pixels in each horizontal display line and 1000 in each vertical display line, though the exact number of pixels may be higher or lower depending on the screen ratio. Generally, a display device **70** having at least 1,000,000 pixels total may be considered acceptable. Examples of possible display device **70** resolutions include 1080×1024, 1280×1040, 1600×1200 and 3840×2400.

[0042] The display device **70** may also include a lenticular lens or screen **73** disposed on, over or otherwise held in juxtaposition with the viewing surface **75** of the display screen **71**. As illustrated in FIG. **3**A, the display surface **75** may be provided as a protective glass or transparent polymer sheet disposed over the display screen **71**. The lenticular screen **73** may generally have a smooth surface **77** on one side and lenticules **79** disposed on the opposing side. As shown in FIG. **3**A, the lenticules **79** may face the observer/player and the smooth surface **77** may face the display surface **75** of the display screen **71**. In another example, the smooth surface **77** may include an anti-reflective coating and face the observer/player with the lenticules **79** facing the display surface **75**.

[0043] The lenticular screen **73** may include lenticules **79** running vertically or at an angle (e.g., slanted). Slanted lenticules **79** may be used to compensate for moire patterns that may result from the optics of the lenticular screen **73** and equalize image resolution in the horizontal and vertical directions. The lenticules **79** may be thin enough so as to not be noticeable or obtrusive to the player/observer, though the size of the lenticules **79** may depend on the particular resolution of the display device **70**, the size of the pixels, the number of pixels or sub-pixels aligned with each lenticule **79**, or any other variables. If the lenticules **79** face the display screen **71**, the lenticules **79** may be less noticeable and obtrusive to the player/observer. Each lenticule **79** may have a focal length that is not less than the thickness of the protective glass **75** such that the focal point is on the same plane as the pixels. If the lenticular screen **73** faces outward with the lenticules **79** facing away from the display screen **71**, a larger focal length may be needed.

[0044] Each lenticule **79** may be aligned with a particular set or column of pixels or sub-pixels. The lenticular screen **73** may be aligned with the pixels or sub-pixels of the display device **70** using moire interferometry to display an image having multiple perspectives and allow the player/observer to view the different perspectives at different angles. The lenticular screen **73** may be made from a material matching the characteristics of the display screen **71** material, which may be glass or transparent polymer. The matching materials may help to maintain alignment of the pixels with the lenticules **79** due to temperature variations or other effects that may affect the lenticules **79** and the display screen **71**. The display device **70** may be an autostereoscopic display sold by Stereographics, Corp. of California under the trademark SynthaGram.

[0045] FIG. **3**B is a flowchart depicting how image data representing multiple perspectives of an object, and hence multiple images, may be manipulated to be simultaneously displayed on the display device **70** and allow the player/observer to view the different perspectives (i.e., multiple images) of the object from different angles thereby giving the appearance of three-dimensions. Beginning at block **152**, previously captured image data may be retrieved and an output format may be selected.

[0046] The image data may be captured using multiple cameras arranged in a line along a plane thereby providing an image source from multiple perspectives. The arrangement of the cameras may be dependent on the desired perspective. For example, upper-lower perspectives may require a camera(s) for the upper perspective and a camera(s) for the lower perspective. Each camera may record an image of an object from its perspective and the raw image data may from each camera may be stored. The image may be a static image or an animated image. Alternatively, the object may be created using three-dimensional rendering software and multiple virtual cameras may record an image of the object from different perspectives. While the image data may include two or more perspective views, nine perspective views may be preferable to maintain the aspect ratio of the image and provide sufficient perception of the object in three-dimensions from various angles. Fewer than nine perspective views may lessen the overall angle of view.

[0047] If nine perspective views are used, a nine tile format may be selected at block **152** which arranges the various perspective views in a three-by-three pattern as shown in FIG. **3**C. The nine images may initially be arranged starting with the leftmost perspective in the top left corner and ending with the rightmost perspective in the bottom right corner, though this may not be how the various perspective views are ultimately displayed on the display device **70**. The overall resolution of a single perspective view may thereby be reduced to one-ninth of the overall image resolution. This may also be approximately one-ninth the resolution of the display device **70**. If two images are used, a two image horizontal format or a two image vertical format may be selected thereby reducing the overall resolution of a particular perspective view by approximately one-half. The selected format may depend on the number of perspective views recorded, which may be displayed in various arrays (e.g., three-by-three, horizontal side-by-side, vertical side-by-side, etc.). The resolution of a particular perspective view may be approximately the total resolution of the image (or of the display device **70**) divided by the number of perspective views being displayed.

[0048] Returning to FIG. **3**B, after a format has been selected at block **152**, image data for a particular perspective view may be selected for processing at block **154**. If the image data is an animated video image, each image may be selected and processed on a frame-by-frame basis. At block **156**, the routine **150** may map the pixels of the perspective views to the pixels or sub-pixels of the display device **70** so as to juxtapose the pixels or sub-pixels of the perspective views with the lenticules **79** of the lenticular screen **73** for optimum viewing of the various perspectives. The various perspective images may thereby be sampled and interlaced together into a single, multiple-view image. This process may also be known as a form of interdigitation. Software for processing the image is also available from Stereographics, Corp. of California under the name Interzig™. Interdigitation or interlacing may involve sampling the pixels from the image data of each perspective view from the chosen format and determining the best location for each pixel in the final image to produce a single, multiple-view image that is a combination of samplings from each of the perspective images. In other words, the final image is an interdigitated or interlaced image of the various perspectives. When viewed with a lenticular screen **73**, the interdigitated image may have the appearance of depth (i.e., appear three-dimensional) where one angle of view has one perspective view and another angle of view had a different perspective view.

[0049] The mapping performed at block **156** may be performed on a pixel-by-pixel or subpixel-by-subpixel basis,