



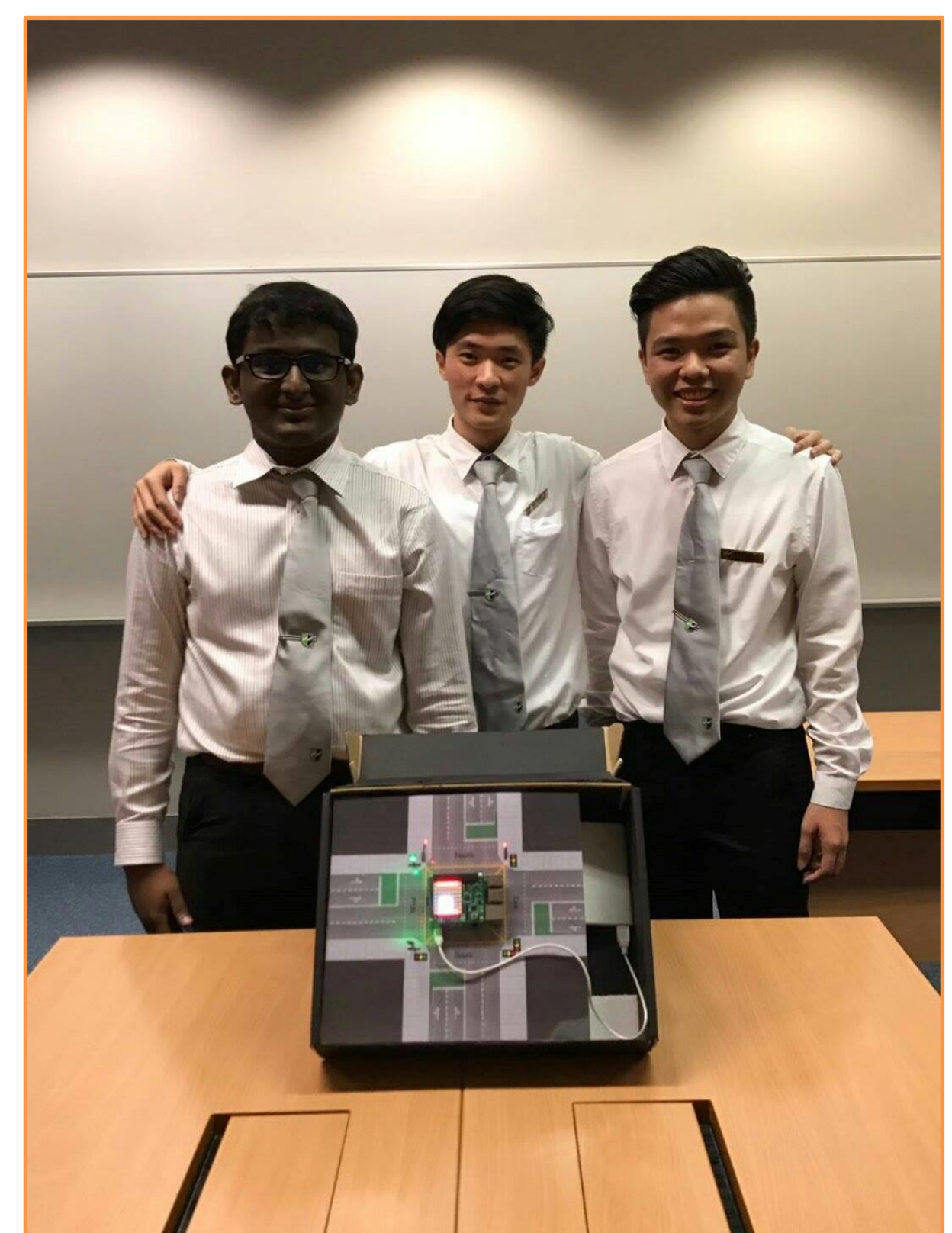
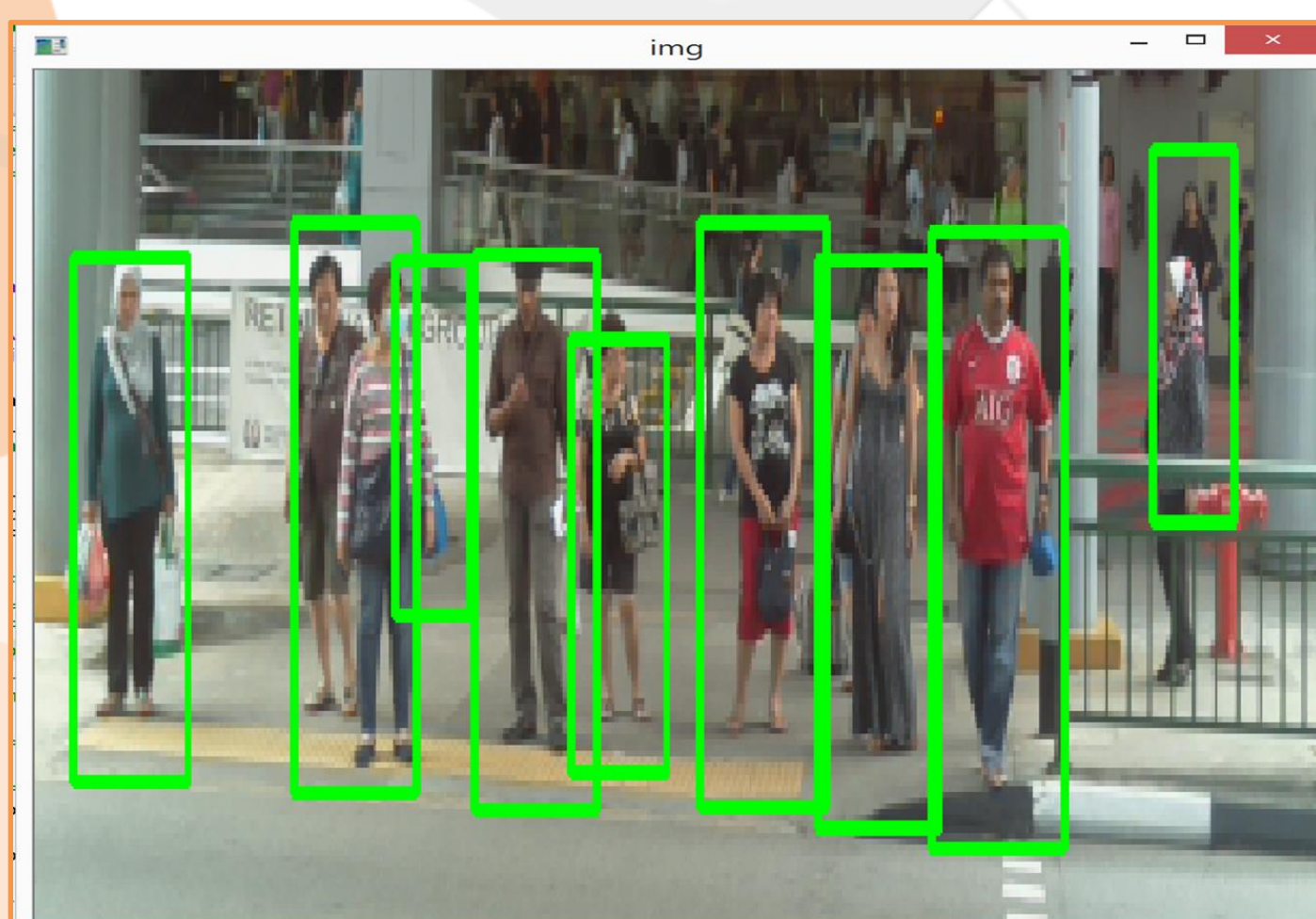
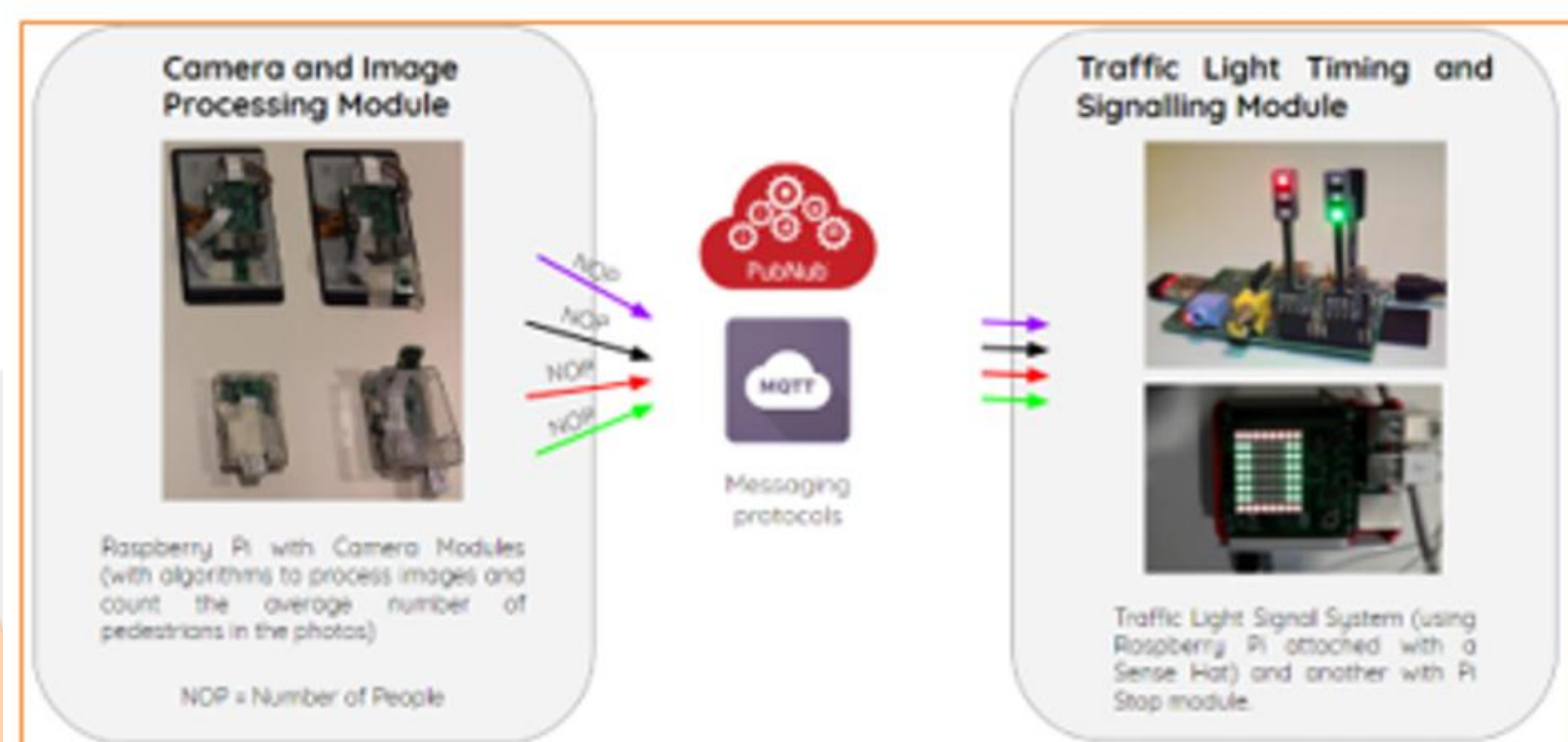
Responsive Traffic Lights

Project Overview

Problem: At traffic junctions, there are situations where insufficient time was provided for pedestrians to cross to the other side of the road. Existing traffic light timings are fixed and are not responsive to actual road conditions. This increases the likelihood of pedestrians jaywalking which results in safety issues for all road users.

Solution: The student team prototyped a traffic system that counts the number of pedestrians at a traffic light junction and use the data to influence suitable traffic light timings in real-time. Camera modules constructed from Raspberry Pi accessories are used to capture images of pedestrians waiting to cross a junction. Using AI and OpenCV libraries, the images are analysed to estimate the number of people in real time which is immediately published to the signalling module to adjust the cycle timing for the red/amber/green lights. The project represented RP in the final selection for the Lee Hsien Loong Interactive Digital Media (IDM) Smart Nation Award.

Technologies: Python, OpenCV, PubNub, Raspberry Pi, SenseHat, Pi-Stop



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