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# Touch Screen Based Remote Controlled Robotic Vehicle for Stores Management

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**ABSTRACT:** The venture is intended to control an automated vehicle with a touch screen show unit for remote activity. The touch screen remote control is utilized at the transmitting side to transmit RF control signals. At the less than desirable end, a pick n place mechanical vehicle is utilized to react to those signs and play out the undertaking. A 8051 arrangement of microcontroller is utilized for the ideal activity. At the transmitting end utilizing a touch screen control unit, directions are sent to the beneficiary to control the development of the robot either to push ahead, in reverse and left or right and so on. At the less than desirable end four engines are interfaced to the microcontroller where two for them are utilized for arm and gripper development of the robot while the other two are for the body development.

**KEYWORDS-**Touch screen, mechanical vehicle, pick and spot.

## I.INTRODUCTION

The Robotic framework that is fit for both getting and discharging the small scale objects with high precision, dependability, and speed in the store management.[1] The framework utilizes a novel Micro Electro Mechanical Systems (MEMS) miniaturized scale gripper with a controllable plunging structure to affect a smaller scale questions that increases adequate energy to defeat adhesion force.[2] The automated vehicle planned can be worked with no force supply and it can naturally create the power which is totally used by the robot itself with the assistance of 8051 microcontroller, sunlight based boards and Light Dependent Resistor(LDR).[3] Contact screen based remote controlled automated vehicles for stores the board is to structure a microcontroller dependent on solid and superior mechanical framework for assembling line.[4] An exceptional gripper is intended to pick and place the items with the flexibility.[5]

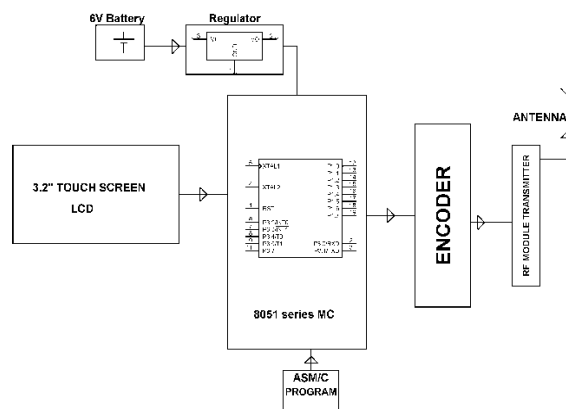


Fig 1: Transmitter side Block outline

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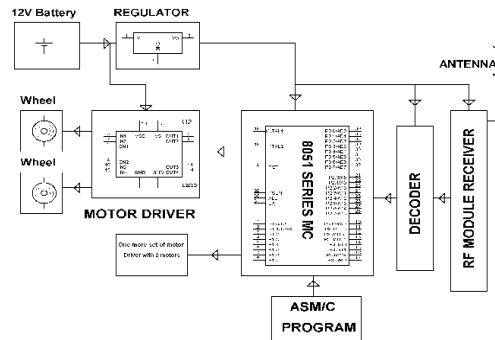


Fig 2: Receiver Side Block Diagram

## II.METHODOLOGY

Contact screen based remote controlled mechanical vehicles are Automation of versatile pick and spot mechanical framework for little nourishment industry, the reason for existing is to plan a microcontroller dependent on solid and elite automated framework for assembling line. The framework comprises of three essential subsystem which is versatile base, Rotational controller which comprise of stepper engine that move in step point to 360 degree and the attractive gripper unit dependent on electromagnetic impact which work on 12V DC signal. Remote-control vehicle framework dependent on the ARM9, it had express that the remote robot framework is normally formed by a microcontroller framework which generally obliged by equipment attributes and hard to fulfill numerous mind boggling controls while guaranteeing framework progressively.

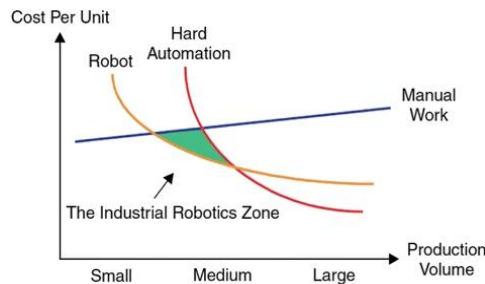


Fig 3: Area of automated creation in modern plant

## III.PROPOSED METHOD

The proposed technique utilizes the bluetooth innovation as a correspondence convention to speak with the AT89S52 microcontroller with appropriately pulled up resistor. The program is composed with the goal that each time button is squeezed from the cell phone interface (Blue Control V2.0), the relating ASCLL Code for the mark will be sent to the bluetooth module distributed on the automated vehicle. Along these lines, the specific characters transmitted is gotten by the getting microcontroller at its info sticks with the goal that fitting yield is accessible at port 2 to drive engine driver IC L293D for the development of the automated vehicle in the advance and left right development.



Fig 4: Remote controlled robotic vehicle store management

In this manner, while engine works in ordinary condition the running current outcomes 0 typical voltage drop over the 10R/2W ohm resistor as the engine taxi run in clockwise (or) hostile to clockwise. An extension rectifier including 4 numbers 1N4007 are utilized with potential partitions game plan at the DC yield to drive LED type opto-isolator, for example, MCT2E. The potential divider is changed in accordance with such an extent that the voltage at the LED of balanced that the voltage at the LED of the opto-isolator is in adequate to drive the inside transistor into conduction.

#### IV. PARTS OF TOUCH SCREEN BASED REMOTE CONTROLLED ROBOTIC VEHICLE

##### A. DC ENGINES (BRUSHED RF-500TB-12560)

A DC engine is an electric engine that sudden spikes in demand for direct flow (DC) power. In any electric engine, activity depends on straightforward electromagnetism.



Fig 5: DC engine

##### B. AT89S52 MICROCONTROLLER

A microcontroller module based on an elite CISC CPU AT89S52, 40 pins with 8k bytes of in framework programmable CMOS and high thickness non-unstable and streak memory innovation.

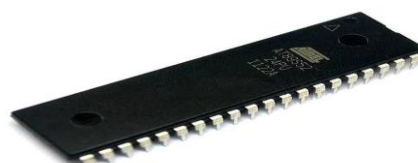


Fig 6: AT89S52 MICROCONTROLLER

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*C. L293D MOTOR DRIVER ICs*

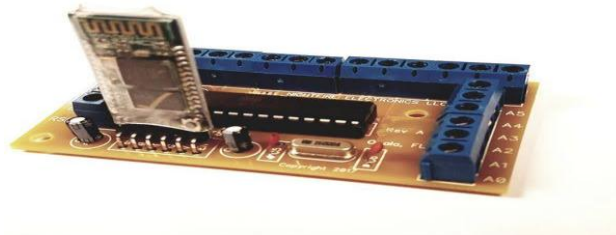


Fig 7: L293D MOTOR DRIVER

L293D is a double H – Bridge engine driver incorporated circuit (IC). Engine drivers go about as ebb and flow intensifier since they take a low-momentum flag and give a higher ebb and flow signal.

*D. BLUETOOTH BREAKOUT BOARD (RECEIVERS)*

A Bluetooth module transmits the information by means of low force radio waves. It conveys on a recurrence of 2.45 giga Hertz. The low force restrains the scope of a bluetooth gadget to around 10 meters (32 feet).



Fig 8: Bluetooth breakout board go about as collector

*E. BLUE CONTROL V2.0(APPLICATION)*

A fundamental widespread remote control for Bluetooth empowered gadgets, for example, Android based advanced cell to a microcontroller.



Fig 9: Blue control V2.0

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### V. ARCHITECTURE OF REMOTE-CONTROLLED ROBOTIC VEHICLE

A DC engine is an electric engine that sudden spikes in demand for direct flow (DC) electricity. In any electric engine, activity depends on the straightforward electromagnetism. A current conveying conductor creates an attractive field. At the point when this is set in an outside attractive field, it will encounter a power corresponding to the current in the conductor and to quality of the outer attractive field. A microcontroller module based on an elite CISC CPU AT89S52, 40 pins with 8k bytes. The microcontroller having 32 programmable I/O lines, three 16-piece clock and counters and up to 8 interfere with sources.

LL2938 is a double H-Bridge engine driver incorporated circuit (IC). Engine drivers go about as an ebb and flow enhancer since they take a low ebb and flow signal is utilized to drive the engines. A bluetooth module transmits information by means of low force radio waves it imparts on a recurrence of 2.45 giga Hertz. The low force confines the scope of a bluetooth gadget to around 10 meters. Bluetooth doesn't require view between conveying gadgets and can associate up to eight gadgets at the same time inside a similar range. An essential widespread remote control for bluetooth empowered gadgets, for example, android based advanced mobile phone to a microcontroller.

### VI. WORKING SYSTEM

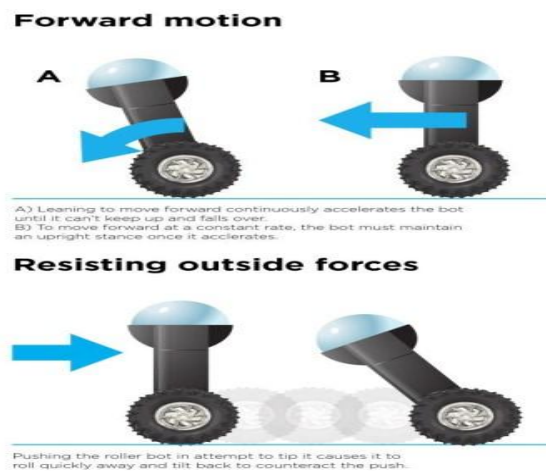


Fig 10: Forward movement and opposing outside power of mechanical vehicle

At the point when the client presses the catch on the Blue control application, the ASCII code will be transmitted to the microcontroller through the bluetooth module situated at the mechanical vehicle. The microcontroller will produce the right yield to the engine driver for the DC engine developments. Right now, intrude on work is use so as to stop the development of the arm and gripper when in any capacity whatsoever the DC engine is brought to bolted rotor condition attributable to over the framework.



Fig 11: Result of touch screen based remote controlled automated vehicle.

As a matter of first importance, scan for blue control V2.0 at Google play store and introduce the application. Subsequent to introducing go to the application and prepared for the use. Turn on the bluetooth and sweep for the gadget called "Linvor" or "HC-05" and associated with the gadgets by enter pin 1234. Go to the blue control application a press the alternatives catch and snap the interface choice. At that point it will give a rundown of gadgets accessible. See for "Linvor" and again enter the pin 1234 and afterward clicks "alright". Hang tight for some time, until it gives the affirmation "associated with it and access through the "Linvor".

## VII.CONCLUSION

The automated vehicle is structured with a delicate getting gripper that can be constrained by android OS based cell phone accessible in the market for remote activity. The android application gadget transmitter will go about as a remote control while the recipient and bluetooth gadget is nourished to the microcontroller to drive DC engines by means of engine driver IC for fundamental work. The model can be additionally improved by interfacing it with a remote camera so the individual controlling it can see activity of the arm and gripper remotely and with the IR sensor to permit the automated vehicle to maintain a strategic distance from any impediments while moving to the assignment point.

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