BURGLAR IMAGE CAPTURING AND ANTI THEFT SYSTEM

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COLLEGE : BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT, BANGLORE
BRANCH : DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
GUIDE : DR. M. C. HANUMANTHARAJU
STUDENTS : MR. VARUN R.
MR. SUDHA KABADI
MR. KUMAR ADITYA
MR. SHILPA A.

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Introduction:

The theft attempts, car damage or crashing of the car are common issues in unattended public areas, to prevent these issues we are building a security system to capture image by using a sensor triggered camera. The owner of the car will be alerted with message along with visual proof. Thus in this way crimes can be reduced and the owner will be having evidence to file a complaint and will also help him to claim insurance for any damage caused.

The main purpose of this project is to capture image of the theft and to prevent vehicle theft. The image is sent to the owner through email via internet. The owner can stop the car. Thus in this way crimes can be reduced to a great extent as vehicles today are being stolen in large number. Hence, vehicles today require high security which can be achieved with the help of this application.

How the system works is, when a person tries to steal the vehicle. The IR Sensor detects any movement the signal is sent to the raspberry pi and the image is captured by camera and the image is sent to the car owner’s email id and alerted with an alarm. When the owner receives the email id, the owner calls the mobile number specified in the model and can seize the engine.

Objectives:

1. To provide a platform for autonomous communication between the car and the car owner.
2. To provide information about the car conditions to the car owner.
3. When any kind human or object detection owner gets the information of the car.
4. When any sensor senses it will send photo automatically to the car owner through the email.
5. Collect visual proof of theft.

Hardware requirements:

- Arduino Uno Board
- Raspberry Pi 3 Model
- IR sensor, Alarm, Dc Motor(4-12V)
- DTMF (Dial Tone Multi Frequency) Decoder.
Software requirements:

- Arduino software
- Python Software for raspberry pi

Results & conclusion:

Intruder images captured when object sensed

Conclusion:

Generally these days’ people make use of CCTV cameras for security of their home or shop also their garage or parking lot to keep an eye on the car but it has a few disadvantages like, it can't inform to owner about the theft and outside surveillance area it cannot capture evidence or any visual proof. Hence to overcome this disadvantage of existing systems we are implementing this project. In this project we are implementing a raspberry pi based advanced security system to avoid theft. Now with our security and anti-theft system we are able to keep a constant watch over the vehicle without worrying about where the vehicle is parked. We are able to set an alarm in the vehicle as soon as the sensors detect any intervention and also provide real time visual proof with an alert message to the owner. We won’t require any memory storage because we are not functioning like a CCTV camera. We are also providing the owner with the facility to control the ignition by turning off the ignition so that a burglar cannot start the vehicle and it will demobilize the vehicle. This system is cost effective and can be used anywhere where security is necessary.

Scope for Future work:

In our system we are capturing the image of the theft and the burglar in addition to this we can compare the captured image with some predefined human image attributes, for this we will require a very strong database like an FBI maintains a database of the fellow countrymen and if both images are matched then it is easier to catch the intruder. We can also add a provision to make a call to police or a helpline provided detection is not fake. We need to work on the image processing software, provide better wide angle cameras and with good quality night vision. To use a 360 degree camera we will have to use morphing and demorphing software and a lot of editing color correction and managing light quality to provide a good quality video tape or evidence. We could add more sensors like vibration sensors and heat sensors to help the IR sensors to be more precise about the detection. We could use this system in any mobile system/vehicle. We could build the system by adding more features.