UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner,

v.

MULLEN INDUSTRIES LLC,
Patent Owner.

Case No. IPR2025-00745
U.S. Patent No. 9,662,582

PATENT OWNER'S PRELIMINARY RESPONSE

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Statutes

Mullen Industries LLC ("Patent Owner" or "Mullen") submits this Preliminary Response to the Petition for *Inter Partes* Review ("Petition") of U.S. Patent No. 9,662,582 ("the '582 Patent") filed by Meta Platforms, Inc. ("Petitioner").

I. Introduction

The Petition challenges independent claims 1 and 2 of the '582 patent on a single ground relying solely on Levine. However, Levine fails to disclose or suggest a key limitation required by each of independent claims 1 and 2.

The Board should deny institution under 35 U.S.C. § 314(a) for the following reason.

Levine fails to disclose or render obvious "the location of said first character in said virtual playfield is displayed on a display." The Petition points to depictions of characters displayed on a screen. But the display only shows the characters themselves, not the location of any character in a virtual playfield, as required by the claims. This critical distinction is explained in detail below.

II. Technology Primer And Patented Solution

Traditional virtual reality systems are confined, hardware-intensive, and unintuitive. Typically, users are immersed in alternate realities via headsets and navigate those environments using manual input devices, but "such traditional virtual reality systems are deficient because of the need for additional, unneeded manual actions to be made to move a joystick in order to move the user through the

alternate reality." Ex. 1001, 1:24–35. This disconnect between user motion and game input reduces immersion and hinders natural interaction.

These systems also pose safety risks. Because the user's view is completely obstructed by a virtual display, "a user cannot visually see his/her physical environment." *Id*., 1:37–38. Although "guard rails are typically provided such that a user cannot stray from the virtual reality platform," the user may "lose a sense of direction as to where such rails are located," increasing the risk of dangerous contact with barriers or foreign objects resulting in a system that not only limits movement but introduces physical hazards. *Id*., 1:39–45.

The '582 patent addresses these deficiencies through a different approach: an "actuality" game system in which "a user's physical (actual) location on a playfield, reflects a virtual game character's virtual location in a video game environment." *Id*., 2:28–31. Rather than moving a joystick to control an avatar, players move through real-world space, and that motion is mapped directly to the player's associated virtual character on virtual playfield. In this way, "a location-based game where a user's location on a physical playfield corresponds to a video game character's location on a virtual video game playfield" is realized. *Id*., 2:33–36.

The invention also enables systems "in which the video game display completely immerses a user into a virtual reality so that a user cannot see his/her physical environment." *Id*., 3:12–15. In such cases, "location information may be

utilized . . . to determine a virtual character's location (e.g., a particular first-person perspective) in the virtual realm." *Id*., 3:12–19. For example, the patent describes a reincarnation of the game of PACMAN, in which a user may control PACMAN "by changing the location of the wireless telephone." *Id*., 3:48–53. While playing, "a user may look down at a display screen, see his/her character, and run around his/her physical environment in order to similarly run his/her virtual character through a virtual maze." *Id*., 3:57–60. A "display screen 575" is provided which presents the PACMAN game where "virtual character 576 is first displayed to a user at the virtual character's origin" and "as a player moves around a physical playfield, the player's actual location may be translated into a virtual location for virtual character 576." *Id*., 12:31–37. As described, if a user were to run through a playground, their virtual character may also move similarly through the virtual environment of display screen 575. *See id*., 12:37–43. Additionally, "at any time, a display screen, or a portion of a display screen, may include an outline of a playfield and the user's location on that playfield." *Id*., 12:57–60.

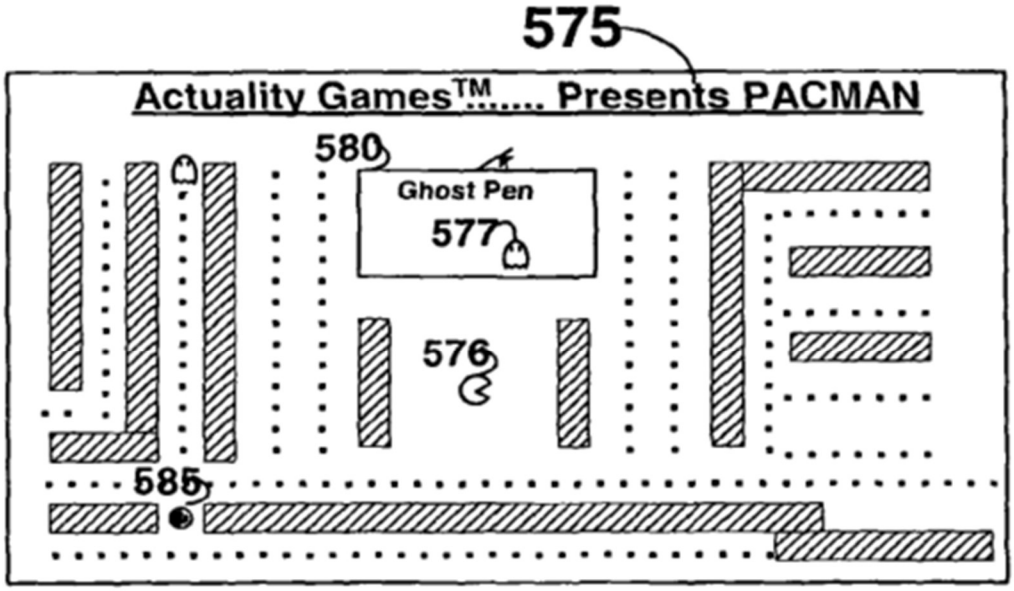

FIG. 5

Id., Fig. 5 (excerpt).

As another example, the patent describes a "location-based game 1000" which includes "display 1030" where "a grid may be included, among other things, on display 1030 that is associated to different location areas that a user may travel in," and where "character 1091 may be included to represent the grid location on the virtual playfield that the user's actual location on a physical playfield corresponds to[]." *Id*., 17:52–60. The game can initially hide unexplored grid areas, such as "grid area 1092," which are revealed once "the virtual character reaches such grid area," at which point "grid 1092 may be uncovered to show what the grid contains (if anything)." *Id*., 17:60–67. Certain revealed areas can trigger encounters with enemies, where "controls 1020 may be utilized to fight the enemy and display screen

1030 may, for the duration of the fight, replace the grid, or a portion of the grid, with a display screen showing an up-close perspective of the user's character and the enemy." *Id*., 18:4–9.

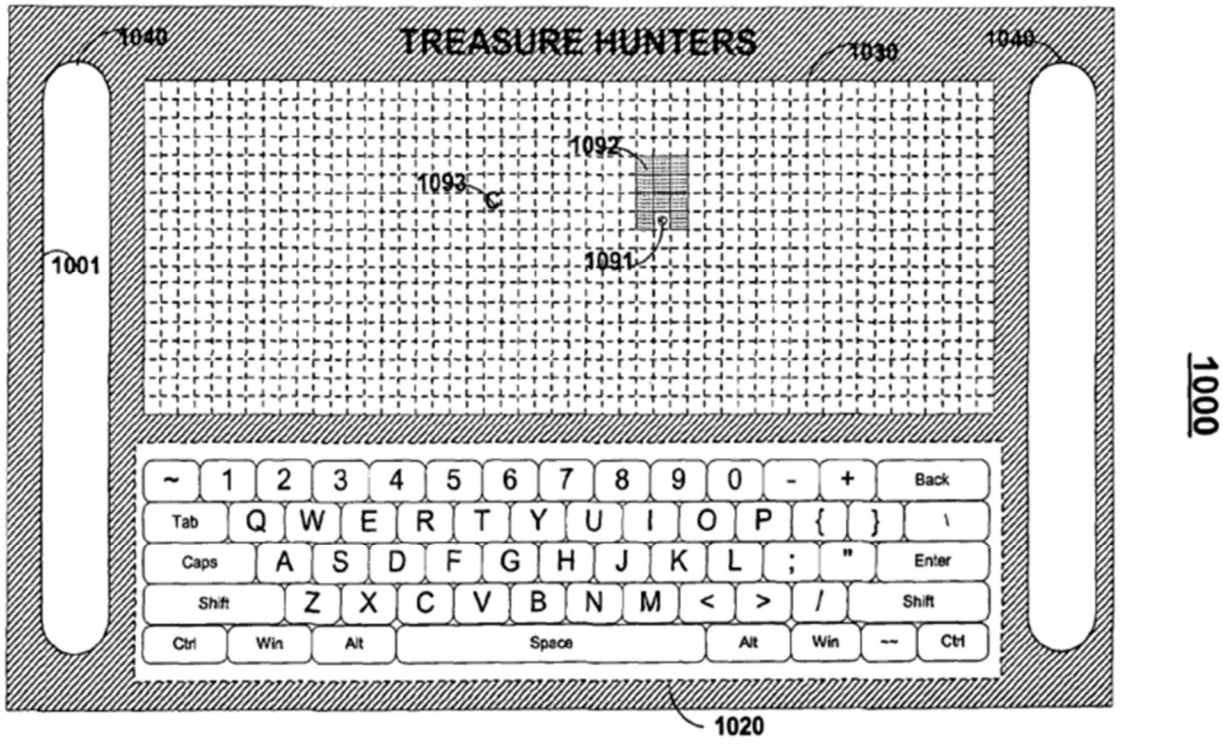

FIG. 10

Id., Fig. 10.

These innovations are captured in the claims as demonstrated by claims 1 and 2 which state:

> 1. A non-transitory computer-readable medium having program logic provided thereon for providing a location-based game comprising:
>
> a virtual playfield;

> a first character, wherein ***the location of said first character in said virtual playfield is displayed on a display*** and is determined utilizing a first control signal from a first locating device that is based, at least in part, on a physical location determined by said first locating device; and
>
> a second character, wherein said second character is computer controlled via artificial intelligence and said artificial intelligence utilizes said first control signal from said first locating device for controlling, at least in part, said second character; and
>
> an impenetrable object, wherein said first locating device is operable to travel through a physical location that correlates to a virtual location of said impenetrable object on said virtual playfield, and said first character is impacted when said first character contacts said impenetrable object.

Id., claim 1.

> 2. A non-transitory computer-readable medium having program logic provided thereon for providing a location-based game comprising:
>
> a virtual playfield;

> a first character, wherein ***the location of said first character in said virtual playfield is displayed on a display*** of a portable device and is determined utilizing a first control signal from a first locating device of said portable device that is based, at least in part, on a physical location determined by said first locating device;
>
> a second character, wherein said second character is computer controlled via artificial intelligence and said artificial intelligence utilizes said first control signal from said first locating device for controlling, at least in part, said second character;
>
> a virtual object, wherein said virtual object is operable of being picked up by said first character; and
>
> an impenetrable object, wherein said first locating device is operable to travel through a physical location that correlates to a virtual location of said impenetrable object on said virtual playfield, and said first character is impacted when said first character contacts said impenetrable object.

Id., claim 2.

III. Claim Construction

Patent Owner submits that no express claim construction is necessary for the purposes of this Preliminary Response. The challenged claims should be given their

plain and ordinary meaning, consistent with the specification and as understood by a person of ordinary skill in the art. Even under this standard, however, the Petition fails to demonstrate that the prior art discloses or renders obvious all of the limitations of the challenged claims.

IV. The Petition

The Petition asserts one ground.

Ground	Claims	Basis for Challenge under §103
1	1, 2, 11, and 13	Obvious over **Levine**

The independent claims are 1 and 2 and are addressed in this preliminary response. Because Ground 1 fails to disclose the elements of claim 1 and claim 2, the ground fails.

A. Levine

Levine describes a computer network system which facilitates multi-person interaction. Levine describes a "grid" system which acts as a host "for the context of the application (i.e., game) while being agnostic to about the context itself." Ex. 1003, ¶ [0179]. Levine also describes "client-controlled objects" as "Avatars" where any "object ultimately connected to a real human player is an Avatar," as well as "Active Objects (NPCs)," as "non-player controlled objects," such as the "monster." *Id.*, ¶¶ [0393]–[0394], [0659].

The system also describes a "dead reckoning system" which it illustrates by way of a "sniper" example and in Figure 47, where a smaller box 4703 represents how big the sniper is as its "region of presence" and a larger box 4704 represents how far the sniper is able to see as its "region of interest." *See id*., ¶¶ [0557]–[0558], Fig. 47. Levine describes how the bicyclist is hosted on another "host" (i.e., Grid) and that the bicyclist is touching the "region of presence" of the sniper whereby "messages are routed about the bicyclist colliding with the sniper." *Id*., ¶ [0557]. Levine shows in Figure 47 what a user sees on the screen, which is one or more characters, but without any information about where in the virtual world the characters are located.

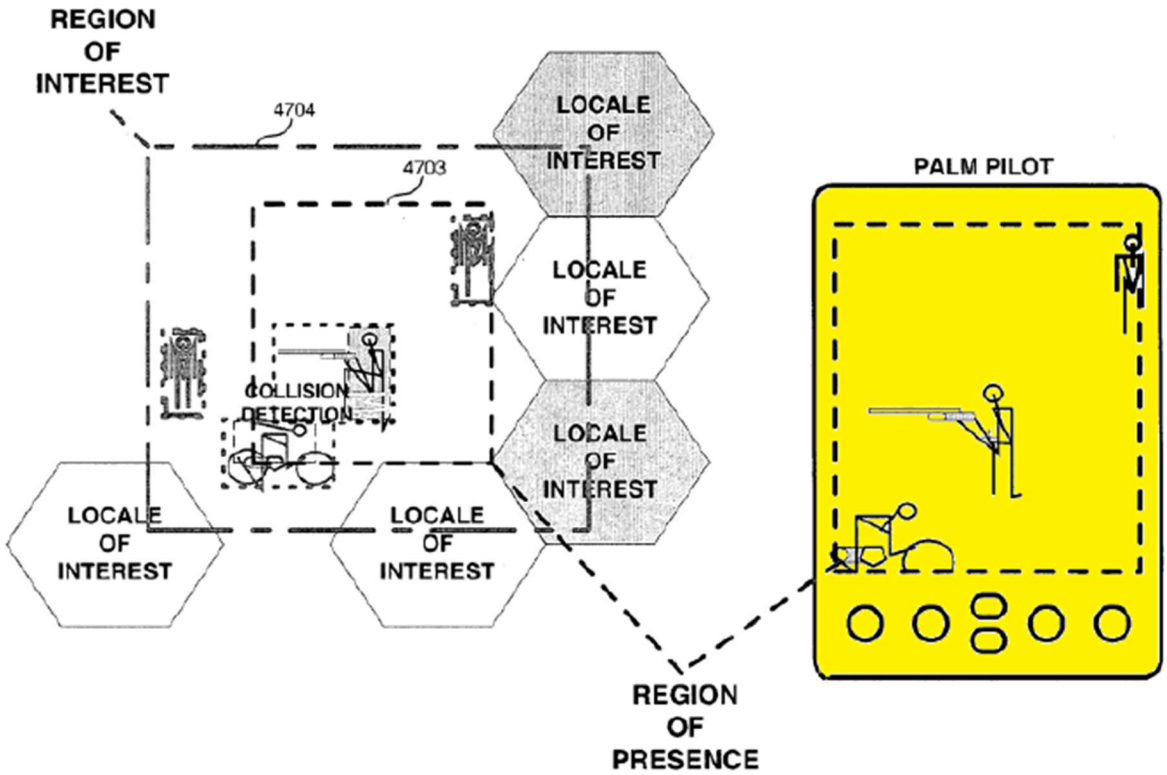

FIG. 47

Pet., 34 (annotation in original); Ex. 1003, Fig. 47 (annotated).

V. Board Should Deny Institution Because The Petition Does Not Establish The Required Reasonable Likelihood Of Success

The sole ground at issue in the Petition fails to disclose or render obvious a key limitation, required in both claims 1 and 2.

The Petition fails to disclose the limitation "the location of said first character in said virtual playfield is displayed on a display." The Petition relies on Figures 45–47, arguing that they show the location of various characters like a sniper or bicyclist in the virtual playfield. Pet., 32–34, 58–60. But as the Petition concedes, only Figure 47, on the right hand side, shows the display, and the only thing shown there is the characters themselves, not any location of the characters in the virtual playfield. Pet., 34, Ex. 1003, ¶¶ [0557]–[0558]. Even in the "monster" game embodiment, the Petition admits "the 'monster' game does not expressly specify that the location of each character is displayed on players' devices." Pet., 35.

A. Ground 1: Levine

1. Ground 1 Fails To Disclose "The Location Of Said First Character In Said Virtual Playfield Is Displayed On A Display" (Claims 1 And 2)

The Petition relies solely on Levine for the claim requirement that "the location of said first character in said virtual playfield is displayed on a display," but Levine fails to disclose or suggest such functionality because it only displays the characters themselves, and not their locations. Pet., 31–35.

The Petition asserts that Figures 45–47 of Levine disclose this limitation by showing how locations of characters (e.g., sniper, victim, bicyclist) are displayed on a client device (e.g., Palm Pilot) within the alleged virtual playfield. *Id.*, 32–34, 58–60. But Levine does not display any character's location in a virtual playfield. It merely displays the character itself. The location of any actual character in the alleged virtual playfield is not displayed. The Petition points to Figure 47 below and states "the display on the client device (Palm Pilot) shows the location of each character in the game, such as showing the sniper located near the bicyclist and the victim in the exemplary screenshot":

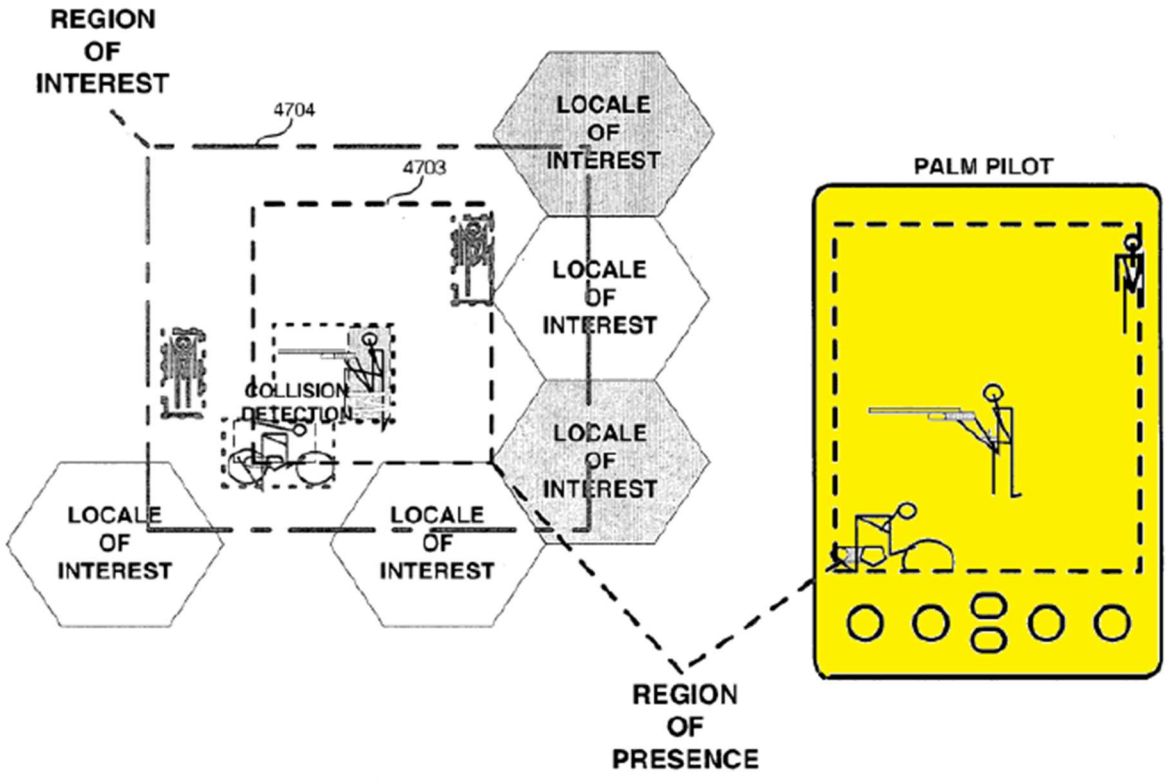

FIG. 47

Id., 34 (annotation in original); Ex. 1003, Fig. 47 (annotated). However, as seen above, and as conceded in the Petition, the only thing displayed on the alleged "display" (the Palm Pilot) are the characters, not their locations. Although the Petition argues that the "left portion of Figure 47 illustrates the location of each character in the game with respect to Locale regions in the virtual playfield," which it appears to argue relates to *location* of the characters, that information is not "displayed on a display," nor does the Petition argue it is. Pet., 34.

As explained above in Section II, the '582 patent is fundamentally different. According to the '582 patent, the location of a virtual character on a virtual playfield is visually displayed to the user, distinct from mere character rendering. For example, as illustrated *supra* at Section II, the patent describes a location-based PACMAN game in which the player's physical movement is translated into a corresponding virtual location displayed on a screen, and where the user sees a virtual maze and an outline of the virtual playfield including the character's location. *See* Ex. 1001, 3:51–53, 3:57–60, 12:31–43, 12:57–60. Similarly, the patent illustrates a grid-based location game in which the character's position within a grid corresponding to the user's actual location is visually represented, with unexplored and explored areas dynamically displayed. *See id*., 17:52–67, 18:4–9. These disclosures demonstrate the claimed functionality of displaying a virtual character's location on a virtual playfield, which Levine fails to teach or suggest.

The Petition also argues that the "monster" game embodiment satisfies the claim requirement. *Id*., 35. The Petition concedes that "the description of the 'monster' game does not expressly specify that the location of each character is displayed on players' devices," but argues that, as in the sniper game example, characters would be displayed "so that the player could see the relative location of the character vis-à-vis the monster and other objects and characters that the character interacts with." *Id*., 35. But that fails for the same reason as the sniper game—it at best shows the characters on the screen (for the laptop user, although not the mobile user), but does not display their location in the virtual playfield, even in the modification proposed by the Petition.

Moreover, for the mobile user, the "monster" game is a message-based game only. Only "a user on a laptop client device 112e ('laptop user') would now 'see' the new 'monster' character on their laptop," and the mobile user gets the information about the virtual character location via message from the laptop user. Ex. 1003, ¶ [0663]; *see also* ¶ [0664] ("In step 5812, the laptop user sends a message to a user on a mobile phone client device 112a ('mobile user'). Such message, for example, would convey that 'a new monster character is two blocks from you.'"). Then, the mobile user can "interact with monster character" by "pressing *9999 on their mobile phone client device 112a to kill the 'monster' character." *Id*., ¶ [0666]. The steps are shown in Figure 58:

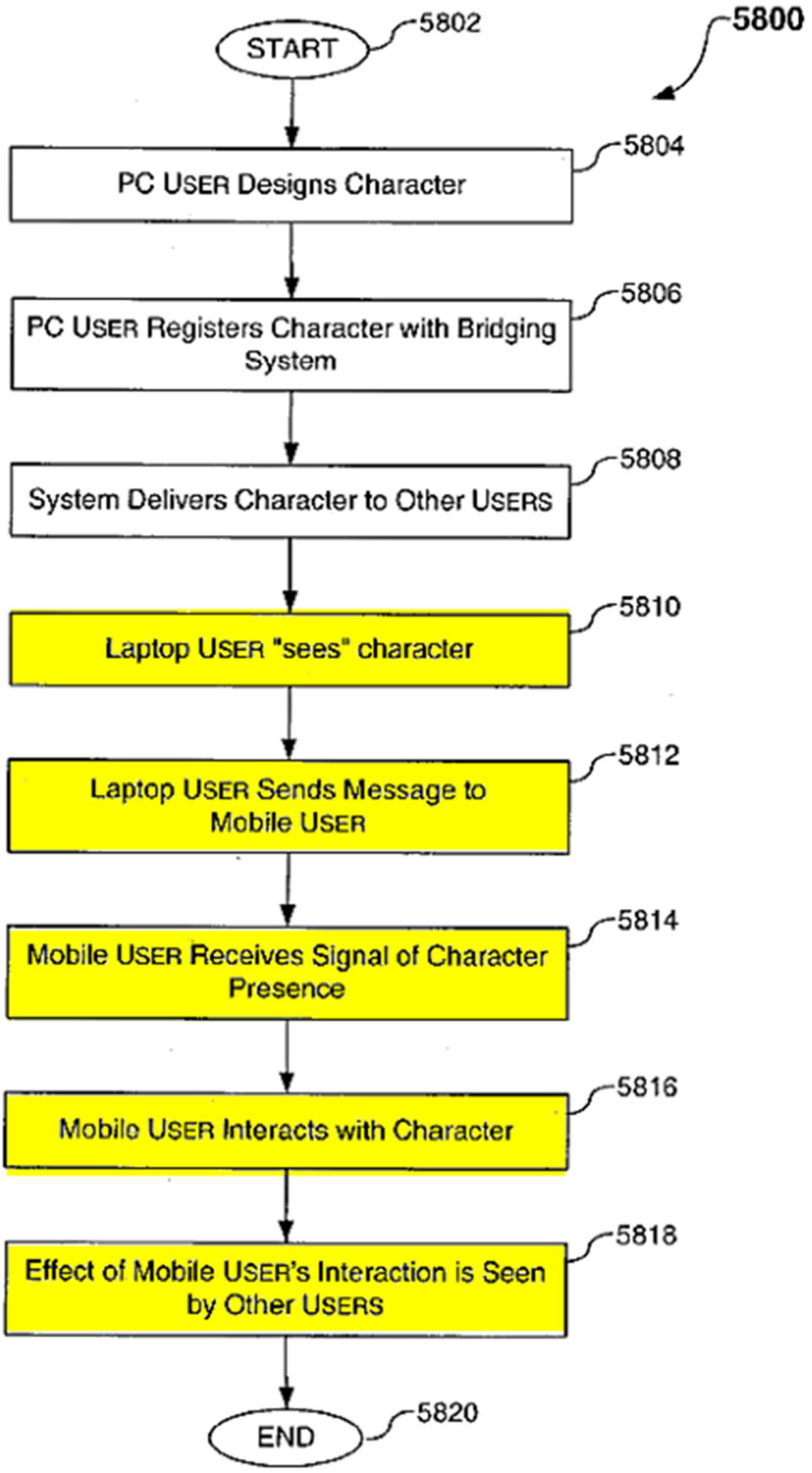
5800
START
5802
PC USER Designs Character
5804
PC USER Registers Character with Bridging System
5806
System Delivers Character to Other USERS
5808
Laptop USER "sees" character
5810
Laptop USER Sends Message to Mobile USER
5812
Mobile USER Receives Signal of Character Presence
5814
Mobile USER Interacts with Character
5816
Effect of Mobile USER's Interaction is Seen by Other USERS
5818
END
5820

FIG. 58

Id., Fig. 58 (annotated). The mobile user does not "see" any character, much less any location of such character as claimed. He or she receives a message and interacts with the character, as explained above, by pressing buttons on his or her mobile phone.

VI. Conclusion

For any or all of the above-described reasons, Patent Owner respectfully requests that the Board deny institution.

Dated: August 7, 2025

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

The undersigned certifies that the portions of the above-captioned PATENT OWNER'S PRELIMINARY RESPONSE specified in 37 C.F.R. § 42.24 have 2,454 words, in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24(b)(1). This word count was prepared by the word-processing program used to prepare this paper (Microsoft Word).

Dated: August 7, 2025

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