Name: Himaddri Roy

Roll: 1606002

Title of the project:

Mobile Manipulator for Automating Delivery of Essentials in a Hospital.

Objective of the project:

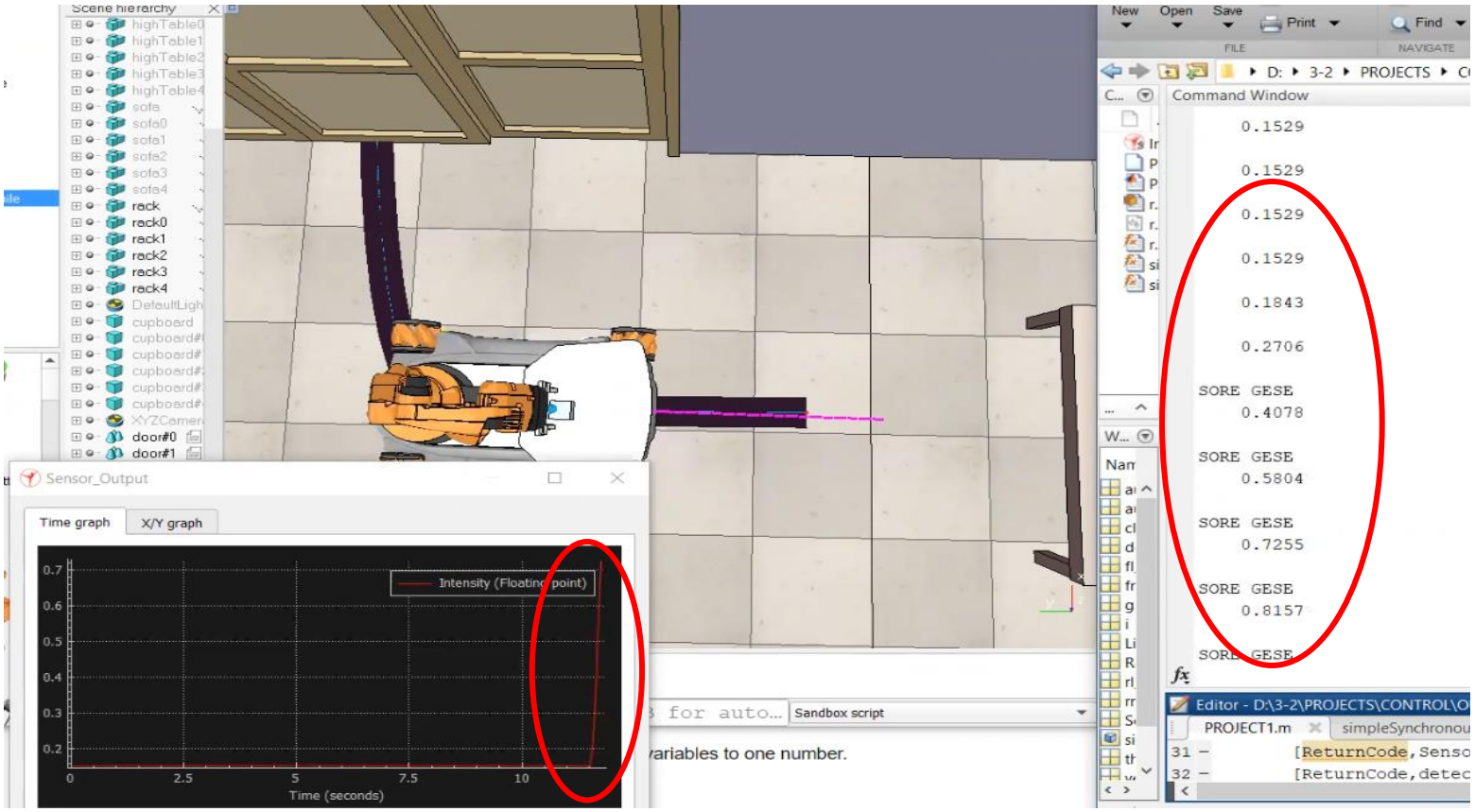
We want to build a **mobile manipulating system** *to collect food and medicines from the dispatch center and deliver them to the hospital cabins*. The robot model will be demonstrated in a simulated hospital environment inside the CoppeliaSim software and controlled via a remote API on MATLAB.

My contributions:

As all the scripts in CoppeliaSim is written in LUA (a special programming language), which is quite difficult for us to understand, *I am currently trying to write all the coding scripts and commands in MATLAB* to handle the robot, wheels and necessary sensors.

- I have already setup a remote API connection with MATLAB so that I can give command from MATLAB to the robot in CoppeliaSim and access the sensor outputs from the environment.

- I have also embedded a vision sensor and an intensity value graph to the mobile bot to track the correct black colored path. When the bot is on the black path, the average intensity value found from the vision sensor is approximately **0.153**. When bot deviates from the track to the white floor, it shows value of approximately **0.8**. Therefore, when the bot is not following the track there is a sharp change in intensity value as shown in figure.



- So based on the intensity value, I have set a threshold to operate the line tracking algorithm. When the sensor intensity deviates from the threshold, the algorithm runs automatically and bring back the bot to the right track.