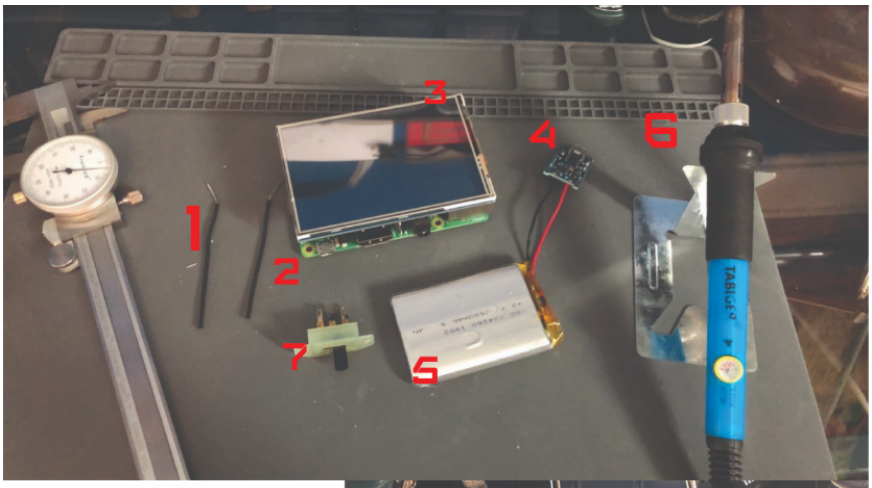
Saibamaze March 2020

Project Fallout Instruction Guide

PARTS



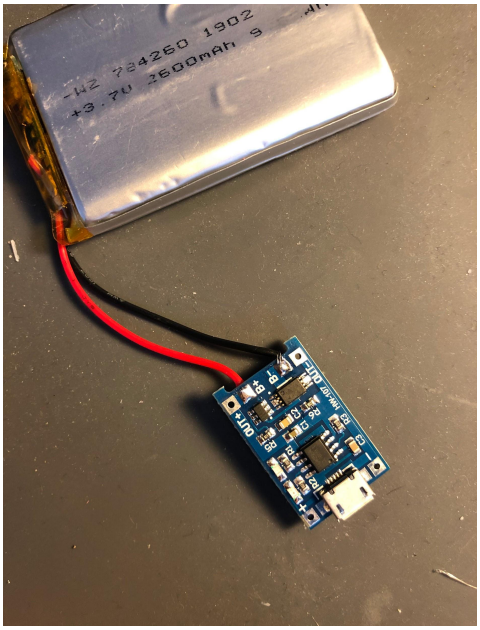
1. Wires
2. Raspberry Pi
3. 3.5 inch TFT
4. TP4056 Chrarging Module
5. 3.7v 2600mah LiPo Battery
6. Soldering iron
7. 3-prong switch (or any switch)
8. Buckles (Optional)
9. Nylon Straps (Optional)
10. Super Glue

NOT PICTURED:
-Hot Glue
-3D printer (For case, optional)

PRE-PREP

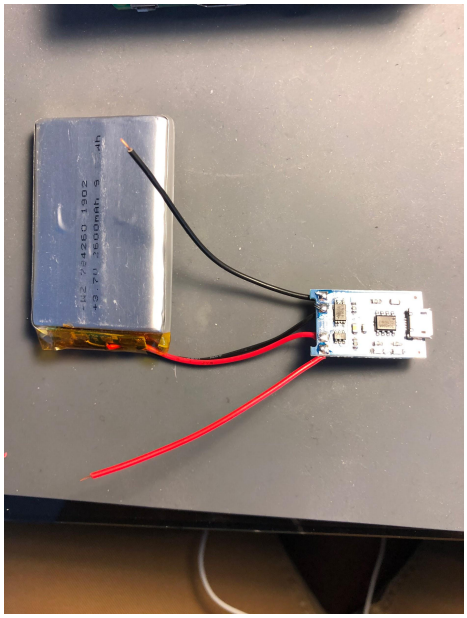
Make sure you have a raspberry pi with a SD running your OS of choice, with TFT screens enabled. A tutorial can be found here: https://www.youtube.com/watch?v=Fj3wq98pd20

STEP 1



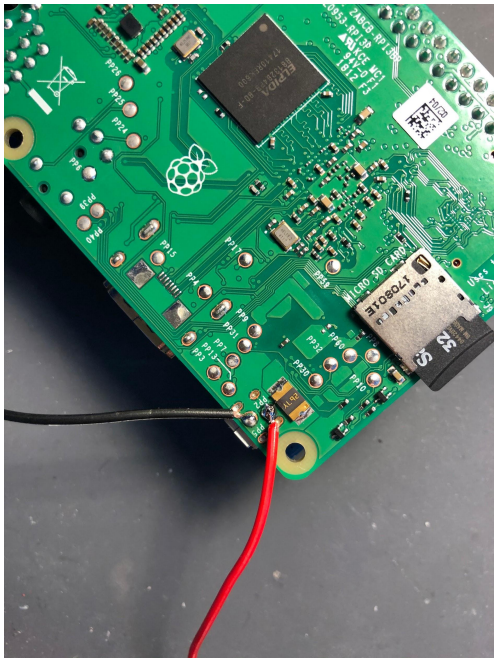
Solder the positive wire (red) of the battery to B+ on the micro-lipo charger. Solder the negative (black) to the B-. An easy tip to do this is to feed the wires through the holes on the board, then bend them in a hook shape so they are flat on the board and are easy to solder. After soldering, it is a good idea to plug this in to test if the battery is charging. It should glow red when charging, and blue when finished.

STEP 2



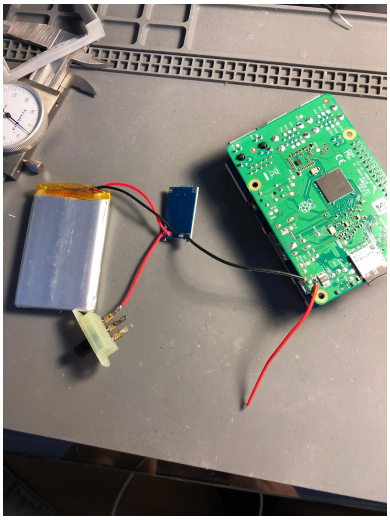
Solder some wires (about 2 inches) to the OUT+ and OUT- on the board. Use the same tip as above to make this easier.

STEP 3



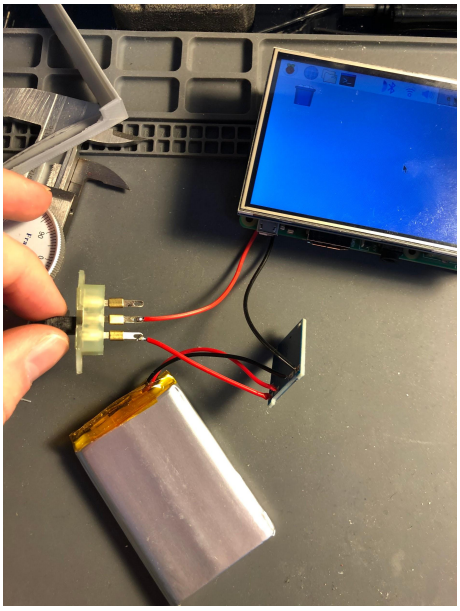
Flip over the raspberry pi to see the bottom of the board. Right under the Micro-USB power there are two pieces of solder, labeled PP2 (Positive) and PP5 (Negative). These are an alternate way to power your pi. Solder the wire from the OUT- on the charging board that we added in the last step to PP5. Then solder about 2 inches of wire to PP2, good idea to keep the colors correct to make things simple.

STEP 4



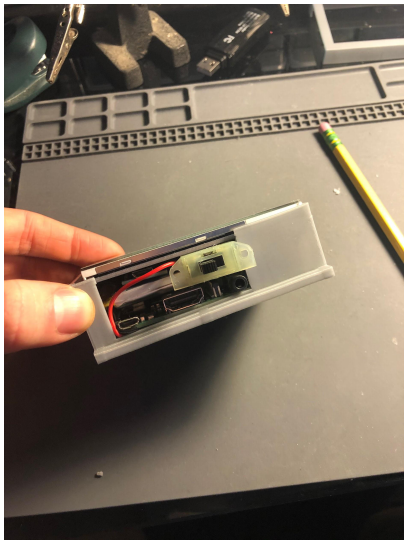
Solder the red wire from the OUT+ on the charging board from step 2 to the first prong on the switch.

STEP 5



Solder the red (positive) wire from PP2 on the raspberry pi that we added in step 3 to the middle prong of the switch. Turning it on should now power the pi. SUCCESS!

STEP 6

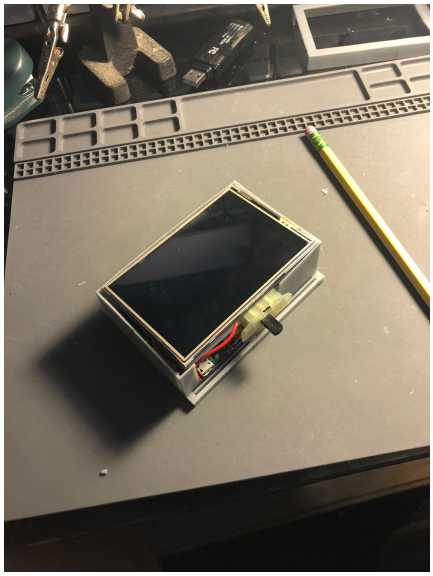


Put it together! (Ignore the case and screen in the picture right now) Theres no specific way to do this. What I did was super glue charging board on top of the LiPo battery, with the MicroUSB facing out. Then I super glued the switch to the side of the battery, and placed the whole circuit in the middle of the raspberry pi. You cannot see it, but to the left of the witch, behind the red wire is the MicroUSB charging port for reference.

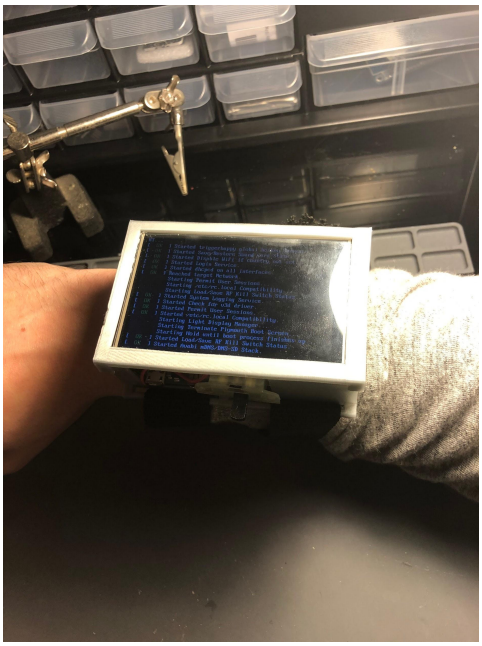
STEP 7

IGNORE THAT THE BATTERY AND SWITCH ARE OUTSIDE. Place the TFT screen on top of the circuit and battery.

STEP 8



3D print the case, and place the whole thing inside. It should fit snug. I used super glue to stick the top part of the case onto the base.

And thats it! The super compact Raspberry Pi. If you want to be able to wear it on your wrist, slide the nylon straps through the slits on the base of the case as pictured and attach the buckles. Have fun!