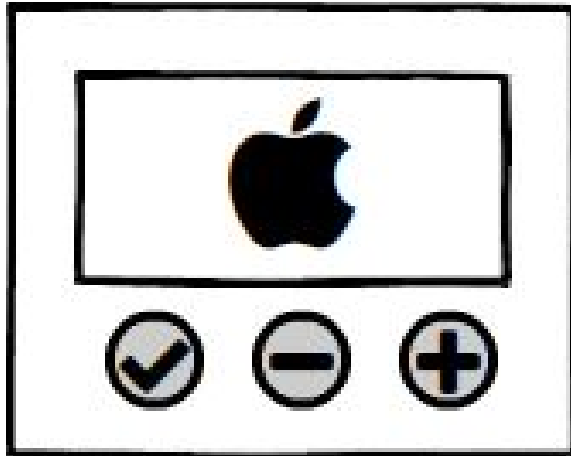


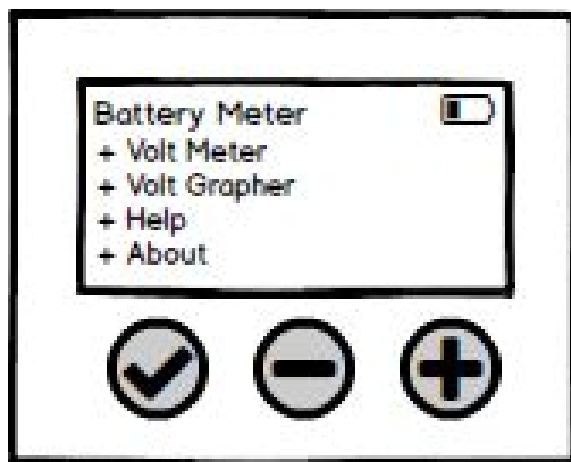
Function Development

Wireframe Storyboard



Splash Screen

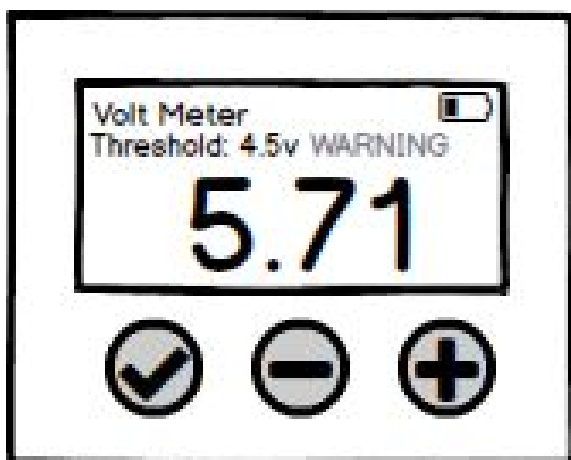
The Splash Screen is the first thing that appears when the user starts the device. It displays a preloaded graphic (HackBerry Logo) for 2 seconds and then loads the Main Menu.



Main Menu

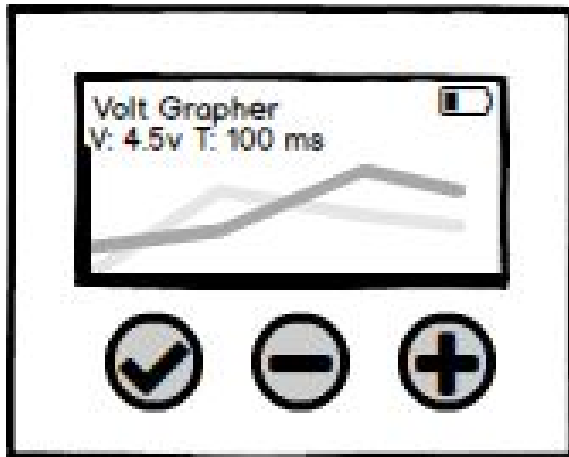
The Main Menu page shows 4 options. These options can be navigated using the + and - keys. The current option will be highlighted and can be selected using the ✓ key.

There is also a low battery status indicator in the upper right hand that is shown if the battery falls below 3.2 volts.



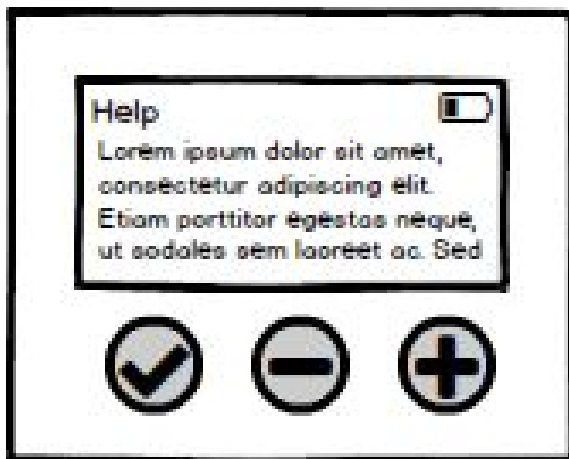
Volt Meter

The Volt Meter shows instantaneous voltage in large visible numbers. Users can set an upper threshold voltage to warn them when the input voltage exceeds a certain amount. This threshold can be increased or decreased using the + and - buttons. Pressing ✓ returns them to the Main Menu.



Volt Grapher

This function allows the user to graph drops in voltage over time. The sampling rate can be changed between 10 and 1000 milliseconds. This is adjusted using the + and - keys. Pressing ✓ returns them to the Main Menu.



Help Screen

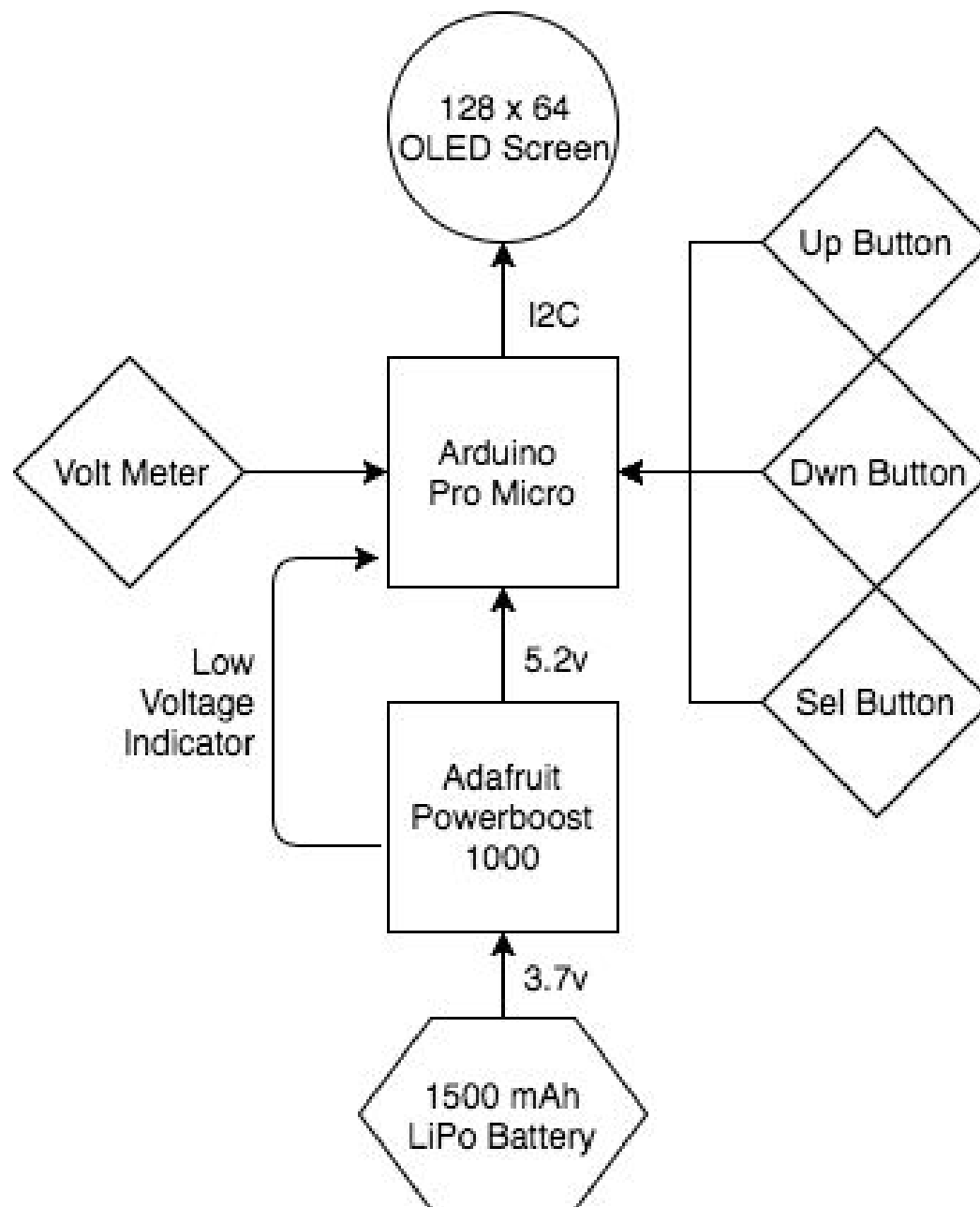
The Help Screen includes simple instructions on how to use and configure the device. Pressing ✓ returns them to the Main Menu.



About Screen

The About Screen includes information about the creator and contributors to this device.

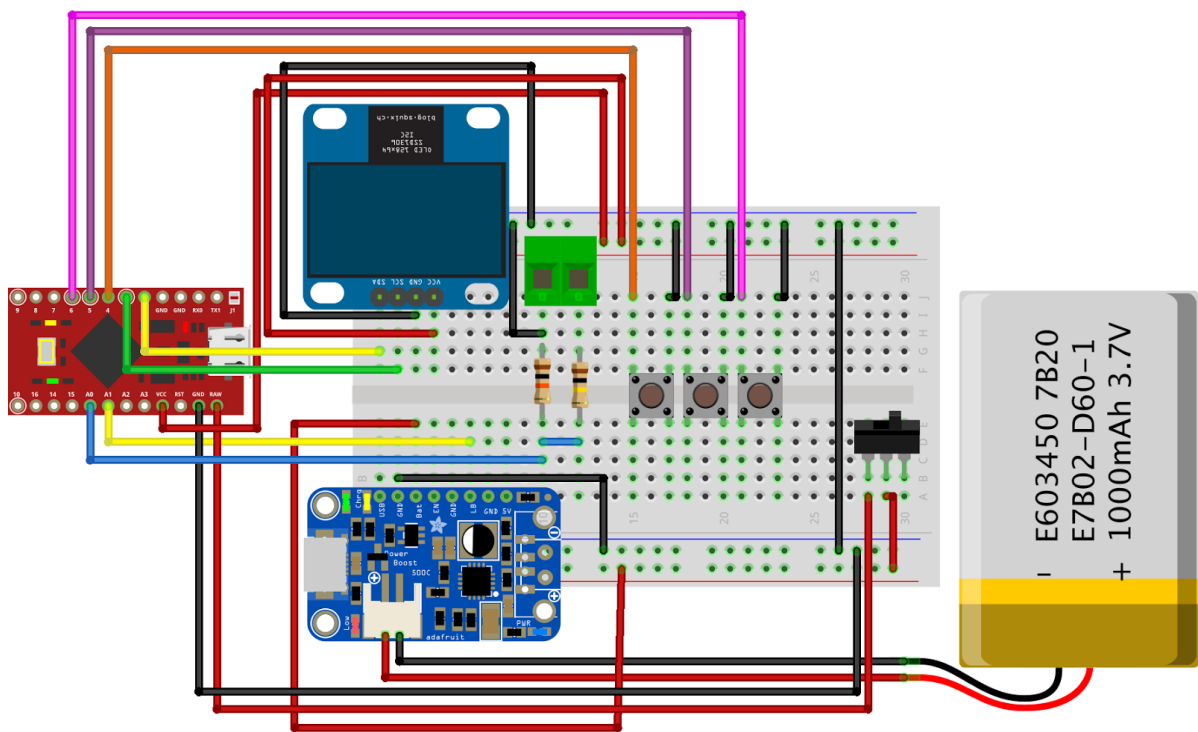
Component Sketch



Bill of Materials

Name	Source	URL	Qty.	Cost
Arduino Pro Micro	Amazon	https://goo.gl/RUa33t	1	\$8.70
.96" OLED Screen (128 x 64 pixels)	Amazon	https://goo.gl/8qjPtU	1	\$7.49
1500mAh LiPo Battery	Amazon	https://goo.gl/GCWJmg	1	\$15.57
10k Ohm Resistor	Amazon	https://goo.gl/24dCD3	1	\$2.25
100k Ohm Resistor	Amazon	https://goo.gl/sSPfm6	1	\$2.25
Adafruit PowerBoost 1000	Amazon	https://goo.gl/8chSUQ	1	\$13.97
Male Header Pins	Amazon	https://goo.gl/7xYbQV	~20	\$8.29
Screw Terminal	Amazon	https://goo.gl/hxTra3	1	\$10.37
Female/Female Jumper Wires	Amazon	https://goo.gl/2gW3dV	~10	\$7.77
Pushbuttons	Amazon	https://goo.gl/psYnoj	3	\$4.98
Power Switch	Amazon	https://goo.gl/qadtPf	1	\$5.31
Multimeter Probes	Amazon	https://goo.gl/6PojWJ	1	\$7.99
Total Cost				\$94.94

Breadboard Model



Electronic Schematic

