Spike Plan

Name: Firebase-JohnnyFive

Context:

For this spike, Firebase and JohnnyFIve are used. Firebase is a web application platform that acts as a third party platform to store data that are sent from from Arduino board which consist of LED function and motion function. For this spike, only the motion function is used. This spike is separated into a few different files due to the compulsory codes that are needed in order to link Firebase with the server and client side. Johnny Five is used as the communication platform between the server and Arduino board. The important files that are used in this spike are server.js, Index.html and firebaseWebAPI.js. Index.html is the interface of the client side. Server.js is the server side where most of the functions are perform in it. firebaseWebAPI.js is a file to update the value of the client side when there are new data being pushed in the Firebase. There are 3 features in this spike which will be tested. One of the features is server will read data from the motion sensor of the board and print the motion data with the timestamp of the server on the console. The server will send the motion data to the client through Firebase and the client will retrieve the data from Firebase and display the motion data including motions status, the timestamp of the server and time taken for data to travel from server to client which labeled as response time.

Gap:

For this spike, the data are stored in the third party platform. This helps us to know our history results which provide us information of the difference of the test results after big changes in the code.

Goal:

- Verify the requirements in order to use firebase platform
- Understand firebase library
- Check the complexity of maintaining database in the firebase
- Check the response time for data sent from server to client

Planned start date: 18/4/2017

Deadline: 23/4/2017

Planning notes:

For firebase, we check the requirements for this spike which help us to understand the requirement of the code and help us to implement the features easily. The design was used from the previous spike. We checked the similarity of the code structure with the other spike. Once we have understood the requirements, we study the firebase library to know the syntax and the

function to implement the features. We also plan what risk can we reduce in the code structure to make the program run more efficient. We shared the same workspace and the work was done together through Github.