

ENGI 301

Trip Wire Proposal

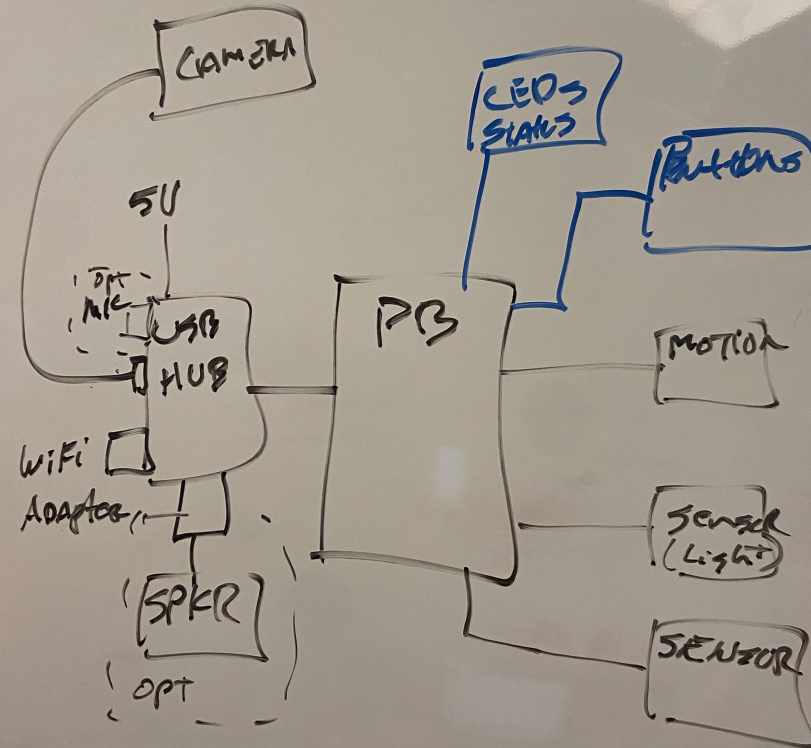
09/26/2022
Miles Sigel

Background Information

- I am proposing building out a tripwire system that will link with Twilio SMS to send me a text if someone enters my room. After completing that logic, I plan to add another sound detector to deactivate the text message if a clap is heard, in effect disabling the text message.
 - I have seen many motion sensing projects on hackster like this one <https://www.hackster.io/pb/pocketbeagle-wreath-welcomes-visitors-e568c4> which gives a good sense of how the motion sensor could work. Another example is from this hackster project <https://www.hackster.io/babs-ogunbanwo/pocketbeagle-automatic-light-switch-f0588f>
 - I worked at Twilio this past summer as an intern and would love to use their product to integrate the pocket beagle to many different applications
 - Since I have a greater experience with coding and CS topics, I want to see what I can do on the backend of the sensors to enhance my project.
 - What improvements / additions over existing project
 - The main improvements would be adding Twilio backend services as well as creating some sort of 'off' switch whether by clapping and adding a sound sensor or by some other means.
 - Additional improvements could be building a housing for such a sensor in order to keep it stable and in place. I dont have much mechanical experience so building that would be a good experience for myself.
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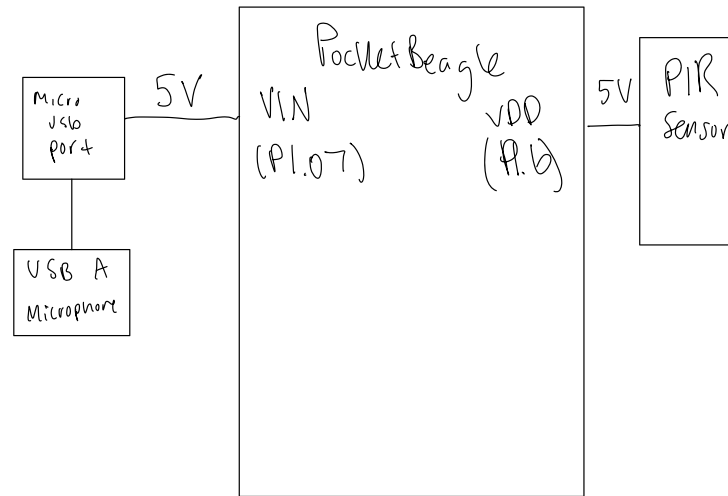
System Block Diagram

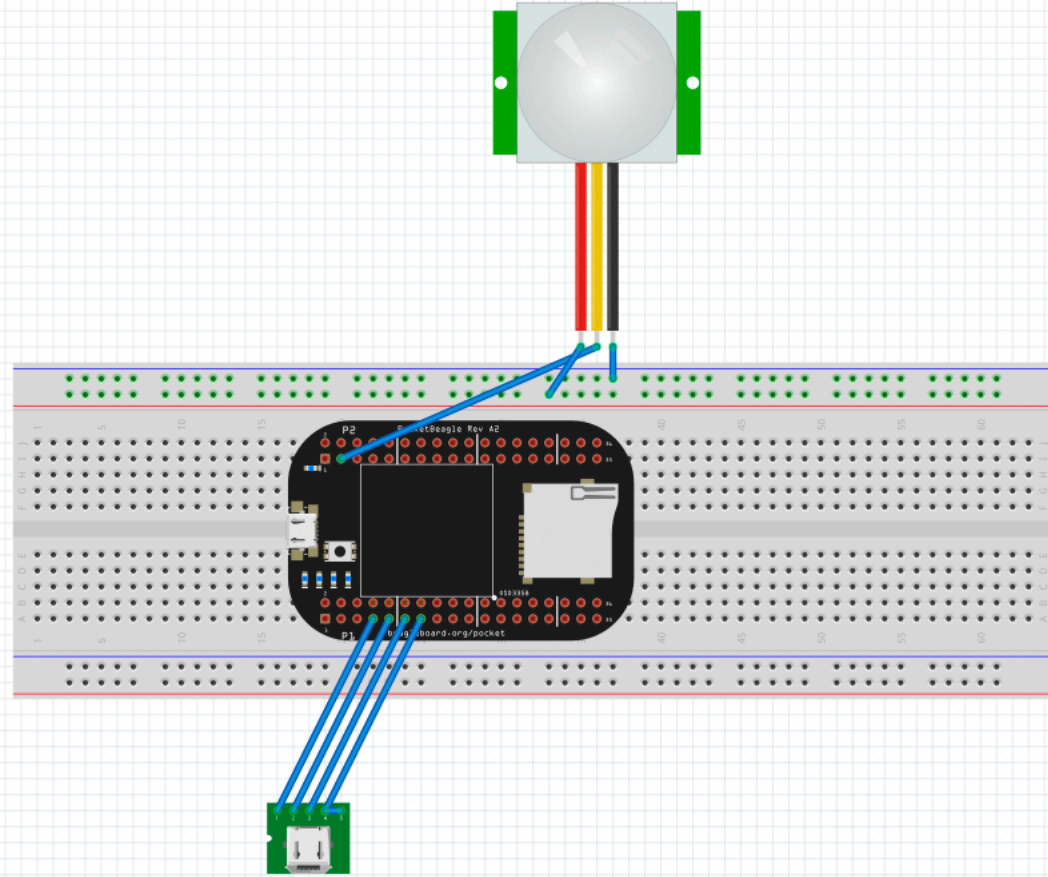
- Pretty simple block diagram
- 3 main subsystems
 - The beagle bone
 - PIR sensor
 - Usb mini microphone sound



Power Block Diagram

- Create a Power Block Diagram
 - Label voltages / currents of compo





Components / Budget

Component	Need to Buy	Cost
PIR Motion Sensor (generic)	1	10
USB Hub	1	6
Camera to plug into usb hub	1	
Wifi adapter for usb hub	1	

Need all components to be purchased by instructor listed; additional components may be purchased by student