

# **RAILWAY LEVEL CROSSING GATE OPERATION REMOTELY BY ANDROID**

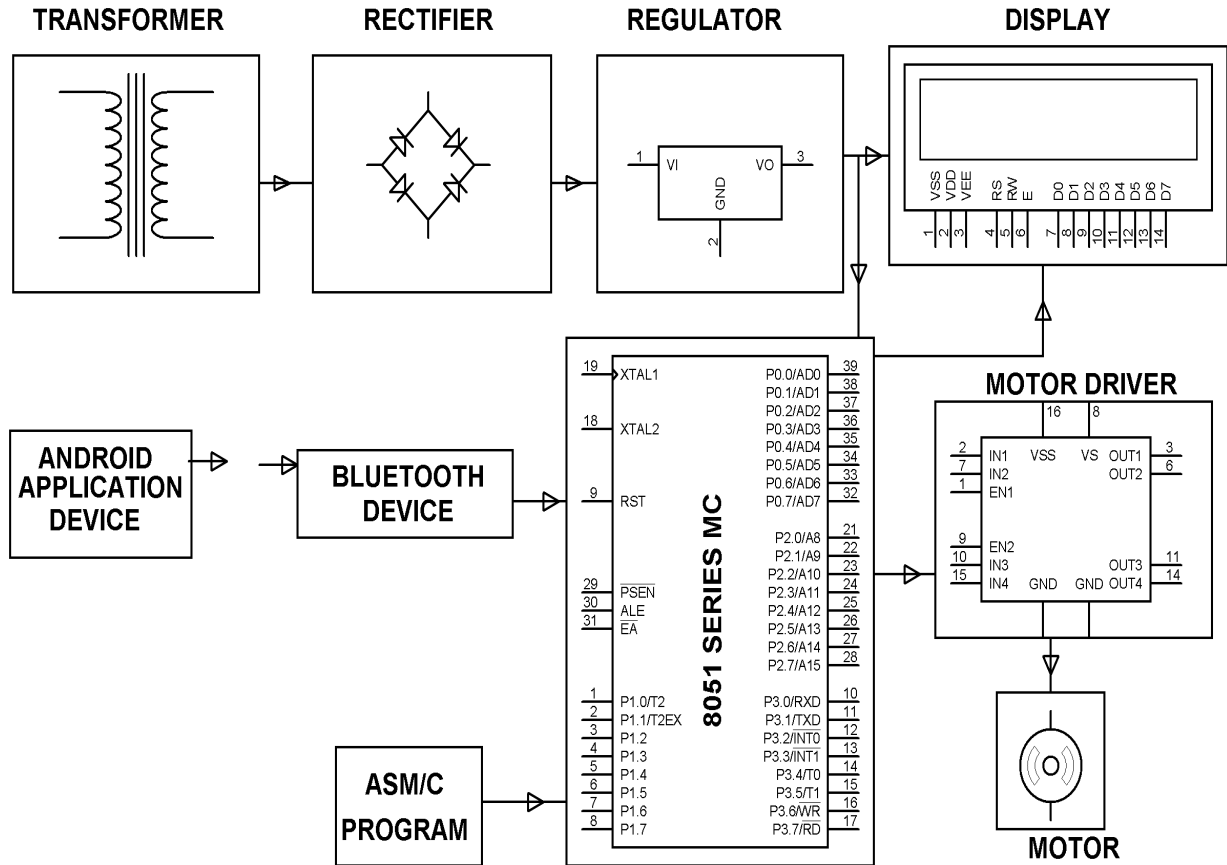
## **ABSTRACT**

The project is designed to achieve control over the railway level crossing gate through Android Application by the station master. Opening and closing of railway level crossing gate involves manpower, which could be often erroneous leading to accidents. The proposed system rules out the need of any human involvement at the railway level crossing. This system involves opening and closing of the level crossing gate with help of an Android Application Device.

Remote operation is achieved by any smart-phone/Tablet etc., with Android OS, upon a GUI (Graphical User Interface) based touch screen operation. A Bluetooth device is interfaced with the system. When the station master sent command to close from the Android application device (when the train is approaching at the level crossing) to the Bluetooth device which while fed to the microcontroller, sends an output signal which activates a mechanism to switch on the motor to close the gate. To open the gate, another command needs to be sent for the microcontroller to open the gate with help of motor driver IC. In this project we use a microcontroller of 8051 family, and the input to it is a Bluetooth device which receives command from the user Android application. The output to microcontroller is given to a motor through a motor driver IC for required operation. The status, whether the gate is open / close is displayed on an LCD display interfaced to the microcontroller.

Further the project can be enhanced by sending an acknowledgement to the sender about the status of the gate.

# BLOCK DIAGRAM



## HARDWARE REQUIREMENTS:

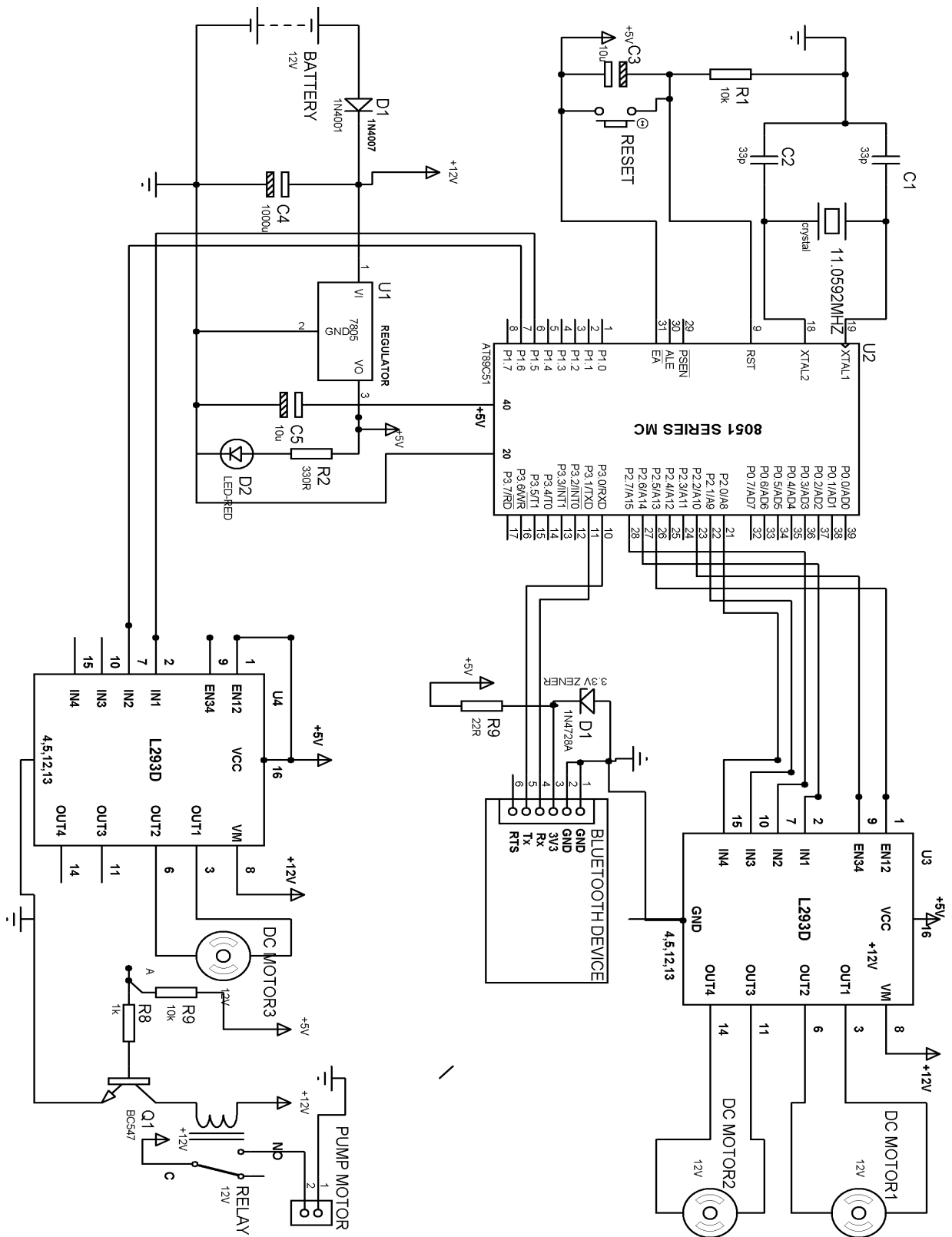
8051 series Microcontroller, Bluetooth device, Crystal, Resistors, Capacitors, Diodes, Transformer, Voltage Regulator, LED, DC Motor, Motor Driver IC.

## SOFTWARE REQUIREMENTS:

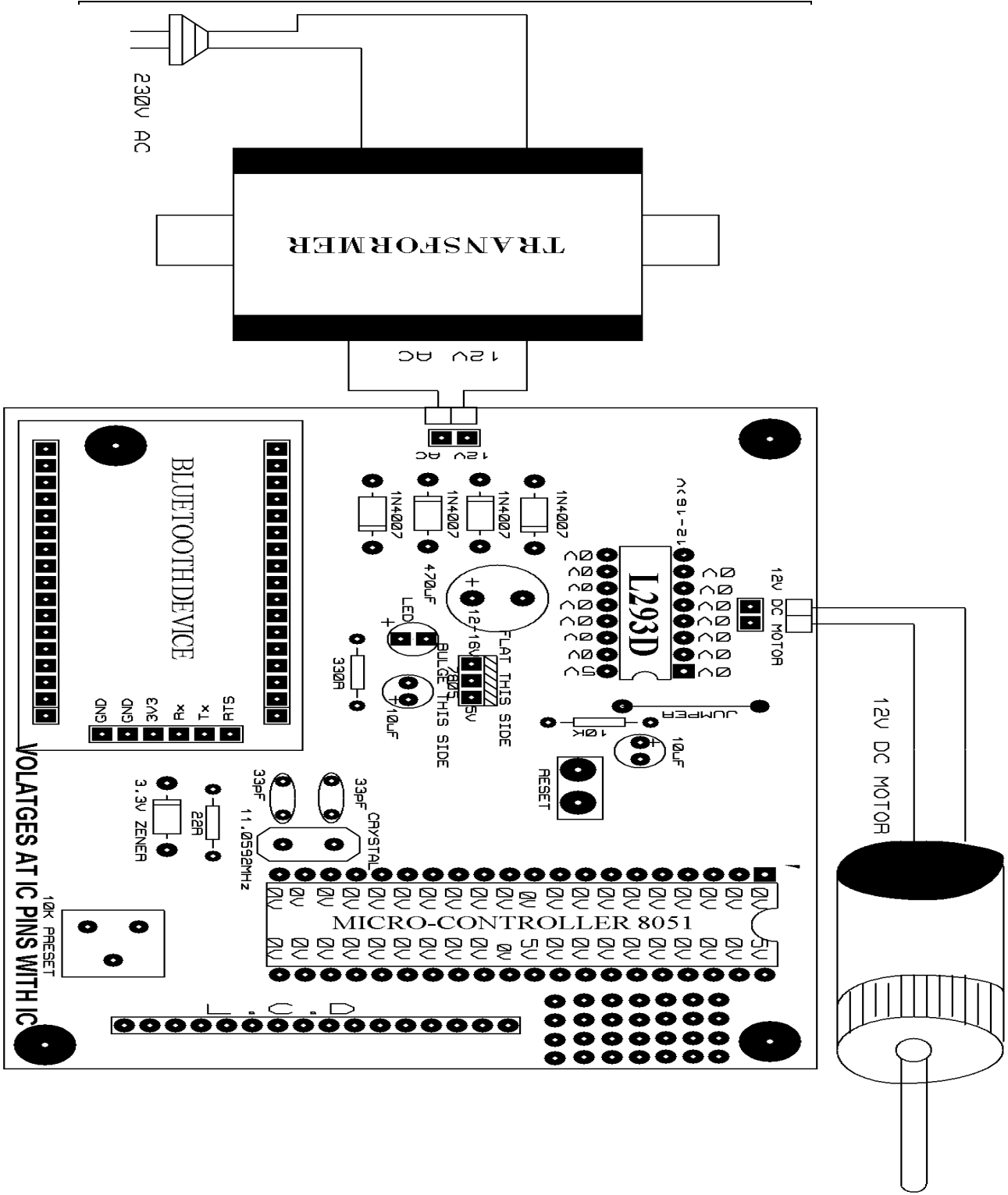
Keil compiler

Languages: Embedded C or Assembly.

# Circuit diagram



# Pcb artwork



<u>Component Name</u>	<u>Quantity</u>	<u>Checked</u>
<b><u>Resistors</u></b>		
22R	1	
330R	1	
10K	1	
10K PRESET	1	
-		
<u>Component Name</u>	<u>Quantity</u>	<u>Checked</u>
<b><u>Resistors</u></b>		
22R	1	
330R	1	
10K	1	
10K PRESET	1	
-		
<u>Component Name</u>	<u>Quantity</u>	<u>Checked</u>
<b><u>Resistors</u></b>		
22R	1	
330R	1	
10K	1	
10K PRESET	1	
-		
<u>Component Name</u>	<u>Quantity</u>	<u>Checked</u>
<b><u>Resistors</u></b>		
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10K PRESET	1	
-		
<u>Component Name</u>	<u>Quantity</u>	<u>Checked</u>
<b><u>Resistors</u></b>		
22R	1	
330R	1	
10K	1	
10K PRESET	1	

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Please mail your complete details on [support@makeitortakeit.in](mailto:support@makeitortakeit.in)  
We will mail you within 24hours from the time you mail us.**

Name of the student & phone number

PROJECT NAME

Group member 1

Group member 3

Group member 2

Group member 4

Group member 5

College name

Branch

#### **Note to make your kit /project**

You need basic knowledge & logic of components /soldering /disordering /breadboard circuiting/PCB designing/etching.

1. You can download the projects from our website [makeitortakeit.in](http://makeitortakeit.in) and get started to build one, we help you with the basics of know & how.
2. You can purchase the complete do it yourself kit & assemble it.
3. At the last moment, If you are short on time /if your project is not giving output!!!!!! Readymade project kit is available.
4. **Training (optional)** available if you want us to help u in your projects, it includes.
  - 7 sessions, (timing mutually decided).
  - hands on training on breadboard circuiting ,soldering,desoldering,pcb making ,how to use instruments
  - Stepwise guidance you build your project right from the scratch \*\*.
  - complete documentation/references(hard & soft copy)
  - Plotting and Implementing Scale Model.
  - Troubleshooting.
  - Programming of Controllers
  - PCB Software tool, Hardware Cutting, Drilling and Etching