

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC,

Patent Owner.

IPR2024-01087

10,656,755 B1

PATENT OWNER SUR-REPLY

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	GROUND 1A (HACKBORN-WESTERMAN)	1
A.	No Motivation to Combine Hackborn and Westerman	1
1.	<i>Hackborn's live grass animates on contact using measured touch data rather than a determination of gesture types.....</i>	<i>1</i>
2.	<i>Hackborn forecloses Petitioner's hypothetical conflict theory.....</i>	<i>2</i>
3.	<i>Pressure data is not required to animate Hackborn's live grass wallpaper.....</i>	<i>4</i>
4.	<i>Westerman's swipe-tap thresholds solve a different problem from Hackborn.....</i>	<i>4</i>
B.	Claims 1 and 23	6
C.	Claims 7 and 29	7
D.	Claims 17, 37, and 38.....	7
E.	Claim 22	8
III.	GROUND 1B (HACKBORN-WESTERMAN-TOWNSEND).....	9
A.	No Motivation to Combine Hackborn, Westerman, and Townsend.....	9
1.	<i>Townsend's simulation is not applicable to Hackborn's swaying grass.....</i>	<i>9</i>
B.	Claims 5, 8, 27, and 30	10
C.	Claims 9, 21, 31, and 43	12
IV.	GROUND 1D (HACKBORN-WESTERMAN-JOBS).....	13
A.	No Motivation to Combine Hackborn, Westerman, and Jobs	13
1.	<i>Jobs Does Not Teach Interaction on the Lock Screen.....</i>	<i>13</i>
B.	Claims 18, 19, 39, and 40.....	15

V.	GROUND 2 (HACKBORN-WESTERMAN-JOBS)	18
A.	No Motivation to Combine Hackborn, Westerman, and Jobs	18
1.	<i>Hackborn’s own teachings undercut Petitioner’s manual scrolling combination</i>	18
2.	<i>Petitioner’s Dismissal of Hackborn’s Technical Constraints is Unpersuasive</i>	20
3.	<i>Petitioner’s threshold argument in Ground 2 remains unavailing</i>	21
B.	Claims 1 and 23	22
C.	Claims 7 and 29	23
D.	Claims 18, 19, 39, and 40	23
E.	Claim 22	24
F.	Claim 28	24
VI.	CONCLUSION	25

PATENT OWNER'S EXHIBIT LIST

Exhibit	Shorthand	Description
2001		[WITHDRAWN] Declaration of Rajeev Surati, PhD
2002		[WITHDRAWN] CV of Rajeev Surati, PhD
2003	JCC	Excerpt of Joint Claim Construction Chart Exhibit A
2004	Stay Order	October 2, 2024 Order Granting in Part Apple's Motion to Stay in Smith Interface Technologies, LLC v. Apple Inc., 3-23-cv-01187, S.D. Cal (Dkt. No. 127)
2005	Mahon	Declaration of Dr. Mark P. Mahon
2006	Mahon CV	CV of Dr. Mark Mahon
2007	Cockburn Dep.	Transcript of the Deposition of Andrew Cockburn, Ph.D.

I. INTRODUCTION

Petitioner's Reply fails to cure the fundamental deficiencies in the Petition and, in many respects, confirms them. Petitioner still identifies no genuine problem in Hackborn that would have motivated a skilled artisan to incorporate Westerman's gesture-differentiation or Townsend's inertia simulation. The Reply doubles down on the hindsight assumption that Hackborn's live wallpaper "must distinguish between swipes and taps" because it allegedly "responds differently to each." But Hackborn itself never teaches any such distinction. Petitioner likewise insists a POSITA would have had reason to add Jobs's teachings to Hackborn, downplaying the technical and usability concerns noted in the Patent Owner Response. But Petitioner's assertions are either unsupported or rely on impermissible hindsight.

II. GROUND 1A (HACKBORN-WESTERMAN)

A. No Motivation to Combine Hackborn and Westerman

1. Hackborn's live grass animates on contact using measured touch data rather than a determination of gesture types

Petitioner's Reply repeatedly asserts that Hackborn "must" distinguish taps from swipes on its wallpaper because the device responds differently to them. But that is not what Hackborn says. Hackborn's live wallpaper broadly "responds to inputs from a user," with one *example* of such user input and response being Hackborn's description of a live grass wallpaper "bend[ing] or sway[ing] as if contacted by the user's finger during [a] swipe." POR, 24 (citing EX1004, [0026],

[0028]. Hackborn further explains that the wallpaper process may use a vector representing the position, direction, and speed of the contact. EX1004, [0028], [0033]. Nothing in these passages states that the wallpaper first classifies a touch as a tap or as a swipe before animating. Rather, the animation is tied to the measured data of the touch on the live grass—the vector determines magnitude and direction, not the label of the gesture. EX1004, [0028], [0033]; POR, 21–22, 26. Petitioner’s own expert concedes that Hackborn seeks to simulate grass, and that grass would move when poked. EX2007, 62:15–17, 63:21–64:2. The Reply’s refrain that Hackborn “only explicitly teaches” grass animation responsive to swipes asks the Board to treat an example as a negative limitation. Reply, 5. But silence about taps in the live grass example is not a disclosure that taps do not effect the live grass wallpaper.

2. *Hackborn forecloses Petitioner’s hypothetical conflict theory*

The Reply argues that tap-driven animation would create a “conflict” when grass overlaps icons and so Hackborn avoids the issue by animating only on swipes. Reply at 5. That misreads Hackborn. Where wallpaper elements overlap icons or gadgets, Hackborn gives those foreground elements “priority for display” so they look closer to the user than the wallpaper. EX1004, [0029]. And Petitioner’s contention of a “potential conflict” because “a tap on the overlapping content could either animate the grass or activate the icon” is belied by Hackborn itself. Reply,

5-6. Specifically, Hackborn teaches that “[a] touch interface 706 may take a familiar form and may interpret input by a user on a touchscreen” by “coordinat[ing] with the display controller 704 to identify what item or items on a display a user is selecting by touching at a particular location.” EX1004, [0054]. Thus, the location of the user input on the screen plainly determines whether a tap selects an icon or animates the background. EX2005, ¶43.

Moreover, Hackborn explains that interaction with foreground objects can also induce animations in the wallpaper underneath. EX1004, [0034] (“The wallpaper object may then be programmed to produce an animation that looks like rippling water emanating away from the icon or gadget where it was dropped by the user.”). Furthermore, Petitioner’s own description of Hackborn acknowledges that a swipe can animate the wallpaper “even when the swipe passes over an icon.” Reply, 6. Hackborn also discloses an alternate embodiment in which its device must enter a specific mode before any inputs animate its grass. EX1004, [0028].

Petitioner’s further asserts that both gesture and location are needed to determine a user’s selection, and points to examples where icons can be selected to launch an application or to move the icon. Reply, 9–10. Whether an icon or a gadget responds differently to certain types of contact is not pertinent to the question of whether the live grass wallpaper would exclude taps *on the wallpaper* from initiating animating the wallpaper. POR, 26; EX2005, ¶66.

3. *Pressure data is not required to animate Hackborn's live grass wallpaper*

Petitioner introduces Dr. Cockburn's new opinions alleging that Hackborn's system is "not equipped" to animate grass in response to a tap. Reply, 8; EX1031, ¶¶23–25. Petitioner argues that a tap provides "inadequate data" to generate an animation because it has no pressure or direction vector, whereas a swipe's length and speed can drive the grass movement. But Hackborn never mentions pressure as a requirement for animation—this is an extrinsic requirement manufactured by Petitioner's expert. Nowhere does Hackborn state that without a sustained swipe or without pressure data the grass cannot move at all. To the contrary, Hackborn's stated inputs of position, direction, and speed are available from ordinary touch events. POR, 25; EX2005, ¶64. Even a brief touch still yields a precise position, and a POSITA can use that information to produce a small, momentary bend in the two-dimensional live grass image, producing an "animation that makes the grass blades look as if the finger is actually contacting them." POR, 25; EX2005, ¶64 (quoting EX1004, [0033]). Petitioner's pressure requirement is a non sequitur that is taught nowhere in Hackborn and does not preclude an animation response to a tap.

4. *Westerman's swipe-tap thresholds solve a different problem from Hackborn*

Westerman discloses "a method for interpreting swipe gesture input to a device" using "thresholds" in "a virtual keyboard area, in which taps of a touch

object generate text input.” EX1005, [0018], [0019]. The point of that thresholding is to choose between two alternative command interpretations—tap vs. swipe—so the system can select a key or execute a command in the *same* screen area. POR, 11–12; EX2005, ¶¶46–47. That is different from the situation in Hackborn.

Petitioner argues that Westerman is “broad,” not “limited to virtual keyboards,” and that the combination merely borrows Westerman’s thresholds. Reply, 10–11. Whether or not Westerman applies broadly, the combination still needs a reason to graft Westerman’s thresholds mechanism onto Hackborn’s live screen wallpaper. The Petition’s rationale—“to the extent Hackborn lacks details”—fails because Hackborn already provides the vector data necessary to animate the grass. Pet., 12–13; POR, 25; EX2005, ¶64; EX1004, [0033].

Westerman’s determination of whether a touch is a tap or a swipe is not relevant to generating the dynamic grass animation. Instead, Westerman’s thresholds simply prevent the system from recognizing subtle but valid touch interactions, including taps. But, Petitioner is still unable to provide any clear justification why the exclusion of those touch interactions are necessary, particularly when Hackborn does not identify any reason to prevent taps from triggering the grass animation, and Petitioner’s own expert concedes that Hackborn intends to faithfully reproduce real grass, which moves when poked (not just when swiped laterally). EX2007, 62:15–17, 63:21–64:2.

Petitioner also complains that Patent Owner demands “bodily incorporation,” but this misses the point. Reply, 11–12. The problem is not that Westerman’s thresholds appear in a keyboard embodiment—it is that those thresholds solve a problem that is irrelevant to Hackborn. POR, 22–23. The Petition has not articulated a Hackborn-specific deficiency that Westerman remedies. POR, 23–26.

Petitioner's entire motivation to combine Westerman with Hackborn rests on the faulty premise that Hackborn must first classify a gesture before acting. As discussed above, Hackborn already discloses acting directly on touch data, making Westerman’s gesture classification system completely superfluous.

B. Claims 1 and 23

Petitioner contends that Hackborn’s description of a vector “representing the position, direction, and speed of the user’s dragging motion” contradicts Patent Owner’s assertion that “Hackborn’s only disclosed criteria for causing a change to the grass is contact with a finger, not path length or velocity.” Reply, 12. However, Patent Owner’s assertion was focused on criteria for triggering (causing) an animation, which Hackborn clearly states is based on touch. POR, 27–28; EX2005, ¶¶68–69. Path length and velocity are used in determining the magnitude of the visual effect of the dynamically generated grass animation. POR, 25; EX2005, ¶64.

The Reply also argues that Hackborn “explicit[ly]” discloses a composite wallpaper “including the grass and images from social media websites.” Reply, 13.

However, Hackborn says only that “live wallpaper can include a combination of the described wallpaper examples,” which is nothing more than a generic, permissive phrasing with no specification of which examples, arranged how, or with what interactions. EX1004, [0050]. There is no textual anchor for the specific composites that the Petition manufactures and attempts to rely upon. POR, 29–30.

C. Claims 7 and 29

The Reply relies on its erroneous assumption that Hackborn “animates grass responsive to swipes, not taps.” Reply, 13. For the same reasons stated above in Section II.A, these claims are not obvious. *See also* POR, 30–32.

D. Claims 17, 37, and 38

These claims involve displaying “at least some of the plurality of images” in sequence, for example by “automatically moving, one-by-one, through the at least some of the plurality of images.” The Petition attempts to map this to a combination of Hackborn’s grass animation and Hackborn’s social-media feed updates. Pet., 39–40. Petitioner argues that both the grass and the social-media feed constitute “the at least some of a plurality of images,” where the grass moves in response to user contact and the feed content scrolls automatically as updates arrive. Reply, 14. Thus, there is a disconnect between the elements that Petitioner is mapping. The images that Petitioner contends are automatically moving one-by-one (i.e., in the social media feed) are not the same images displayed as part of the dynamic change in

appearance based on the magnitude of the contact (i.e., the grass). Thus, Petitioner is inconsistently mapping “the at least some of a plurality of images” limitation to different elements. POR, 32–34; EX2005; ¶¶74–77.

E. Claim 22

Petitioner now says, over a year after filing the Petition, that claim 22 was “inadvertently listed” in Ground 1A instead of Ground 1B. Reply, 19 (citing *Corephotonics, Ltd. v. Apple*, 84 F.4th 990, 1010 (Fed. Cir. 2023)). First, Claim 22 is also listed under Ground 2 in the Petition. Second, Claim 22 is listed under Grounds 1A and 2 throughout the Petition and Dr. Cockburn’s declaration. Third, the arguments for Claim 22 in both grounds never mention Townsend, the reference that is added in Ground 1B.

This is not just a minor clerical error—Petitioner’s proposed remedy reshuffles the mapping of a dependent claim across grounds in reply, over a year after the Petition was filed. Deficiencies in the Petition cannot be fixed in a reply. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (“[T]he expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute.”). *Corephotonics* does not say otherwise. The Board should reject Petitioner’s attempt to reorganize its petitioned grounds.

III. GROUND 1B (HACKBORN-WESTERMAN-TOWNSEND)

A. No Motivation to Combine Hackborn, Westerman, and Townsend

1. *Townsend's simulation is not applicable to Hackborn's swaying grass*

Petitioner's Reply attempts to rehabilitate the combination with Townsend by accusing Patent Owner of "mischaracterizing" Townsend's teachings. According to Petitioner, Patent Owner "selectively quoted" Townsend and ignored that Townsend broadly aims to "simulate real-world behavior of application objects." Reply, 14. Petitioner points out that Townsend's inertia system imparts natural movement to objects, including friction and deceleration. *Id.* at 14–15. There is no dispute that Townsend discloses an inertia-based physics model. However, that model is not a comprehensive physics engine—it only models the movement of freely moving objects across a screen, not the internal movement of a flexible object anchored in place, such as Hackborn's swaying grass. POR, 36–37.

Petitioner argues that Townsend is not just limited to "freely moving objects," and notes that Townsend considers elasticity and deceleration. Reply, 14-15. But as the Patent Owner Response pointed out, Townsend uses deceleration to calculate the inertia of objects moving across a screen due to simulated friction, and uses elasticity to calculate object behavior for collisions. POR, 36; EX2005, ¶83; EX1006, [0016], [0041], [0050]–[0051]. Petitioner fails to identify any disclosure in Townsend showing an application of its model to an anchored, internally-flexible object.

In an attempt to overcome Townsend’s limitations, Petitioner points to a single statement from Townsend mentioning a “pivot point.” Reply, 15; EX1006, [0022] (“[I]nitialization information may also specify a pivot point of the object.”). From this, Petitioner leaps to the conclusion that Townsend addresses “fixed objects (e.g., grass)” and “[a] POSITA would have understood Townsend’s broader applicability.” Reply, 15. But, Townsend uses the term “pivot point” in the context of describing whole object transformations, such as scaling and rotation. EX1006, [0022]. Townsend does not describe it as a parameter applicable to modeling a flexible structure that sways about a fixed base. *Id.*

In sum, Petitioner’s complaints that Patent Owner mischaracterizes Townsend are without merit. Instead, Petitioner overgeneralizes Townsend’s actual disclosure describing the movement and interactions of whole objects across a screen, not the flexibility of an anchored object. Thus, Petitioner fails to show that a POSITA would naturally import Townsend’s inertia simulation to animate Hackborn’s live grass. POR, 37–38.

B. Claims 5, 8, 27, and 30

Claims 5 and 27 require that “decay[] follow[] detection of a cessation of the first contact,” and claims 8 and 30 require that “decay[] ... in response to detecting a cessation of the first input.” Petitioner characterizes Patent Owner’s challenge as “limited to when decay occurs,” and then proposes two new hypotheticals: (i) an

outer edge of the touch screen swipe; and (ii) removal of a finger from the screen while on a blade of grass. Reply, 16–17. Neither scenario is taught by Hackborn, and neither scenario changes the fact that Hackborn’s animation of grass is determined by whether a finger is touching the grass, not whether the finger is still touching the screen, as required by the claims. POR, 39–40; EX2005, ¶88. Nothing in the Hackborn-Westerman-Townsend combination identifies the determination of when the “first contact” (or “first input”) ceases (i.e., the finger is lifted from the screen) as the operative trigger for initiating a “decay” of the grass animation, for any grass, edge or otherwise.

Petitioner also asserts that “in some instances, swaying with decay would continue following contact cessation, even when the decay does not immediately follow cessation,” to capture cases where motion simply persists after a touch. Reply, 18; EX1031, ¶58. This assertion is merely conclusory speculation, but it is also irrelevant to the issue. Hackborn’s animation of grass is based on whether a finger is still touching the grass, not whether the finger is still touching the screen. POR, 40; EX2005, ¶88. Petitioner’s speculation that swaying with decay would “continue” after contact with the screen ends does not meet the claim limitation requirement of animation decay after *determining* contact *with the screen* ceases.

C. Claims 9, 21, 31, and 43

Petitioner argues that a decelerating object “will come to rest,” and from there posits that applying Townsend’s inertia “would, in some instances, result in the grass returning (reverting) to its original position once swaying completes.” Reply, 18–19. However, “com[ing] to rest” is not synonymous with “reverting” or returning to previous image, as claimed. Neither Hackborn nor Townsend discusses elasticity modeling for living plant matter, and neither suggests that once the contact with the screen stops, the grass must revert to: 1) the specific original image (claims 9 and 31); or 2) a prior image different from the original image (claim 21 and 43). Petitioner ignores its own expert’s testimony that Hackborn’s depiction of animated grass is intended to have high fidelity and use dynamically generated images. POR, 44–45; EX2007, 98:11–14. Thus, assuming *arguendo* that the Hackborn-Westerman-Townsend combination could simulate the elastic nature of the grass, the grass does not revert or return to any images but dynamically generates them based on the calculation of the simulation. POR, 45; EX2005, ¶¶97.

To circumvent this admission, Petitioner argues that there are “finite options ... for the grass’s final position.” Reply, 19. But, the final position of the grass does not address the limitations in the claims, which involve reversion to prior images or backgrounds. POR, 43–44; EX2005, ¶¶94–97. Thus, Petitioner fails to show that Hackborn-Westerman-Townsend would meet the claimed limitations.

IV. GROUND 1D (HACKBORN-WESTERMAN-JOBS)

A. No Motivation to Combine Hackborn, Westerman, and Jobs

1. *Jobs Does Not Teach Interaction on the Lock Screen*

As explained in the Patent Owner Response, Petitioner’s attempt to combine Jobs’ with Hackborn-Westerman is rooted in hindsight. POR, 46–47. The purpose of Jobs’ lock screen is not compatible with Hackborn’s live wallpaper, and combining the references would raise issues of unintended input and battery drain. *Id.*; EX2005, ¶¶102–103. Petitioner contends that Patent Owner “mischaracterizes” Jobs and that the combination is a “straightforward application” of Hackborn’s express teachings, not hindsight. Reply, 20–21. As support, Petitioner points to Hackborn’s statement that wallpaper “need not be static... but can be active” to create compelling UIs, and argues that applying this idea to a lock screen is a straightforward application of Hackborn’s teachings. *Id.* Petitioner’s argument neglects critical context from the references themselves.

Hackborn broadly envisioned active wallpapers *on a home screen* where user interaction is ongoing and expected. A lock screen is a fundamentally different environment that is intentionally designed to minimize activity to save power and avoid accidental input. POR, 47; EX2005, ¶102; EX1009, [0177]; EX1010, [0049]. Jobs states that the device “maintains the...lock state if the detected contact does not correspond to the predefined [unlock] gesture,” thereby “saving battery power” and

preventing accidental wake-ups. EX1009, [0177]. In other words, Jobs teaches that the lock screen should *ignore* most touches except the specific unlock gesture, precisely to avoid unintended actions and battery usage. EX2005, ¶102. Furthermore, Petitioner does not identify any disclosure in Jobs suggesting that its lock-screen wallpaper image 314 is, or could be, live or interactive. EX1009, FIG. 3A. Thus, integrating Hackborn’s constantly-responsive live wallpaper into this context is not an obvious or “straightforward” step as Petitioner contends—it cuts against the lock screen’s primary purpose. An active wallpaper on a lock screen permits user input and processor activity that the lock screen is specifically designed to prevent. POR, 47; EX2005, ¶102.

To overcome this deficiency, Petitioner relies on new conclusory expert testimony that running a live wallpaper in a separate process “consumes battery regardless of the screen type” and that a user who chooses live wallpaper implicitly accepts some battery trade-off. Reply, 21. First, these opinions are speculative and undermined by Jobs’ express teachings. Second, these opinions improperly introduce a new rationale for a motivation to combine that was not previously presented in the Petition. In the Petition, the motivation to combine relied solely on the purported benefits of a live wallpaper from Hackborn—providing “updated information, altered aesthetics, a change of theme, environment or pace, or a diversion from the status quo.” Pet., 59 (quoting EX1004, [0026]). The Petition also

acknowledged that lock screens provide means by which “unintentional activation of deactivation of functions” can be avoided. Pet., 58. Petitioner was well aware of the purpose of a lock screen, yet chose not to provide the necessary reasoning to address that known issue. Petitioner cannot now paper over that deficiency with new conclusory opinions offered for the first time on reply. The Board should not afford these new opinions with any weight.

Nonetheless, even if the new opinions were considered, these arguments do not improve the purported motivation to implement Jobs. Jobs’ very rationale for the lock state is to avoid battery-wasting activity until the predefined unlocking gesture is performed. Introducing extra battery use before unlock is directly contrary to Jobs’s stated goal with a lock screen to prevent any unintended input. Petitioner’s reliance on Hackborn’s general endorsement of active wallpapers on a home screen—not a lock screen—still does not answer why a POSITA would implement a live wallpaper on a lock screen against these countervailing considerations.

In sum, Petitioner’s purported motivation for combining Jobs with Hackborn and Westerman remains rooted in hindsight, assembled only because the claims require it, not because the prior art would motivate a skilled artisan to do so.

B. Claims 18, 19, 39, and 40

In the Petition’s analysis of Claim 18, Petitioner mapped the “first user interface” to Jobs’ lock screen. Pet., 61. That mapping differed from the Petition’s

mapping of the “first user interface” in Claim 1, which the Petition identified as Hackborn’s home screen. Pet., 17 (Limitation [1.g]). Faced with this conflict, Petitioner now tries to recharacterize the “first user interface” as encompassing two screens—“a home screen and a lock screen”—and then leans on that new framing to assert internal consistency in order to maintain the mapping of Hackborn’s wallpaper as a “background” in claim 1. Reply, 22. Petitioner’s new two-screen user interface construct is not how the Petition originally presented the “first user interface.” This new construct was necessary because the Petition never presented any disclosure or rationale to indicate that Hackborn’s wallpaper would be a background in Job’s lock screen interface, in which the wallpaper is no longer part of the home screen. POR, 50; EX2005, ¶107. This attempt to recast the scope of the “first user interface” on reply to reconcile its claim mappings is an *improper new theory*, not a mere rebuttal.¹

¹ New arguments cannot be introduced in a reply for the first time. *See Apple Inc. v. eWatch, Inc.*, IPR2015-00412, Paper 50, at 44 (PTAB May 6, 2016) (“‘Respond,’ in the context of 37 C.F.R. § 42.23(b), does not mean embark in a new direction with a new approach as compared to the position originally taken in the Petition”).

Patent Owner also detailed how Petitioner failed to account for one or more foreground objects on the lock screen as required by Claim 18. POR, 48–49. In its Reply, Petitioner stated that the Petition identified the “unlock image” in Jobs’ lock screen as an example of a foreground object. First, the Petition does not identify that the unlock slider/icon was the mapped “foreground object” for claim 18. Pet., 59 (mentioning the unlock image 302 under Hackborn-Westerman-Job Combination section). Second, the Petitioner simply states that unlock image 302 is a foreground object without explaining why. The Petition also acknowledged that certain icons would be foreground objects because they “exist on a layer in front of the wallpaper.” Pet., 18–19. But Jobs does not label its elements as “foreground” or “background,” nor does it state that the “unlock image 302” is a foreground object relative to the wallpaper on a lock screen. Petitioner fails to identify a passage in Jobs that characterizes “unlock image 302” as a “foreground object” “displayed ... over” a lock-screen “background with an appearance,” as the claims require. POR, 48–49; EX2005, ¶¶105–106. Petitioner thus offers only bare conclusions that assume the very layering relationship Petitioner must prove. Reply, 22; EX1031, ¶69.

V. GROUND 2 (HACKBORN-WESTERMAN-JOBS)

A. No Motivation to Combine Hackborn, Westerman, and Jobs

1. Hackborn's own teachings undercut Petitioner's manual scrolling combination

Ground 2 proposes to combine an alternative scenario of Hackborn (its social media “feed” wallpaper, Fig. 6) with Jobs and Westerman to enable manual scrolling of the wallpaper’s content. In the Petition, the rationale given was that it would have been obvious to allow a user to manually scroll through posts in Hackborn’s automatically-scrolling, live wallpaper feed, allegedly to improve user experience. Pet. 66–67. The Patent Owner Response challenged this ground on multiple fronts, noting that Hackborn already contemplated viewing older content by launching the associated app (a one-touch solution), and that Petitioner failed to identify any specific problem in Hackborn that Jobs’s manual scrolling would solve. POR, 53–57; EX2005, ¶¶111–115.

Hackborn teaches that in some cases, the wallpaper “may be selected ... to cause the wallpaper or a portion thereof to assume a more prominent display position or status.” EX1004 [0048]. Patent Owner explained that if a user wanted to manually scroll posts in Hackborn’s wallpaper, a POSITA would consider Hackborn’s suggestion of bringing the wallpaper forward above the icon layer to ensure the content is fully visible. POR, 54; EX2005, ¶112. But doing so would hide the icons, altering their appearance and defeating claim 1’s requirement of not changing the

foreground objects' appearance. On Reply, Petitioner now contends that the wallpaper assuming a prominent position is not required in Hackborn's design and that, even if the wallpaper moves, Hackborn does not mandate it moving to the very front layer. Reply, 28–29.

Petitioner's rebuttal is unconvincing. Hackborn's disclosure that the wallpaper "may... assume a more prominent display position" in response to user input is Hackborn's own explicit teaching. The fact that Hackborn uses "may" does not diminish the significance of the teaching—it tells a POSITA that the system is configured for such behavior. And notably, Petitioner does not deny that bringing the wallpaper forward would indeed occlude the icons. Instead, Petitioner speculates that Hackborn might not require moving the wallpaper to the forward-most plane. Reply, 29. This is irrelevant because, regardless of which layer the wallpaper is elevated to, the purpose is to elevate that content to a layer above any potentially obscuring foreground objects to improve visibility and allow a user to interact with the content. EX1004, [0048], FIG. 2; POR, 55–56; EX2005, ¶114. Petitioner provides no credible reason why a POSITA would motivated to implement manual scrolling in a *background* social media wallpaper with all of its limitations, instead of the active and elevated social media window taught by Hackborn.

2. *Petitioner’s Dismissal of Hackborn’s Technical Constraints is Unpersuasive*

Patent Owner also argued that the Petition failed to address technical limitations in Hackborn’s system that would complicate adding manual scrolling. POR, 58–59 (citing EX2005, ¶117; EX1004, Abstract, [0031], FIG. 6; EX1009, [0243]). Petitioner responds dismissively that “no such limitations or ‘technical complexities’ exist,” asserting that “when UI elements needed to communicate, or that multiple UI elements required touch-related data, well-known techniques were available.” Reply, 29. This conclusory response fails to address the specific issues that Patent Owner raised, including the isolated nature of Hackborn’s wallpaper, storage of historical social media post data, collision with home-screen icons, and continuous input detection to allow up-or-down movement behind foreground objects. POR, 58–57. Nor does Dr. Cockburn’s newly asserted and broad conclusion that “a POSITA . . . would be aware of standard user interface widgets for constructing scrolling views” (EX1031, ¶79) address how that information is applicable to Hackborn’s distinct wallpaper process that is “isolated” from other process and “updated independently of other displayed graphics.” EX1004, Abstract, [0027], [0031]. Obviousness requires a showing of why the combination would be achieved by a POSITA with a reasonable expectation of success and motivation. On that, Petitioner’s Reply adds nothing new of substance.

3. *Petitioner's threshold argument in Ground 2 remains unavailing*

Finally, Petitioner's Reply attempts to carry over the "threshold" argument into Ground 2, contending that the combined Hackborn-Westerman-Jobs device would distinguish between tap and swipe inputs on the wallpaper and thereby meet the claim limitations related to a threshold determination. Petitioner asserts that Jobs's manual scrolling feature relies on swipe gestures (not taps) to scroll messages, and therefore "gesture determination is required since swipes, not taps, cause scrolling." Reply, 30–31; EX1031, ¶82. From this, Petitioner concludes that "since swipes are distinguished based on a magnitude exceeding a threshold, the dynamic change of the background (feed scrolling) occurs when the threshold is exceeded," i.e. exactly as the claim recites. This is essentially the same argument made in Ground 1A, transposed to the context of Ground 2. It fares no better here.

As discussed above in Section II.A for Ground 1A, the notion that Hackborn's wallpaper must use a threshold mechanism to differentiate a scroll gesture from a tap is unsubstantiated. Furthermore, Jobs does not require a defined gesture to scroll. Instead, Jobs discloses that vertical scrolling occurs when the user moves a finger within a scrollable list. EX1009, [1138] ("In response to detecting the movement, the list of items displayed on the touch screen display is scrolled so that a new portion of the list is displayed."). A POSITA would understand this to mean that Jobs does

not rely on a threshold distinction between a swipe and a tap to initiate a vertical scroll because the amount of scrolling corresponds to the magnitude of the contact movement. POR, 62; EX2005, ¶123. There is no need for Westerman’s “threshold” to scroll, but Petitioner has to manufacture a reason to import Westerman in order to meet the claim limitation requirements for a “threshold.” Even assuming *arguendo* that a POSITA would look to Jobs to implement manual scrolling in Hackborn, there is still no credible need for a skilled artisan to implement Westerman’s thresholds. POR, 59–61, EX2005, ¶¶119–121.

B. Claims 1 and 23

Petitioner asserts the combination device “determines whether a gesture is a swipe or tap” and that “since swipes are distinguished based on a magnitude exceeding a threshold, the dynamic change of appearance of the background (feed scrolling) occurs when the threshold is exceeded.” Reply, 31.

Vertical scrolling in Jobs does not require detection of a swipe gesture above a certain magnitude. As discussed above in Section V.A.3, Jobs does not rely on a threshold distinction between a swipe and a tap to initiate a vertical scroll because the amount of scrolling corresponds to the magnitude of the contact movement. POR, 62; EX2005, ¶123. Petitioner’s argument that “swipes, not taps, cause scrolling” does not address whether a threshold is actually being used to decide whether to scroll the background. Reply, 31. The same result would occur just by

scrolling in response to the magnitude of the movement of the finger, without requiring a gesture threshold. POR, 62–63.

C. Claims 7 and 29

Petitioner asserts that in H2WJD a swipe (not a tap) scrolls the feed on the wallpaper and that Hackborn’s “selection of the wallpaper may ‘cause the wallpaper or portion thereof to assume a more prominent display position’” is “permissive” and “does not teach that the wallpaper’s appearance changes.” Reply, 31–32.

Hackborn expressly states that selection “may cause the wallpaper or portion thereof to assume a more prominent display position or status.” EX1004, [0048]. That is necessarily a change in the wallpaper’s displayed state—i.e., a change in appearance/position within Hackborn’s visual planes. Petitioner cannot selectively rely on swipe-based “appearance changes” due to manual scrolling that was never implemented in Hackborn while simultaneously treating Hackborn’s expressly disclosed tap-based changes on social media feeds to “a more prominent display position or status” as irrelevant.

D. Claims 18, 19, 39, and 40

Petitioner’s Reply for these claims incorporates its earlier arguments. Reply, 22–25. Those arguments have the same defects addressed above in Section IV.B for Ground 1D. *See also* POR, 64–65.

E. Claim 22

Petitioner's Reply improperly attempts to reshuffle the mapping of Claim 22 to Ground 1B. Reply, 19. This not permissible for the reasons addressed above in Section II.E for Ground 1A. *See also* POR, 65.

F. Claim 28

Petitioner contends that, in H2WJD, “the dynamic change in background appearance is independent of the location corresponding to the background,” asserting Jobs teaches that finger movement “on the touch screen display” scrolls the “list of items displayed on the touch screen display,” so “the scrolling gesture can occur at any location on the wallpaper.” Reply, 32–33. But this argument does not help Petitioner.

The Petition asserts that, in Ground 2, the “live wallpaper 604,” which is the social media feed, is the recited “background” in claims 1 and 23. Pet., 72 [1.g]. Thus, scrolling at any location on the wallpaper, as Petitioner asserts, is still within the background. This is further confirmed by Petitioner's statement that “the scrolling gesture 610 in Figure 6A of Jobs can occur at *any* location within the message list” or “any location on the live wallpaper.” Pet., 79. Whether addressing the message list or the live wallpaper is still within the background, which dynamically changes its appearance on scrolling, according to the Petition. Petitioner

still fails to explain how scrolling gestures within the background are independent of the dynamic change of the background, as required by claim 28.

VI. CONCLUSION

For the foregoing reasons, the challenged claims should be upheld.

Dated: September 8, 2025

Respectfully submitted,

/Eagle H. Robinson/
Eagle H. Robinson
Reg. No. 61,361

Lead Counsel for Patent Owner

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(a)(i), the undersigned certifies that this Paper—exclusive of the table of contents, exhibit list, certificate of service, and this certificate of word count—includes 5,395 words. The undersigned has relied upon the word count feature provided by Microsoft Word.

/Eagle H. Robinson/
Eagle H. Robinson (Reg. No. 61,361)

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on September 8, 2025, a complete copy of the foregoing Patent Owner Sur-Reply was served on Petitioner via email (by consent), at the following email address(s):

IPR50095-0167IP1@fr.com

/Eagle H. Robinson/
Eagle H. Robinson (Reg. No. 61,361)