

INTRODUCTION

- It is quite often that traveller travelling to remote areas find it difficult to get onto the right path. The problem grows up during night, due to lack of visibility, nonfunctioning of GPS since not everywhere on the road we find the mobile networks which can be used for navigation.
- Thus to tackle with this problem, we propose to install Li-Fi in the streetlights. As soon as vehicle comes in the range of the visible light of the poles, it transmits the data to that vehicle. The available information gets displayed on the LCD installed with receiver in the vehicle.
- This Li-Fi based highway navigation system where the LEDs that are used in streetlights for illumination purpose will also be providing the travellers with the information of the present location and all the divergence ahead.

METHODOLOGY

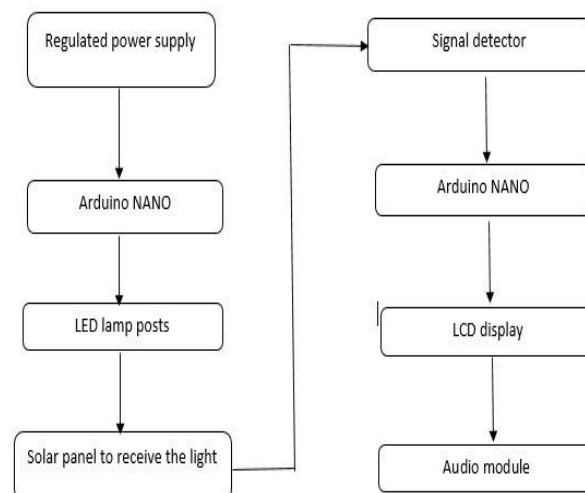


Figure 1: Overall System Architecture

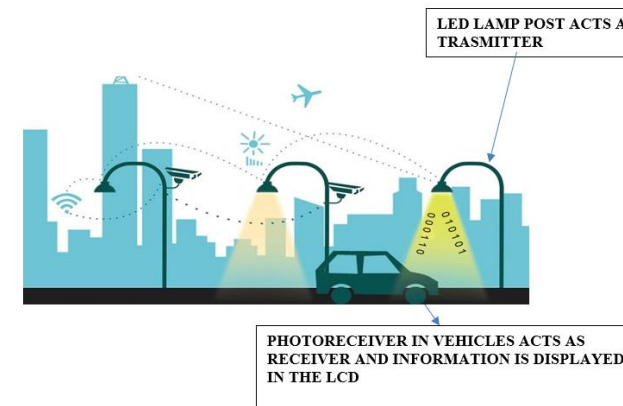


Figure 2: System Model

RESULTS AND DISCUSSIONS

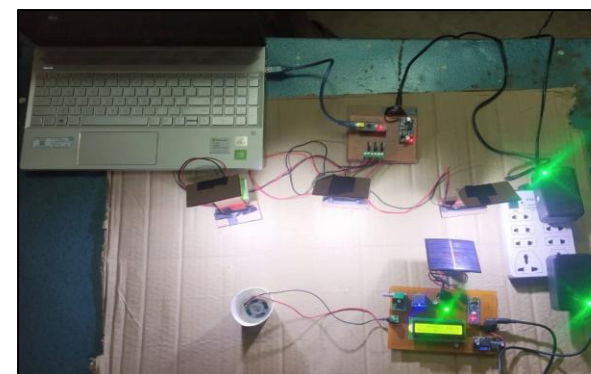


Figure 3: Experimental Setup



Figure 4: Real time data transferring from lamp post

- Figure 3 represents the Experimental setup for the Navigation System Using LI-FI.
- Arduino nano is programmed using Arduino IDE.Data are transferred by using LED lamp posts in the roads.
- Receiver section is installed in the car.When the car comes in the range of light, Solar panel receives the light.Comparator acts as the signal detector
- Present location and further diversions will be displayed in LCD.
- In order to enhance the driver's concentration, audio module is included in the setup.
- Figure 4 represents the real time data transferring from lamp post with data(Kotturpuram signal R:ceg L:Adyar).

CONCLUSION

The Li-Fi technology is now developed into a ubiquitous system technology with innovative networking capabilities for universal application to provide a variety of device platforms for high-speed internet communications.So it is a very effective way to use it for navigation purpose.Hence the LED lamp posts are used for both illumination and navigation purpose.

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