PATROLL Winning Submission

U.S. Patent 9,465,451

U.S. Patent 9,465,451 B2 ("*Flick Intelligence"* or the "patent-at-issue") was filed on March 7, 2012, and claims priority to U.S. Pat. App. 13/345,382, filed on January 6, 2012, an U.S. Pat. App. 12/976,148, filed on December 22, 2010. Claim 1 of the patent-at-issue is generally directed to a method for displaying additional information about a scene element displayed in a frame of video content being presented on a display, the method comprising: determining a location of the display in relation to an augmented reality device wherein a plurality of markers is used to determine the location of the display, wherein the augmented reality device comprises a secondary display, and wherein the location of the display is used to map points on the display to points on the secondary display;detecting a selection of the scene element wherein a viewer looks through the augmented reality device to view the display and utilizes the augmented reality device to point at and select the scene element; and displaying the additional information to the viewer on the secondary display, in response to the selection.

The reference, U.S. Patent 8,547,401B2 ("*Sony Interactive Entertainment*"), was filed on August 19, 2004. The patent relates to a portable device configured to provide an augmented reality experience. The portable device has a display screen configured to display a real world scene. The device includes an image capture device associated with the display screen. The image capture device is configured to capture image data representing the real world scene. The device includes image recognition logic configured to analyze the image data representing the real world scene. Image generation logic responsive to the image recognition logic is included. The image generation logic is configured to incorporate an additional image into the real world scene. A computer readable medium and a system providing an augmented reality environment are also provided.

A sample claim chart comparing claim 1 of the *Flick Intelligence* patent to 8,547,401,B2 of *Sony Interactive Entertainment Inc* is provided below.

| U.S. 9,465,451 ("*Flick Intelligence*")	**8,547,401,B2** ("*Sony Interactive Entertainment*")
A **method** for **displaying additional information about a scene element displayed in a frame of video content being presented on a display**, the **method** comprising:	**A. US10452974** "Broadly speaking, **the present invention fills these needs by providing a method and device enabling a portable device with a display and camera to function as an augmented reality entertainment tool**. It should be appreciated that the present invention can be implemented in numerous ways, including as a method, a system, computer readable media or a device. Several inventive embodiments of the present invention are described below." *Sony Interactive Entertainment Inc* at Col. 1, Lines 42 - 49 "FIG. 4 is a simplified schematic diagram illustrating yet another application of the incorporation of computer graphics into a real world scene in accordance with one embodiment of the invention. Here, **a user is holding portable device 100, which includes display 102. It should be noted that display 102 is expanded relative to device 100 for ease of explanation**. An image capture device, which is incorporated into device 100, **captures a scene being displayed on display device 112, which may be a television.** Here, display device 112 illustrates a tree 114 being shown. **Device 100 captures the image being displayed on device 112 and displays tree 114 on display screen 102. In addition to tree 114 being shown on display screen 102, device 100 incorporates additional objects into the scene**. For example, sun 116 is incorporated into the scene being displayed on display screen 102. As described above, **a marker, such as marker 115 of the first display device, may cause the incorporation of additional objects such as sun 116 into the second display device.** It should be appreciated that device 100 includes a logic capable of recognizing objects such as tree 114 or marker 115 and thereafter responding to the recognition of such objects or markers by adding appropriate computer graphics such as sun 116 into the scene being displayed on device 100. Furthermore, **the image capture device incorporated into portable device 100 may be a video capture device that continuously captures the changing frames on display device 112 and incorporates additional objects accordingly.** As mentioned above, **visual cues from the main display may be used to drive the synchronization with the portable display.**" *Id*. at Col. 6, Lines 18 – 46
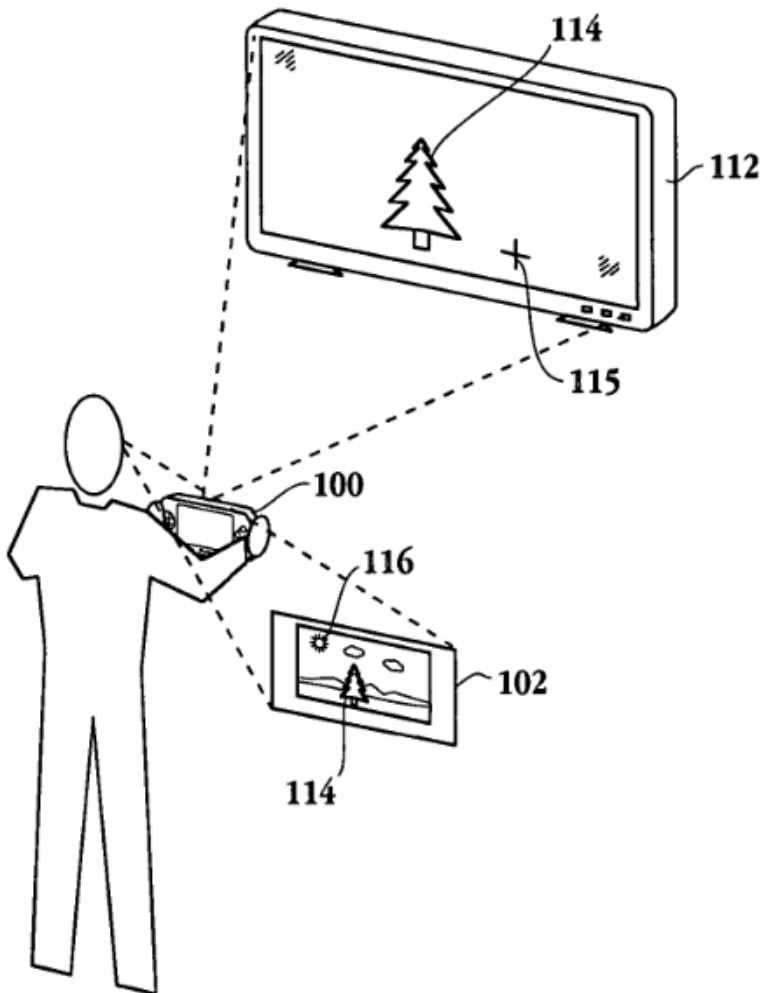
Fig. 4

1.1 **determining a location of the display in relation to an augmented reality device** wherein a **plurality of markers is used to determine the location of the display**,	"**A portable gaming device configured to provide an augmented reality experience on a display screen of the portable device,** the portable device being a handheld device, comprising: **the display screen configured to display a real world scene, the display screen disposed on a front side of the portable gaming device;** an image capture device associated with the display screen, the image capture device configured to capture real video image data representing the real world scene, the image capture device disposed on a back side of the portable gaming device opposite the front side; a first input region defined on the front side for holding by a first hand of a user, the first input region disposed on a first adjacent side of the display screen, the first input region having one or more input buttons; a second input region defined on the front side for holding by a second hand of the user, the second input region disposed on a second adjacent side of the display screen opposite the first adjacent side, the second input region having one or more

	input buttons; **image recognition logic configured to analyze the real video image data representing the real world scene** to identify a marker in the real video image data representing the real world scene, the augmenting visual media being related to a gaming environment and response to the first input region and the second input region, media generation logic responsive to the image recognition logic, the media generation logic configured to display at least part of the real world scene from the real video image data along with augmenting visual media on the display screen, **the augmenting visual media being a moving animation superimposed in and around the real world scene, wherein the image recognition logic is configured to communicate identification of the marker in the real video image data to the media generation logic, and in response to the identification of the marker in the image data, triggering integration of the augmented visual media into the real world scene as viewed through the display screen of the portable gaming device**, wherein the portable gaming device provides a view of the moving animation through the display screen; wherein the augmenting visual media and the at least part of the real world scene is presented on the display screen of the portable gaming device and wherein at least part of the processing by the image recognition logic and the media generation logic occur within the portable gaming device; wherein **the portable gaming device is configured to be handheld during operation, such that a location and view direction of the user's eye viewing the display screen is independent of a location and view direction of the image capture device**, to facilitate viewing of the augmented visual media integrated with the real world scene from a perspective defined by the location and view direction of the image capture device, independent of the location and view direction of the user's eye." *Id*. at **Claim 1**
1.2 wherein the **augmented reality device comprises a secondary display**, and wherein **the location of the display is used to map points on the display to points on the secondary display**;	"In another embodiment, **the portable device may be used as a secondary personal display in conjunction with a main display that is shared by several users**. For example, **several people may play a video game on a single TV and use the portable devices for additional information that is unique for each player**. Likewise, for broadcast TV (e.g. game show) where several people in the home watch a single broadcast, but see different personal information on their portable device depending upon their preferences. **The portable device may be used to obtain additional information from the main display.** For example, **with respect to a sports game, additional player information or statistics may be displayed for a selected player. It may be necessary to synchronize the graphics on the main display with those on the portable display**. **One approach is to use a wireless network or broadcast and to send information to each display using this network.** An alternative method is to use visual cues from the main display to drive the synchronization with the portable display. As such no additional expensive network connections are required. FIG. 1 is a simplified schematic diagram of a device having image capture capability,

	which may be used in an augmented reality application in accordance with one embodiment of the invention. **Portable device 100 includes navigation buttons 104 and display screen 102. The navigation buttons 104 are defined in a left input region 101A and a right input region 101B of the portable device 100. The input regions 101A and 101B are positioned on opposite adjacent sides of the display screen, and are designed to be held by the user's hands, as is illustrated at FIG. 3. Device 100 is capable of accepting memory card 106 and image capture device 108. Image capture device 108 may include a charge couple device (CCD) in order to capture an image of a real-world scene**. Alternatively, the camera functionality may be provided by a complementary metal oxide semiconductor chip that uses active pixel architecture to perform camera functions on-chip. In one embodiment, device 100 is a PSP device having image capture capability." *Id.* at **Col. 5, Lines 13 - 50**
1.3 detecting a **selection** of the scene element **wherein a viewer looks through the augmented reality device to view the display and utilizes the augmented reality** device to point at and **select the scene element**; and	"In another embodiment, the portable device may be used as a secondary personal display in conjunction with a main display that is shared by several users. For example, **several people may play a video game on a single TV and use the portable devices for additional information that is unique for each player**. Likewise, for broadcast TV (e.g. game show) where several people in the home watch a single broadcast, but see different personal information on their portable device depending upon their preferences. **The portable device may be used to obtain additional information from the main display. For example, with respect to a sports game, additional player information or statistics may be displayed for a selected player. It may be necessary to synchronize the graphics on the main display with those on the portable display**. One approach is to use a wireless network or broadcast and to send information to each display using this network. **An alternative method is to use visual cues from the main display to drive the synchronization with the portable display**. As such no additional expensive network connections are required." *Id.* at **Col. 5, Lines 13 – 32** "**Portable device 100 includes navigation buttons 104 and display screen 102. The navigation buttons 104 are defined in a left input region 101A and a right input region 101B of the portable device 100. The input regions 101A and 101B are positioned on opposite adjacent sides of the display screen, and are designed to be held by the user's hands, as is illustrated at FIG. 3. Device 100 is capable of accepting memory card 106 and image capture device 108. Image capture device 108 may include a charge couple device (CCD) in order to capture an image of a real-world scene**. Alternatively, the camera functionality may be provided by a complementary metal oxide semiconductor chip that uses active pixel architecture to perform camera functions on-chip. In one embodiment, device 100 is a PSP device having image capture capability." *Id.* at **Col. 5, Lines 13 - 50**

	"With continued reference to FIG. 7, the user holds the device 100 in his/her hands during operation. **As the user views the display screen of the device 100, the user's eye 143 has a view direction 144.** As the user points the portable device 100 toward cards 140 a and 140 b, the image capture device 108 of the device 100 has a view direction 145. **The location and view direction of the user's eye is independent of the location and view direction of the image capture device 108 of the device 100. This enables the user to view a scene captured by the image capture device 108 and allow augmentation with virtual objects from a perspective defined by the location and view direction of the image capture device 180**, that is different from the location and view direction of the user's eye." *Id*. at **Col. 8, Lines 13 - 26**
1.4 displaying the additional information to the viewer on the secondary display, in response to the selection.	"In another embodiment, a method for augmenting display data presented to a viewer is provided. The method initiates with capturing the display data with an image capture device. The captured display data is then analyzed. Next, a marker within the captured display data is identified. **Then additional display data is defined in response to identifying the marker. The captured display data and the additional display data is then presented on a display screen of the image capture device.**" *Id*. at **Col. 1 - 2, Lines 62 - 3** "In another embodiment, **the portable device may be used as a secondary personal display in conjunction with a main display that is shared by several users. For example, several people may play a video game on a single TV and use the portable devices for additional information that is unique for each player**. Likewise, for broadcast TV (e.g. game show) where several people in the home watch a single broadcast, but see different personal information on their portable device depending upon their preferences. **The portable device may be used to obtain additional information from the main display.** For example, **with respect to a sports game, additional player information or statistics may be displayed for a selected player. It may be necessary to synchronize the graphics on the main display with those on the portable display.** One approach is to use a wireless network or broadcast and to send information to each display using this network. **An alternative method is to use visual cues from the main display to drive the synchronization with the portable display. As such no additional expensive network connections are required.**" *Id*. at **Col. 5, Lines 13 - 32**