PREVENTION OF CARJACKING USING FACE RECOGNITION

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Abstract— In recent days, GPS and GSM modules used to theft detection and vehicle tracking system. We added a face recognition technique based on the vehicle theft tracking and detection system. It provides an ultimate solution for all problems. The face recognition technology is used here. In real-time by using Open CV Python Module the face recognition and detection are done. Face recognition may solve any problems. The camera captures the image and sends it to Raspberry pi and it recognizes the face and compares face within their data to check whether that user is an automated owner or not. If the conditions are true, unlock the vehicle. Otherwise, the vehicle has been locked. If any person trying to break (or) damaging the device, it will automatically send the message and call to the responsible person. This system secures vehicles from theft as well as allowing users to view the theft details thereby high lighting the theft details and the data is saved in a USB drive.
Keywords— Face recognition, Open CV, Vehicle Tracking, Locking &Detecting.

INTRODUCTION

Image processing is a method to perform some operations on an image, to get an enhanced image or to extract some useful information from it. Image processing is getting increasingly popular and most of us are using it without even realizing it. A facial recognition system is a technology capable of identifying or verifying a person from a digital image or a video frame from a video source. Digital image processing is the use of a digital computer to process digital images through an algorithm. The vehicle tracking and detecting system is mainly designed for earth place transportation and constructing work. It provides that valuable information like that location and expected reached the time of the owner is moving vehicles in a terse and easiest way of reading formation. In tracking system may also used for communicating processes surrounded by the two (or) more tips.

LITERATURE SURVEY

The Vehicle tracked system is found that GPS technology. It is used to unite both GSM and GPS module. It can be used in many applications like GSM and GPS systems. This system can be designed to track the location and it can provide real-time application information such as location and speed of the vehicle and the expected arrival time of the user is moving vehicles and it can be easy to reading formation.

A knowledge gaining from this project have been great helps to understand the basic concepts related to our project. The fast expanding its reach by embedded system. The working from this project we have to refer more related to our project from various sources such as books, online and reference paper. The vehicle robbery tracking (or) lost vehicle detection. The vehicle owner and police department both can see the vehicle position under which station limit the vehicle is occupying. So, it becomes easier to find the vehicle. A motor vehicle followed system is one of the electronic systems, and its that device has been fixed in the vehicle to permit the user to track the vehicle current place.

EXISTING SYSTEM

The vehicle track and detecting system is used to track the vehicle with the help of GPS. Face recognition Sensor by using the mobile application can be used to detecting the face of the vehicle owner, and to compare with the trained images. After the face has been matched the vehicle has been unlocked otherwise the system has been locked. .Then, the Face recognition sensor can obtain images by using the IP web camera, and it can hide easily in someplace in the car. The face recognition sensor is compared to the obtained images with already trained images. If the image can be a mismatch, then the details send to the responsible person through the mobile phone. The responsible person getting the theft person details and images automatically and trace the place with the help of GPS. The responsible person can be recognized to theft person details also images as well as the current place of the vehicle.

GSM and GPS are based on a remote monitoring system that has been implemented. The GPS or GSM based system is one of the main systems, which integrating both GSM and GPS technologies. We have added technology like, face recognition is based on vehicle theft detection and prevention system to provide an ultimate solution for this problem. The technology used here is facing recognition and face detection in real-time by using the Open CV Python Module. Face recognition may solve many problems. Vehicle locking & detection device is installed in the vehicle. By using a mobile application to recognize the face and compares his face with their database to check whether he is an automated driver or not. If the condition is true, unlock the vehicle. Otherwise, the vehicle has been locked.

PROPOSED SYSTEM

To prevent a car from carjacking by providing security using face recognition. This locking system will be placed in the handle of the car door. we can update the image maximum of limit 5 or we can increase the capability size. If a person is an authorized person then we can unlock the door using a key or if a person forgets to take key they can use their face recognition to unlock the car. If the person tries to unlock the car the face will be recognized and the face is immediately sent to the authorized person in offline mode. After receiving the message from offline mode the authorize person will sign in to the android application using their unique password, there they will receive the message along with an image of the unauthorized person then we have an allow and deny option to allow the unauthorized person. If the authorized person press allows then the car will automatically be unlocked, if it is denied then the door remains locked.

DESCRIPTION

1) Camera:

Camera is used to capture the picture of the person and it is sent to Raspberry pi. A camera is an optical instrument used to record images. At their most basic, cameras are sealed boxes (the camera body) with small holes (the aperture) that let light in to capture an image on a light-sensitive surface (usually photographic film or a digital sensor).

2) USB Storage:

USB (Universal Serial Bus) is used for storage, to transfer the computer files. Compare with floppy disks, they are much smaller when compare to other, faster, it's having more capacity to store the information and are more durable due to a lack of moving parts.

3) Lock Control Circuitry:

An electronic lock is one of the locking devices. It can operate only an electric current. The electric locks have been self-contained sometimes with the help of electronic control. It can be assembled mount directly to the lock.

4) Raspberry pi:

The Raspberry Pi is a low cost, credit-card sized computer that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing and to learn how to program in languages like Scratch and Python.

5) Mobile Application:

This mobile application is used to permit to access the vehicle when an unauthorized person (friend or relative of authorized person) wants to open the car. It may also reject if the person is not known to the owner.

FEATURES

The higher the level of integration within the hardware target, these tools provide more benefits. In our project less time to give the result, but the cost is greater. These factors consider choosing a debugging tool is expensive, but it can use easily. These features can provide only during the debugging process. The computer programs running to the independent hardware used to software simulator. This system will be suitable for all types of vehicles especially four-wheelers.

RESULT

The vehicle is prevented from carjacking using face recognition. It is done using Open CV python.

CONCLUSION

In this paper an advanced and cost also less, then it is more secured for vehicle users. A vehicle track system can be inserted into the vehicle somewhere in the hidden place. No one can easily find out this system. If any unknown person tries to break the system the buzzer gets on then automatically sends it to the user to send SMS to the message and call the owner.

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