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Computer Science II - 3

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NASA Hunch Research:

Smoke and Aerosol Measurement Experiment (SAME):

- Smoke detectors that are being used in space shuttles and in the ISS are based on detectors used on Earth that detect different sizes of smoke particles
- Detectors such as fire detectors should be able to be used for long-duration missions
- SAME will test the performance of the detectors to evaluate the performance in microgravity and it will evaluate other fire detection devices on the shuttle and ISS

NASA Hunch Brainstorming Plan:

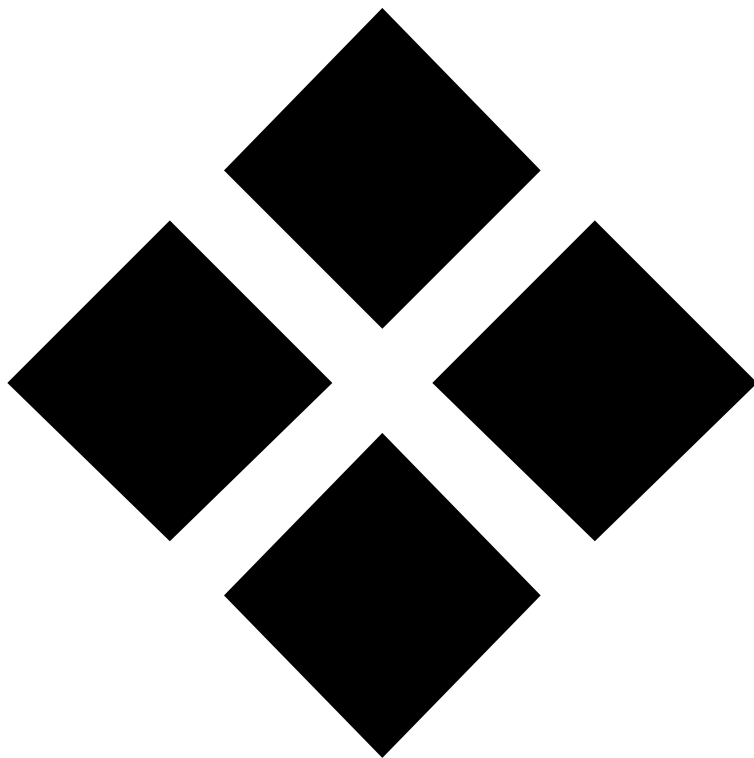
1. Construct Plan/Work Schedule/Roles using Git Hub Projects
2. Brainstorm Ideas about planning
3. Create a Full-Body Diagram
4. Make a materials list
5. Incorporate our robotics knowledge into brainstorming
6. Include Command Line Automation
7. Use our knowledge of Physics Work Energy to automate different things
8. Use our knowledge of Physics Power to know how many watts a device needs
9. Program/Construct smoke sensor
10. Program/Construct sensor controller
11. Connect the two to each other
12. Repeat for other sensors
13. Construct master controller which connects to sensor controller and sensors

Materials:

- Arduino
- ❖
- Light Sensor
- Programmable Smoke Sensor

- Oxygen Sensor
- Air Quality Sensor
- Dust Level Sensor

Smoke Alarm:



Works Cited

- NASA. "SAME | Glenn Research Center | NASA." *NASA Glenn Research Center*, 13 June 2023, <http://www1.grc.nasa.gov/space/iss-research/msg/same/>. Accessed 21 November 2023.
- Vogelman, Valentina. "Arduino Light Sensor - Circuit and Code Example." *Build Electronic Circuits*, 28 August 2023, <https://www.build-electronic-circuits.com/arduino-light-sensor/>. Accessed 21 November 2023.