detected in connection with the indicia after the first duration is detected without the ceasing, output feedback that is perceptible by touch, utilizing the actuator.” Ex. 1001, 95:65–96:3. Petitioner asserts that Hotelling teaches “short” and “long” touches, and that this teaches or suggests a second duration (long) touch being detected after the first (short) duration ends, without the touch ceasing. Pet. 26 (citing Ex. 1004 ¶¶ 149–150; Ex. 1003 ¶ 122). Petitioner further argues that a touch vocabulary could include a detected long touch leading to the behavior opening of a context sensitive menu, such as Martyn’s snapshot menu. *Id.* at 26–27 (citing Ex. 1004 ¶¶ 145, 150, 151, Figs. 26, 27A, 27B; Ex. 1005 ¶ 17; Ex. 1003 ¶¶ 121–124).

Petitioner additionally argues that Hotelling discloses that tactile feedback may be used in conjunction with an input event on a virtual button,

which would teach or suggest the output feedback of limitation 1.c. *Id.* at 28 (citing Ex. 1004 ¶¶ 160–161, 163, 173; Ex. 1003 ¶ 125). Alternatively, Petitioner argues that it would have been obvious for one of ordinary skill to implement haptic feedback in conjunction with an input event, in order to provide the “decades-old” technique of using tactile feedback for a touch screen. *Id.* at 28–29 (citing Ex. 1003 ¶¶ 45–48, 126–130).

Patent Owner argues that Hotelling discloses haptic feedback making virtual user interfaces (UI) feel more like physical UI, by providing force feedback in the form of vibration in response to touching a virtual button, and thus Hotelling teaches haptics only to mimic physical buttons with feedback upon a virtual “button press” and/or upon release of such a button press. *Id.* at 34–36 (citing Ex. 1004 ¶¶ 67–70, 161, 163; Ex. 2001 ¶¶ 98, 100). This, Patent Owner contends, teaches only “[p]roviding haptic feedback in response to exceeding a *pressure* threshold or upon release of a touch,” and therefore does not provide haptic feedback when a touch is held for a certain duration. *Id.* at 36 (citing Ex. 2001 ¶¶ 102–103).

We determine, on the present record and for the purposes of institution, that Petitioner sufficiently shows that Hotelling, in the asserted combination, teaches or suggests limitation 1.c of claim 1. Hotelling teaches that “haptics . . . may be used to enhance the feel of actuating a GUI element such as a soft button” (Ex. 1004 ¶ 161) but also more generally that “tactile feedback may be used to alert a user that a user input has been made” with the soft button as an example (Ex. 1004 ¶ 163), describing that “haptics mechanisms may work similarly to [alert indicators], or they may be used to enhance the feel of actuating a GUI element such as a soft button” (Ex. 1004 ¶ 161). While, on the present record, Patent Owner and its declarant focus on the haptic feedback which makes virtual UI feel like physical UI,

mimicking physical buttons and thus enhancing the feel of actuating a GUI element (*see* Ex. 2001 ¶¶ 98–101), on the present record this is an overly limited view of what Hotelling teaches. Rather, on the present record, we find Petitioner’s declarant’s testimony persuasive that Hotelling teaches haptics “alert[ing] a user that a user input has been made” (Ex. 1004 ¶ 163, quoted at Ex. 1003 ¶ 125). We additionally find sufficient Petitioner’s showing, summarized above, relating to the rest of the claim, including in Hotelling’s teachings that user input may be distinguished based, in part, on the duration of touches (*see* Pet. 26–27; Ex. 1004 ¶¶ 145, 149–151, Figs. 26, 27A, 27B; Ex. 1003 ¶¶ 121–124), and we determine that Petitioner has sufficiently shown that the Hotelling/Martyn/Cho combination teaches or suggests limitation 1.c of claim 1.

iii. Limitations 1.d through 1.f

Petitioner additionally presents contentions regarding the rest of the limitations of claim 1—limitations 1.d through 1.f. Pet. 29–40. Patent Owner does not present any arguments not already addressed regarding these limitations. After review of Petitioner’s contentions, summarized below, we determine that they are sufficient to show the combination asserted teaches these limitations.

First, with respect to limitation 1.d and 1.e, requiring the display of a menu including a plurality of particular actions upon detection of the second duration (long) touch and the performance of an action in the menu when a selection touch is applied to the menu, Petitioner asserts that the combination proposed includes a menu such as Martyn’s “App Snapshot” which, in the combination, would teach a menu being displayed to a user upon a long-duration touch on an application icon, with the menu including functions offered within the corresponding application, and allowing the

user to select one of these functions. Pet. 29–33 (citing Ex. 1004 ¶¶ 61, 151, Figs. 27A, 27B; Ex. 1005 ¶¶ 9–11, 15, 17, 18, Figs. 2–3; Ex. 1003 ¶¶ 131–136). Martyn’s menu provides a “snap-shot” with a limited list of common functions of applications which can be reached directly from the main menu instead of launching an application to use its function. Ex. 1005 ¶¶ 11, 15. This snap-shot menu is accessed when the user input (highlight in Martyn) rests on the name of an application for a certain duration of time, and allows the user to request the display of data from an application or provide access to functions of the application without first opening the application. *Id.* ¶¶ 17–18. In combination with Hotelling’s disclosures regarding the discernment of touch durations states, as discussed above, we find on the present record and for the purposes of institution, Petitioner has sufficiently shown limitations 1.d and 1.e of claim 1 taught by the proposed combination of Hotelling, Martyn, and Cho.

Limitation 1.f of claim 1 requires that the mobile device is caused to, after detecting the second duration of touch in connection with the indicia, change at least one aspect of the display of the at least one menu. Ex. 1001, 96:16–21. We determine that Petitioner sufficiently shows this teaching in its proposed combination, including in the description in Hotelling that sliding gestures may generate command signals (Ex. 1004 ¶¶ 87, 148) which may be used to implement Martyn’s disclosed scrolling (Ex. 1005 ¶ 18). *See* Pet. 36. Additionally, we determine that Petitioner sufficiently shows this in the teaching that the Martyn menu may be dismissed. *See* Pet. 37. Additionally, we determine that Cho’s information window being scrolled, re-sized, and dismissed via similar gestures teaches or suggests the limitation as Petitioner asserts. *See* Pet. 37–39 (citing, *inter alia*, Ex. 1006 ¶¶ 79, 109, 127–130, 132; Ex. 1003 ¶¶ 143, 145–150).

iv. Conclusion

For the reasons above, on the current record and for the purposes of institution, we determine that Petitioner has shown a reasonable likelihood of prevailing in showing claim 1 unpatentable over its proposed combination of Hotelling, Martyn, and Cho.

5. Additional Independent Claims 16 and 84 – Obviousness Over Combination of Hotelling, Martyn, and Cho

Claim 16 is directed to a mobile device including a touch screen, actuator, at least one processor, and memory configured to store an application and programs which include instructions to perform actions substantially similar to those found in limitations 1.a–1.f of claim 1. Ex. 1001, 97:44–98:15. Claim 84 is an independent method claim that includes steps similar to those claimed in limitations 1.a through 1.f of claim 1. Ex. 1001, 114:52–115:16.

Petitioner argues these claims with reference to its arguments relating to claim 1. Pet. 45, 52. Patent Owner makes no arguments specific to these claims.

For the same reasons discussed above, on the present record, we find Petitioner has sufficiently shown a likelihood of success of prevailing in a challenge of claims 16 and 84 as unpatentable over Hotelling, Martyn, and Cho.

6. Claims 2, 9–11, 13–15, and 58–64

Petitioner presents additional arguments relating to dependent claims 2, 9–11, 13–15, and 58–64. Pet. 40–52. Patent Owner makes no arguments specific to the dependent claims.

With respect to claims 2, 9–11, 13–15, and 58–64, we have reviewed Petitioner’s assertions. In each case, on the present record, Petitioner has

sufficiently shown a likelihood of success of prevailing in challenging these claims as unpatentable over Hotelling, Martyn, and Cho.

Specifically with respect to claims 9–11, Petitioner argues that Martyn’s pop-up menu is displayed along with an application icon (“Messages” icon) and indicia and that this menu may include associated information, such as the number of unread emails in the example of Figure 3, which Petitioner asserts teaches or suggests the additional limitations of claims 9–11. Pet. 41–43 (citing Ex. 1005 ¶¶ 16–18, 29–30, Figs. 1–3; Ex. 1003 ¶¶ 155–157. We determine that Petitioner has sufficiently shown that Martyn (*see* Ex. 1005 ¶ 17, Figs. 2–3) teaches or suggests these additional limitations of claims 9–11, on the present record and for the purposes of institution.

*E. Obviousness of Claims 56 and 57
Over the Combination of Hotelling, Martyn, Cho, and Chaudhri*

Petitioner additionally argues that claims 56 and 57 are obvious over a combination Hotelling, Martyn, Cho, and Chaudhri. Pet. 52–65. Patent Owner presents no additional argument specific to these contentions.

1. Chaudhri

Chaudhri is entitled “Device, Method, and Graphical User Interface for Managing Concurrently Open Software Applications,” and was published on October 13, 2011. Ex. 1004, codes (54), (43).

Chaudhri generally discloses an application view on a touch-sensitive surface of a portable electronic device. *Id.* ¶ 3, code (57).

Chaudhri discloses a user interface screen which is displayed when a user gesture “(e.g. a swipe down gesture) is detected on [a] touch screen from a top edge of the display.” *Id.* ¶ 236 (element number elided); *see id.* ¶ 262. This user interface screen may include, for example, user selectable

icons, information, and recent electronic information. *Id.* ¶¶ 236–237, 262, Figs. 5Z (element 523), 5AA, 6C (element 646).

2. Claims 56 and 57 – Combination of Hotelling, Martyn, Cho, and Chaudhri

Petitioner asserts that the combination using Chaudhri’s additional user interface screen including user selected information in the Hotelling/Martyn/Cho device would have been motivated by a desire to provide alerts and notifications, solving a known problem and improving the device, among other motivations. Pet. 55–56 (citing *inter alia* Ex. 1003 ¶¶ 193, 195, 197). Petitioner argues that one of ordinary skill would have found the resulting combination predictable and had a reasonable expectation of success. *Id.* at 54–55 (citing Ex. 1003 ¶ 192).

Petitioner argues that this combination would teach or suggest that the user interface screen of Chaudhri would have been displayed as a “superseding” display when a starting location of the slide or swipe gesture is at the edge of the touch screen, which would conditionally change “at least one aspect of the display of the at least one menu” (claim 56) by displaying the notifications interface screen in place of the previous GUI elements (such as the recited menu). *Id.* at 60–62 (citing Ex. 1003 ¶¶ 206–207).

Patent Owner presents no additional argument specific to this combination.

We determine that Petitioner sufficiently shows that one of ordinary skill would have combined the user interface screen teaching of Chaudhri with Hotelling, Martyn, and Cho and that the combination teaches or suggests the additional limitations of claim 56. Additionally for the same

reasons, we determine that Petitioner sufficiently shows that the combination teaches or suggests the additional limitations of claim 57. *See* Pet. 64–65.

On the present record, we find Petitioner has sufficiently shown a likelihood of success of prevailing in its challenge to claims 56 and 57 as unpatentable over Hotelling, Martyn, Cho, and Chaudhri.

III. CONCLUSION

On the present record, and for the purpose of institution, we determine that Petitioner has shown a reasonable likelihood of prevailing in its challenge with respect to at least one of the challenged claims. Therefore, we institute on all ground raised and all challenges in the Petition. 37 C.F.R. § 42.108(a); *see SAS Inst. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review of all challenged claims of US Patent No. 10,671,212 B1 is *instituted* with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a) and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial commencing on the entry date of this Decision.

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Patent 10,671,212 B1

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