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What is claimed is:

1. A method for capturing location, orientation and shape of one or more flexible display surface(s) comprising the steps of:

a) Determining the location in three dimensions of one or more Points within said flexible display surface(s);

b) Calculating a three dimensional model of the shape, orientation and location of said flexible display surface(s);

c) Clustering locations of Points and fitting curves through said measured locations of Points to determine the three dimensional model; and

d) Optionally determining the relative locations of Points such that the state of the shape or deformation of said flexible display surface(s) can be recognized.

2. The method of claim 1 wherein the flexible display surface is a three dimensional surface made of a material, selected from a group consisting of: paper, cardboard, paper-like materials, electronic paper, thin substrate displays, thin-film substrate displays, flexible substrate displays, liquid crystal devices, liquid crystal diodes, light emitting devices, light emitting diodes, organic light emitting devices, stacked organic light emitting devices, transparent organic light emitting devices, polymer light emitting devices, organic light emitting diodes, stacked organic light emitting diodes, transparent organic light emitting diodes, polymer light emitting diodes, optical fibres, styrofoam, plastics, epoxy resin, textiles, e-textiles, clothing, skin of a living or dead human or other organism, body of a living or dead human or other organism, carbon-based materials and any three-dimensional object or model.

3. The method of claim 1 wherein a Point is a light reflective marker, embedded or otherwise affixed to said flexible display surface, and where the device for capturing three-dimensional location is an active or passive computer vision system that comprises one or more cameras.

4. The method of claim 1 wherein a Point is an accelerometer embedded or otherwise affixed to said flexible display surface, and where acceleration of said accelerometer is used to calculate the three dimensional position or velocity of said Point.

5. The method of claim 1 wherein Points are inferred from properties of said flexible display surface, as extracted from a background by a computer vision algorithm using properties of said flexible display surface that include shape, color, image or brightness.

6. The method of claim 1 wherein deformation of said flexible display surface is determined by measuring the intensity of light passing through one or more optical fiber mounted along said flexible display surface.

7. A method for capturing the location in three dimensions of the finger(s) of one or multiple hands or some tool held by one or multiple hand(s) for the purpose of determining location of said finger(s) or said tool or said hand(s) within a flexible display surface, comprising the steps of:

a) Measuring the location in three dimensions of one or more Point(s) located on said fingers or stylus; and

b) Relating said location of said Points to a coordinate system defined by said flexible display surface so as to obtain a position relative to said coordinate system.

8. The method of claim 7 wherein a Point is a light reflective marker, embedded or otherwise affixed to said flexible display surface, and where the device for capturing three-dimensional location is an active or passive computer vision system that comprises one or more cameras.

9. The method of claim 8 where the marker is selected from a group consisting of: infrared reflective semisphere or sphere, infrared reflective pattern or object, sphere, semisphere or pattern reflecting specific color(s) in the visible light spectrum, and infrared reflective ink pattern.

10. The method of claim 7 wherein a Point is an accelerometer embedded or otherwise affixed to said flexible display surface, and where acceleration of said accelerometer is used to calculate the three dimensional position or velocity of said Point.

11. The method of claim 7 wherein the location of fingers or tools are sensed through other means known in the art, including but not limited to touch screen, capacitive sensors, electromagnetic field tracking or other forms of computer vision.

12. A method for projecting Image(s) onto a surface corrected for shape, orientation and location of said surface through a model obtained by methods of claim 1 and 2, onto said surface(s), using a series of projector(s) mounted such that they project upon the flexible display surface(s), and cover the space through which said flexible display surface(s) may move.

13. The method of claim 12 wherein the Image is a three dimensional model consisting of the shape and/or location and/or orientation of said surface, and wherein said three dimensional model is texture-mapped with a second Image selected from a group consisting of: the contents of a computer window, the contents of a computer file or document, any other static electronic image(s)., and any moving electronic images.

14. The method of claim 12 wherein the surface is a three dimensional surface made of a material selected from a group consisting of: paper, cardboard, paper-like materials, electronic paper, thin substrate displays, thin-film substrate