REMARKS/ARGUMENTS

After the foregoing Amendment, Claims 1-17 are currently pending in this application. Claims 1, 2, 9, and 12-14 are currently amended. In the Office Action, the Examiner pointed out that claim 3 was repeated. The Applicants canceled the second claim 3, and added the claim as claim 15. Therefore, no new matter has been introduced by this amendment.

New claims 16 and 17 have been added. The Applicants believe that these new claims 16 and 17 do not introduce any new matter, as they are supported by the present application including the specification. Specifically, support for claim 16 can be found, for example, in paragraphs [0029], [0061], and [0062] of the subject application. Support for claim 17 can be found, for example, in paragraphs [0056] and [0074] of the subject application.

New claims 16 and 17 depend from claim 1 and are therefore allowable for the same reasons as claim 1, which is discussed below. Additionally, each of claims 16 and 17 provides further features that are not disclosed or suggested by the cited references.

Claim Objections

For Claim 3, the number is repeated. The second claim 3 has been canceled and a new claim 15 has been added with the subject matter of the second claim 3. Applicant respectfully requests withdrawal of the claim objection.

Claim Rejections - 35 USC §101

Claim 13 stands rejected under 35 USC §101 for not falling within one of the four statutory categories of invention. Applicants have amended claim 13 to recite example hardware that performs the steps in the method. No new matter has been introduced by these amendments.

Claim Rejections - 35 USC §103

The Office Action recites that claims 1-3, 6-8, 11, 12, 14 and 15 are rejected under 35 USC §103 (a) as being unpatentable over Baker (U.S. Pub. No. 2004/0027451, hereinafter "Baker") in view of Fuchs et al. (U.S. Pat. No. 7,182,465, hereinafter "Fuchs"), and Fein et al., (U.S. Pub. No. 2009/0109175 A1, hereinafter "Fein").

The claimed method and apparatus pertain to an immersive video system that includes a display, a sensor that provides information about a user's location relative to the display, a projector capable of projecting images onto the user, and a single processor in communication with the display, the sensor, and the projector. The single processor manipulates the images projected onto the user based on user location data from the sensor.

More specifically, claim 1 of the subject application includes, in relevant part, the features of a projector capable of projecting images onto the user, and a single processor in communication with the display, the sensor, and the projector, wherein

the single processor manipulates the images projected onto the user based on user location data from the sensor. Accordingly, claim 1 requires images to be projected onto the user. In this regard, the specification of the subject application also discloses that this projection is visible to the user for a more immersed experience. For example, in use, the user 158 sees the color fade up on their hand as they approach the button 159 adding to the illusion that the user 158 is approaching the button 159 (Please see Paragraph [0075]).

As acknowledged on page 4 of the Office Action, Baker discloses an immersive video capture system that does NOT involve a projector capable of projecting images onto the user. In particular, Applicants' claimed single processor manipulates the images projected onto the user based on user location data received from the sensor. In addition to lacking the projector, Baker does not teach determining user location relative to a display. Consequently, Baker does not disclose a processor, a processor in communication with a display, a sensor and a projector as recited in the claims. Such a method or apparatus is neither disclosed nor suggested by Baker.

While the Office Action concedes that Baker does not disclose the feature of a projector capable of projecting images onto the user, the Office Action states that Fuchs discloses this missing feature. We respectfully disagree.

Fuchs pertains to a structured light system for a display, and is not part of the user interface system, which is entirely different from the claimed method and apparatus. As further explained below, Fuchs does not remedy any of the deficiencies of Baker discussed above.

Fuchs generally relates to embedding structured light patterns in projected images. The structured light images are used to acquire depth information regarding arbitrary surfaces and to pre-distort the images for undistorted display on non-planar surfaces. The primary goal of Fuchs is "for **imperceptibly** embedding structured light patterns in projected color images for display on planar and non-planar surfaces" (Please see, for instance, Column 2, Line 66 to Column 3, Line 2 of Fuchs, emphasis added). A detector then acquires the reflected structured light pattern to determine the depth information. (Please see, for instance, Column. 6, Lines 11 to 15 of Fuchs). Accordingly, the light patterns discussed in Fuchs are different from the projection of images onto the user contemplated in claim 1 of the subject application, in that they are not visible. Independent claims 1 and 14 of the subject application have been amended as shown above without prejudice for clarity to explicitly recite this feature: "a projector configured to projecting images onto the user, wherein the images are visible to the user."

Fein discloses a system that senses user interaction with the image. This is not the same as sensing the location of the user relative to a display and then using

that data to manipulate the images onto the user. Fein uses some type of sensor on the user itself or collocated with the user to determine the "user interactive information". The Office Action has provided no reason as to why one of ordinary skill in the art would want to use additional sensors when the existing claimed apparatus and method only require user location with no reliance on additional sensors. In fact, Fein discloses no means of providing direct user feedback, which is a primary problem in a 3D environment. In a 3D environment, users' movements and users' interface are continuous and coordinated. Fein neither provides nor suggests a solution for this problem. Fein, therefore, does not remedy the deficiencies of Baker or Fuchs and Applicants respectfully request withdrawal of the rejection.

Please further note that none of the references cited in the Office Action address a major issue with 3D interaction, which is the discontinuity between what a viewer sees on a display and the space that the viewer inhabits. For interaction on 3D displays to be useful and beneficial, this discontinuity must be addressed. In other words, without useful immediate feedback it is hard to work in a 3D environment. To that end, using projected video is part of that solution.

The above may be better articulated with respect to a button hidden under a large cotton pillow. You know the button is in there and you may generally find it. However, the efficiency of your workflow is substantially impacted by the fact that

you need to find the button every time and that you do not get immediate feedback when you press the button. In addition, there are false clicks and points where you almost clicked it but did not quite depress the button enough to actuate it. Now imagine there are several buttons or that you are trying to manipulate a 3D object hidden in the cotton. Given no immediate feedback, it is difficult to work effectively or efficiently with with regard to the hidden button.

Independent claims 1 and 14 of the subject application, and the relevant dependent claims, have been amended without prejudice for clarity to explicitly recite "a single processor." Applicants believe that none of the cited references disclose or suggest the claim limitation of a single processor that is in communication with the display, the sensor, and the projector, as provided in the context of the amended claim 1. A single processor that controls the combination of a display, sensor, and the projector that projects onto a user is not disclosed or suggested by the applied references.

As set forth above, Applicants' claimed method and apparatus are neither disclosed nor suggested by each one of, or the combination of, the cited references. Based on the arguments presented above, withdrawal of all the pending claims is respectfully requested.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1-17 is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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