Project Milestone Report 1/27

Major Changes:
Currently, there has not been major changes to the goals and implementations of the project since the end of 15300. However, Professor Kang and I have decided to focus on building a monitor to track the runtime interactions of IoT devices on the Samsung Smartthings Platform instead of the IFTTT we have proposed in the last milestone report, due to the platform’s accessibility and the ability to virtually simulate IoT device systems.

Accomplished Since End of 15300:
For the past two weeks since the beginning of the semester, I have been playing around with Samsung Smartthings Platform’s IDE and the Groovy language the platform uses to be familiar with the developing environment that I will use to build the monitor. During the last two weeks, I was able to create a simple Smartapp of a light bulb switch and a simple device handler for light bulb communicating between Smartapps and actual device.

Meeting Milestone:
In my project report, I have set my first milestone for 15400 to be deciding on the range of IoT devices and interactions to study on and how we are going to perform the study. The milestone is completed as Professor Kang and I have decided on studying Samsung Smartthings Smartapps, and we decided to build a monitor for the smartapp interactions at runtime as discussed in the project overview on the platform.

Surprises: No major surprises yet

Looking Ahead and Revision on Milestones: After familiarizing with Samsung Smartthings Platform, the next step would be working towards in building a monitor that is able to log the runtime interactions between devices of a Samsung Smartapp system. Then, the goal would be setting up metrics in deciding the anomalous interactions from the logs in the monitor. To achieve this, I have updated my next couple milestones below:

February 10th : Complete a basic monitor smartapp that is able to log the interactions in the system.
February 24th : Complete the metrics/security rules in deciding the anomalous interactions
March 16th : Complete all the systems and interaction of interest for testing, adjust our monitor app accordingly.
March 30th : Finish testing and analyzing results
April and beyond: Working on an infrastructure that is able to interfere/handle anomalous interactions of a system once detected at runtime.

Resources Needed: Currently I have all the resources needed, I still need to familiarize myself more with the monitoring and logging methods the Samsung Smartthings Platform offers.