Hover

One year earlier than Back To The Future II promised us hoverboards for all, **Les Pounder** connects one to his Pi. Great Scott!

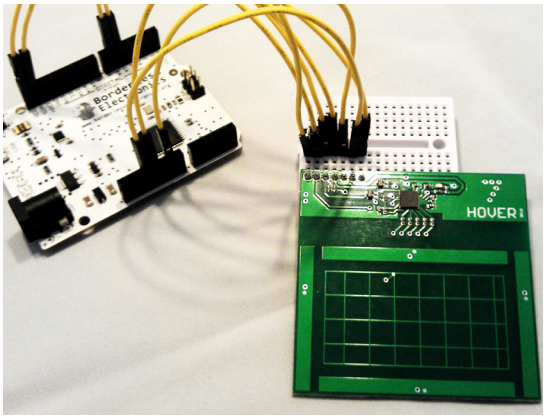
For many years we have used the traditional combination of keyboard and mouse as our main method of input. But in recent years, with the introduction of mobile devices with touchscreen and accelerometers, touch and gestures have become alternative methods of input.

The Hover board is a touch and gesture controller that works with Arduino, Spark Core and all versions of the Raspberry Pi. It uses a sensor to detect user input and passes this data to the device, which can then act upon the input. Hover provides a programmable user interface that can enable new methods of control for your project.

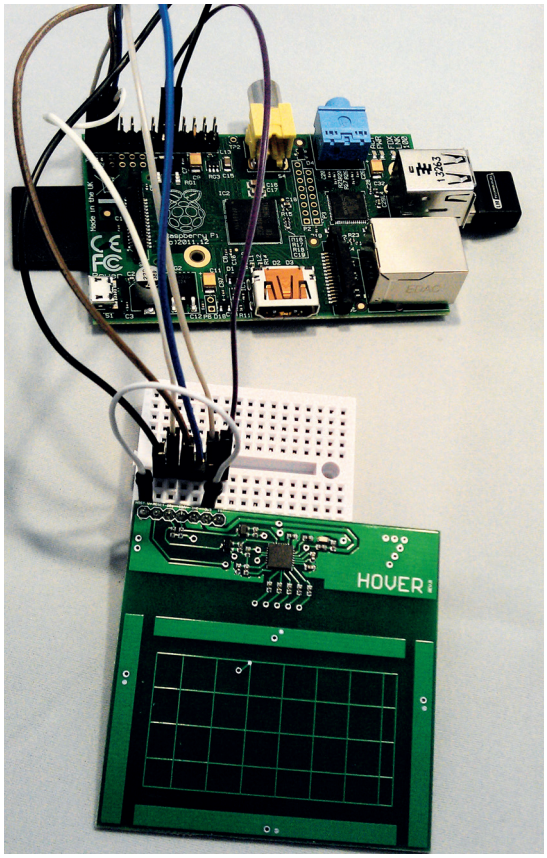
Hover is powered by an MGC3130 single-zone 3D tracking and gesture control chip, which uses electrical near-field sensing to enable gesture and touch control using natural human movement. To interface Hover to a host board it uses a mixture of I2C (Inter-Integrated Circuit) connectivity along with extra pins for power and controlling the board. Hover can work with both 3V3 and 5V logic, enabling seamless use between the various platforms.

Raspberry Pi Model B

Connecting the Hover to the Raspberry Pi Model B is a simple task. Using the great guide on the Hover website, we were quickly able to install the necessary Python library and test the board was working within 15 minutes of opening the box. The Python library is well documented and provides everything needed to hack a great project together. In little under an hour we were able to learn the events triggered by gestures and touch, and create a simple loop that looked for input and, when received, played audio using the **pygame** audio mixer library.



Hover also has five touch points: one in the centre of the board and the other four at the north, east, south and west edges of the board. This gives us nine methods of control for this small board.



Hover easily connects to the Raspberry Pi using only six connections to the GPIO, enabling it to be integrated into your projects with minimal fuss.

Just like the Raspberry Pi, the Arduino installation is a simple task, merely requiring the installation of the Hover library inside of your sketchbook/libraries folder. Using the example sketch, we were able to quickly test that our board was working with the Arduino. With this test complete, we wrote a sketch to take advantage of the Leonardo's ability to mimic a keyboard and mouse. This, coupled with the Hover, enabled us to quickly create a gesture controlled workspace switcher and web page scroller.

Hover is a novel and easy-to-use interface that can bring new and clever methods of interaction to projects, from fun projects such as gesture-controlled cameras and sound boards, to serious real-world applications for users with disabilities or specialist requirements. Hover is a great, simple hardware project for hackers of all abilities that's bursting with limitless possibilities.

LINUX VOICE VERDICT

Fun, easy to use and endless possibilities to hack. This board has so much potential for hacking fun.

★★★★★

DATA

Web
www.justhover.com/#hove
Developer
Emran Mahbub and Jonathan Li
Price
$39