

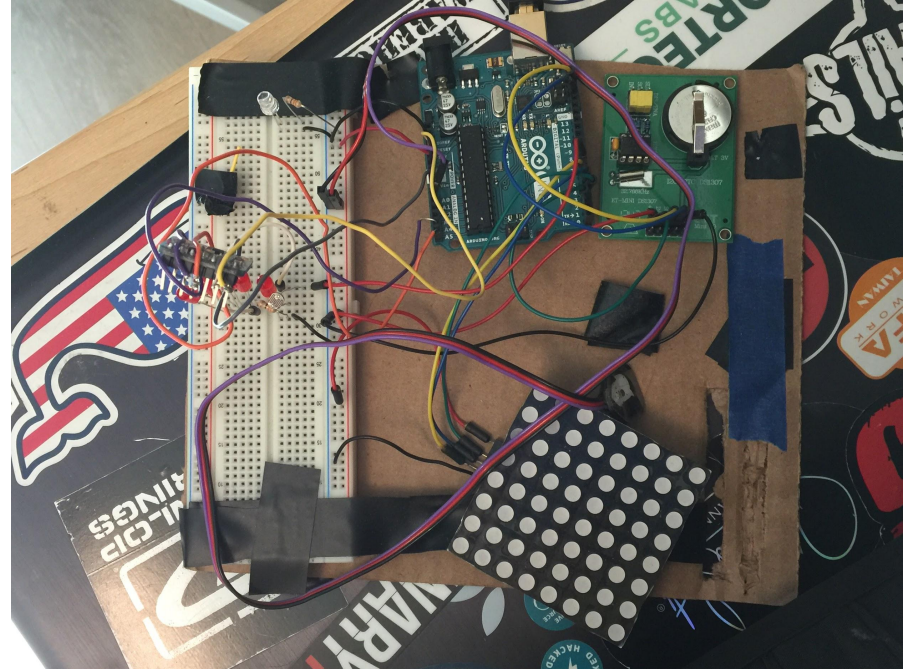
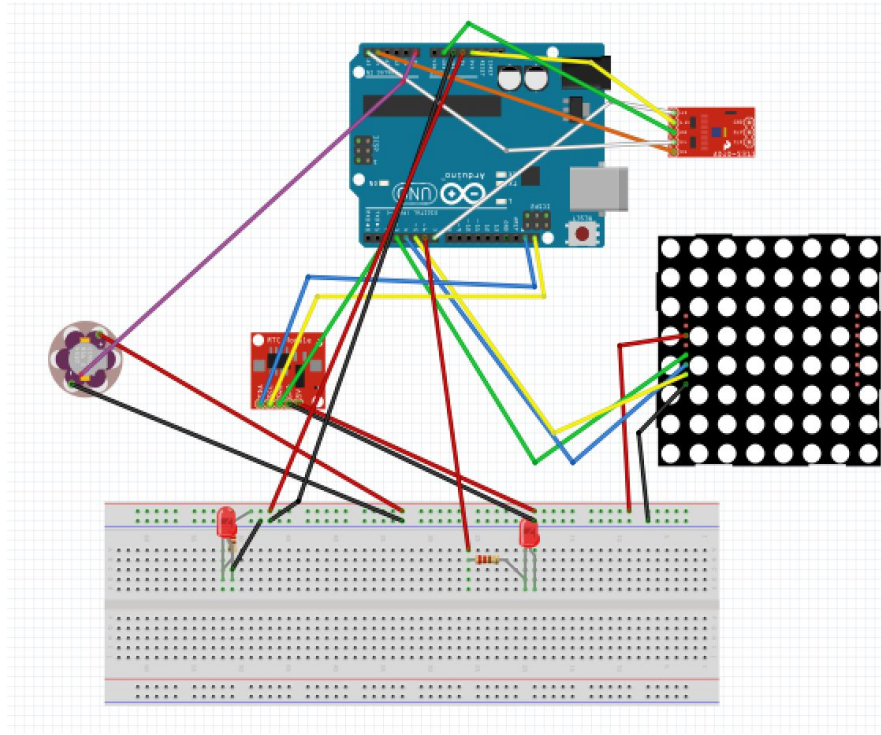
Systems Programming: Final Project

Team Classic Narqs:

Tad Miller

Danny Nsouli

Fritzing Diagram/Hardware Components



Basic Setup

- RGB LED 8X8 Matrix shows the current heart rate
- LED's flash according to the heart rate
- Environmental sensor detects the color of the environment
 - Based on highest RGB value at the time
- RTC keeps track of timestamps of sensor recordings

Protocol

- Communication between host program and Arduino Code
- Sending bytes to get required data from Arduino
- Discard invalid messages
- Messages are sent repeatedly until they get acknowledged

Computation Explanations & Database Schema

- Outlier Detections
- Time synchronization between the Arduino and host program
 - `arduino_clock_sync`
- Build sensor reading pairs
- Database schema
 - `SensorData(pk: integer, time: integer, rate: integer, env:text)`

Commands:

- Date
- Env
- Exit
- Hist X
- Pause
- Rate
- Regression
- Reset
- Resume
- Show X
- Stat X

State Diagram

