FIG. **3** depicts a side-view of a topographical interface in accordance with a preferred embodiment of the method and system of the present invention;

FIG. **4** illustrates a schematic illustration of a driver mechanism that may be utilized as a supportive mechanism for the topographical interface in accordance with the method and system of the present invention;

FIG. **5** depicts a schematic illustration of a lever pin that may be utilized for raising and lowering the topographical interface in accordance with the method and system of the present invention;

FIG. **6** illustrates a partially schematic block diagram of a controller for a topographical interface system in accordance with the method and system of the present invention;

FIG. **7** depicts a high level logic flowchart of a process for controlling inputs and outputs of a topographical interface system in accordance with the method and system of the present invention;

FIG. **8** illustrates a high level logic flowchart of a process for processing inputs and determining outputs to a topographical interface system in accordance with the method and system of the present invention;

FIG. **9** depicts a high level logic flowchart of a process for determining force feedback and visual feedback in accordance with the method and system of the present invention; and

FIG. **10** depicts a prior art illustration of the three-dimensional display that provides a device for displaying objects both visually and three-dimensionally.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention may be executed in a variety of systems, including a variety of computers under a number of different operating systems. The computer may be, for example, a personal computer, a network computer, a midrange computer or a mainframe computer. In addition, the computer may be a stand-alone system or part of a network such as a local-area network (LAN) or a wide-area network (WAN).

Referring now to the drawings and in particular to FIG. **1**, there is depicted a block diagram of a typical computer system that may utilize a preferred embodiment of the present invention. As shown, a processor (CPU) **12**, a read-only memory (ROM) **13**, and a Random-Access Memory (RAM) **14** are connected to a system bus **11** of a computer system **10**. CPU **12**, ROM **13**, and RAM **14** are also coupled to a PCI local bus **20** of computer system **10** through a PCI host bridge **16**. PCI Host Bridge **16** provides a low latency path through which processor **12** may directly access PCI devices mapped anywhere within bus memory and/or I/O address spaces. PCI Host Bridge **16** also provides a high bandwidth path for allowing PCI devices to directly access RAM **14**.

Also attaching to PCI local bus **20** are communications adapter **15**, small computer system interface (SCSI) **18**, and expansion bus bridge **29**. Communications adapter **15** is for connecting computer system **10** to a network **17**. SCSI **18** is utilized to control high-speed SCSI disk drive **19**. Expansion bus bridge **29**, such as a PCI-to-ISA bus bridge, may be utilized for coupling ISA bus **25** to PCI local bus **20**. As shown, a topographical modeling system **30** is attached to ISA bus **25** for performing certain basic I/O functions. In addition, an audio adapter **23** is attached to PCI local bus **20** for controlling audio output through speaker **24**. In alternate embodiments of the present invention, additional peripheral components may be added.

Computer system **10** also preferably includes an interface such as a graphical user interface (GUI) and an operating system (OS) that reside within machine readable media to direct the operation of computer system **10**. The operating system preferably enables the device drivers that manipulate topographical modeling system **30**. Any suitable machine-readable media may retain the GUI and OS, such as RAM **14**, ROM **13**, SCSI disk drive **19**, and other disk and/or tape drive (e.g. magnetic diskette, magnetic tape, CD-ROM, optical disk, or other suitable storage media). Any suitable GUI and OS may direct CPU **12**. For example, the AIX operating system is one of IBM's operating systems, which may be implemented.

Further, computer system **10** preferably includes at least one software application (e.g. program product) that resides within machine readable media, for example a topographical control application **8** within RAM **14**. Topographical control application **8** may control the interaction of topographical modeling system **30** with computer system **10**. A software application contains instructions that when executed on CPU **12** carry out the operations depicted in the flow chart of FIG. **8** and others described herein. Alternatively, as previously described, the operating system may control interaction of topographical modeling system **30** with computer system **10**.

Referring now to FIGS. **2***a*–**2***b*, there is illustrated a pictorial diagram of a topographical modeling system in accordance with a preferred embodiment of the method and system of the present invention. As depicted, a topographical modeling system **30** comprises a topographical interface **32**. Preferably, topographical modeling system **30** is enabled to perform the functions of multiple types of interface devices. While one embodiment for housing topographical modeling system **30** is depicted, it will be understood that multiple types of housing for topographical modeling system **30** may be utilized.

Topographical modeling system **30** further comprises a connection element **36** for input/output (I/O). Connection element **36** may include a physical connector to a socket of a data processing system, or may provide for wireless I/O with a data processing system. Further, topographical modeling system **30** may include the basic units of a data processing system such that connection element **36** is an internal connection and topographical modeling system **30** may function as a fully functional data processing system, instead of functioning as a peripheral to a data processing system. Moreover, additional input/output (I/O) devices may be utilized by topographical modeling system **30** including, but not limited to, audio I/O devices, stylus I/O devices, and hyper-braille devices.

As will be further described, topographical interface **32** is preferably adjustable to provide a tactile-detectable graphical representation of a three-dimensional graphical image and associated physical characteristics. Further, a display surface is preferably embedded within the topographical interface that provides a visual graphical representation of the graphical image. Associated physical characteristics may include texture, temperature, resiliency, and color. In addition, other tactile-detectable and visual physical characteristics may be included. In addition, a sensing system is provided that detects the magnitude and direction of any force applied to topographical interface **32** and responds through closed-loop force feedback when applicable. Multiple types of sensing systems may be utilized. For example,