

LUMINOSITY FOLLOWER VEHICLE

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ABSTRACT

The title of this project is Luminosity Follower Vehicle. The basic requirement for the project is to ensure that the vehicle able to move towards the light source with controllable speed with respect to differences distance from the light source to vehicle. In addition, the project also able to detect and differentiate the colour of the light source, and enable the vehicle to stop moving when different light source is detected. The instructions set to vehicle are programmable hence the vehicle is free to move.

The working principle of the Luminosity Follower Vehicle can be expressed in four stages. First stage, the vehicle remains idle after power supply is connected. During this stage, vehicle is ready to receive signal through sensors. This stage is in pre-load condition, during this condition, the vehicle is static. Second stage, whenever sensors detect a light source, it sends signals to microcontroller for analysis and investigation. If the light source is detected as red colour, the vehicle remains static yet, if the light source detected as blue colour, the vehicle starts moving. This stage, when vehicle is in moving situation, the vehicle estimates the distance in between light source and vehicle itself. The vehicle is allowed to drive in three different speeds fewer than three different ranges of distance between light source and vehicle, the further the distance the faster the vehicle move. This stage is in opening condition. Fourth stage, the system of the vehicle executes a looping system to rapidly perform second stage in order to determined whether vehicle stop moving or continue moving, whenever microcontroller able to differentiate a different colour (red) of light source is detected, the vehicle stop moving. This stage is in looping condition.

Overall, this project was successfully implemented and has achieved all specifications required. Documentation is conducted after the completion of the project prototype. The project report consists of seven chapters and each chapter explains the different stages of this project. Besides, all technical information, hardware component used and software application are recorded in this project report. Finally, a conclusion is made to conclude every element in this project.