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Leon Bayliss

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Method for Enabling Split-Screen Gaming from a Touch-Enabled Device

Abstract:

When a user is using a touch-enabled electronic device, the user may desire to split a viewing area on a screen quickly to accommodate a second viewing area without having to navigate back to a root menu on a user interface. The user places two points of contact in proximity to each other in the viewing area the user would like to split and then moves the points of contact linearly away from each other. This gesture indicates to the electronic device that the user desires to split the screen. Depending on the orientation of the gesture, the original viewing area divides horizontally or vertically to allow a second viewing area to be displayed. The split-screen process can be repeated to further split one or more viewing areas or it can be reversed with the gesture performed in reverse.

Keywords:

Touchscreen, touch-enabled, user-interface, screen, display, viewing area, pinch, gesture, touch, split, split-screen, gaming, orientation, single-player, multi-player, cloud, online gaming

Background:

A touchscreen is an input device normally layered on the top of a display of an electronic device to enable a user to provide input to the electronic device. The user may provide input in a variety of ways including by performing unique gestures that are recognized by an operating system of the electronic device to cause a corresponding action to occur. The gestures currently available to a user do not include a gesture that enables the user to quickly split a viewing area.

Currently, a user must navigate out of the content they are currently viewing in order to split the viewing area. This is inconvenient and inefficient for a user particularly when the content is time-sensitive, such as when the user is playing a video game on the electronic device. The user must return to the main title screen for the video game and select ‘multiplayer’ (or some variation of) from the title screen in order to add a new viewing area.

Description:

A split-screen gesture can enable a user to quickly divide a viewing area on a touchscreen-enabled electronic device without navigation out of the currently viewed content.

Consider a first implementation of a split-screen gesture. In this implementation, a user uses one hand to perform a gesture by placing two points of contact, similar to a pinch, in proximity to each other in the viewing area the user would like to split, illustrated in Figure 1. The user moves the points of contact linearly away from each other, illustrated in Figure 2. The viewing area divides perpendicular to the linear movement to enable two viewing areas, illustrated in Figure 3.

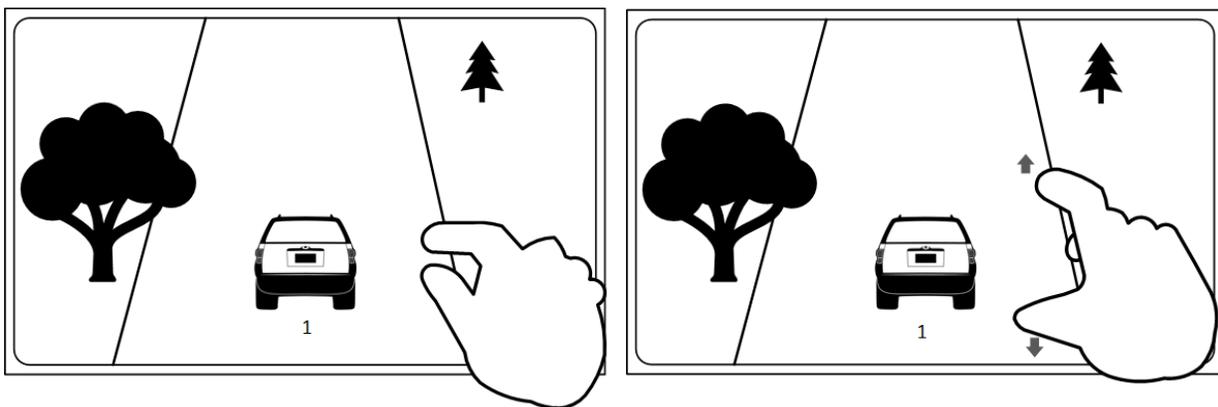


Figure 1

Figure 2

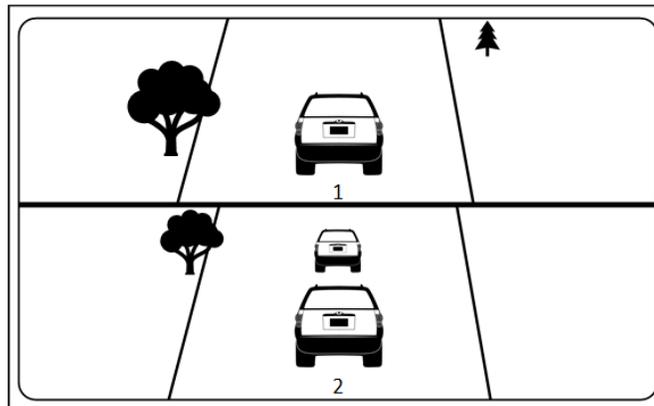


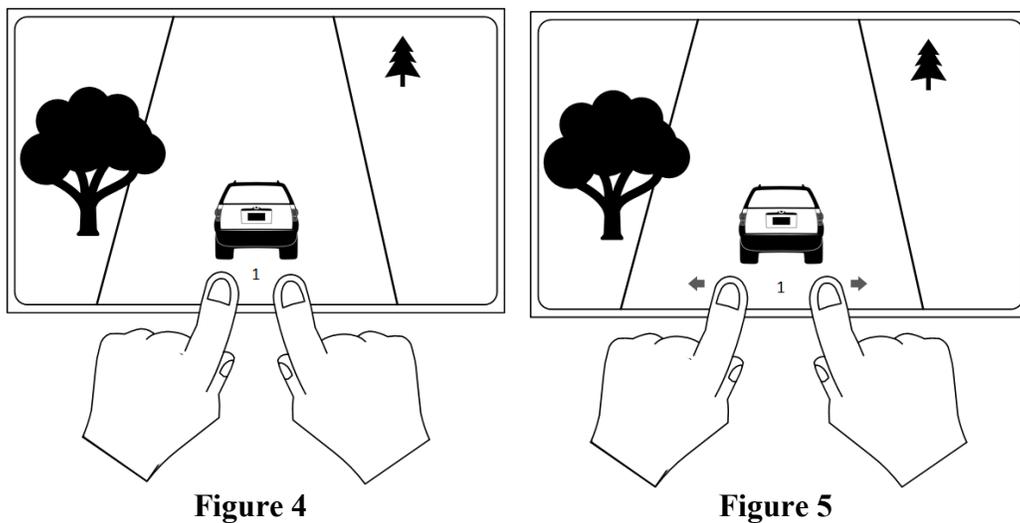
Figure 3

In a first example, the user (player “1”) may have been playing a game in single-player mode on the electronic device, as illustrated in Figures 1 and 2. After the user performed the split-screen gesture, a second user (player “2”) is able to use the touchscreen or an input device (*e.g.*, a controller) to interact with the video game and to join the user in a multi-player video game in the second viewing area, such as the lower viewing area in Figure 3. In this example, the user is able to add the second user to the game through use of the gesture and without, for example, pressing a “start” button and returning to a menu screen to select an “add player” feature. This allows for seamless and instantaneous local multi-player gaming. The user may have been playing a game local to the device or the user may have been playing an online video game (*e.g.*, cloud gaming) across a computer network. Both users are able to access the online video game through local multi-player gaming. In an alternative embodiment, after the user performed the split-screen gesture, the second viewing area may display the screen of another player who is playing a same online video game as the user but on a different device.

A user may further decide to divide a viewing area into three, four, or more additional viewing areas. The user would perform the gesture in the viewing area the user would like to split and the screen divides again. The split could be the same orientation as the original split, or it may

be a split orientation perpendicular to the original split. The device could support local multi-player gaming for three or more people. Alternatively, the viewing areas could be a combination of local multi-player gaming and displays of one or more screens of other players. A user may wish to reduce the number of viewing areas. The user would perform the gesture in reverse to eliminate one or more viewing areas.

Consider a second implementation of a split-screen gesture that would be recognized by the electronic device as the same gesture. In this implementation, a user uses two hands to perform a gesture by placing two points of contact in proximity to each other in the viewing area the user would like to split, illustrated in Figure 4. The user then moves the points of contact linearly away from each other, illustrated in Figure 5. The viewing area divides perpendicular to the linear movement to enable two viewing areas, illustrated in Figure 6.



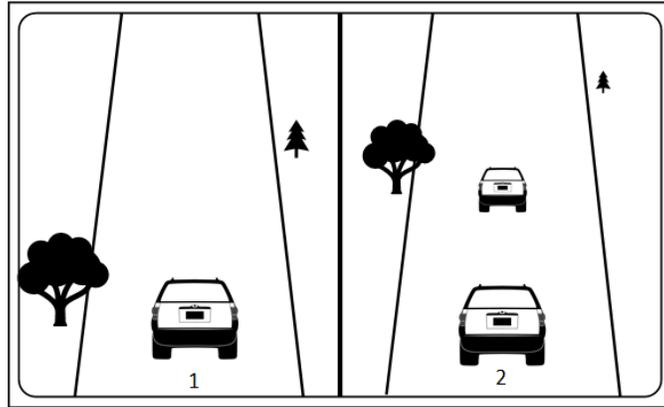


Figure 6

A gesture recognized by an electronic device to cause a split-screen to occur allows a user to quickly divide a viewing area without navigation away from currently viewed content. The gesture can be performed on a touchscreen utilizing two points of contact moving in opposite linear directions. The user has an improved experience with the content the user was viewing.