



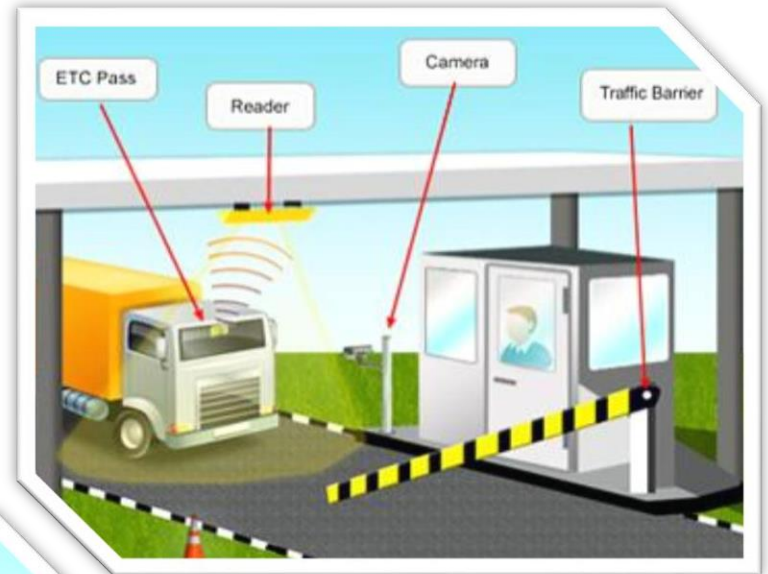
GUJARAT TECHNOLOGICAL UNIVERSITY

GOVERNMENT POLYTECHNIC

VALSAD

AUTOMATED TOLL COLLECTION USING RFID

WITH GSM FACILITY



KEYWORD

- RFID Reader EM-18
- RFID Tags
- IR Sensor
- Arduino MEGA
- Automatic Street light

Abstract

ATSRT is an Automatic Tolling System using RFID Technology is used for collecting tax automatically with GSM facility for SMS purpose. In this we do the identification with the help of radio frequency.



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PROJECT TITLE

AUTOMATED TOLL COLLECTION USING RFID ATSR Technology

Submitted in partial fulfilment of requirement for the
award of the Diploma

IN

ELECTRICAL ENGINEERING

Project Members....

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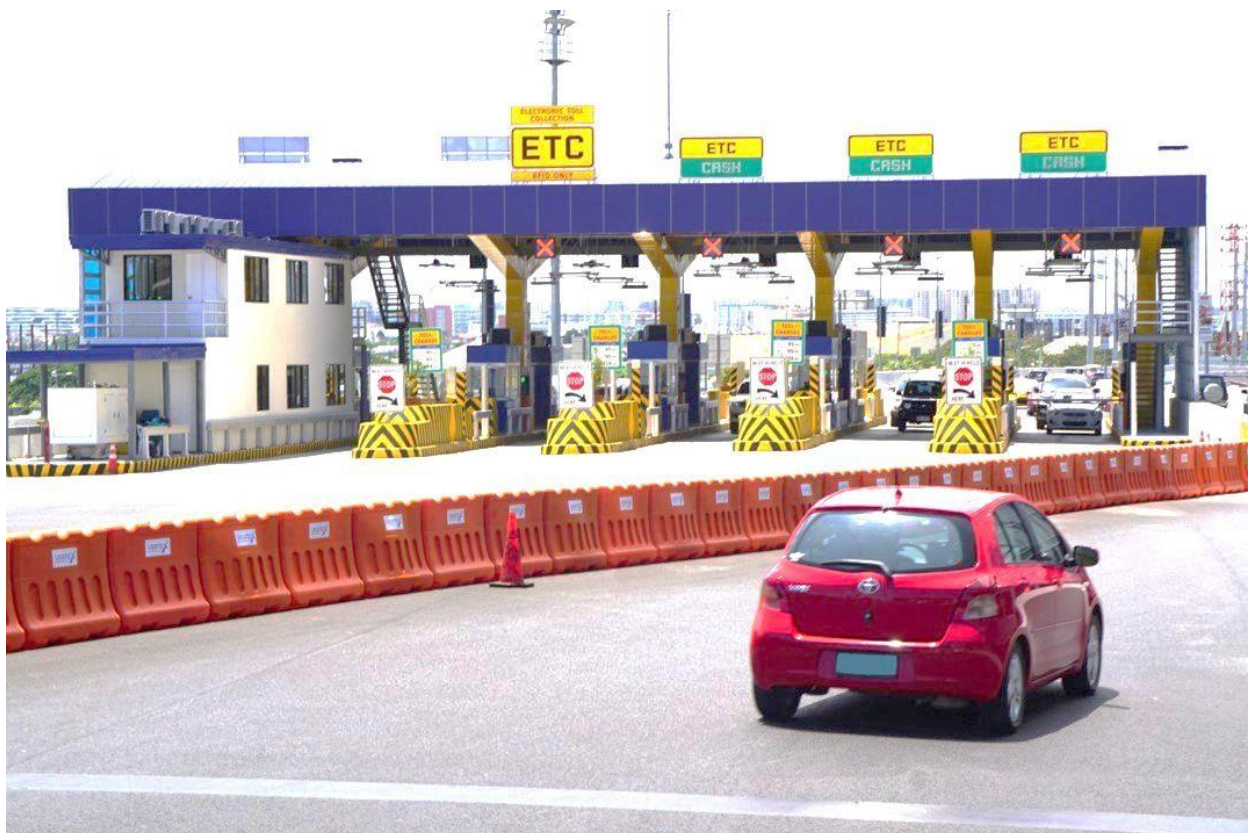
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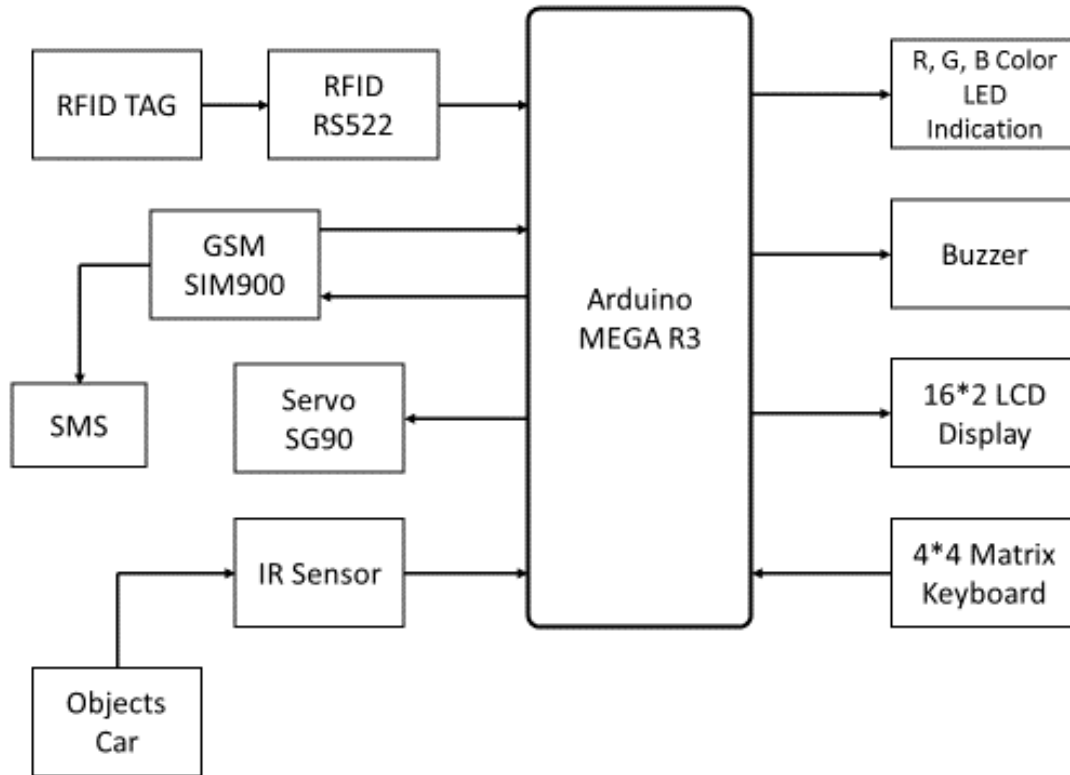
Introduction

This project focuses on an electronic toll collection (ETC) system using Radio frequency identification. (RFID) technology. The RFID system uses tags, through which information embedded on the tags are read by RFID readers, The proposed system eliminates the need for motorists and toll authorities to manually perform ticket payments and toll fee collections, respectively. Thus, it is a more efficient toll collection by reducing traffic and eliminating possible human errors.

This system allows the vehicle drivers to pass the toll tax booths without stopping at the toll booths. The toll amount is deducted from the RFID card. This RFID card is rechargeable and account is stored on the records.



Block Diagram Description



The ruffed card connected with the car is scanned by the reader. After that the reader will send the signal to the Arduino and after processing the signal, the signal will be sent to the Servo motor and the gate connected with the servo motor will be open. The car will pass near the gate. A short distance from the gate will have an IR sensor, which senses the car and sends the signal to the Arduino for automatically closing the gate.

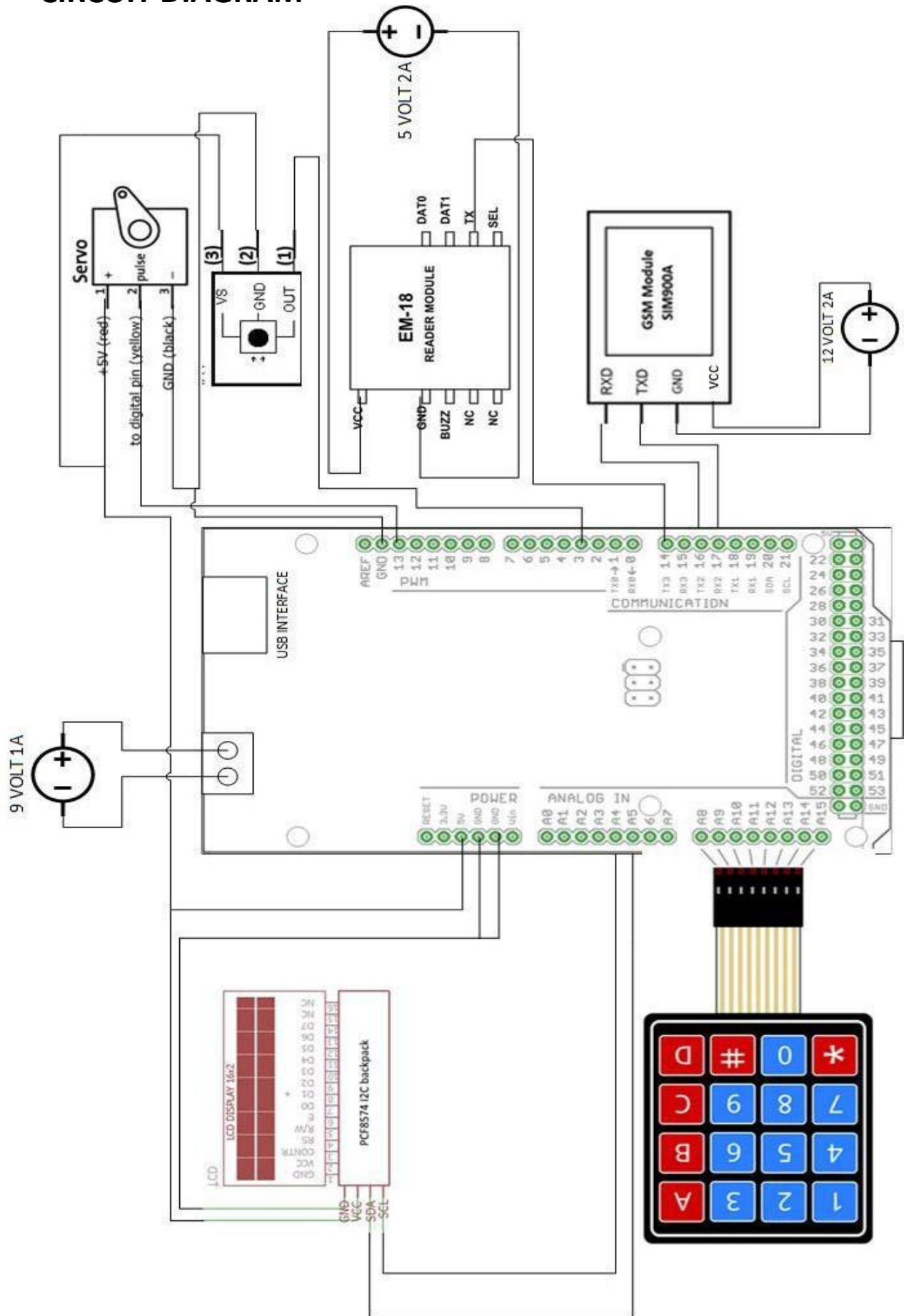
Arduino will send a signal to GSM after getting car sense from IR and message will come to mobile via GSM

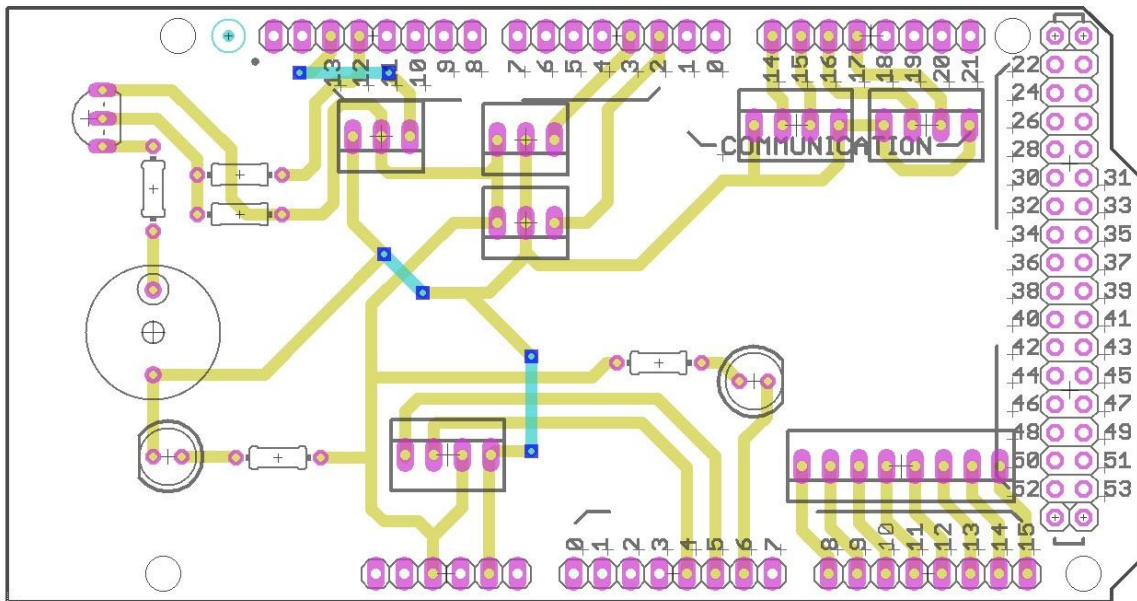
16 × 2 LCD display has been used to show the balance and details of the card.

Keypad is used to add balance to the card and for manual payment.

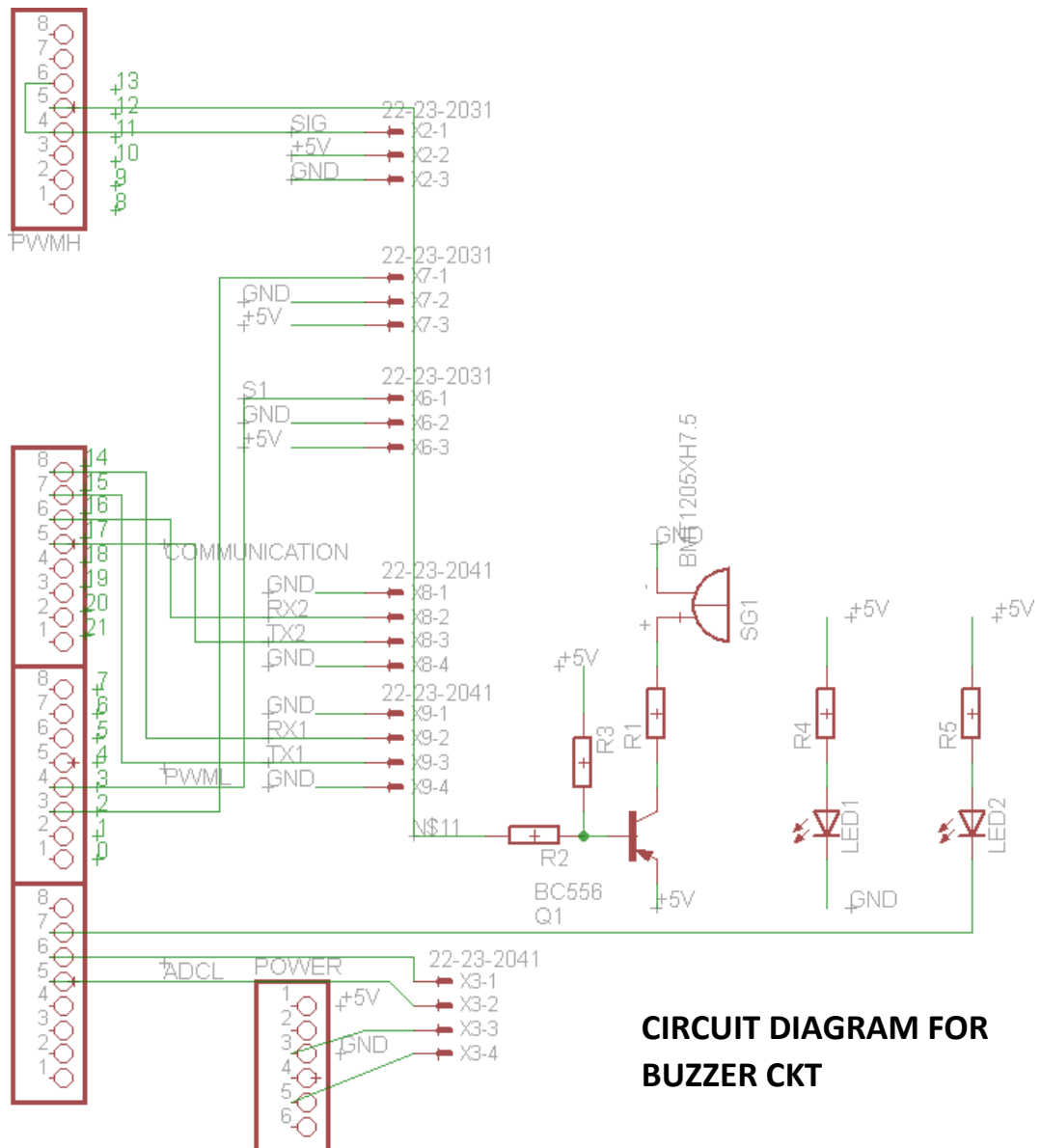
TOLL COLLECTION WIRING DIAGRAM

- CIRCUIT DIAGRAM



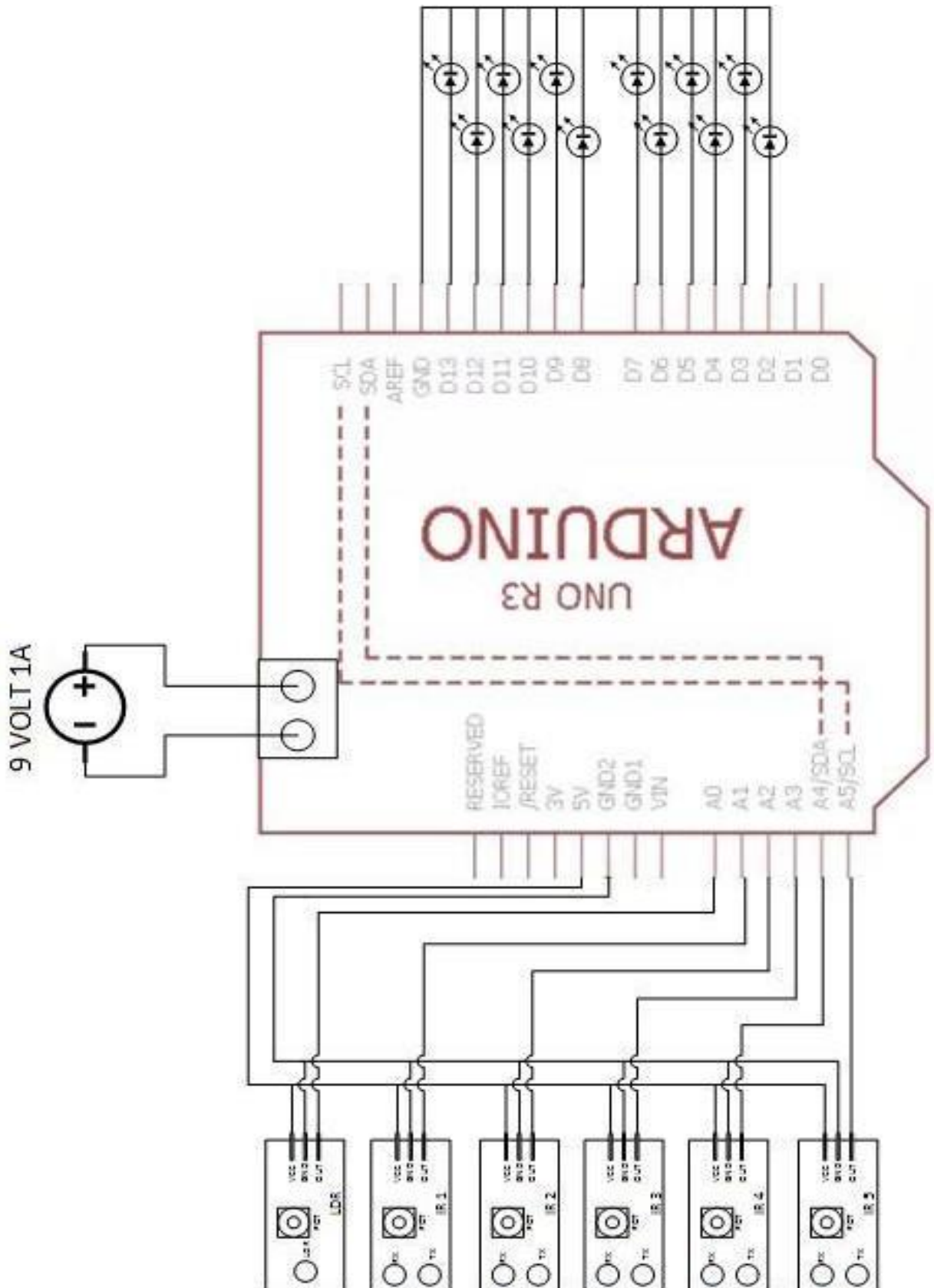


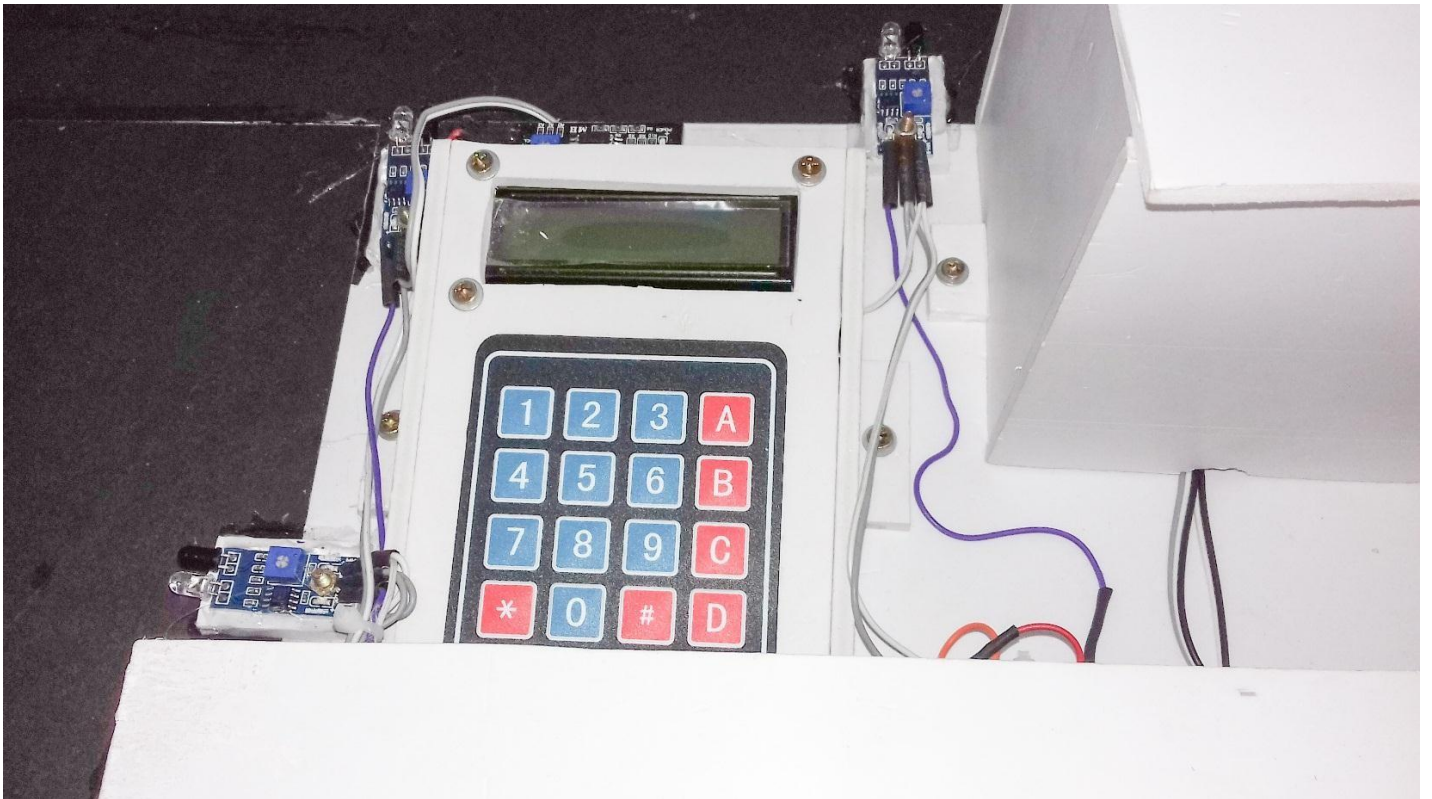
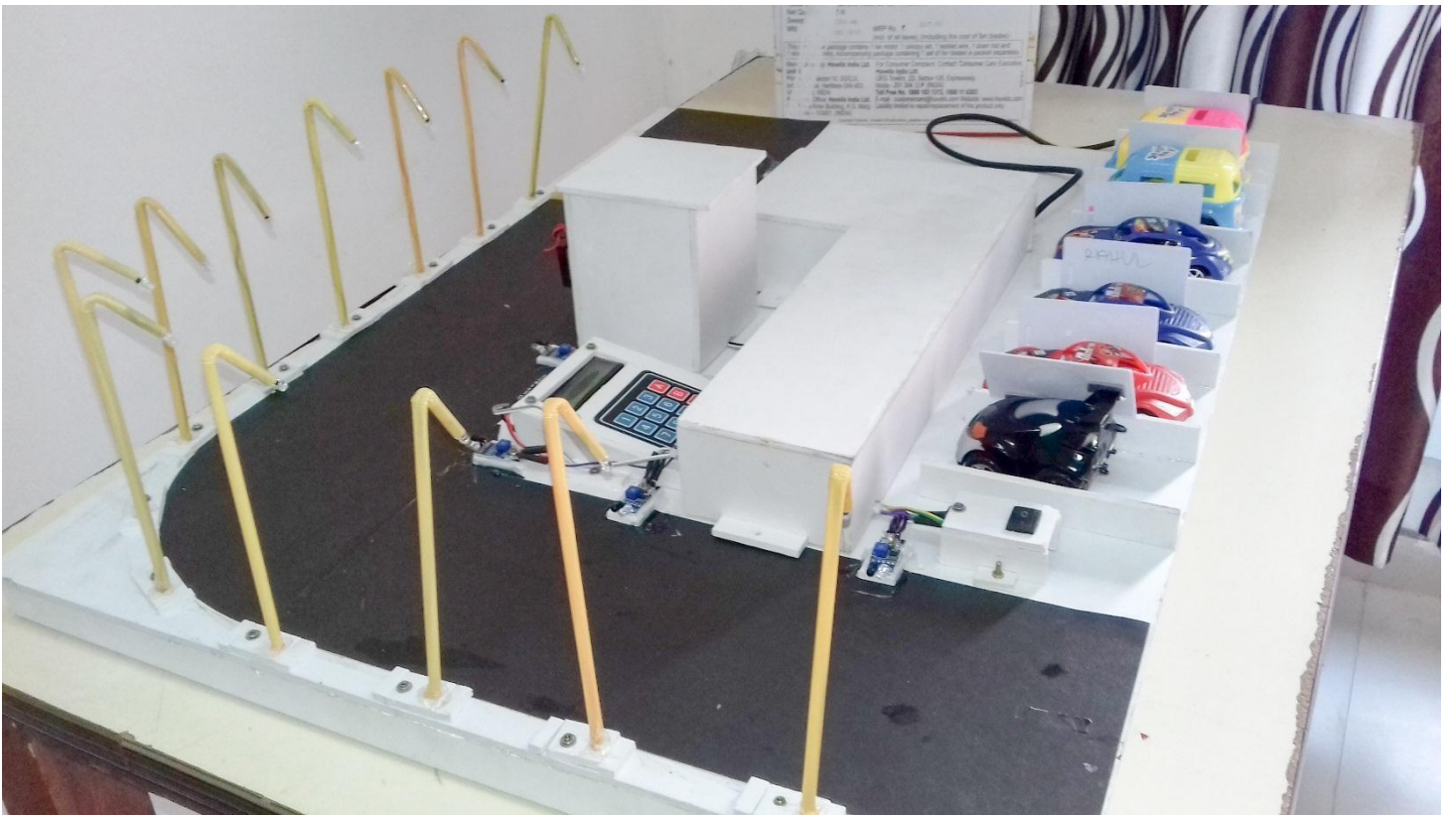
CIRCUIT MAP

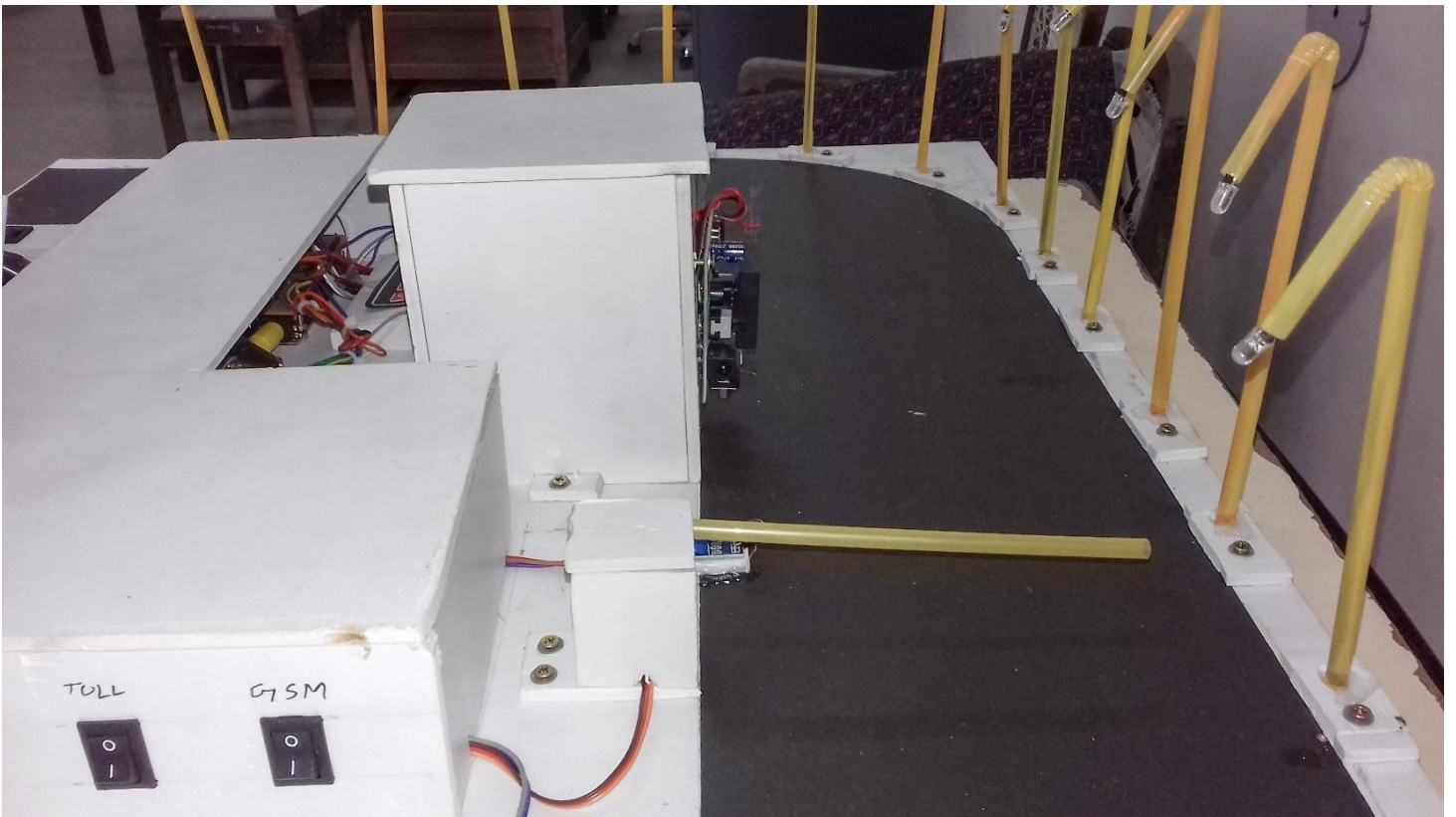


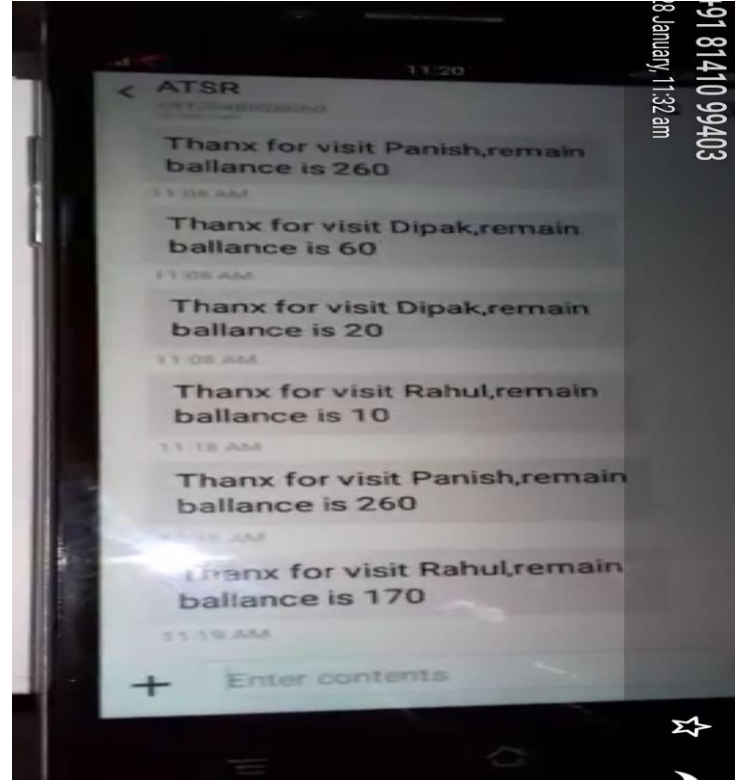
CIRCUIT DIAGRAM FOR BUZZER CKT

AUTOMATIC STREET LIGHT CIRCUIT DIAGRAM









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