CLAIMS

1. A system for detecting specular surfaces, the system comprising:
an image sensor configured to capture image data from an area;
a first light emitter configured to emit a first light into the area from a first position;
a second light emitter configured to emit a second light into the area from a second position;
control circuitry configured to:
acquire first image data from the image sensor while the first light emitter is active and the second light emitter is inactive;
acquire second image data from the image sensor while the second light emitter is active and the first light emitter is inactive;
process the first image data with the second image data to identify non-overlapping image data between the first image data and the second image data as a specular surface;
identify a location of the non-overlapping image data within the area; and
activate a special effect based on the location,
wherein the special effect comprises movement of an animated figure based on the location.

2. The system of claim 1, comprising a third light emitter configured to provide a base level of light in the area.

3. The system of claim 1, wherein the image sensor comprises a camera configured to capture infrared light, and wherein the first light and the second light are infrared lights.

4. The system of claim 3, wherein the control circuitry is configured to alternately actuate the first light emitter and the second light emitter, in sync with a frame rate of the camera.

5. The system of claim 1, wherein the control circuitry is configured to process the first

image data with the second image data by subtracting color values between the first image data and the second image data to identify the non-overlapping image data.

6. The system of claim 5, wherein subtracting color values comprises negating values within a threshold range of each other on a pixel by pixel basis.

7. The system of claim 1, wherein the control circuitry comprises a processor and a memory storing instructions that, when processed by the processor, facilitate controlling or communicating with the image sensor.

8. The system of claim 1, wherein the movement comprises a gesture by the animated figure toward the location.

9. The system of claim 1, wherein the control circuitry comprises a first control circuit integrated with the image sensor and a second control circuit integrated with animated figure.

10. A method for detecting specular surfaces, the method comprising:

capturing image data from an area with an image sensor;

emitting a first light into the area from a first light emitter in a first position;

emitting a second light into the area from a second light emitter in a second position; acquiring first image data from the image sensor while the first light emitter is active and the second light emitter is inactive;

acquiring second image data from the image sensor while the second light emitter is active and the first light emitter is inactive; and

processing the first image data with the second image data, using control circuitry, to identify non-overlapping image data between the first image data and the second image data as a specular surface;

identifying a location of the non-overlapping image data within the area; and,

activating a movement of an animated figure based on the location.

11. The method of claim 10, comprising emitting a third light from a third light emitter to provide a base level of light in the area.

12. The method of claim 10, wherein processing the first image data with the second image data to identify the non-overlapping image data comprises subtracting color values between the first image data and the second image data to identify the non-overlapping image data.

13. A system for detecting specular surfaces and activating an animated figure, the system comprising:

an image sensor configured to capture image data from an area;

a first light emitter configured to emit a first light into the area from a first position;

a second light emitter configured to emit a second light into the area from a second position;

control circuitry configured to:

acquire first image data from the image sensor while the first light emitter is active and the second light emitter is inactive;

acquire second image data from the image sensor while the second light emitter is active and the first light emitter is inactive;

process the first image data with the second image data to identify non-overlapping image data between the first image data and the second image data;

determine that the non-overlapping image data corresponds to a specular surface based on a comparison with a pre-determined threshold;

control an effect based on a location of the specular surface;

wherein the effect is an animated figure configured to perform a movement based on the location.

14. The system of claim 13, wherein the movement comprises a gesture toward the location.

15. The system of claim14, wherein the control circuitry stores the image data in a memory.

16. The system of claim 15, wherein the image data stored in the memory can be displayed on a graphical user interface.