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Automated Vehicle Theft Prevention Using GSM and GPS

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ABSTRACT: During this steep rise of vehicle felony, vehicle safety has become a serious thought within minds. Most happen thanks to the parking in unsecured areas even in residential areas. Associate degree shows it's due to the dearth of space in parking lot in residential areas and lack of availability of sophisticated security implants. As an answer there to it this paper proposes a prototype model of fingerprint-based security system for vehicles. It includes global positioning system (GPS) and global system for mobile (GSM) controlled by Arduino Uno that gives the information concerning vehicle position to have a better knowledge to track down if theft occurs. The system enforced is incredibly straightforward that guarantee nice security for vehicle ant-theft protection and low price technique.
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KEYWORDS: GSM, GPS, Arduino, Finger-print, security, Radiofrequency Identification (RFID), ATmega2560 micro controller, EEPROM

I. INTRODUCTION

Automobile security is one among the rising issues in Asian countries. Safeguarding of auto against felony is one among the most important problems endeavour developing countries. Various methods have been enforced to guard and secure the cars. Embedded computing is associated degree rising technology widely employed in enhancing security against the felony of vehicles. In 2013, Radiofrequency Identification (RFID) cards were designed for ignition start of automobile. However, the possibilities of losing the card or it being stolen led to the failure of the system.

II. RELATED WORK

The cars are stolen for different reasons viz. For using the vehicles for transport, commission of crimes and for reusing or reselling elements demolished from the vehicles or resale of the vehicle itself. The professional thieves can dismantle the stolen vehicle and re- sells the components. The thieves also will have the luxurious of your time to get rid of once if the vehicle is out of reach.

III. PROPOSED ALGORITHM

In this project, we tend to propose a completely unique technique that uses finger print to place the vehicle in motion. ATmega2560 micro controller has been used. It consists of twenty eight pins of which fourteen digital pins and 6 analog pins. Here relay is employed to trip/build the circuit that provides voltage to ignition system and coil valve to manage the flow of fuel. This can be a GPS based vehicle tracking system the tracks the vehicle and sends the tracking data through messages. The design is mounted within the vehicle with fingerprint accessible to it. The microcontroller acts as the controlling head of the system. The finger print data of the entire authorizing person are saved in the Arduino MEGA 2560 memory. The number to which the message to be sent is also saved using the GSM.
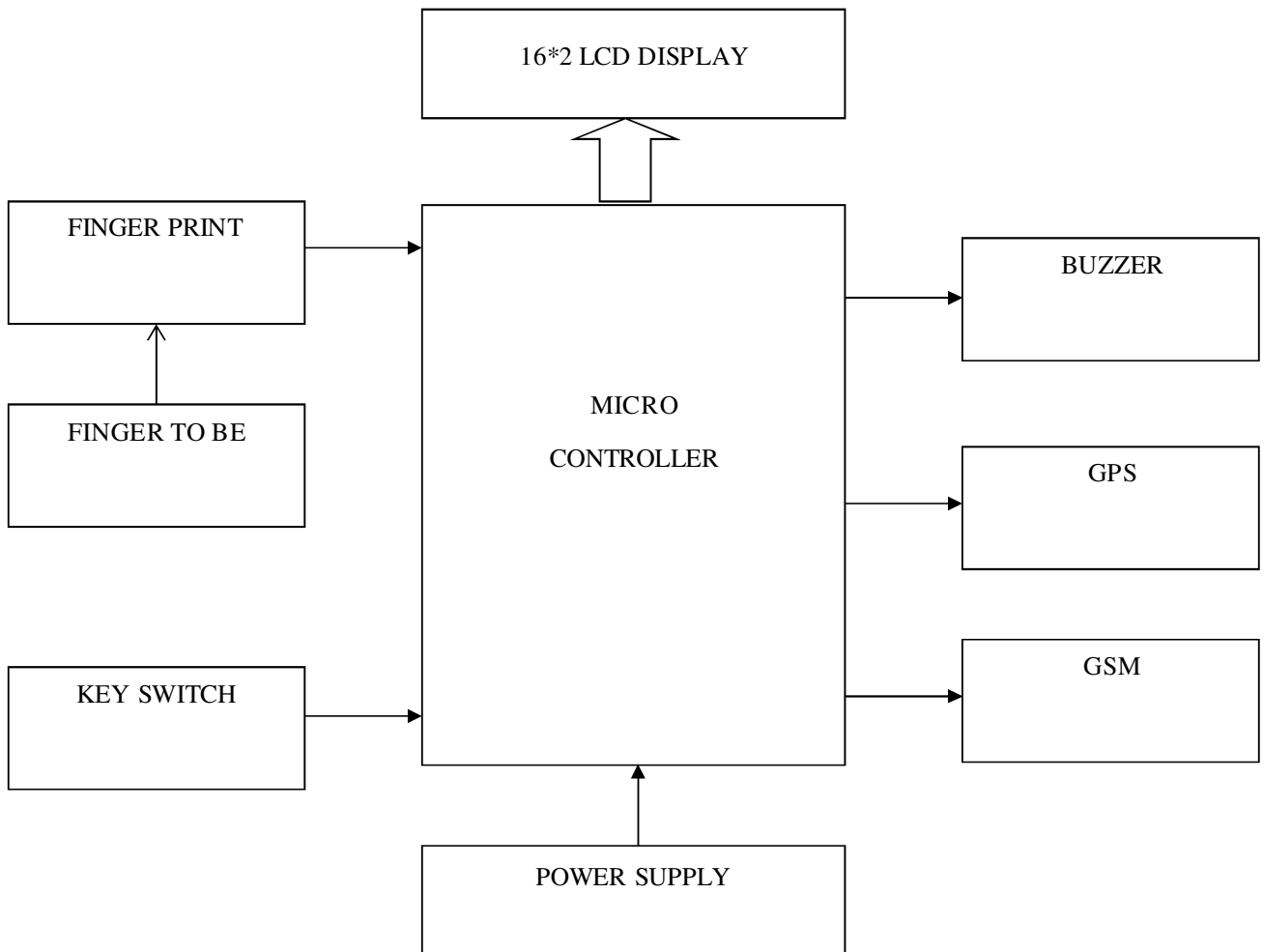
FIG.1. ARCHITECTURE DIAGRAM OF THE MODEL

IV. SIMULATION RESULTS

Module 1: adding fingerprint
At first the fingerprints of user is added

Module 2: storing fingerprint
Then the fingerprints of all users is stored

Module 3: authenticating fingerprint
Again the user opens the vehicle with help of his/her fingerprint. If the fingerprint is already present no problem

Module 4: checking the status of vehicle
In case of theft of vehicle, the corresponding location is sent via SMS and a call is sent to the number of the owner
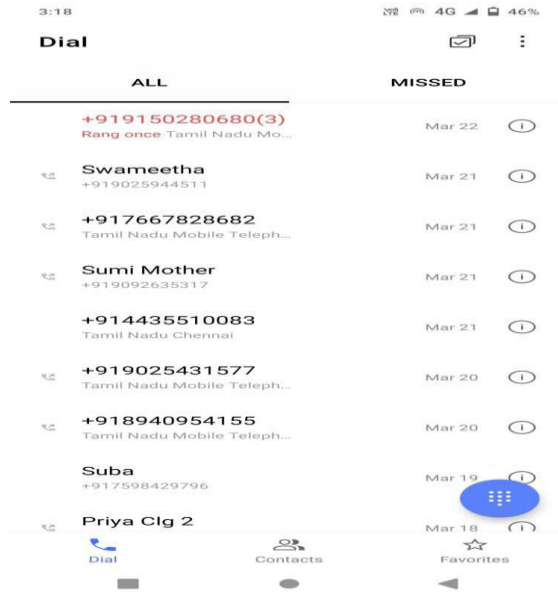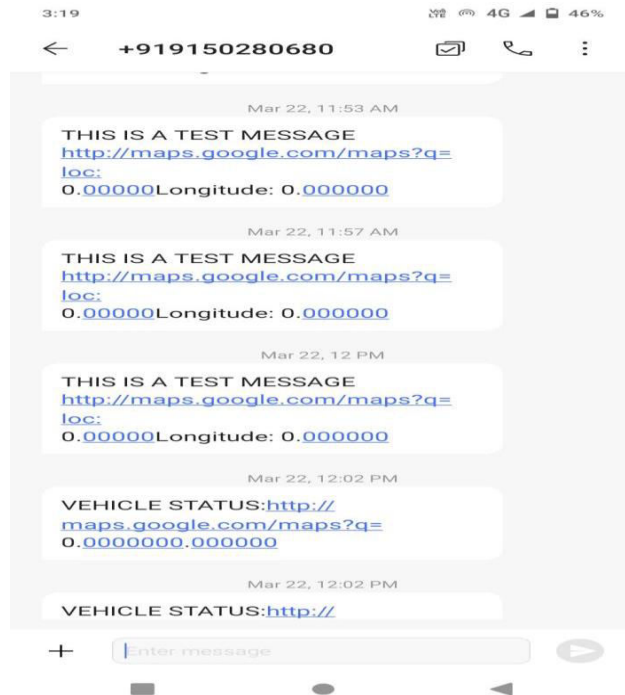
Fig.2. Adding & Storing the finger prints

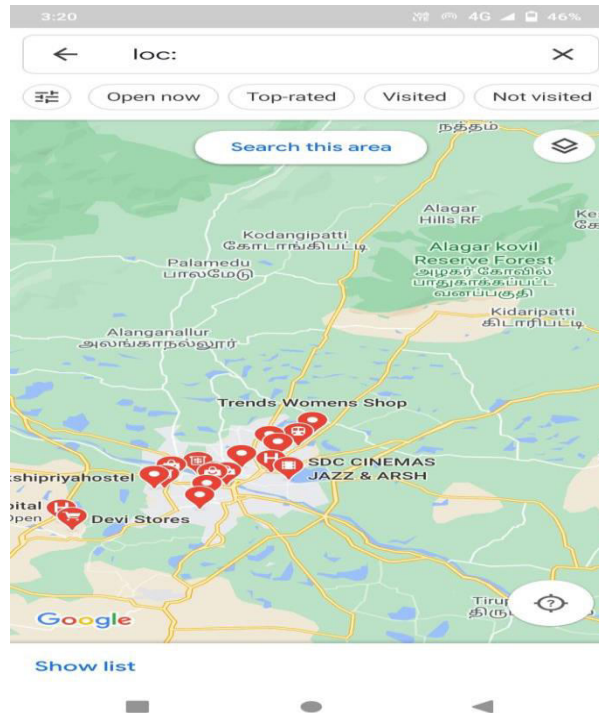Fig. 3. Authentication of fingerprint

Fig. 4: Checking the Status of the vehicle

V. CONCLUSION AND FUTURE WORK

Vehicle pursuit each just in case of non-public yet as business purpose improves safety and security, communication medium, performance observation and will increase productivity. Moreover, this style goes to play a serious role in our everyday living. Main catchword of the project is to include totally different form of system so they assist in decrease the possibilities of vehicle felony that we tend to can't stop with efficiency from occurring.

We will use the EEPROM to store the previous Navigating positions up to 256 locations and that we can navigate up to N range of locations by increasing its memory. We will cut back the size of the kit by using GPS+GSM on the constant module. With the assistance of high sensitivity vibration sensors, we can detect the accident whenever vehicle unexpectedly had an accident on the road with the help of vibration sensor we will be able to observe the accident and we can send the location to the owner, Hospital and police. We will use our kit to help the traffic, by keeping the kits within the entire vehicles and by knowing the locations of the vehicles. If anybody steals out automotive we will simply find our automotive round the globe, by keeping vehicle positioning vehicle on the vehicle.

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