



UNIVERSITY OF
PLYMOUTH

NSBM Green University

Faculty of Computing

<Traffic Controller>

PUSL2022 & Introduction to IOT

Isuru Sri Sir , Aththanayaka Sir

Project Proposal

Proposers

*Please mention the team leader in the table below

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Turnitin Report

The screenshot shows a web browser window displaying the Turnitin submission interface for a University of Plymouth course. The browser's address bar shows the URL: dle.plymouth.ac.uk/mod/assign/view.php?id=366586&action=view. The page header includes the University of Plymouth logo and navigation links: Tools & Resources, Library, and Help. The user's name, Goniymalimage Aponsu, is visible in the top right corner.

The main content area displays the submission details for a file named "lot project proposal.docx" submitted on 6 October 2022, 10:42 AM. The submission status is "Submitted for grading", and the grading status is "Not marked". The due date is "Monday, 3 January 2050, 12:00 AM", and the time remaining is "27 years 95 days". The last modified date is "Thursday, 6 October 2022, 10:42 AM".

The file submissions section shows the file "lot project proposal.docx" with a Turnitin ID of 186556558 and a 0% similarity score. The submission comments section shows "Comments (0)".

At the bottom of the submission details, there is an "Edit submission" button and a note: "If you click the 'edit submission' button after the deadline your submission will be recorded as late."

The left sidebar contains navigation links for the course: BSc (Hons) Software Engineering (4872), Participants, Dashboard, Site home, and Calendar. The "My courses" section lists several courses, including BSc (Hons) Software Engineering (4872), PUSL2024 Software Engineering 2 (22/AU/M), PUSL2023 Mobile App Development (22/SP/M), and PUSL2022 Introduction to IOT (22/AY/AU/M).

Problem statement

Describe what your problem is. [Half a page content]

Nowadays due to an increase in population number there are a lot of vehicles present all over the world. As days go by, traffic congestion is becoming more and more serious each day. In Sri Lanka the existing traffic system hasn't been updated or modified a long time ago. Because of that these systems encounter many limitations and this causes heavy traffic jams, no traffic but the pedestrians still need to wait, red light for an empty road etc. So, our problem is that we see there is no long line, but the green light has been lit for a long time even though the traffic jam is not there. This also causes a huge traffic jam.

We are planning to develop a system to control the traffic jam .So what we have recognized is in our day to day life traffic is something very common sometimes it will be a very affective to the daily duties .we have recognized that there are situations where the green light is on even the traffic jam is not there.

Project description

Describe what you are planning to develop [Half a page content]

So by identifying this problem of traffic control we will be able to reduce the unwanted traffic jam .So if we describe the project what we are planning to do is we are going to take an image through an image processing device and send it to the cloud database and it may be unwanted pictures will store in the database and we are planning to delete every pic after database stored 10 pics. Then the unwanted storage will be reduce .and then we are processing the image that we captured through the use of image processing by using that we can get an idea of traffic density.then we can come up to a decision where we can increase the time period of green light.we are planning to connect the light and the system .So simply when we identify the traffic density is high then we increase the time duration of green light .and if the traffic density is normal then we don't make any change to the current time period of green light duration. We keep the green light time duration as usual.

Project keywords

Related areas [Five keywords]

Traffic

Transport

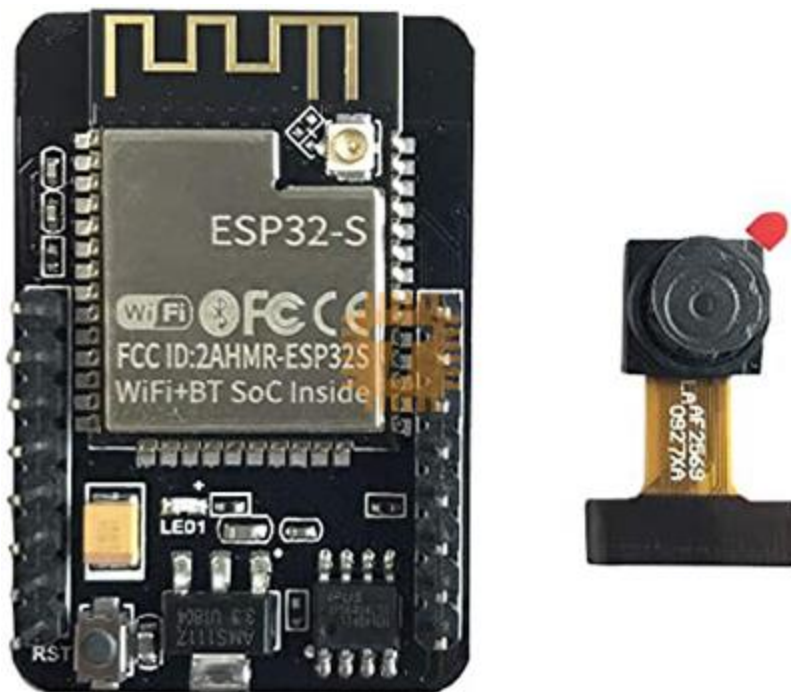
Requirements

In this project we have to know about the image processing system because we have to get a pic of the road every minute and by that picture we have to identify how many vehicles are in there and we have to know about how to do that .

And we are planning to connect this into the cloud database and by the use of image processing we are taking the traffic density and we are going to check whether the vehicle count is greater than the count that we expected to be. So if that happens we are going to connect the green light to the system and for that we need to know about arduino.

We are new to iot we don't know what kind of devices that we use for this project . But as we researched we think we will be able to use this kind of devices for this project. So as we searched there are 2 ways that we identified to find the traffic density one way is through the use of image processing and the other way is to use the ultrasonic sensor to detect the traffic density. So we are adding that also too. So due to that reason budget will not be a fixed value it can be change due to the way that we are planning to get the traffic density.

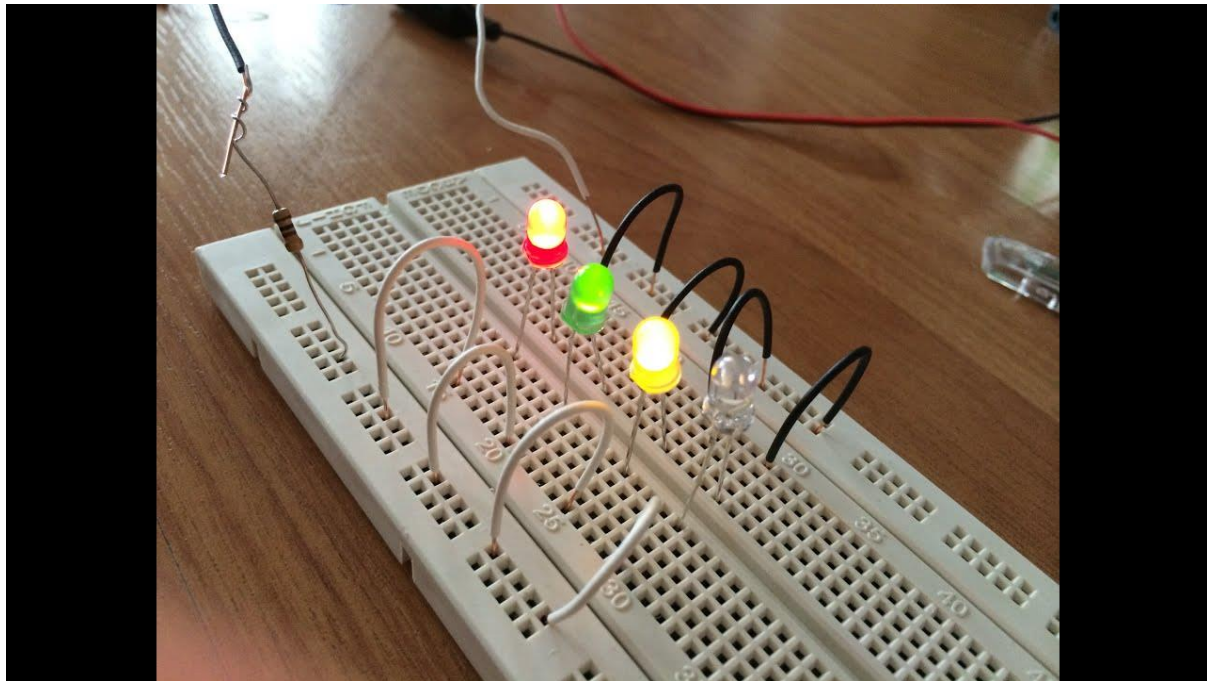
*esp32cam(To capture the image and to do the image processing part)



*LED lights(Red and green)



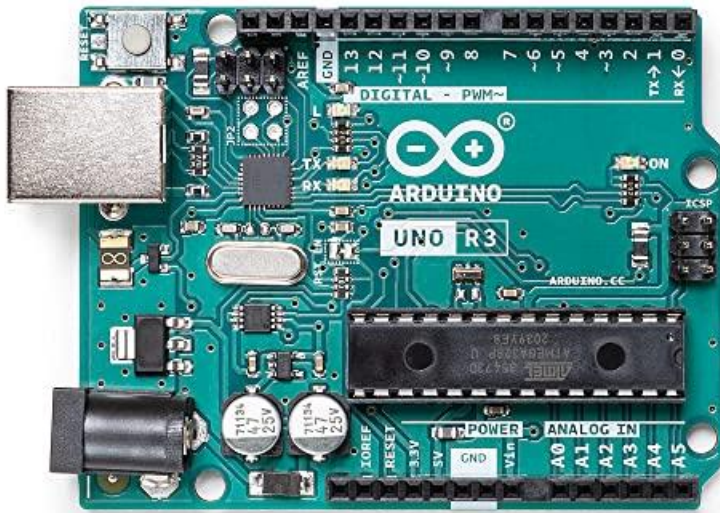
*BreadBoard (to connect the lights to the system)



*Ultrasonic sensor (in case if we are not able to find the density of the traffic we are planning to use ultrasonic)



*Arduino UNO



So we have to get the knowledge on how to programme these devices.and how these devices will connect to our application.

Project Beneficiaries

The reason that we are doing this project is based on helping the society to make the daily work far easier than it used to be. So what we are going to do is By the use of this project We will be able give a little help to managing time in people's life .this may be a different of couple of seconds but it will be a plus point to the work .

We can control the traffic jams and it will make our transportation easier. Because of that people will go to their duties without any issues with the traffic. So by doing this project traffic will not be an answer for being late to the job and not only that but also due to that in a circular way our economy will be slightly better. We are not focusing on a big change in the economy but if people can go on time for their duties without getting late then it will be a good way to start the day.

Finance

Esp32 Camera - (2500 LKR -3000 LKR)

LED Lights - (100 LKR)

Breadboard - (500 LKR)

Ultrasonic Sensor - (500 LKR)

Arduino uno - (4020 LKR)

For the external wires, cardboards and other items - (1000 LKR)

External organisations and their involvement in the project

We Are doing this project to help the traffic jam that has been an issue for the last decade .So by doing this project it will be an advantage for the National Transportation committee. That organisation will be an external organisation that we have identified as being involved in the project.

Appendix