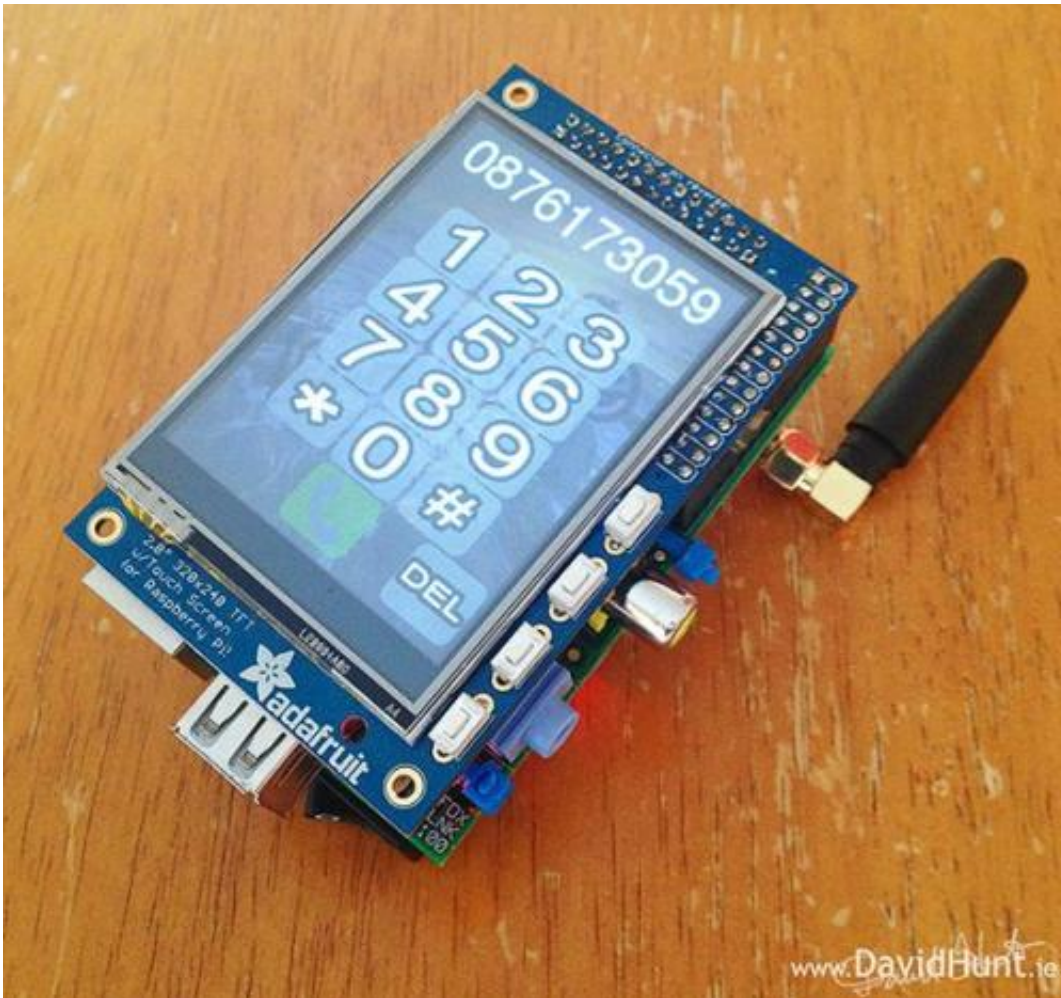# Raspberry Pi-based phone takes off the shelf ingredients

April 28 2014, by Nancy Owano

Credit: David Hunt

(Phys.org) —The Raspberry Pi, that very low cost, little Linux computer,

is living up to its backers' dreams of becoming not only a learning tool but a versatile mainstay for having fun with tinkering and developing. The latest case in point is a working phone which its creator calls the PiPhone, built to the tune of $158 for components. David Hunt said his PiPhone a result of using Pi, touchscreen interface, SIM900 GSM/GPRS module, and 2500mAh LiPo battery.

The adafruit site lists the battery along with a product description that says lithium ion polymer, also known as lipo or lipoly, batteries are thin, light and powerful. "As with all Lithium ion polymer batteries and with any power source - they should be used by experts who are comfortable working with power supplies." (The included protection circuitry keeps the battery voltage from going too high or low. The battery will cut out when dead and will protect against output shorts. "However, even with this protection it is very important that you only use a LiIon/LiPoly constant-voltage/constant-current charger to recharge them and at a rate of 1200mA or less.") Adafruit was founded in 2005 by MIT engineer Limor Fried for people with all skill levels as an online place for learning electronics and making products.

Hunt listed the phone's ingredients and their prices: Raspberry Pi Model B – $40; PiTFT Touchscreen 320×240 – $35; 2500mAh LiPo battery – $15; SIM900 GSM/GPRS module – $48; DC-DC boost converter 3.3V – 5V 1A – $10; and cables, connectors, switch, etc. – $10

The PiTFT Touchscreen is a display for the Raspberry Pi. According to the product description, It features a 2.8" display with 320x240 16-bit color pixels and resistive touch overlay. "The plate uses the high speed SPI interface on the Pi and can use the mini display as a console, X window port, displaying images or video."

Hunt , an embedded Linux software engineer, blogged, "As you can see from the cost of the components, you'd be FAR better off going into

your local phone store and picking up a normal smartphone, but hey, where's the fun in that?"

He said he got a "great kick" out of the first call he made with "this thing." Besides, he said, it won't stay in one piece for very long. "I'll be using those parts for other projects very soon."

Hunt said the experience was more toward a proof of concept to see what could be done with a relatively small form factor with off-the-shelf components. He said he did not expect everyone to rush out to build this but "I had great fun in doing it." He said it builds nicely on his past projects—the Lapse Pi, a touchscreen time lapse controller using most of the same hardware.

The Raspberry Pi Foundation blog recognized his effort with these comments: "It's smaller than many of the phones I've owned, and it's cheaper than the phone that's currently in my pocket, with a parts list coming in at only $158. The PiPhone is built entirely from off-the-shelf kit, so there's no soldering required, and no fiddly electronics work."

 More information: www.davidhunt.ie/piphone-a-ras … pi-based-smartphone/

© 2014 Phys.org

Citation: Raspberry Pi-based phone takes off the shelf ingredients (2014, April 28) retrieved 9 April 2024 from https://techxplore.com/news/2014-04-raspberry-pi-based-shelf-ingredients.html