WHAT IS CLAIMED IS:

1. A display system comprising:

a screen having a concave screen surface positioned so as to be visible to a user of the system;

said screen comprising a plurality of screen elements supported adjacent one another so as to form said concave screen surface, each of the screen elements comprising;

a respective faceplate comprising optical fibers extending adjacent each other so as to transmit light therethrough between two opposing faceplate surfaces;

one of said faceplate surfaces being a concave display image output surface; and

the other of said faceplate surfaces being an image input surface; and

a respective light engine having a respective field of pixels each transmitting light corresponding to imagery comprising serial images of said light engine; and

the fibers of the associated faceplate receiving the light of the pixels of the light engine and together transmitting said light from the light engine coherently to the image output surface thereof so that the images of the light engine are displayed on the image output surface;

said faceplates abutting each other along adjacent edges thereof with the image output surfaces of said faceplates together forming a substantially smooth and continuous curved portion of the screen surface so that the imagery displayed on the screen surface through said faceplates from the associated light engines is continuous between said faceplates.

2. The display system of claim 1, wherein some of the screen elements are kite-shaped.

3. The display system of claim 2, wherein the input surfaces of the faceplates of the kite-shaped screen elements are substantially planar and kite-shaped, and the images from the light engines are kite-shaped and substantially the same size as the input surface of the associated faceplate, and the input surfaces are angled relative to each other.

4. The display system of claim 3, wherein the faceplates are supported in a hexagonal or polygonal frame supported on a support structure surrounding the screen.

5. The display system of claim 3, wherein the kite-shaped faceplates each have four planar side walls that are perpendicular to the planar image input surfaces thereof.

6. The display system of claim 5, wherein the planar side walls are fixedly secured to support structures that hold said faceplates in position such that the faceplates together provide said screen surface as a continuous and smooth spherical display surface.

7. The display system of claim 5, wherein the faceplates have planar surfaces outward of the concave display image output surfaces thereof that are normal to the image output surfaces and angled with respect to the planar side walls.

8. The display system of claim 7, wherein the planar surfaces of adjacent faceplates abut each other so that the image output surfaces thereof form a substantially smooth and continuous portion of a display surface.

9. The display system of claim 1, wherein the optical fibers of the faceplate are all affixed together and extending in a straight path normal to the image input surface to the concave image output surface.

10. The display system of claim 9, wherein the optical fibers have ends in the image output surface, and said ends are configured to transmit light from the optical fiber in an omnidirectional or scattered light pattern.

11. The display system of claim 10, wherein the system includes an image generator generating imagery to be displayed on the surface, said image generator compensating for distortion in the faceplate between a center portion of the faceplate and a portion closer to an edge thereof.

12. The display system of claim 1 wherein the screen is a spherical screen that surrounds a user station configured to receive a human user, said user station being configured such that the user when received thereby is positioned such that the user's eye is in a region of a centerpoint of the spherical screen.

13. The display system of claim 12, wherein the spherical screen constitutes at least a hemisphere of display screen surrounding the user 360 degrees in at least one plane.

14. The display system of claim 3, wherein the light engines are each an image panel display that forms images thereon using a pixel field of LEDs.

15. The display system of claim 14, wherein the LEDs are OLEDs.

16. The display system of claim 3, wherein the light engines are each an image panel display that forms images thereon using a pixel field of LCDs and a backlight.

17. The display system of claim 3, wherein at least one of the light engines is a projector.

18. The display system of claim 3, wherein the light engine generates only infra-red light that can be seen by a user wearing night-vision goggles.

19. The display system of claim 1, wherein the concave surface is spherical.

20. The display system of claim 1, wherein the concave surface is cylindrical.

21. The display system of claim 1, wherein some of the elements are kite-shaped and some of the screen elements are asymmetrical quadrilateral shaped, and five of the kite-shaped elements are supported in a pentagonal arrangement, and five additional kite shaped elements and at least five asymmetrical quadrilateral elements together form a pentagonal perimeter area around the pentagonal arrangement.

22. A component for a display system, said component further comprising:

a faceplate comprising a number of optical fibers secured therein, each of said fibers having a first end supported in a planar surface of the faceplate and a second end opposite to the first end supported in a concave spherical display surface of the faceplate;

the first end being configured so as to receive light from an image engine associated with the faceplate; and

the second end being configured so as to transmit the light from the first end in a diffused pattern;

said fibers being organized in a coherent arrangement so as to transmit an image from the image engine coherently to the concave spherical display surface of the faceplate, wherein the image is displayed over the entire concave spherical display surface of the faceplate;

the faceplate having a symmetrical kite shape with two connected short edges and two long edges meeting at an acute angle;

the short edges of the faceplate extending along respective geodesic portions of the concave spherical display surface, and said faceplate having planar side walls extending normally away from the concave spherical display surface;

the acute angle and kite shape being such that the faceplate can be combined with a number of other kite-shaped faceplates having long edges of substantially the same dimensions as the faceplate

so as to form a regular polygon having five or six peripheral sides of equal length wherein the regular polygon has a smooth continuous concave screen surface extending across all of said faceplates.

23. The component of claim 22, wherein the entire concave spherical surface of the faceplate is made up of the second ends of the optical fibers and the planar surface of the faceplate has a kite-shaped input field entirely made up of the first ends of the fibers, said fibers being organized so as to coherently transmit light of an image applied to the input field to the entire concave spherical display surface thereof.

24. The component of claim 23, wherein the fibers extend parallel to each other and the fibers extend normal to the planar surface of the faceplate.

25. The component of claim 23, wherein the fibers taper so that the light of the image is transmitted to the concave spherical display surface substantially without distortion or variation in intensity.

26. The component of claim 23, and further comprising a light-transmitting image source supported so as to transmit light of images to all of the fibers in the input field, said image source comprising an LED or LCD screen having a kite shape corresponding to the kite shape of the faceplate and supported adjacent thereto, or a projector projecting a kite-shaped image onto the input field.