BVRIT HYDERABAD
College of Engineering for Women
Department of Information Technology
Major Project - Academic Year 2022-23

TEAM 14

Automatic Railway Gate Contol System & Obstacle Detection

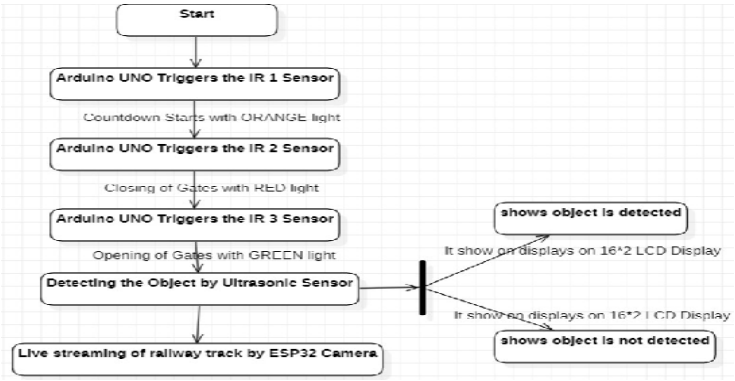
Abstract

The railway system in India is the largest mode of transportation for people travelling long or short distances, but it is challenging to maintain safety at level crossings. The goal of this project is to automate the railway gates at a level crossing, replacing the gates controlled by the gatekeeper. This deals with two main issues reducing accidents, and also reducing the amount of time the gate is being kept closed.By employing the automatic railway gate control system at the level crossing the arrival of the train is detected by the sensors and it will open and close gate automatically along with display system. Obstacle detection is done using Ultrasonic sensor and ESP-32 camera for prevention of train accidents. If obstacle detected the loco pilot will be alerted with buzzer and LED the distance between the train and obstacle is displayed on 16*2 LCD screen.

Modules

- Opening and Closing of Gates
- Countdown System for Closing Gates
- Obstacle Detection

Architecture



Tools and Technologies

- **Arduino IDE**

Conclusion and Future Scope

The proposed system of Automatic Railway Gate Control System and obstacle detection is an effective way to reduce the occurrences of railway accidents. This system is effective for both the road users and the railway management. Since the design is completely automated it can be used in remote villages where no gatekeeper is available. For this project we are using Arduino UNO and IR Sensors for closing and opening the gates at railway crossings with servo motor and for obstacle detection we are using Ultrasonic sensor and ESP-32 Camera for live streaming and alerting the locopilot .

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Github links

1. https://github.com/Madhvika19321a1237/ Automatic-Railway-Gate-Contol-System
2. https://github.com/19wh1a1217/ Automatic-Railway-Gate-Contol-System
3. https://github.com/191229-harika/ Automatic-Railway-Gate-Contol-System
4. https://github.com/20wh5a1202/ Automatic-Railway-Gate-Contol-System