A mat for a video game console in one embodiment includes pressure sensors; a master controller; A/D converters; a light controller; and indicators. Each pressure sensor is in signal communication with a corresponding A/D converter. The A/D converters are in signal communication with the master controller. In response to a person standing on the mat when playing video games on the video game console the pressure sensors sense the weight of the person and a leg action thereof, generate analog signals representing same, and send the analog signals to the A/D converters, the A/D converters convert the analog signals into digital signals which are in turn sent to the master controller, the master controller processes the digital signals for controlling the video game console and flashing the indicator through the light controller.
FIG. 1
Prior Art

Key pressing

Rotation

Pointing in different directions
Signals for game operation

FIG. 2
PRESSURE SENSITIVE MAT FOR VIDEO GAME CONSOLE

BACKGROUND OF THE INVENTION

1. Field of Invention
The invention relates to video game consoles and more particularly to an improved pressure sensitive mat for use with a video game console.

2. Description of Related Art
Conventionally, a person may use a joystick or keys to play a computer game or video game on a video game console. Alternatively, a person may use an accelerometer sensor to sense in which direction the hand moves. In either case, a signal is generated and the signal is useful in controlling the movements of objects displayed on the screen.

For playing a computer game or video game on a video game console, a conventional joystick 8A may be manipulated to point in left, right, up, or down direction (see left side of FIG. 1). Alternatively, the joystick 8A may be manipulated to rotate (see central portion of FIG. 1). Still alternatively, conventional keys 8B can be pressed (see right side of FIG. 1).

But this is unsatisfactory for the purpose for which the invention is concerned for the following reasons: Users may suffer muscle soreness or other discomforts for long periods of time playing computer games or video games on a video game console by manipulating the joystick or pressing keys. Moreover, for example, playing video games on a video game console by manipulating a joystick lacks excitement. Thus, a need for improvement exists.

SUMMARY OF THE INVENTION
It is therefore one object of the invention to provide a pressure sensitive mat for use with a video game console.

The above and other objects, features and advantages of the invention will become apparent from the following detailed description taken with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS
FIG. 1 schematically depicts three typical operations of joystick or key;
FIG. 2 is a block diagram of a preferred embodiment of pressure sensitive mat for use with a video game console according to the invention;
FIG. 3 is a top plan view of the pressure sensitive mat;
FIG. 4 schematically depicts three operations that a person may perform on the pressure sensitive mat while playing video games on the video game console; and
FIG. 5 schematically depicts three typical operations of joystick or key and corresponding schematic actions performed by a person standing on the pressure sensitive mat of the invention as a comparison.

DETAILED DESCRIPTION OF THE INVENTION
Referring to FIGS. 2 to 5, a pressure sensitive mat 1 for use with a video game console in accordance with a preferred embodiment of the invention comprises the following components as discussed in detail below.

A foot-actuated, padded, rectangular mat member 2 is provided. A plurality of (e.g., four) pressure sensors 3 are provided proximate four corners of the mat member 2. A plurality of spaced indicators 5 are provided along a peripheral edge of the mat member 2.

A printed circuit board (not shown) is provided within the mat member 2 and comprises a master controller 7, a plurality of A/D (analog to digital) converters 4, and a light controller 6. Each of the pressure sensors 3 is in signal communication with a corresponding one of the A/D converters 4. The A/D converters 4 are in signal communication with the master controller 7. The master controller 7 may send signals for game operation to a video game console (not shown) and control the light controller 6 in response. Finally, the light controller 6 is activated to control a lighting sequence of the indicators 5.

In other embodiments, only one pressure sensor 3 and only one corresponding A/D converter 4 are provided.

A person may stand on a central area (as indicated by a dashed rectangle of FIG. 1) of the mat member 2 when playing video games on the video game console. Each pressure sensor 3 may sense a certain percentage of the weight of the person and leg movement thereof prior to generating an analog signal in response thereto. And in turn, the generated signal is sent to the corresponding A/D converter 4. The A/D converter 4 may convert the analog signal into a digital one which is in turn sent to the master controller 7. The master controller 7 then may process the signals into signals for controlling the video game console which is either connected to the master controller 7 by cable or wirelessly. As an end, a corresponding movement or any of other actions is performed by an object on the screen of the video game console. In brief, a very interesting game is being played on the video game console.

Moreover, the master controller 7 may control the light controller 6 in order to enable the indicators 5 to light according to a programmed sequence (i.e., flashing). This is more exciting.

A person may jump, move toward a desired direction, or step on the same position on the mat member 2 (see FIG. 4) when playing video games on the video game console. And in turn, each pressure sensor 3 may sense same (i.e., sensing a certain percentage of the weight of the playing person) prior to generating a signal in response thereto.

In an alternative embodiment, only the pressure sensors 3 are provided on the mat member 2 and other components including the A/D converters 4, the master controller 7, the light controller 6, and the indicators 5 are provided in or on a separate device. Still alternatively, the pressure sensors 3, the A/D converters 4, and the master controller 7 are provided on the mat member 2 and other components including the light controller 6 and the indicators 5 are provided in or on a separate device.

As shown in FIG. 5, three typical operations (e.g., pointing in different directions, rotation, and key pressing) of joystick 8A or key 8B and corresponding schematic actions performed by a person standing on the mat member 2 as a comparison. Note that arrow means moving direction or rotating direction, hollow circle means motionless point, and solid circle means moving point in terms of the action performed by the person.

While the invention herein disclosed has been described by means of specific embodiments, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope and spirit of the invention set forth in the claims.
What is claimed is:
1. A mat for use with a video game console comprising:
   a plurality of pressure sensors;
   a master controller;
   a plurality of A/D (analog to digital) converters;
   a light controller controlled by the master controller; and
   a plurality of indicators controlled by the light controller,
   wherein each of the pressure sensors is in signal communication with a corresponding one of the A/D converters, and the A/D converters are in signal communication with the master controller so that in response to a person standing on a predetermined area of the mat when playing video games on the video game console the pressure sensors sense the weight of the person and the leg action thereof, generate analog signals representing the weight of the person and the leg action thereof, and send the analog signals to the A/D converters, the A/D converters convert the analog signals into digital signals which are in turn sent to the master controller, the master controller processes the digital signals for controlling the video game console and activating the light controller, and a corresponding movement or action is performed by an object on the video game console and the indicators are enabled.

2. The mat of claim 1, wherein the leg action is a movement toward a predetermined direction, a jump, or a stepping on the mat.

3. The mat of claim 1, wherein the indicators are disposed on a periphery of the mat.

4. The mat of claim 1, wherein the indicators may flash in response to receiving a control signal from the light controller.

5. A mat for use with a video game console comprising:
   a pressure sensor;
   a master controller;
   an A/D (analog to digital) converter;
   a light controller controlled by the master controller; and
   a plurality of indicators controlled by the light controller,
   wherein the pressure sensor is in signal communication with the A/D converter, and the A/D converter is in signal communication with the master controller so that in response to a person standing on a predetermined area of the mat when playing video games on the video game console the pressure sensor senses the weight of the person and the leg action thereof, generate an analog signal representing the weight of the person and the leg action thereof, and send the analog signal to the A/D converter, the A/D converter converts the analog signal into a digital signal which are in turn sent to the master controller, the master controller processes the digital signal for controlling the video game console and activating the light controller, and a corresponding movement or action is performed by an object on the video game console and the indicators are enabled.

6. The mat of claim 5, wherein the leg action is a movement toward a predetermined direction, a jump, or a stepping on the mat.

7. The mat of claim 5, wherein the indicators are disposed on a periphery of the mat.

8. The mat of claim 5, wherein the indicators may flash in response to receiving a control signal from the light controller.

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