**Product Vision Statement**

**Audio Surveillance System**

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In this project, we are striving to design an audio surveillance system that can be used as a suitable replacement for standard video surveillance systems. When set up in a single-room environment, it will be able to recognize the sounds that it picks up, classifying the sources of multiple sounds via Machine Learning algorithms and use time-delay of arrival collected by microphone arrays to localize the source(s) of the sounds. The system will be able to differentiate between and apply identifying labels to different sound sources within a room, displaying them with positional information in a 2-D coordinate plane accurate to each other.

**Breakdown of Work**

Visualization Software

* Caleb

Machine Learning Classification Subsystem

* Jaclyn

Telemetry Processing Subsystem

* Zak
* Jacob

Hardware Subsystem

* Jorge