

# **CS 171 Project Proposal**

## **by Vladimir Bok and Tarik Adnan Moon**

### **Project Background**

Our goal for the final project is to work with Rest Devices (<http://mimobaby.com/>), an early-stage startup that developed the Mimo Baby Monitor, a onesie-based infant monitor that monitors a baby's respiration, body position, skin temperature, audio, and activity level. It connects via WiFi and pushes the information to a smartphone app so that parents can view their baby's information at their convenience in real time.

### **Reasoning**

There is a number of reasons we believe working with Rest Devices would make a great final project in data visualization. First, the Mimo Monitor collects unique data points. The device tracks changes in respiration, temperature, if a baby rolls onto its stomach, and whether the baby is awake or asleep. It will be an interesting challenge to come up with suitable and informative visualizations based on this unique, dynamic data set. Second, providing compelling and informative visualizations is crucial to the success of the company. Rest Devices operate in a very sensitive area of parenthood and watching over a baby. As the Co-Founder and CEO, Dulcie Madden, pointed out, it is very important the data is presented so that it informs but, at the same time, does not cause unnecessary alarm or confusion. This raises a number of interesting design challenges we could tackle in our visualization.

### **Proposed Implementation**

The company provides its users with a basic mobile application that contains basic data visualizations based on the data. We propose to build a prototype of an accompanying web-based visualization dashboard that would leverage the unique capabilities of D3.js on a significantly larger screen real estate that the present products offers. In lieu of an actual baby (don't have 9 months for the project---just kidding!), we plan to build a lightweight server in Python Flask that would mimic the real world data. This approach will also provide the benefit of obtaining pre-determined responses for the purposes of our visualization.

### **Progress to Date**

- Initiated negotiations with Rest Devices founders and obtained preliminary interest in working together.
- Completed basic research on what technologies to use on the back-end (Python Flask (<http://flask.pocoo.org/>) appears to be the most suitable for our needs).