**Team 6 Project Charter**

**Mailbox Sensor**

**Team Members**: Dhairya Doshi, Isaac Lepow, Andrew Lonsway, Nick Nevius, Zixuan Song, Saisimha Thippasani

**Project Statement:**

Based on the project description provided by the website, we plan to follow this idea: “The highlight of the day for many of us senior citizens is when the mail arrives. We look out at the mailbox and try to watch for the mailman. But many times we just walk to the mailbox, open it, and see if there is some mail there. This wastes a lot of our (rapidly diminishing) time and energy. It would be nice if there were some sort of sensor in the mailbox to detect when mail arrives and then to inform the senior citizen via his computer, phone, or some other device.” (CS 307 website)

Apart from being a convenience tool for senior citizens, the mailbox sensor will be part of a fully automated home management platform which is soon becoming a reality. Our projects aims to develop a server capable of connecting and managing various automated home appliances and a front end that can provide users with the tools and statuses of various devices.

**Project Objectives:**

1. Build/use a sensor hardware that can detect opening and closing of mailbox
2. Connect the sensor to an onsite device that recognizes the signal and sends information to the user device(s)
3. Develop a server in onsite device to receive all signals and process it for user device(s)
4. Develop a desktop app that will receive this information and process it for the front end
5. Develop an easy-to-use user interface for the desktop app that will display the user with the latest information and also allow them to receive notifications based on their preferences.
6. Time permitting: A mobile application which will provide the information to the users
7. Time permitting: Extending the sensor and server to other places like doors, windows, and also connecting already existing automated devices into one app.

**Stakeholders:**

* **Users**: Elderly, non-technologically involved senior citizens which might be extended to common people based on how extensively our user app can be developed
* **Developers**: Dhairya Doshi, Isaac Lepow, Andrew Lonsway, Nick Nevius, Zixuan Song, Saisimha Thippasani
* **Project Master**: Andrew Lonsway (will be switched between team members during the semester)
* **Project Owner**: Dhairya Doshi, Isaac Lepow, Andrew Lonsway, Nick Nevius, Zixuan Song, Saisimha Thippasani

**Deliverables:**

* Raspberry Pi attached to a light sensor and wireless dongle, running a server in Node.js. It would accept any requests from clients and report the time since it was last opened.
* A simple-to-use application, which will be running as a background progress and will notify the user when it connects to the server. It will be a low-intensity program that will only save the address used to connect to the Pi. Most likely in Java.
* Time permitting: A mobile app that displays the information and also connects and manages other automated devices.