

Crowd Controlling Gate

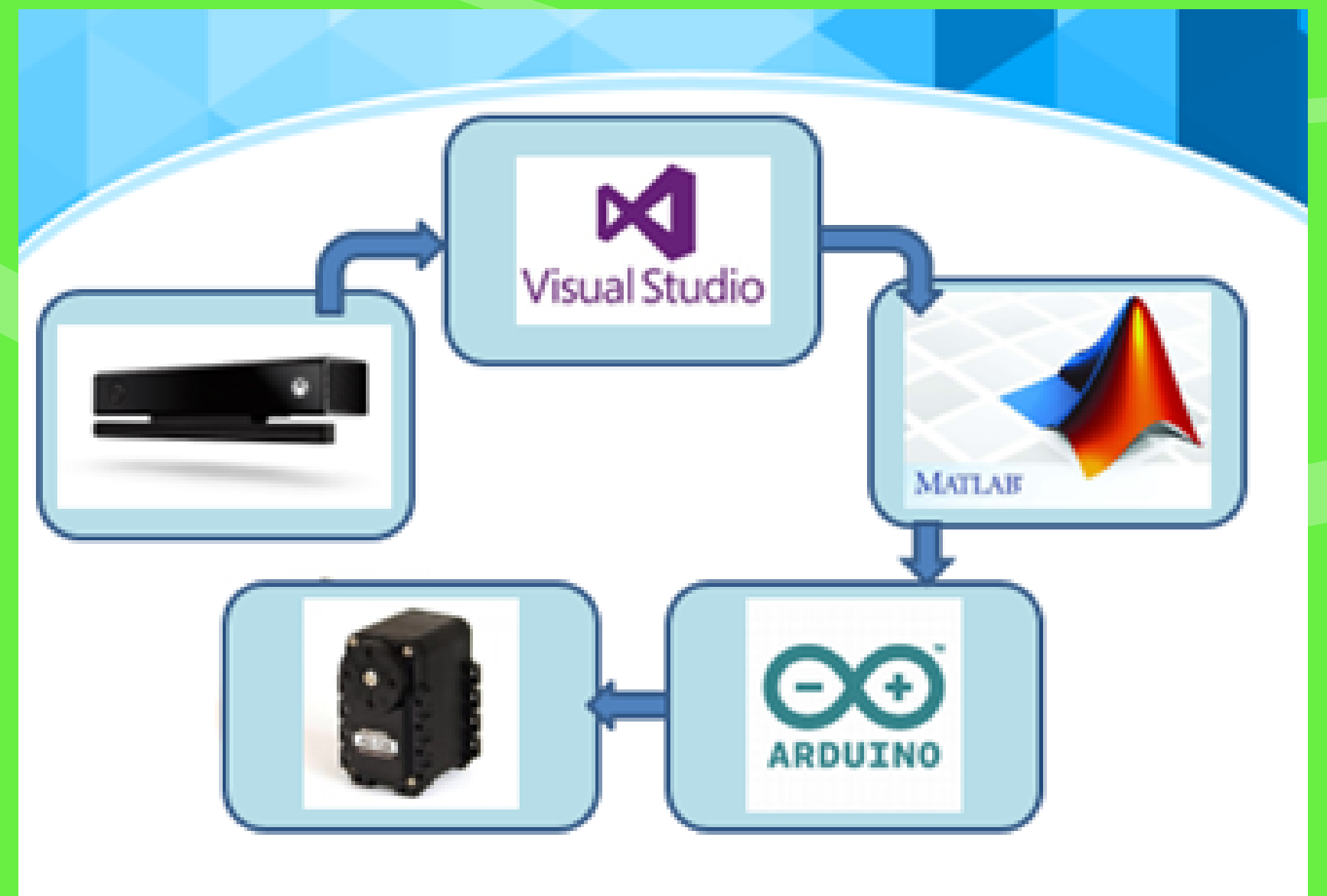
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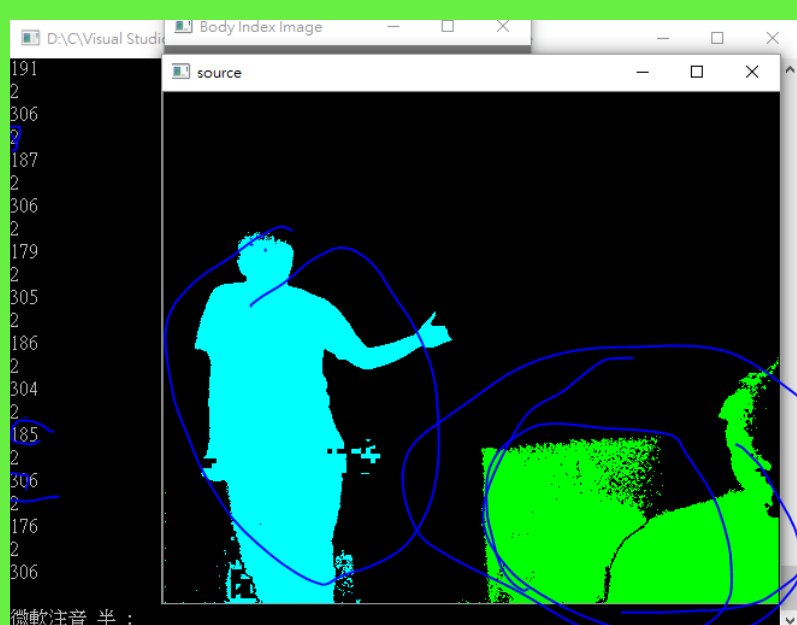
Abstract

Global population is getting higher and higher. There is a close relationship between the population and consuming behavior. The higher population directly leads to consuming behavior increase. In physical stores, queuing is a common situation. No matter going to check out or entering the store, we need to queue first. In our project we hope under different queuing situations, the different crowd-controlling gate will be opened. We use Kinect V2 to deal with image processing. Next, after series data calculation, send the number of people to Arduino Uno. It will judge and send the instructions to servo, Dynamixel Ax-12A. In future, we hope crowd-controlling gates will be used in MRT or concerts. It will not only open gates, but also be able to figure out the best way to evacuate people.

System



Vision



BodyIndex



Kinect 2.0

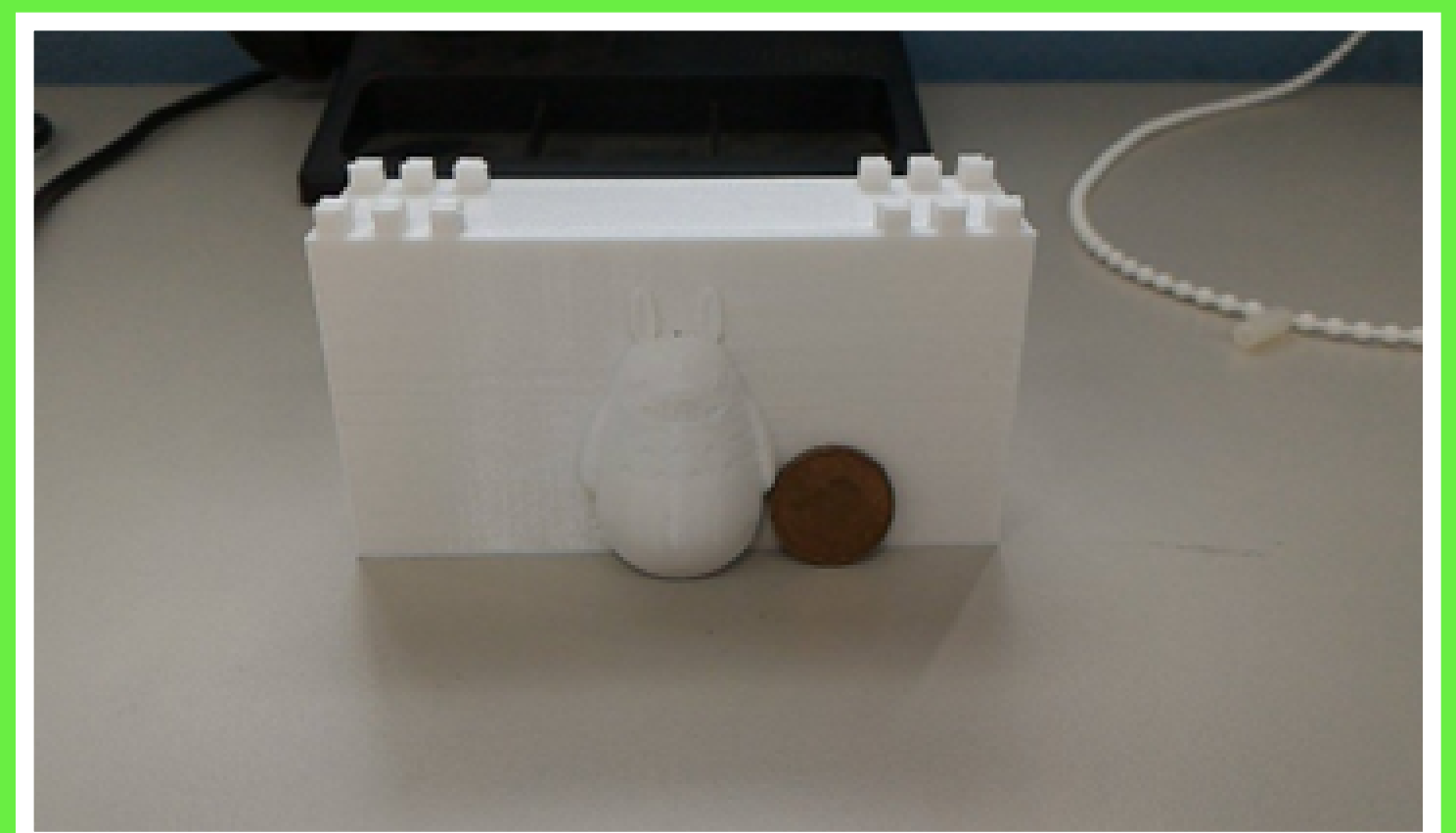


Contour

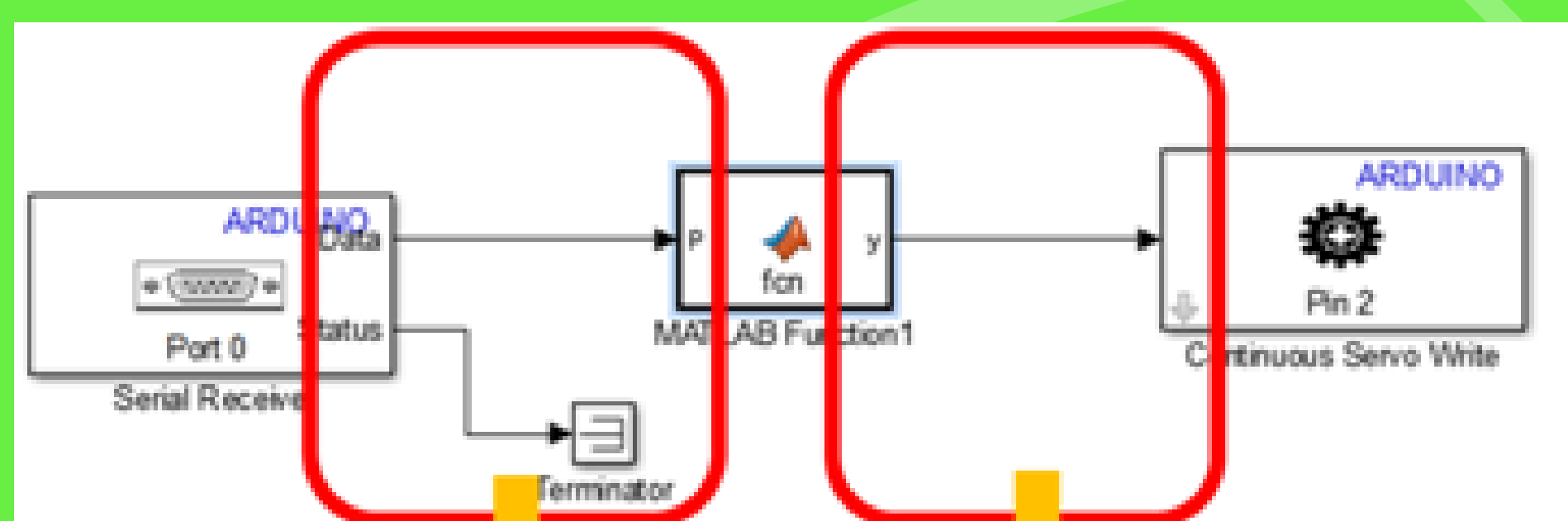
Image Processing

- Kinect SDK 2
- OpenCV
- Body Index:
- Processing the data from depth sensor we can get the information for each pixel which tell us if there is any people or not .
- The data will be store in index

Result



Motor



Input : P
Check the status of data

Output :
y(instruction packet)

Future

We still learn a lot of things while doing it.
This is what we wish to finish in the future.

- Use in train station or MRT
- Concert or Club
- Not Just open gates ,it will be able to cauculate the best way to evacuate people.
- Or even we can use smartphone' s App to push notification.
- With GPS it can show you how to exit, and even estimate the time it take.