

## Automatic Petrol Pump

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### ABSTRACT-

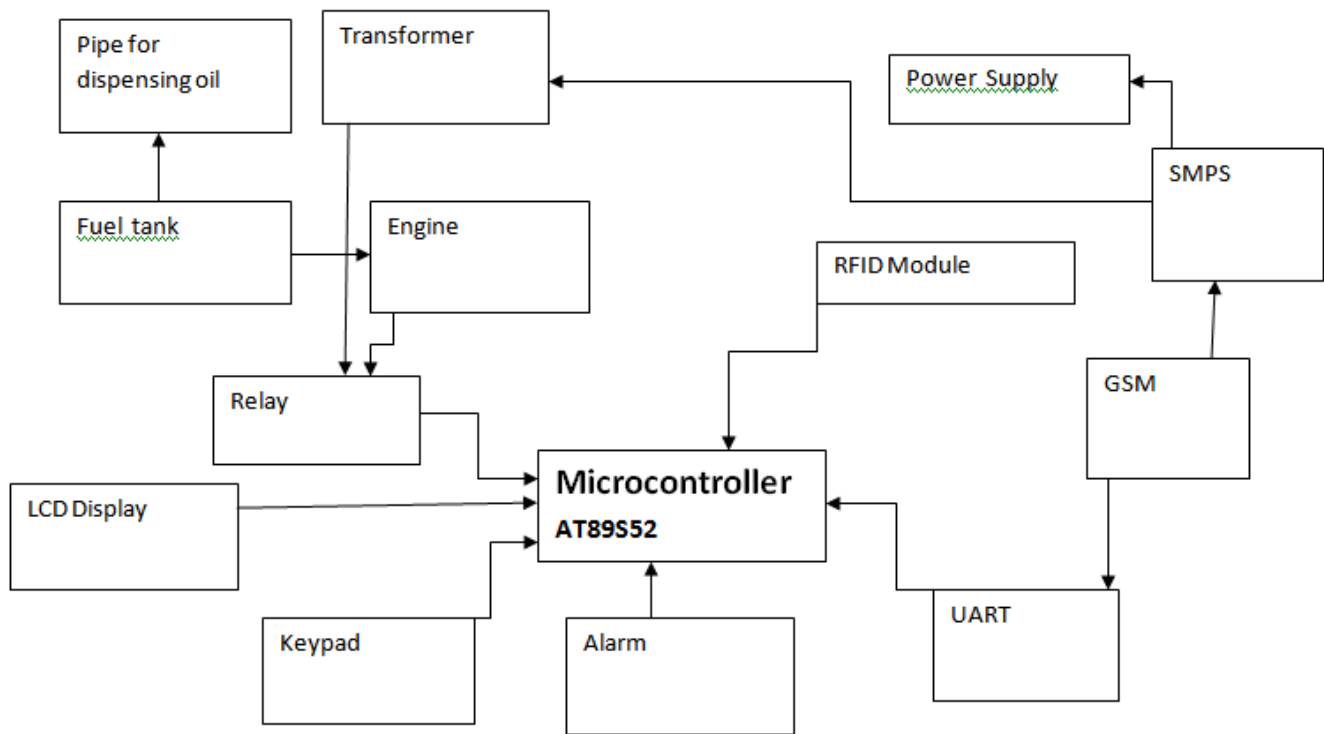
Automatic petrol pump is the automation of petrol pump which is based on RFID programming and concepts. By this project, the accuracy of the system will enhance and it will save time of the customers too. In automatic petrol pump, a microcontroller is used as a central processing device which is programmed by KEIL software. By the help of GSM technology, one can get the accurate information of data while fueling petrol. It is an innovation in the field of science and technology.

**Keywords:** GSM, Alarm sensors, RFID, AT89S52, engine, relay, motor, KEIL software

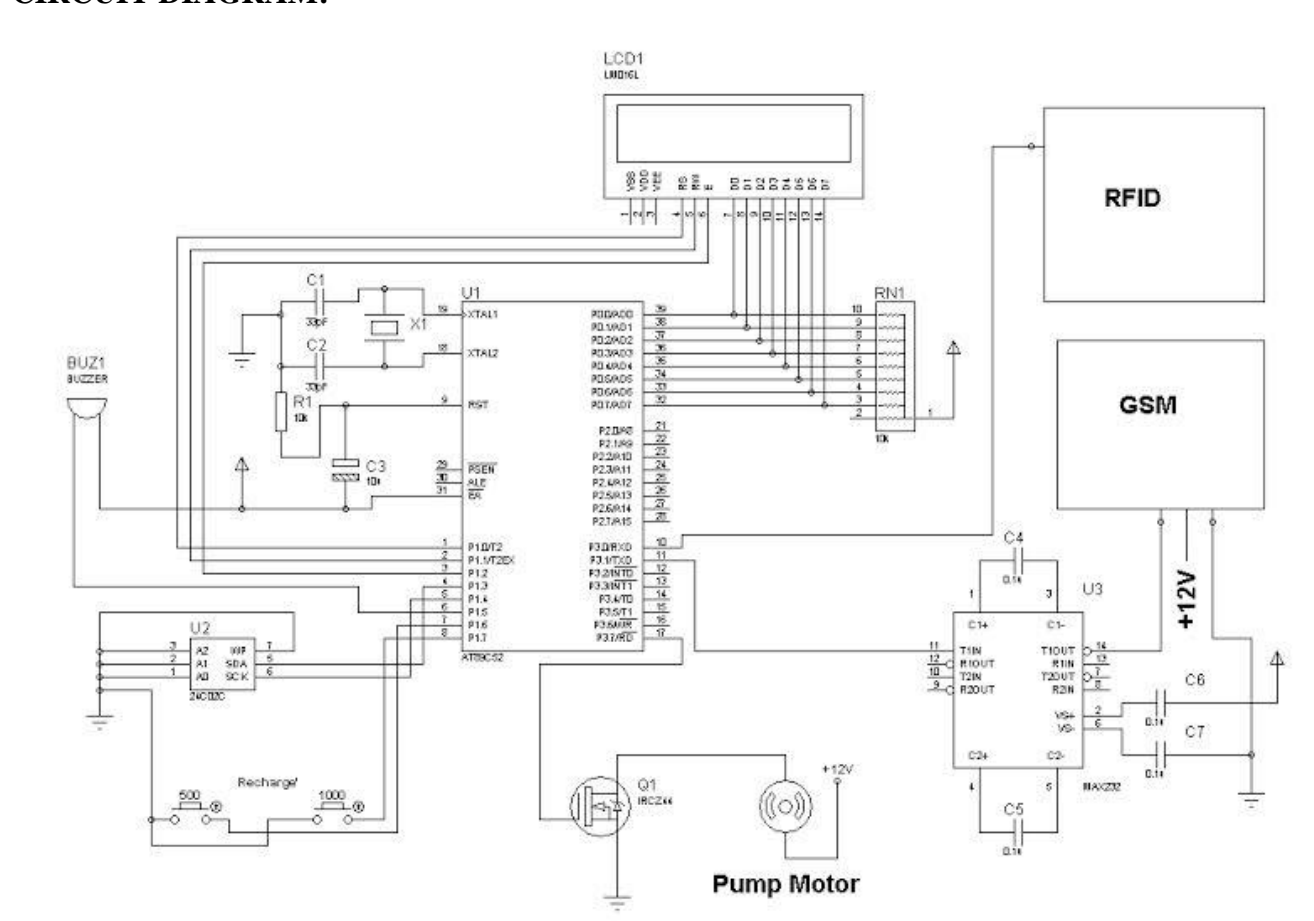
### INTRODUCTION

this project is fully automated with the help of various electronic devices, components and circuits. Mainly this project is featured on microcontroller and smart card in which microcontroller acts as active device while smart card act as passive device. Automatic petrol pump provides the feature of instant recharge. Smart card is added to an account which have a specific amount of money and it is necessary to have a smart card for this service. Only by the help of smartcard, a customer can access this service. It is a type of self service system. After dispensing, an exact amount of balance is deducted from the smart card with a receipt. Customer will have a proper billing receipt with amount, date and time. It gives the accurate information about selling and control over any adulteration. Alarm circuit is also used when there is wrong card or low balance or zero balance. There is no dispensing takes place when the account balance is low and it will show on the display. GSM system is interfaced to microcontroller via UART (Universal asynchronous receiver transmitter) through which customer can access the accurate information about the balance availability and status of smart card. Infrared level sensor is also used in this project which describes about the remaining petrol in the tank. . A sensor is able to detect a change and communicate that change with a user. There is a timer used in the circuitry which after the mathematical calculation decides the ON and OFF period of the motor. LCD display is used to show up the information. Relay Driver is used to drive the electromagnetic relay and relays act as a electromagnetic switch for the Pump and motors.

Overall Automation has added a new look to petrol pump which is very attractive with zero rushes as there is no serviceman. There are so many profits for the customers and the owners of the petrol company after installing the automated petrol pump with accuracy and security services. It blocks the black selling of petrol and minimizes the human involvement.

**BLOCK DIAGRAM OF AUTOMATIC PETROL PUMP:****BLOCK DIAGRAM EXPLANATION**

Microcontroller AT89S52 is the main device which is programmed to access all the necessary information and it acts as the central processing device of the whole system. Supply voltage is from 4.0V to 5.0. Maximum operating frequency of AT89S52 is 24 MHz. Microcontroller is interfaced with mobile via UART for sharing of information to the customer regarding the dispensing petrol and available balance. Keypad is used for filling out the amount. LCD display is used to show up the proper details. Relay is used as electromagnetic switch for both pump and motor. SMPS (switch mode power supply) is used for regulate the power supply and control out the voltage and current flow. RFID reader is used to read the smart card which includes the majestic signal. GSM module is used to connect with SIM and the microcontroller. Alarm Circuit is used when there is no balance or wrong code. It is directly connected to microcontroller. Engine is used to start up the fueling machine. Fuel tank is attached with the engine. UART stands for universal asynchronous receiver transmitter used to connect the GSM module and microcontroller.

**CIRCUIT DIAGRAM:****CONCLUSIONS:**

Automatic Petrol Pump will make human life easier and lot more automotive. It will save time of human being by its reliable nature. Automation of petrol pump makes the system shower and less time consumer. The customer need not wait in the petrol pump. Automation of pumps will give oil companies accurate data on sales.

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