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Real Time Car Parking

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Abstract: When driver starts to drive, the first thought comes in mind is about parking of next location, whether it will available or not. Next will be the security and safety of that place. So, Now in present day's getting parking slots are an important object for everyone. And also availability of space for required time period is another task. Step by step everyone developing their financial growth to become safe life, in case they mostly prefer car to manage all. So, this paper provide automatic smartly Parking Information as well as. Now, according to status of vehicle occupation inside, ongoing direction and data is given to the approaching driver through GPS and GSM respectively. The system detects cars through ultrasonic sensors when it comes in parking area. A camera is introduced at the section as well as security purpose of the parking garage. It catches picture arrangements.
Keywords: Ultrasonic sensors, Camera, GPS. GSM Etc

I. INTRODUCTION

India is second highest population country in all over the world, usage of vehicles also becomes more. This keeping to the expansion of around 1.5 lakh vehicles to its streets like clockwork. So when we visit public places like multiplex, family functions or get togethers and tourist places it makes additionally stopping issue. Now, if there is availability of parking space then sometimes it shows management problem to vehicles. Sometimes, vehicles becomes damage due to wrong guidance or incorrect idea to driver. Modified auto halting using commitments are changing urban zones by upgrading establishment, making more capable. And also, it organize metropolitan arrangements, enhancing open transportation, development of blockage. This project has main purpose is to produce a day to day life solution to the auto parking problem which people facing frequently. Now, the real time car parking solves that problem using an open source hardware, programmable sensors and the utilization of PCs to give an interface to comprehend the advanced yield delivered.

Then, after it automatically makes payment according to charges applied in parking area. It may vary different for various locations. Also, it gives SMS facility to payment done by parking slot.

II. PROPOSED METHODOLOGY

We depict the layout of Smart Parking (SPARK) organization structure which contains WSN, Sink, Parking Management, Automated Guidance, Entrance Display and Client Reservation subsystems, GPS. At first, the structure will have the ability to graphically indicate continuous information related to the. openness of stopping territories to the customers and would in like manner engage customers to spare stopping region from remote zones. The system will moreover be prepared for overseeing customers to capably discover void parking spaces keeping in mind the end goal to stop their cars quickly and safely. The general outline is detached into seven essential subsystems as said. Presently remote sensor organize dole out with the observing of the stopping framework. So that, This framework distinguishes the status of stopping openings with detecting strategies and transmits data through RF and refresh data on server. The readied data is then sent by sink subsystem to the overseeing application running on the course subsystem, which is later depicted on ceasing heading appear.

III. IMPLEMANTATION OF PROPOSED SYSTEM

It has two main steps are their

A. Entry in Parking System

This system starts from the user, the driver help framework creates and shows orders to manage the driver from the parking garage entrance until the point when stopping is finished. The outline of the stopping help framework is portrayed in this segment.

Step1] User starts from its location about destination , then from their android phone it can be easy to reserve essential slot for park through the web-server, this is called parking data transmission.

Step2] This is about parking reservation conformation, after reserving that area about slot the user get proper message for reserve this slot and area, In advance it gets from GPS information about that slot through web. This all information will get the mobile number which stored it while reserving.

Step3] Guidance until parking is completed, it gives correct navigation until car is to be parked.

Step4] Sensor activation, after coming in area ultrasonic sensors get activated, information passed to the Rpi , and status get updated as occupied.

Step5] Payment Process, After detecting vehicle or car then next process is about payment. This can be done from the rfid card reader. It will deduct amount from user card.

Step6] Security, After payment process it will work on security. It use fingerprint sensor for verifying user details, to avoid from theft.

Step7] Allow to park, After verifying person and payment the DC motor get turns on and gets will open to park user vehicle.

Step8] The next security is about car security and monitoring, From camera video monitoring can be done. And user bet continues information about car.

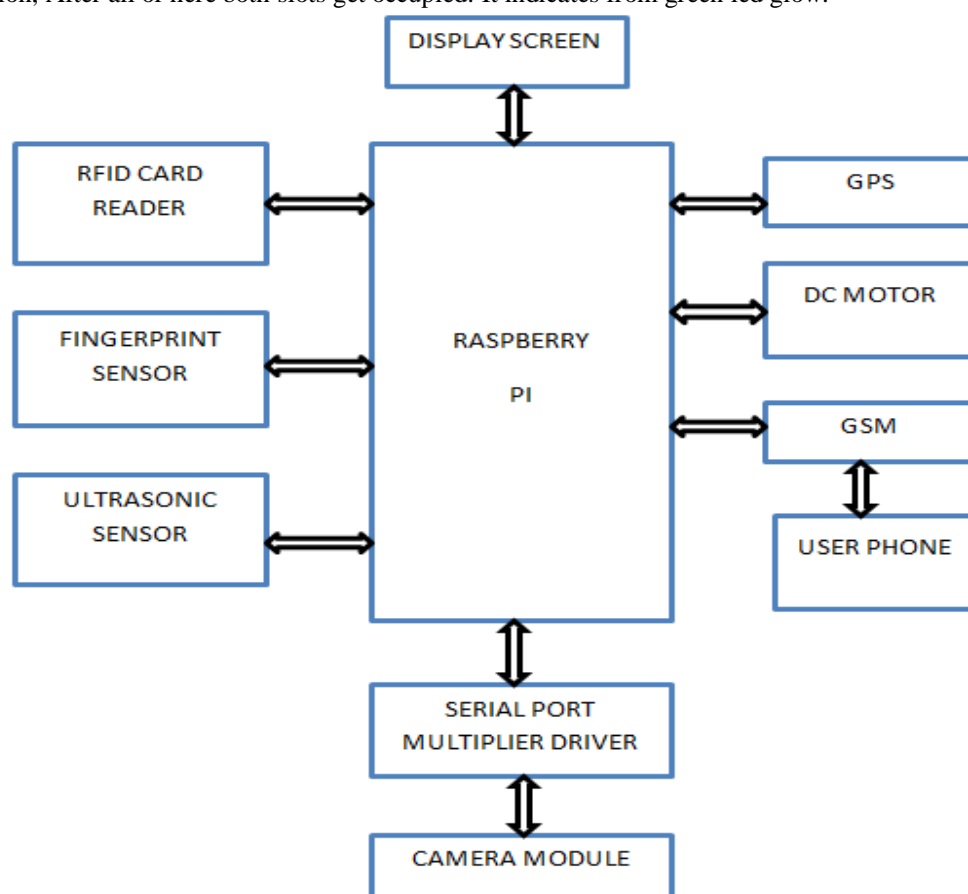Step9] Indication, After all or here both slots get occupied. It indicates from green led glow.

Fig1. Block Diagram of System Architecture

B. *Exit from the Parking System*

Exit of user is also very important here, it also includes some steps

Step1] Get navigation of car, again by pressing the message came while reserving, it will again show navigation about car through GPS.

Step2] Security, while exit from park verification can be done with the fingerprint sensor. This for security only.

Step3] Update information, this is very important step in all over the project. After existing user slot will get empty and it updated.

Step4] After both parking slot gets empty, buzzer gets on for indication.
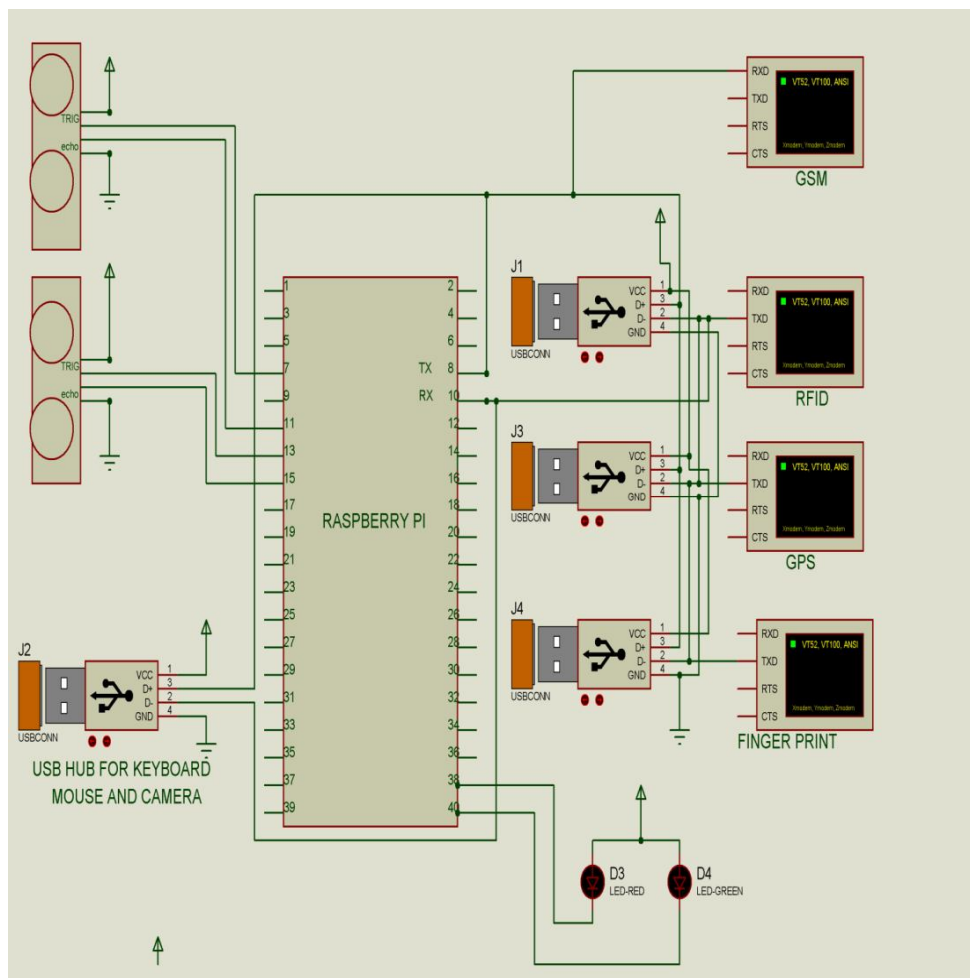
IV. SCHEMATIC DIAGRAM

Fig2. Schematic diagram for working
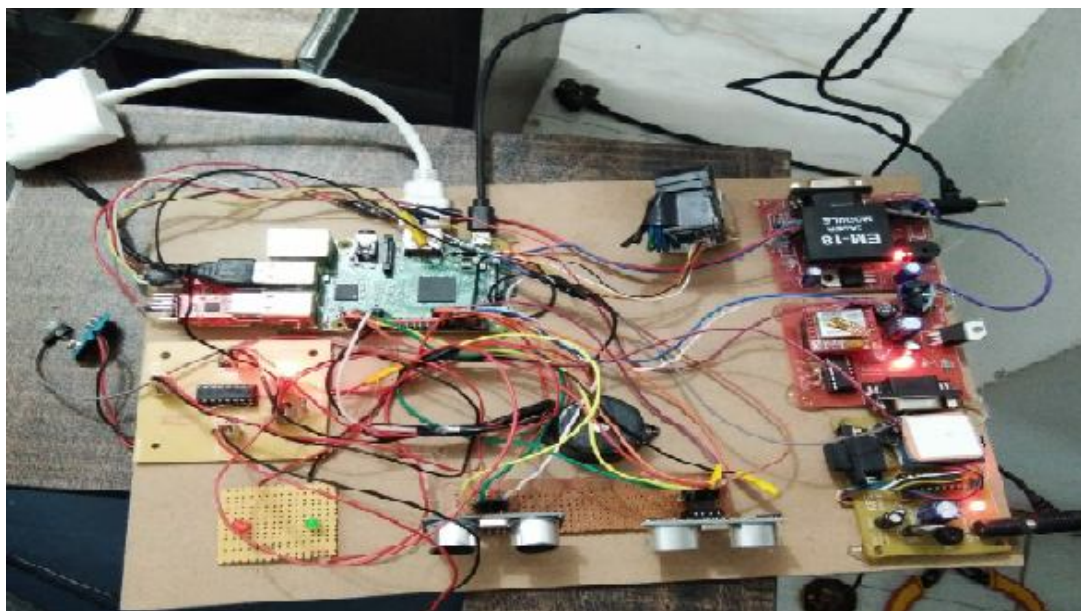
V. EXPERIMENTAL SETUP
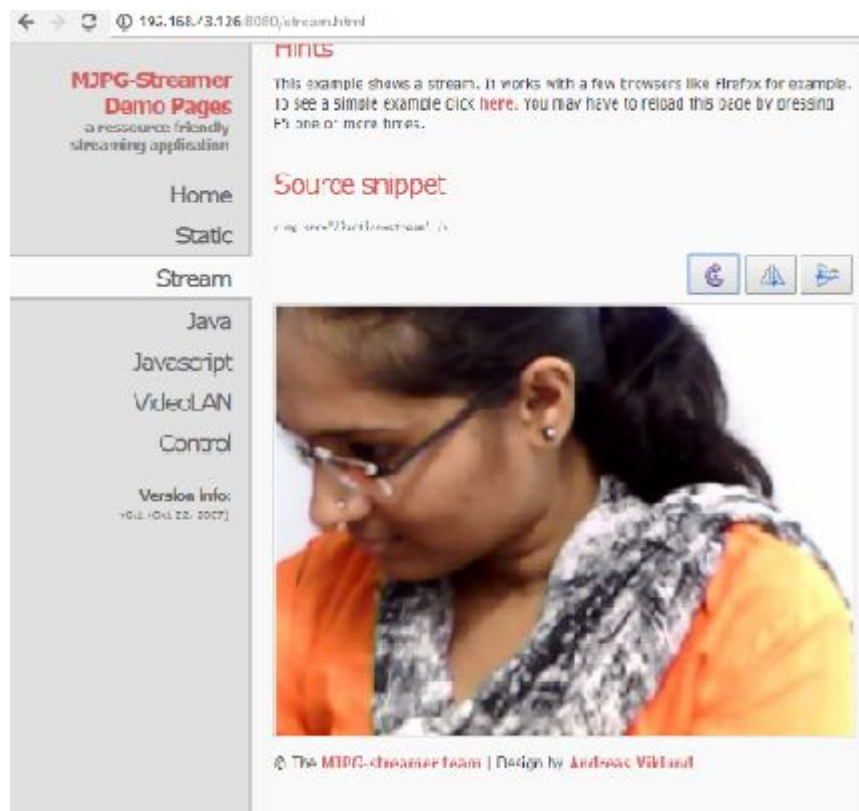

Fig3. Hardware setup.

Fig4. Video monitoring on server.

VI. RESULT

A. Add Slot
On picking an area on the guide, its extension and longitude is gotten by the system and thereafter the head needs to fill in whatever is left of the purposes of intrigue.

B. View Opening
On picking a marker on the guide, the executive can see the unpretentious components of that halting locale.

C. Edit Parking Area Details
The director can change the halting region purposes of enthusiasm by adjusting the casing appeared in the wake of audit the space.

VII. CONCLUSION

As a result of movement in advancement, drivers are asking for more straightforward and less repetitive ceasing workplaces. There are distinctive methods of insight of sharp ceasing that have been executed to give better organizations to the end customers and improve the general organization of the present halting framework. The steady seeing of open parking structures and allocating of the fitting halting locale by early reserving.

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