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Real Time Vehicle Theft Identity and Control System using Arm 7

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ABSTRACT: In this modern world, the usage of cars has been increased and at the same time ratio of vehicle theft has also been increased. In order to minimize this we use FDS(Face Detection System) to identify whether the person is authorized or not. The hidden camera in the car captures the images and compares it with preloaded images. If the captured picture matches the preloaded images then the ignition system of the car is set to start. If the captured picture does not match the preloaded image then the ignition system of the car is set to lock and the message is soon sent to the owner with GSM Module and the GPS Module helps to send the exact location of the car**.**

KEYWORDS: ARM 7(Advance RISC Machine), GPS (Global Positioning System), GSM (Global System for Mobile Communication),Camera.

I. INTRODUCTION

In India, the last solved crime in 2018 is the motor vehicle theft. Each year the motor vehicle theft is increasing by 12.9% in 2018 compared to 2017.Most of the motor vehicle theft occurs in metropolitan area. So, in order to reduce the automotive theft, manufacturers need to improve the security features of the car. The camera in the car captures the image and compares it with the predefined image in the database. If the person is not matched with the preloaded image then it will lock the engine of the car and send SMS notification to the owner.

II. EXISTING SYSTEM

Many people think that vehicle theft can occur only in seedy areas of town but it can occur anywhere. People should be careful not to allow thieves by making mistakes. Automotive theft is one of the most common criminal behaviours. The vehicles have been stolen for various reasons for transport, resale of vehicle, reselling parts etc. There are many systems which will help you for preventing from car theft such as wheel lock, steering lock, brake lock, ignition cut-off switches in spite of this system they can easily be broke down. Engine locking system protects your car from different kinds of theft. Car security device offers good protection for car. A car with engine locking security system helps the owner to lock and unlock doors of the car. There are two types of engine locking systems which are used in Automobile industry, Automatic engine locking system and Manual engine locking system that gives a gentler and secured functioning. Anew, this project does not provide security and accessibility of the car in case of theft. So, here in this project we have made the use of more developed system based on FDS, GSM and GPS system.

Limitations of Existing System

This project can save only few images of the owner if we want to increase the user, we have to increase the database size.

III.PROPOSED SYSTEM

In this proposed project, FDS (Face Detection System) detects the face of the driver and compares it with the preloaded images. FDS compares the obtained image with the predefined images if the image doesn't match, then the information is sent to user. So now owner can obtain the image of the thief as well as he can trace the location through GPS. With ARM7, the new intelligent car security system is integrated with a lot of hardware modules (such as video capture, GPS positioning and wireless transmission) and with the design of the system software modules. By using the new available hardware and software resources, new intelligent car security system implemented the functions of capturing video and also provides GPS positioning.

PROPOSED SYSTEM BLOCK DIA:
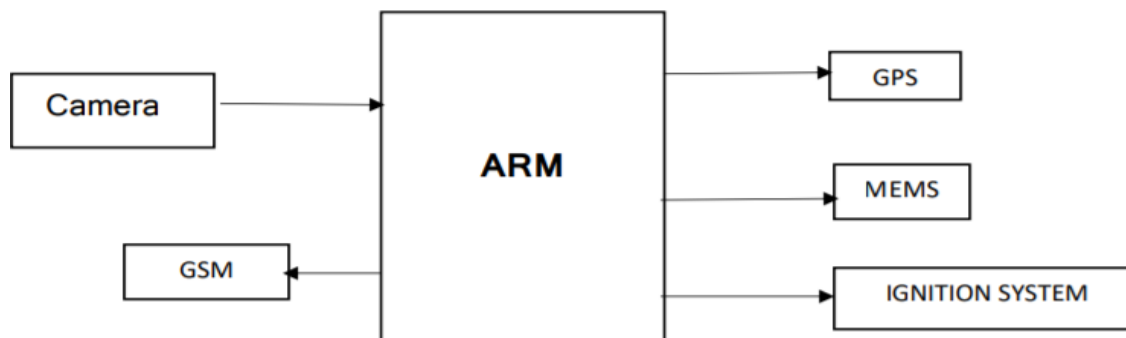
IV. SYSTEM DESCRIPTION

ARMProcessor: ARM is a 32-bit RISC (Reduced Instruction Set Computer) and it follows instruction set architecture provided by ARM holdings. It is also known as Advanced Reduced Instruction Set Computer, before that it was known as Acorn RISC Machine. The simplicity of ARM processors is also suitable for low power applications. It plays prominent role in mobile and embedded electronics market for relatively low cost and mid sixed microprocessors and microcontrollers.16 or 32bit ARM7TDMI-S microcontroller is a 64 or 144 pi dual inline package. 2- 32bit timers,PWM, real time clock. Operating frequency 1MHZ to 30MHZ.16 Kb on chip static RAM.In System Programming (ISP) and In Application Programming (IAP)

GPSModule:GPS (Global Positioning System) is a space based navigation system and provides exact location and time. It also provides information about weather at all times anywhere and anytime on Earth. It provides accurate positioning with unobstructed LOS (Line Of Sight). It helps us to track and provide the exact location of the car.

GSMModule: GSM (Global System for Mobile Communication) is a mobile communication modem. It is generally a wireless modem that works on wireless network. It is standard for digital cellular communication operating at 900MHz.Mobile service- based GSM was first launched in the year 1991 in Finland. Today, more mobile network uses GSM services across the world. GSM World references China is the largest GSM market with 370 million users, followed by Russia with 145 million and India with 83 million users. In our system GSM establishes connection between vehicle and the car owner.

Ignition system: If the captured picture matches the preloaded images then the ignition system of the car is set to start. If the captured picture does not match the preloaded image then the ignition system of the car is set to lock and the message is soon sent to the owner with GSM Module and the GPS Module helps to send the exact location of the car.

V. ALGORITHM

1.First, switch ON the power supply for boards ARM7, GSM and GPS.

2.Camera captures the image of the person.

3.The image of the driver of the vehicle is then saved to the database.

4. Compare the image with the preloaded images

5.If image is matched with the preloaded images in the database then start the ignition system

6.If image is not matched then lock the ignition system.

7.Send the image of the thief to owner using GSM module.

8.Send exact location of the car to the owner.

VI. FLOW CHART
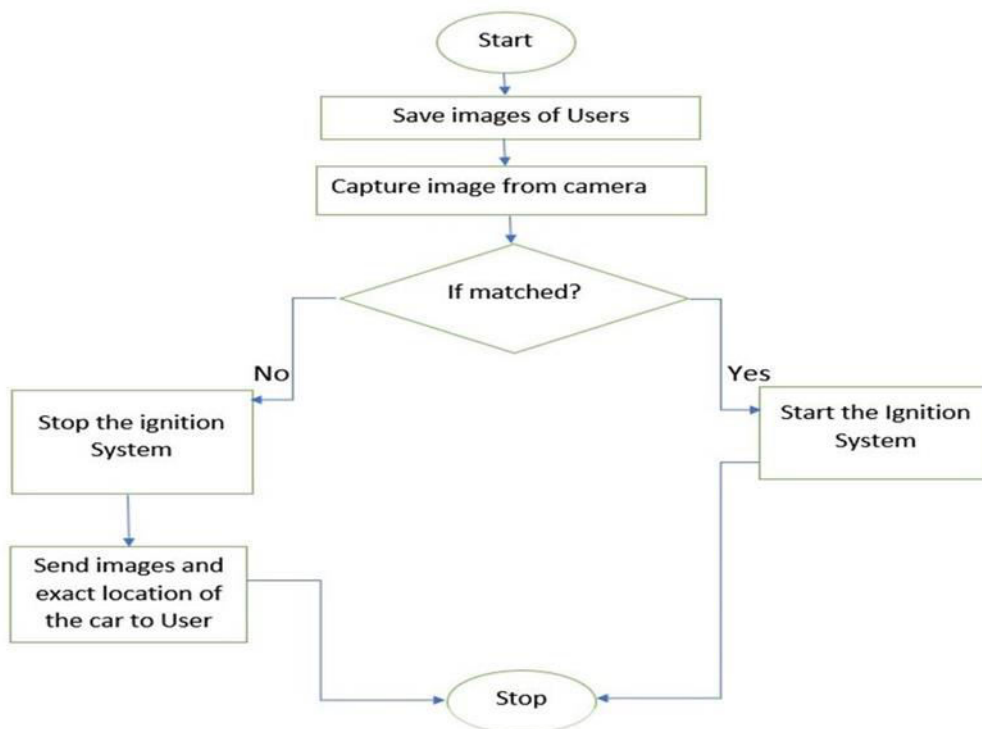
VII. ADVANTAGE

•It prevents the car from getting theft using FDS.

•We can get the clear image of the unauthorized person.

•We can get the exact location of the car.

•Safe and secure environment.

•It acts as smart security system.

VIII. RESULTS AND DISCUSSION

The proposed Anti-theft system is more efficient by improving FDS and adding biometric applications like finger print recognition and Face Recognition feature for more authentication. By replacing GSM and GPS modems with higher baud rate the problem in communication system could be minimized. we can extend this project by storing morenumber of images in the memory. If any person wants to start the car, the camera compares with the preloaded stored images. If the result is matched the engine will start otherwise, the unmatched person's image will go to the owner's mobile and also locks the ignition system. In future we can extend this by sending the information to control room of police for taking immediate action.

IX. CONCLUSION

In this project, FDS is used as advanced Intelligent Car security systems which prevents automotive theft and protect the car from unauthorized users. Secure and safe environment system is provided for automobile users and also provides evidences for the investigators to find out the unauthorized person. The advantage of this paper is that it can prevent the vehicle theft by using FDS. This project helps us to reduce complexity and improves security. Because of the flexibility, the embedded smart car security system can be extendable for special purposes. Our system offers a wide communication bandwidth with change in data and information, and new functional modules can be added easily to the system to improve and enhance the functions.

REFERENCES

[1] Jian Xiao and Haidong Feng "A low extendable framework for Embedded smart car security system" IEEE international conference,2009.

[2] S Padma Priya & Esther Annlin Kala James "Real time smart car lock security system using face detection and recognition" IEEE international conference Coimbatore,2012.

[3] Lotufo R.A., Morgan A.D., Johnson A.S., Automatic numberplate recognition. Proceeding of image analysis for transport application, IEEE Colloquium, 1990

[4] Abid Khan, Ravi Mishra GPS-GSM based tracking system, International Journal of Engineering Trends and Technology, Volume3, Isssue2, Pp:161- 169, 2012

Algorithms, web 2.0 etc.

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