Surveillance System with Face Recognition with Smart SMS Alerts with GPS Tracking Indian Army to Make Border Safe

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ABSTRACT; In our proposed system, we would store the database of a person in a storage (now in local disk, real time it would be cloud), and now we have a controller (raspberry pi), which is connected with the camera. And it would identify the person through its face recognise based on our code and send us an alert if the same person matches as per database. By using this we could easily identify the person from any location. The camera could send the ip of the data's, where we could recognise the location and find the person. This would be more useful in application like defence surveillance and tracking.

KEYWORDS: Raspberry pi, GSM module, OpenCV, surveillance, python

I.INTRODUCTION

Reconnaissance is one of the essential angles in different fields, for example, banking segments, military territories, or individual security. Because of exponential ascent in thievery and burglary exercises, observation frameworks are turned out to be an incredible wellspring of security. Because of consistently expanding innovation individuals are depending on cutting edge innovations for their security purposes. Security frameworks, for example, CCTV have turned out to be immensely prevalent for security purposes because of their cost effective nature and simple support. Observation is extremely useful for law requirement to examine/avert criminal exercises, for perceiving and checking dangers. Additionally, observation frameworks have dependably been assuming an essential job in managing the robbery cases. These CCTV frameworks will in general screen exercises consistently. This outcomes in high power utilization and memory wastage. Besides, it doesn't give alert on any suspicious exercises recognized. There are frameworks accessible other than CCTV, for example, Retina scanner, unique mark scanner, IR lasers. Thus, such frameworks are not a favoured route for security purposes for little scale applications. Proposed framework covers every one of these disadvantages by its productivity, convenience. This observation framework is minimal effort and easy to understand as well.
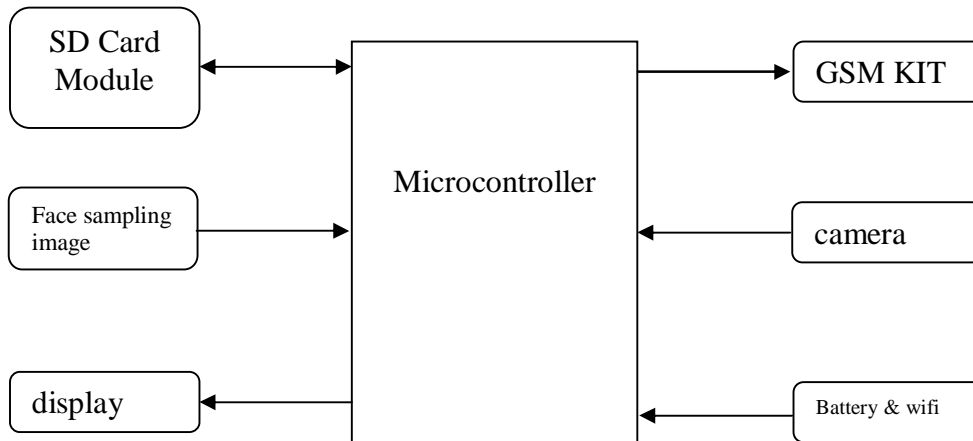
II. PROPOSED METHODOLOGY

Fig.2.1 block diagram

III. HARDWARE DESCRIPITION

Raspberry Pi Raspberry Pi is an ease (35 dollar), Visa measured, PC that performs different applications. A portion of its primary highlights incorporate 1GB of RAM, 4 USB Ports, General Purpose Input Output pins, Linux support. These highlights gives software engineers a wide range for assorted applications. PIR Sensor Passive Infrared Sensor is an electronic sensor that estimates infrared lights transmitting from the items in its field of view. Its greatest range is about 10m which is reasonable for movement discovery applications. Raspberry Pi-Camera Raspberry Pi-Camera module is a 8MP camera with full HD recording ability. This gives an ideal answer for face acknowledgment.

IV.SOFTWARE DESCRIPTION

This framework is to a great extent dependent on Python programming from distinguishing the movement to producing an alarm. Different Python libraries are utilized to control PIR Sensor for distinguishing the movement, Python is utilized for Pi-Camera to catch and process pictures. The caught picture is then prepared utilizing OpenCV library that incorporates with Python. OpenCV (Open Computer Vision) is a library for the most part went for continuous PC vision. It gives incredible help to confront location and face-acknowledgment strategies utilizing Python.
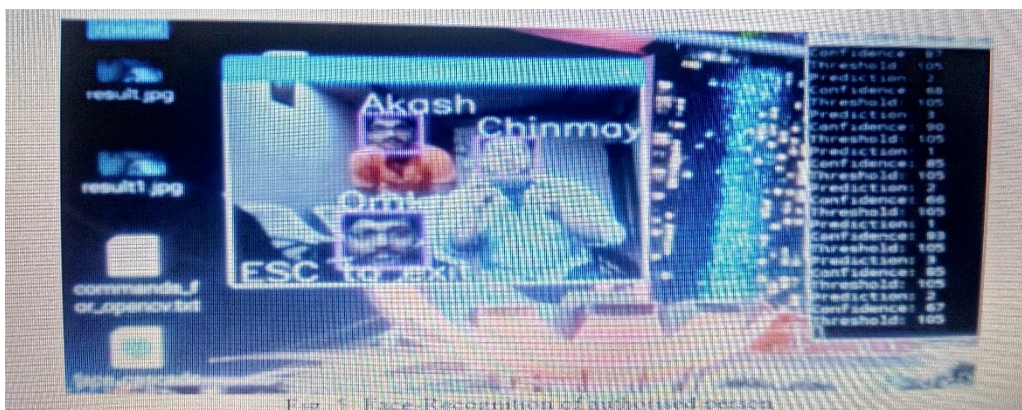
V.EXPERIMENTAL RESULTS

Face-Recognition of authorised person

Loads of examinations have been done to get the scope of PIR Sensor precisely. For best consequences of facerecognition, huge number of pictures of approved people has been taken as datasets for examination of pictures to decide approved and unapproved people. Around 70 to 80 pictures of per individual with their diverse outward appearances have been mulled over while playing out the tests. Exactness for the face-acknowledgment is about 80%. Diverse pictures must be put away in various circumstances and light powers, for example, light and dim surroundings for acquiring best outcomes.

Face-Recognition of Unauthorized individual

demonstrates once a movement is distinguished the caught picture is handled and arranged into approved and unapproved people. Approved people are identified as appeared. demonstrates how unapproved individual is identified by the framework. This creates an alarm and advises client on his android pushetta application.

VI. CONCLUSION

Observation framework gives a productive method to checking suspicious exercises. Conventional frameworks are effective and have low upkeep cost. Be that as it may, vitality utilization is more as the framework is ceaselessly fueled on. Proposed IOT based shrewd observation framework gives vitality the executives by turning the framework ON, in view of the event of a specific movement. Framework will detect the movement and relying upon the distinguished movement framework will switch on the camera, catch the picture of gatecrasher, remember it and send a notice on proprietor's advanced mobile phone if the individual isn't perceived by the framework.

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