[0230] SCANNER/PRINTER/COPIER SUPPORTING EDGE DEFORMABLE DISPLAY

[0231] A scanner/printer/copier device **570** is schematically illustrated in **FIG. 41**. As seen in **FIG. 41** (and in more detail in **FIG. 42**) the device **570** supports a display **574** having a deformable edge **572**, with the combination roughly shaped like a piece of paper. In operation, a user can place a written document in the device **570** for scanning. An electronic version of the scanned document is displayed (i.e. as text **575** in **FIG. 42**) on the display **574**. By outwardly pulling the deformable edge **572** as indicated by arrow **577**, a user can instruct the device **570** to resize the document before printing or copying. Pinching opposing sides of the deformable edge **572** (arrows **578**) can further instruct the device **570** to print double sided copies. As will be appreciated, various other morphemes can be used to provide a simple interface for interacting with device **570**.

[0232] TILEABLE AND STACKABLE PORTABLE DISPLAYS

[0233] Multiple autonomous display tiles having an onboard display controller and at least one surface consisting substantially of a conventional display are particularly useful for the practice of various aspects of the present invention. Such tiles can be interconnected in response to various morphemes such as TOUCH, FLICK, RELATIVELY ALIGN, or WHACK, or even can be operated without substantial user mediated morphemic input in certain situations.

[0234] Advantageously, tile positioning can be used as an interface specifier in and of itself. For example, each display tile can contain a video segment in independent memory. Shuffling or reorganizing the tiles can allow users to physically manipulate the sequence of video segments to affect a physically manipulatable video editing system. Using the card analogy, tiles can be used to re-sequence documents, pages within a document, audio annotations, voice mail, or other temporal media contained within the tiles. The resultant sequence can then be played as a whole by using the tiled structure as a unit.

[0235] For purposes of the present invention, display tile array configurations can be categorized as follows:

[0236] Close-packed display tile array **600** (**FIG. 43**) in which tiles **602** are arranged to span a surface **610** in closely abutting, but not overlapping relationship, such that the continuous display area is maximized (i.e. seamlessly). As will be appreciated, the tiles could themselves form a freestanding continuous surface, or they could be disposed on a table or other suitable support. Each of the tiles **602** supports a display **604** sized to substantially cover a front surface of each tile **602**. In certain embodiments, a back surface of each tile **602** can also support a display. Advantageously, this would allow for creation of free standing displays with images visible on the front and back. The surface **610** can be a plane, a sphere, or any arbitrary shape that permits tiling.

[0237] Loose-packed display tile array **620** (each tile **622** having a display **624** as seen in **FIG. 44**) in which tiles **622** are slotted into a lattice pattern (indicated by dotted lines **625**). Each tile can be considered to be situated in a regular bounded lattice slot (namely, the lattice slot that contains a defined center of each of the tiles) within the lattice where the dimensions of the bounded slot are no more than a few times the maximum dimension of the tile, and there is no more than one tile in any slot. Within the lattice regions any of the tiles can be positioned arbitrarily and still retain the same inter-relationship with the group. It is still possible for tiles to touch one another at the boundaries of two or more lattice slots, however, this is not a requirement.

[0238] Free-format display tiles **630** (each tile **632** having a display **634** as seen in **FIG. 45**) are similar to loose-packed display tiles **620** where the size and shape of the lattice slots may vary freely (e.g. the dimension of a lattice slot may be many times the maximum dimension of any of the participating tiles). The only constraint on the arrangement is that there must be no ambiguous relationships about the relative connectivity of the each of the tiles **632**. That is to say, a tile that is to display the next piece of information to one side of another tile must be unique and not be confused with the task of another tile in the tiling lattice.

[0239] 3D display tiles (packable display tiles) are created by extending the three foregoing display tile categories. However for close packed tiling of display tiles, packed devices in the center of a 3D structure would not be available as the user interface. This may not matter as the surface of the 3D shape will expose a area that will have unique affordances for some classes of application. For instance, cubic tiles packed into the shape of a large cube can display, using the six faces of the larger cube, the various projections that could be rendered by viewing a 3D CAD drawing from each degree of freedom.

[0240] As will be appreciated, display tiles need not be recti-linear but can be hexagonal, circular, or of arbitrary shape and size. The size of tiles need not be constant for all tiles within a larger structure. Tiles need not be aligned but may require proximity to indicate adjoining points or edges.

[0241] Tiles need not be in physical contact to define they are joined in a group activity but instead this may be a programmed function. The connectivity can also be discovered through a radio network from a coordinating server or from a distributed algorithm that draws in as many computers as necessary for a task, using the wireless network to negotiate the resources it needs. The tiled computers may also be connected by wired networking systems, although in cases where the topology might need to rapidly change, this is not as desirable as a wireless system. An example of a wired networking system of this type is a system that uses the internet to include many computers in a single task, one in which each computer knows its relative position even though they may be separated by rooms or in the extreme cases buildings, cities or countries. However, in general the most useful case of display tiling is when the tiles are proximate enough that they can all be viewed by one person to create a display medium whereby the viewing experience is an enhancement over using a single display. Accordingly, tiles can operate as either a single larger contiguous structure or they can retain individual properties and independent functions or a combination of both. (e.g., jumbo-tron like