Project Milestone Report 2/25

**Major Changes:**

So far there are no major changes for the project as Professor Kang and I are still finishing up the monitor device and smart app required for the runtime security checking.

**Accomplished Since Last Milestone:**

Since the last milestone, I have completed a device handler for the monitor that is able to keep track of all the events that change states of the IoT devices in the environment. We added the monitor device to each smartapp within a system to keep track of the interactions of the smart apps and its corresponding devices. When an event is sent to change the states of the devices such as turning a light on, the event will also be sent to the monitor with a formatted description. After modifying the base code for the monitor from github, we are able to request for the monitor information and all the other device information in the system from the Samsung Smartapp API and perform analysis on it. Currently, there are still changes to the github base code that need to be completed to send HTTP requests for accessing API information. After the completion, we will look into analyzing the interaction with the data in the monitor.

**Meeting Milestone:**

I am a little behind my milestone of completing a working demo for the entire runtime monitoring system due to there are more modifications needed for the github base code than I expected. One reason for that is because the code is using some expired functions and old api library from Smartthings due to it was written in 2015. However, we already have a rough idea in how to analyze the interaction from the monitor data and it should be straight forward from there after completion of the infrastructure, which will help me to get back on track to my milestones. The most pressing issue currently is to finish the infrastructure that is needed to do the analysis, which I will aim to finish by next milestone along with setting up metrics for analyzing the
interactions from the monitor data. I will decide my future milestone after seeing the results of my analysis, which I will update in my next milestone report after completing the infrastructure.

**March 16th**: Finish implementing the monitor infrastructure, and deciding the metrics and environments we want to track, adjust our monitor accordingly.

**Resources Needed:**

The base code for HTTP request to get information from our Samsung Smartthings API heavily utilizes google’s request_oauthlib library, which I need to learn more about to complete the modification needed for our infrastructure.