[0239] Uses

[0240] The interactive video display system can be used in many different applications. The system's capability to have touchscreen-like behavior as well as full or partial body outline interaction increases its appeal for information interfaces which require more precise selection and manipulation of buttons and objects.

[0241] Uses of the transparent-display-screen-based and projector-based interactive display systems include, but are not limited to, interactive video games in which users move their bodies to play the game, interactive menu, catalog, and browsing systems that let users browse through pages of informational content using gestures, systems that allow users to "try on" clothing using an image of themselves, pure entertainment applications in which images or outlines of users serve as input to a video effects system, interactive characters that interact with the motions of users in front of the screen, and virtual playlands and storybooks that users interact with by moving their bodies.

[0242] Other uses of the present invention include, but are not limited to: allowing users to customize or view available options for customizing the product on display, allowing the product on display to be ordered at the display, using either the display interface, a keyboard, a credit card swiper, or a combination of the three, comparing the features of multiple products on the display, showing combinations or compatibilities between multiple products on the display, and placing a product in different virtual settings on the screen to demonstrate the features (e.g., water, forest, asphalt, etc.)

[0243] Peripherals

[0244] Transparent-display-screen-based and projector-based interactive display systems can incorporate additional inputs and outputs, including, but not limited to, microphones, touchscreens, keyboards, mice, radio frequency identification (RFID) tags, pressure pads, cellular telephone signals, personal digital assistants (PDAs), and speakers.

[0245] Transparent-display-screen-based and projector-based interactive display systems can be tiled together to create a single larger screen or interactive area. Tiled or physically separate screens can also be networked together, allowing actions on one screen to affect the image on another screen.

[0246] In an exemplary implementation, the present invention is implemented using a combination of hardware and software in the form of control logic, in either an integrated or a modular manner. Based on the disclosure and teachings provided herein, a person of ordinary skill in the art will know of other ways and/or methods to implement the present invention.

[0247] In one exemplary aspect, the present invention as described above provides a system that allows a camera to view an area in front of a display. In a related invention, a system is provided to create a reactive space in front of the display. The present invention can be used to capture information from the reactive space.

[0248] It is understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims. All publications, patents, and patent applications cited herein are hereby incorporated by reference for all purposes in their entirety.

[0249] Various embodiments of the invention, a self-contained interactive video display system, are thus described. While the present invention has been described in particular embodiments, it should be appreciated that the invention should not be construed as limited by such embodiments, but rather construed according to the below claims.

What is claimed is:

1. A self-contained interactive video display system comprising:

a flat-panel display screen for displaying a visual image for presentation to a user on a front side of said flat-panel display screen;

a first illuminator for illuminating said flat-panel display screen with visible light;

a second illuminator for illuminating an object;

a camera for detecting interaction of an illuminated object with said visual image, wherein said camera is operable to view said object through said flat-panel display screen; and

a computer system for directing said flat-panel display screen to change said visual image in response to said interaction.

2. The self-contained interactive video display system as recited in claim 1 wherein said flat-panel display screen is a liquid crystal display (LCD) panel.

3. The self-contained interactive video display system as recited in claim 1 wherein said second illuminator is an infrared illuminator for illuminating said object with infrared illumination, and wherein said camera is an infrared camera for detecting infrared illumination.

4. The self-contained interactive video display system as recited in claim 1 further comprising a diffusing screen for diffusing light of said first illuminator.

5. The self-contained interactive video display system as recited in claim 1 wherein said camera, said first illuminator, said second illuminator, and said computer system are comprised within an enclosure, and wherein one side of said enclosure comprises said flat-panel display screen.

6. The self-contained interactive video display system as recited in claim 1, wherein said second illuminator projects illumination through said flat-panel display screen onto said object.

7. The self-contained interactive video display system as recited in claim 6, wherein said second illuminator is positioned so as to reduce potential for glare effects on said camera.

8. The self-contained interactive video display system as recited in claim 1 wherein said second illuminator is located next to said flat-panel display screen such that said second illuminator does not project illumination through said flat-panel display screen.

9. The self-contained interactive video display system as recited in claim 1 comprising a plurality of said second illuminators, wherein said second illuminators are located next to said flat-panel display screen and do not project illumination through said flat-panel display screen and are also located behind said screen.

10. The self-contained interactive video display system as recited in claim 1 wherein said camera is located behind said