Halloween Hackathon

Penn State IEEE
Projects 2021

Welcome!
We will be starting shortly.

Event Overview

1. Presentation
2. Prompt reveal
3. Team Brainstorming (~15 mins)
4. Build (ends at 9:30PM)
5. Awards

- Teams of 2-3 people
- Use parts in kit to fulfill prompt
- Committee will support you in whatever it is you want to make
- Have fun!

Awards and Judging

Awards

- Hallowinner (Best Overall)
- Mischief Night (Runners Up)
- Frankenstein (Use of parts)
- Spookiest (Aesthetics)
- Projects Hm  (Weirdest)

Judging Criteria

1. Use of Parts (10pts)
2. Code (7pts)
3. Aesthetics (5pts)
4. Theming (3pts)
5. Spirit (3pts)

Prizes!

Prompt Reveal

You have been contracted by Ghost Hunting Services Inc. ™ to develop a new ghost detection or capture technology. They have left the details completely up to you, as their jobs are non technical in nature. You, knowing ghosts aren't real and *desperately* needing a paycheck, decide to take the job, but **figure you can get away with something that only *looks* like it catches or detects ghosts.** They leave your shop and cheerily tell you that they'll be back at **9:30PM** to pick up whatever you make.

The pay is good, so get to work!

You don't have time to buy parts, so you look to see what you have on hand:

1. LCM1602 16x2 character display
2. SSD1306 128x64 OLED display
3. Ultrasonic Distance Sensor
4. 4-digit 8 segment display
5. Microphone Module
6. Touch Sensor Module
7. Joystick Module

You also find some other miscellaneous parts which you can't immediately identify.

You figure you can sell the con if you include at least 2 of the above components. The guys that walked in seemed to like the idea of some sort of display, or maybe some pretty lights and sounds.

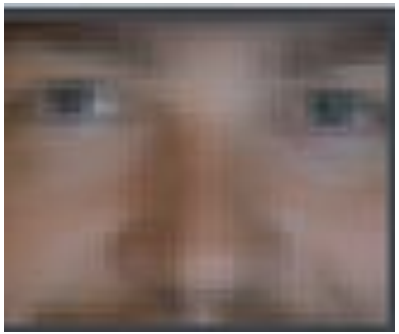
Parts List, Rules, and Tips

Base Parts

1. Arduino Uno and cable
2. Breadboard
3. Wires
4. All parts in kit

Must use at least 2 of the following:

1. LCM1602 16x2 character display
2. SSD1306 128x64 OLED display
3. Ultrasonic Distance Sensor
4. 4-digit 8 segment display
5. Microphone Module
6. Touch Sensor Module
7. Joystick Module



Parts available upon request

1. LEDs (Red, Blue, Green, Yellow, RGB combo, and Unicorn)
2. Potentiometers (Dials, Trimmers also available)
3. Switches and Buttons
4. Resistors and Capacitors
5. Additional wires and breadboards

Rules

- No parts or components may be used other than those provided by Penn State IEEE Projects Committee Members.
- Code ***may*** be copied from the internet. Do this at your peril.
- Collaboration with other teams is encouraged, but optional.

Tips

1. Google is your friend
2. Download the Arduino IDE if you don't have it yet
3. Both screens use I2C, which require use of specific pins on the Arduino. It may be a good idea one or both screens working before anything else.
4. Arduinos use a dialect of C++. If you've ever used Java, this will look familiar. See also #1.
5. The Committee is here to help!

Judging will begin in 5 minutes!