Team 16 - Kiran Bisarya, Jonelle Gamble, Amanda Nelson, Evelyn Thomas, Rikki Augustine

Initial Project Description

Project Name

SIDS Monitor

Project Synopsis:

To prevent SIDS by means of keeping track of movement (rolling over), temperature, and breathing patterns, and through an application. The heart rate and sound modes could potentially be added later on.

Project Description

Sudden Infant Death Syndrome (SIDS) is the unexplained death of baby less than one year old. Thousands of babies die in the U.S. each year without any clear reason or warning signs. Although there is not a single cause of SIDS, there are many factors that can put a baby at risk for it. This project explores many major causes of SIDS, there are many factors that can put a baby at risk for it. The project explores three major causes of SIDS: suffocation from an infant rolling over onto its stomach, overheating, and respiratory infection. We will also be detecting external sound factors that can lead to SIDS, such as crying and sounds of discomfort. Programming for each of these modes will be done on the Arduino IDE software and uploaded to the Circuit Playground, a single board microcontroller containing features such as an accelerometer, a temperature sensor, and alarm, buttons. We will also be creating an app to alert parents if any of these causes are met. The app will also include a short quiz to determine any existing factors that could put the infant at risk of SIDS.

Project Milestones

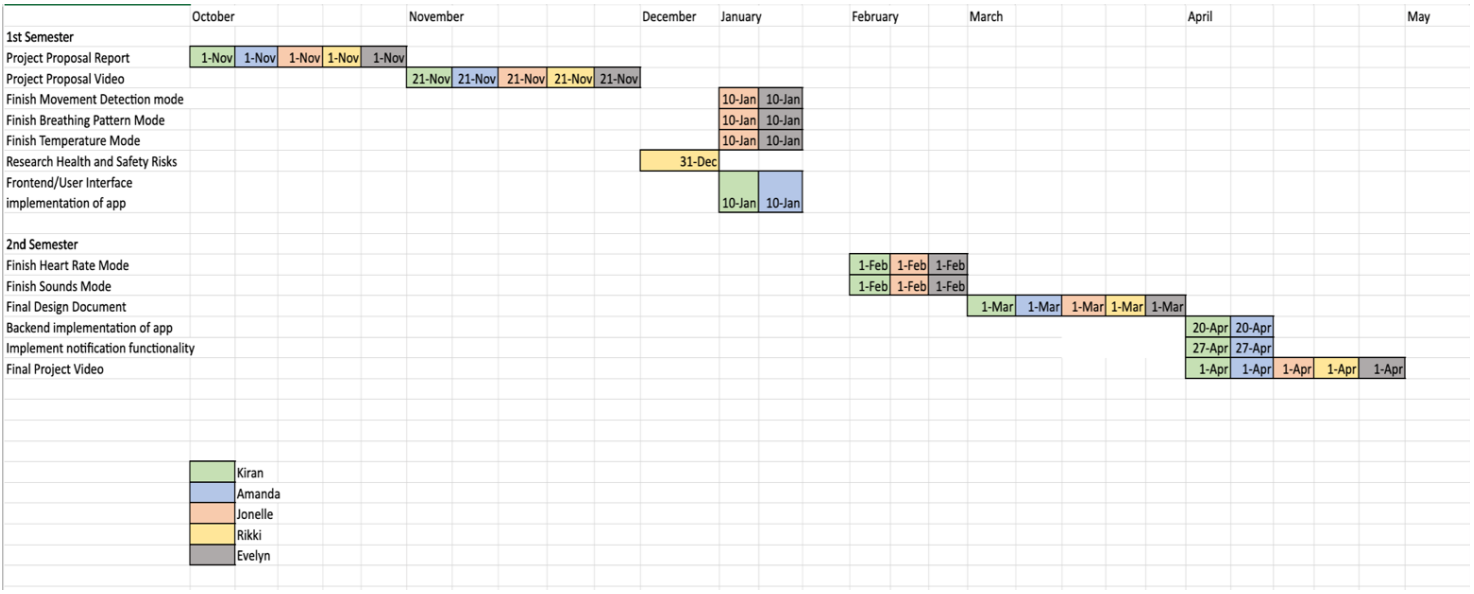
First Semester:

- Project Proposal Report (October 25)
- Project Proposal Video (November 15)
- Finish 3 Modes (movement, breathing patterns, and temperature) (January 18)
- Research safety and health risks (December 31)
- Front end/user interface implementation of application (January 10)

Second Semester:

- Final Design Document (March 1)
- Back-end implementation of application (April 20)
- Implement notification functionality (April 27)
- Finish heart Rate and Sound mode (April 1)
- Final Project Video (May 1st)

Gantt Chart



Project Budget

Circuit Playground: ~$25

Battery: ~$2-3

Vendor: https://www.adafruit.com

Required by 11/1/2021.