State-of-the-art do not have a textile motherboard scheme incorporated into the design of the devices.

Moreover even though some devices are detachable, they are not modular and none describe the feature of being interchangeable. For instance, once the device is designed to monitor cardiac frequency, that same design is not able to monitor another parameter, such as temperature, therefore requiring the use of a completely new device.

Also absent in the state-of-the-art is the ability of the textiles to manipulate objects of interest, such as the lights of a public establishment or the interaction with a device or computer application, after selecting a, preferably, textile menu of options.

SUMMARY

According to a first aspect, a textile motherboard, is provided, that consists of at least one textile substrate layer, on which at least one textile peripheral and one interchangeable central processing unit are incorporated that enable the conformation of a textile logic circuit based on textile logic gates, wherein the at least one textile peripheral comprises regions of null conductivity and regions of maximum conductivity connected by means of textile vertical interconnect accesses (VIA), and that when activated represents a specific binary logic state of the textile logic circuit;

the configuration of the textile motherboard additionally consists of at least one textile peripheral configured as a first textile logic gate interconnected to another textile peripheral configured as a second textile logic gate; each textile peripheralconfigured as a textile logic gate consists of at least one input and one output, and when activated defines a concrete binary logic state of the textile logic circuit; and the textile logic gates are configured such that the central processing unit may determine which textile logic gate has been activated by a user, utilizing the logic configuration of the textile motherboard.

According to a second aspect, a textile switch, is provided, that consists of at least one conductive textile substrate material and an isolating substrate material, wherein the isolating material incorporates patterns to enable regions of maximum conductivity and regions of null conductivity, incorporates at least one pole and one throw, and may be configured as a logical gate.

BRIEF DESCRIPTION OF THE INVENTION.

In order to address the abovementioned problem in the state-of-the-art, it is the object of the present invention to disclose embodiments that provide the structure of a textile motherboard (TMB) The substrate of the TMB, object of the present invention, is conformed of textile material. Furthermore, the TMB may be structured with single-layer or multiple-layer designs, incorporating perforations for layer interconnection. Layers and perforations are

CLAIMS

1. A textile motherboard that consists of:

at least one textile substrate layer, on which at least one textile peripheral and one interchangeable central processing unit are incorporated that enable the conformation of a textile logic circuit based on textile logic gates,

wherein the at least one textile peripheral comprises regions of null conductivity and regions of maximum conductivity connected by means of textile vertical interconnect accesses (VIA), and that when activated represents a specific binary logic state of the textile logic circuit;

the configuration of the textile motherboard additionally consists of at least one textile peripheral configured as a first textile logic gate interconnected to another textile peripheral configured as a second textile logic gate;

each textile peripheral configured as a textile logic gate consists of at least one input and one output, and when activated defines a concrete binary logic state of the textile logic circuit; and

the textile logic gates are configured such that the central processing unit may determine which textile logic gate has been activated by a user, utilizing the logic configuration of the textile motherboard.

2. Textile motherboard according to claim 1, wherein the configuration of the textile logic circuit, the number and interconnections of textile peripherals are based on combinational logic.

3. Textile motherboard according to claim 1, wherein the configuration of the textile logic circuit implements textile peripherals in the form of textile switches or humidity textile peripherals or presence textile peripherals or similar textile peripherals configured as textile logic gates employed in the textile logic circuit.

4. Textile motherboard according to claim 2, wherein the configuration of the textile logic circuit, determined by the number of textile peripherals, is established by employing the expression $2^N - 1$, where N is the number of available inputs in the central processing unit.

5. Textile motherboard according to claim 4, wherein the regions of maximum conductivity of the textile peripheral correspond to the perforations of an isolating substrate.

6. Textile motherboard according to claim 5, wherein the regions of maximum conductivity are arranged following specific patterns.

7. A system to monitor the activities of a user that consists of a textile motherboard according to any of the claims 1 to 6, which incorporates a textile logic circuit, a textile intercommunications module, and an electronic device configured to receive signals coming from the textile motherboard.

8. System according to claim 7, wherein the textile motherboard is incorporated into a garment and the textile logic circuit enables the command of the device when the textile motherboard is operated by a user.

9. System according to claim 8, wherein the configuration enables the stimulation of learning.

10. System according to claim 7, wherein the configuration includes a garment or a bedroom textile or bed linen to enable the detection of presence or humidity of a user.