**LIBRARY SPACE AVAILABILITY**

Group 20

Journal 8: March 8 - March 15

**Anjali Shah 100555990**

**Angelie Kennedy 100506702**

**Mohammed Maaz Ahmed 100522349**

**Carlos Fabregas 100572307**

**Summary of Group Meetings**

Due to group members having midterms this week we were not able to have a meeting.

**Definition of Goals**

The initial goal is to create a system for optimizing library space usage by monitoring capacity throughout the day and making this information available to students looking for study space.

The library’s stakeholders required that we monitor unattended belongings to update security when a table has been empty, but claimed by belongings for more than 30 minutes without a student actually sitting and using the space.

Furthermore, the library also requires that student’s privacy is respected and not compromised in any form by this system.

**Refining Goals into Achievable Actions**

We have decided to accomplish our goal by creating a system of sensors that monitor the usage of library study spaces. The sensors will include a roof mounted camera and infrared sensors. This information will then be updated and processed by the server to determine which seats are available, contain unattended belongings, or currently in use. This refined data will then be uploaded to a website which will display to students how much seating is available on each floor of the library and have a separate page for admin, that will also display which tables have unattended belongings and allow for changes of various information such as library hours and floor plans.

Previous week’s goals are:

· Connect the IBM IOT platform to Firebase

· Start setting up Tensor Flow and Open CV

· Have the user and administration pages created

· Determine how we will mount the final prototype to roof for testing and future use

· Set date for meeting with stakeholders to present prototype in a future week

· Take pictures of existing tables in library to use for image processing

This week’s goals are:

· Connect the Pi to Firebase through MQTT protocol

· Complete setting up Tensor Flow and Open CV

· connect sensortag to the IBM IOT platform so data can be sent to database

**Delegation of Actions**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Task | Days | Start | Finish | Progress | Team Member |
| Create user and Administrative login pages and connect firebase API | 7 | 2/18/2019 | 2/25/2019 | Completed | Carlos |
| Determine Open CV and Tensor Flow models that will be required to detect humans and objects using Raspberry Pi Camera. | 7 | 2/18/2019 | 2/25/2019 | Completed | Maaz |
| Create Open CV and Tensor Flow models to detect humans and objects using raspberry Pi Camera | 7 | 3/15/2019 | 3/22/2019 | In-Progress | Carlos Maaz |
| Work On the SensorTag CC3200 Wireless MCU | 5 | 3/15/2019 | 3/19/2019 | In-Progress | Anjali  Angelie |
| Complete the connection between Sensor and Database | 3 | 3/19/2019 | 2/21/2019 | In-Progress | Anjali  Angelie |

**Review of Actions**

This week Angelie and Anjali were able to connect the IBM IOT platform to the Firebase database. Angelie and Anjali are also working on connecting the sensor to the IBM IOT platform. Carlos finished the user and administrative login pages and connected them with firebase API. Maaz and Carlos are continuing to work on connecting open CV and Tensor Flow. They agreed to use Docker as a container to help complete this task and allow it to be easily shared across many devices.