American International University – Bangladesh

Faculty of Engineering
Department of EEE & COE

MICROPROCESSOR & EMBEDDED SYSTEM
SEMESTER: Fall 2021-2022
PROJECT PROPOSAL
GROUP NO. - 01

Group members name & id.:

1. MD. Bakhtiar Azim Niloy   (19-41011-2);
2. MD Fasiul Ahsan   (19-40959-2);
3. Jihad Shahariar Joy   (19-40068-1);
4. MD. Tarequl Islam   (18-37816-2);
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TITLE: SMART HIGHWAY LIGHT CONTROL SYSTEM BY MOTION SENSOR

Survey to develop process for complex engineering problems considering cultural and societal factors (use pie chart)
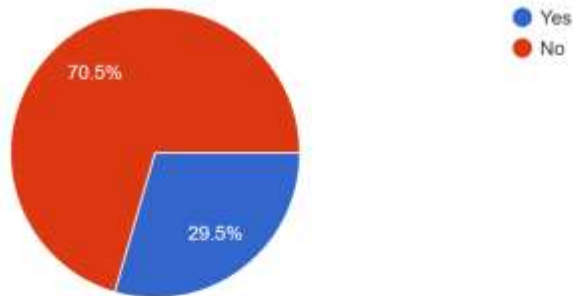
We conduct a survey from general peoples to know the positive and negative opinion about this project.

Survey responses:

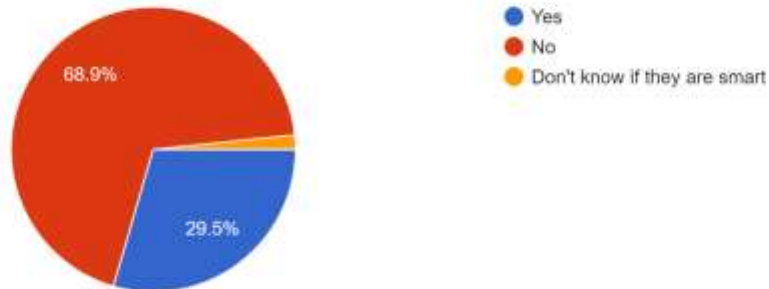In this survey using google form (online) 61 peoples respond.

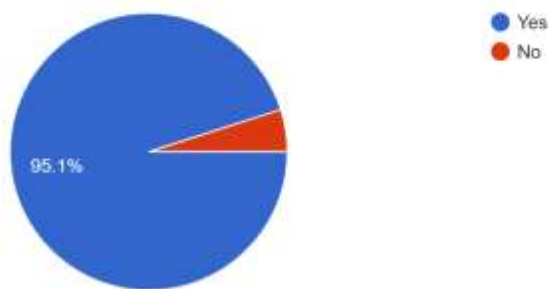Do you drive any vehicle?
61 responses

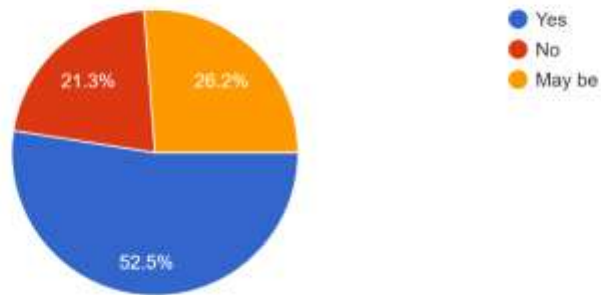Have you ever seen any smart street light system in your country?
61 responses

Do you wish that smart street/highway light system should be implemented in your country?
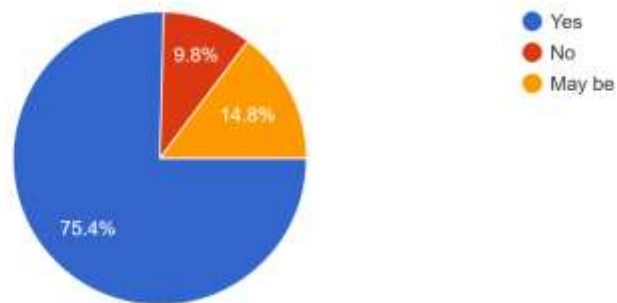61 responses

Is the regular street light stay on all night and waste energy?

61 responses

- ● Yes
- ● No
- ● May be

21.3% 26.2%

52.5%

Do you think this system is essential for our daily life?

61 responses

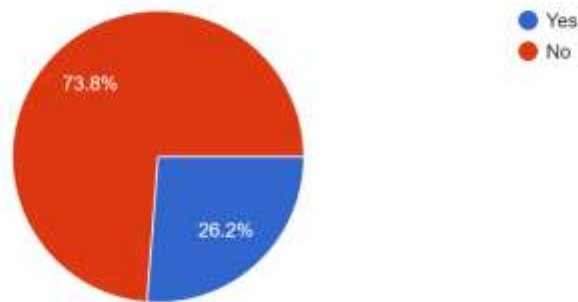- ● Yes
- ● No
- ● May be

9.8%

14.8%

75.4%

Smart highway street light system will turn off when no one is on the road and will turn on only when someone or any vehicle is on the road. will it be power saving?

61 responses

- ● Yes
- ● No
- ● May be

9.8%

13.1%

77%
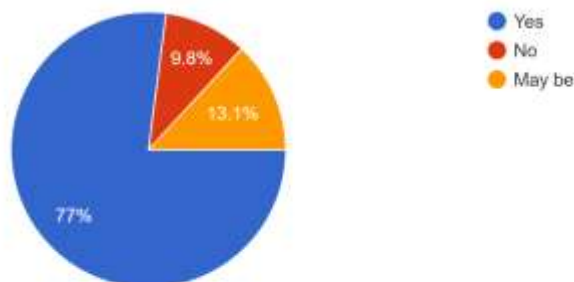
Do you think, developing this system will cause any road accident?
61 responses

73.8%
26.2%

● Yes
● No

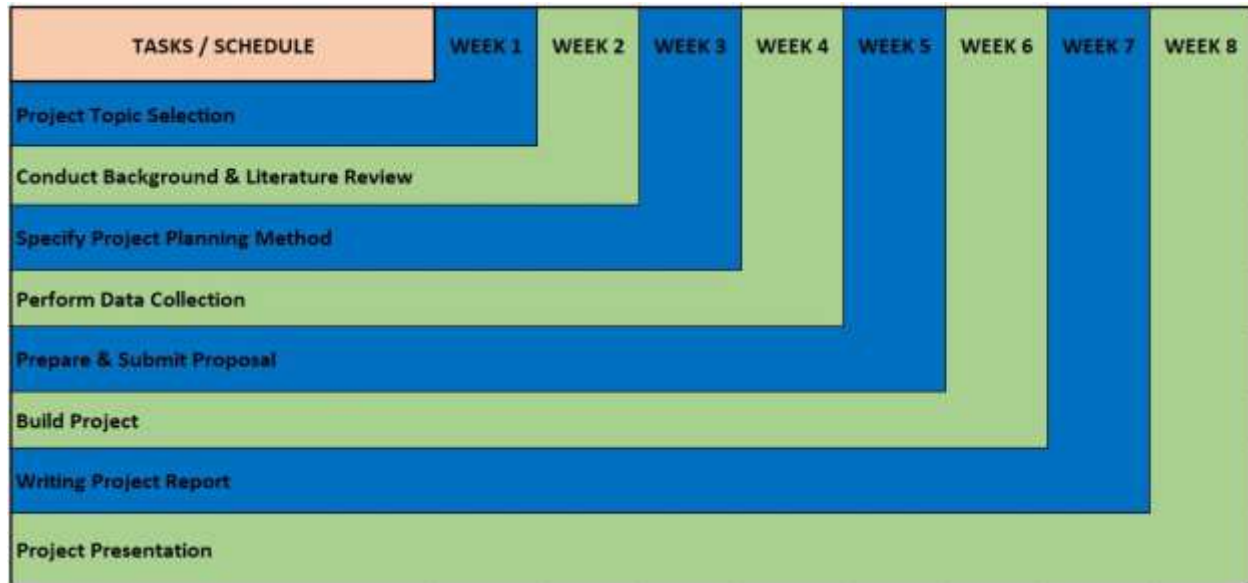**And a lot of feedback are collected from peoples about this project. Like:**

1. My suggestion is.. which car drive high speed System will sense. and trun Alarm.. Reed light will be on. It will decrease read accident.
2. It will reduce road accidents and have a control in traffic jam.
3. This is awesome project, this can be improve our traffic system. You can also add speakers to alert people in dangerous situations.
4. I think this system should be developed & increased throughout the country.
5. First implement law and policy properly. Otherwise everything is a waste
6. Smart traffic system follow and execute properly.
7. No thanks.
8. Not yet.

Goals and Benefits:

We discuss our plan for creating a network of intelligent street lights. The street light system used in this project turns on when needed and turns off when not. The street lights, which switch on automatically when it gets dark and turn off automatically when it becomes bright, use a significant amount of electricity worldwide at the moment. This is a major source of energy waste that has to be changed. A LED light, a brightness sensor, a motion sensor, and a short-range communication network make up our smart street light system. When no one is around, the lights switch off or reduce power before walkers and cars arrive. Since all of our street lamps switch on before they arrive, it will be impossible for pedestrians and car drivers to tell our smart street lamps from the traditional street lights. We will evaluate the current state and potential outcomes of our smart start light project.

The main purpose this project is to saving the power and decreasing the road accident in the highway. Nowadays, in the highway don't have enough lighting system for this reason the road accident are increasing. And some roads have lighting which are heavy power consume so that this project saving the power also.

PROJECT TIMELINE (GANTT CHART)

TASKS / SCHEDULE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8
Project Topic Selection								
Conduct Background & Literature Review								
Specify Project Planning Method								
Perform Data Collection								
Prepare & Submit Proposal								
Build Project								
Writing Project Report								
Project Presentation								

References:

[1] Noriaki Yoshiura, Yusaku Fujii, Naoya Ohta ; 'Smart street light system looking like usual street lights based on sensor networks'; Conference paper (2013); DOI: 10.1109/ISCIT.2013.6645937

https://www.researchgate.net/profile/Naoya-Ohta/publication/261479865_Smart_street_light_system_looking_like_usual_street_lights_based_on_sensor_networks/links/54e5ac9b0cf22703d5c19a65/Smart-street-light-system-looking-like-usual-street-lights-based-on-sensor-networks.pdf

[Accessed June 28, 2022]

[2] Noriaki Yoshiura ; 'Smart street light system based on IoT' from 'Proceedings of International Conference on Technology and Social Science 2017'; Conference paper (2017)

http://www.e-jikei.org/Conf/ICTSS2017/proceedings/materials/proc_files/Keynote%20paper_ICTSS2017_%5Bprof.Yoshiura%5D/ICTSS2017-yoshiura-.pdf

[Accessed June 29, 2022]

[3] R. Abinaya, V. Varsha, and Kaluvan Hariharan; 'An Intelligent Street Light System based on Piezoelectric Sensor Networks'; Article 64(2016); Indian Journal of Science and Technology, Vol 9(43), DOI: 10.17485/ijst/2016/v9i43/102879, November 2016

https://sciresol.s3.us-east-2.amazonaws.com/IJST/Articles/2016/Issue-43/Article64.pdf

[Accessed June 29, 2022]