Latch 2: Former Apple employees building a new product - Team 2

Overview
The problem that Latch 2 was tasked with was to build an interface between the Latch Lens and the third party AXIS door controller for an enterprise application of the Latch companies product. The main challenge that the team had along the way were how to allow the Latch device and the Axis controller to communicate correctly by translating between their two different methods of communication. Some other challenges that were involved with this project were modeling the input given by the Latch device and correctly reading and researching the documentation for both the Latch lens and the Axis controller.

Objectives
- Understanding 3rd party door controller (AXIS)
- Understanding hardware for prototyping (Latch HS, Arduino, MBED 1768)
  - Building the prototype of the hardware system
- Creating an API flow for the system we created
  - Write pseudocode for the flow using their existing APIs
- Building the functionality for Latch Home System to communicate (API calls and local data store) with Axis door controller
  - Building the C program to communicate with Axis door controller
  - Building the JSON parser to encode API messages and decode the return attributes

Approach
- Through a series of two week scrum sprints, the teams tackled controller, API, and documentation
- Weekly calls with the Latch representative Travis ensured that the work was aligned with the team
- A sponsor visit to New York City was a good way to kick off project work and learn about the product
- Prototypes were created for the Wiegand to I2C Interpreter with an Arduino Mega and MBED 1768
- Testing was done with microcontroller to console printouts to validate the outputs in I2C format
- Various testing methods along to way were recorded such as event logging and Axis request piping

Outcomes
- The sponsor will be able to jump start work on their enterprise product line
- Research and development time on the enterprise side will be cut down considerably
- The interpreter will help the existing Latch and Axis components work together
- Documentation will be part of the Latch knowledge repository