

Rohan's Build Plan

BlueStamp Engineering 2018

NOTE: I may plan to add all sensors on the shoe to an insole, rather than cutting into an actual shoe.

1. Milestone 1:

a. Goal: Attach GPS module to Arduino Lilypad and get data transmitting with Bluetooth

i. Steps:

1. Conduct material inventory with instructor
2. Review the unique code and functions of an Adafruit Flora (I will have looked at how to do most of this before arriving at Bluestamp)
3. Link Adafruit Flora to computer
(<https://www.arduino.cc/en/Guide/ArduinoLilyPad>)
4. Connect GPS module to Arduino Lilypad using alligator clips.
5. Code GPS module to transmit data to Serial port over USB connection
6. Have lithium ion battery read to attach to Arduino Lilypad
7. Incorporate Bluetooth into circuit and code
8. Speed should be displayed in miles per minute
 - a. Distance should be displayed in miles
9. Test sensors
10. Remove computer power source and attach lithium ion battery

2. Milestone 2:

a. Goal: Add navigation, workout, pedometer, and gps data settings by incorporating user input into the code

i. Steps:

1. Learn a LOT about how navigation systems work
2. Use the Tiny GPS ++ library to help create my navigation system
3. Code other string input functions
4. Test using USB Serial port
5. Replaced bluetooth module with a BLE one that was compatible with iPhones
6. Revise code for bugs a LOT
7. Incorporate buzzers into circuit
8. Incorporate force resistor into system
9. Trouble Shoot

10. I had written the code and setup the circuit to hold an SD card reader but the Adafruit Flora didn't have enough flash memory to hold the code to use it. Better luck next time.

3. Milestone 3:

a. Goal: Fix program bugs. Control circuit off of iPhone. Put onto shoe

i. Steps

1. Fix coding bugs
2. Solder circuit components together
3. Velcro onto shoe
4. Test out the shoe
5. Fix code
6. Project complete