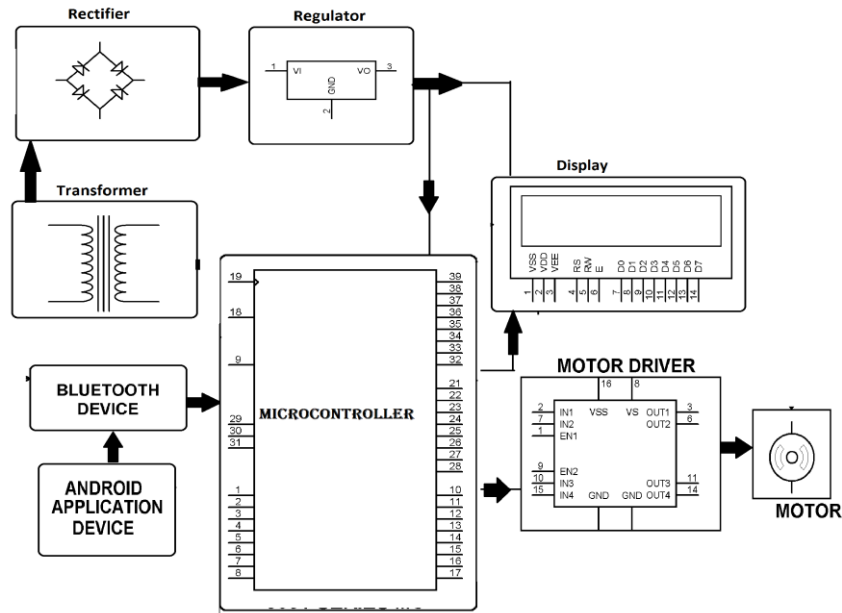


Automatic Railway Gate Controller

Introduction

Our project aims at a railway level crossing gate opening/closing system operated through an android application. The opening/closing of railway gate is traditionally operated through manual lever pulling method. This method leads to a lot of accidents due to the rational technique and lever jamming. The system allows user to easily perform this operation through the use of a simple android based application. It operates by providing the opening and closing functionality of a railway gate by sending commands through an android application. The remote controlling application is provided through an android application. This application just any android OS based device to run on. A Bluetooth device attached to the railway gate is used to receive the Bluetooth commands. These commands are then passed on to an 8051 microcontroller which then performs the required action. On receiving opening command, it drives the motors to open the gate and closes the gate on receiving the close commands. It does this by driving the motor through a driver IC to achieve this functionality. Moreover even the status of gate needs to be seen. So the system is also integrated with an LCD display in order to display whether the gate is open or closed.

Block Diagram



Component

Hardware Specifications

- Microcontroller
- Motor Driver IC
- Crystal
- Voltage Regulator

- Diodes
- Transformer
- LCD
- LED
- DC Motor
- Bluetooth device

Software Specifications

- Keil μ Vision IDE
- MC Programming Language: Embedded C
- Android App

Advantages & Application

- An Automatic Railway Gate Control is implemented with very simple hardware and easy control.
- Human intervention at level crossings can be removed with the help of this project and many railway level crossing accidents can be prevented.