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The Leap Motion Controller

Technologies in modern world are developing very quickly. That is caused by quick changes in science or in our daily lives. For example, the UC engineers have built a pack of tiny autonomous robots that could help save the lives of both fire victims and firefighters. If one can't imagine any sphere of human life without technologies, a new invention - "Leap Motion Controller" is described in this paper.

The Leap Motion Controller endows your personal computer with ability to interact with onscreen object without touching anything. It works with keyboard and mouse.

Controller has a glossy black top with a silver band wrapped around the sides. It is sleek, light, and tiny.

This technology generates a kind of virtual-space bubble in front of your PC, one large enough to accommodate your two hands in it (though many apps require only one).

The Leap Motion Controller tracks all 10 fingers up to 1/100th of a millimeter and it is dramatically more sensitive than existing motion control technology.

The sensors track not only the positions of your hands and fingers, but also their movements. It tracks your movements at a rate of over 200 frames per second. That's how the action on your screen keeps up with your every move.

The core of this technology is library, which is written in C++. New invention also uses SWIG, an open source tool, to generate language bindings for C#, Java, and Python.

The Leap Motion Controller runs on apps, and there's already a decent collection of them in the Airspace Store – about 150. Some are free, while others cost a couple of dollars.

With apps you can control your OS, easy browse the web, read articles, make music and art, move around your desktop.

HP has embedded the Leap Motion controller into a keyboard, bringing the gesture recognition system to desktop PCs. The embedded controller is smaller than the standalone version of Leap Motion, cut down to 3.5mm in height to fit into laptops and now the keyboard.

Technologies with each passing day become more powerfull, compact and revolutionary. The controller is currently developing, which provides the possibility for this invention to be found in a broader field.