When Life Gives You Lemons, Make A Touchpad

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Is there a lemon in your kitchen that you'd really prefer to use as a mouse?

Have you ever had a burning desire to make a banana into a digital piano?

Perhaps you've dreamed of using alphabet soup as a keyboard?

If so, you should look into getting yourself a MaKey MaKey. [1]

What is it?
The MaKey MaKey, designed by MIT Media Lab PhD students Jay Silver and Eric Rosenbaum, is a circuit board that turns everyday objects into touchpads which can interact with your computer. The idea was to create an easy-to-use inventor's kit that would let from a creative child to savvy grandma be an inventor.

How does it work?
First, pick two objects that you want to use as the touchpad. Silver and Rosenbaum claim anything that conducts electricity will work from ketchup to people to lemons –also anything that is wet or has copper tape on it.

Then, use the alligator clips to attach your objects to the printed circuit board with an ATMega32u4 microcontroller running Arduino Leonardo bootloader. The boards are made by Sparkfun [2], specifically chosen for their environmentally-friendly products and employee-friendly policies. A USB cable connects the MaKey MaKey to your computer.

Once you touch both objects, the MaKey MaKey uses the Human Interface Device protocol to send mouse clicks and movements or keyboard presses from your objects to the computer. Voila. Instant touchpad.

Try making a Play-Doh video game controller or a beach ball mouse. Go crazy.

The circuit board features six inputs on the front, plus 12 more on the back, and—for the more advanced—can be used for Arduino projects as well. If you need more inputs, you can use multiple MaKey MaKeys, an all Open Source project, on one computer.

The inventors started with a goal of earning $25,000 on Kickstarter.com [3] so they could sell the kits for $35. To date, they've earned $404,642 from 8,252 backers. The Kickstarter.com countdown still has a few days left on the calendar before it closes, but the team hopes to sell the boards directly from Sparkfun in the future.

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Links:
[1] http://makeymakey.com/
[2] http://www.sparkfun.com/
[3] http://www.kickstarter.com/projects/joylabs/makey-makey-an-invention-kit-for-everyone