

DETECTION OF ENEMY SOLDIER

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ABSTRACT

Advanced systems for control signal are sent to a specific target, and target selection is made when the missile reaches the area based on the earlier military communications were delivered by human being on foot. Various sensors, including image beams, provide a rich set of information about a combat scene which can be used to support strategic decisions. Face detection is necessary in many applications, like those for face appreciation, face tracing in video orders, sex ordering, biometric ID, Human Computer Communication systems, and others.

The study presented goals to design and grow a face gratitude system. The system utilized Viola Jones Algorithm in detecting faces from a given image. Face detection is the important portion of any face processing system. It is growing as an active study area in field of image dispensation. Various devices like feature based, skin color and arrival based model are proposed.

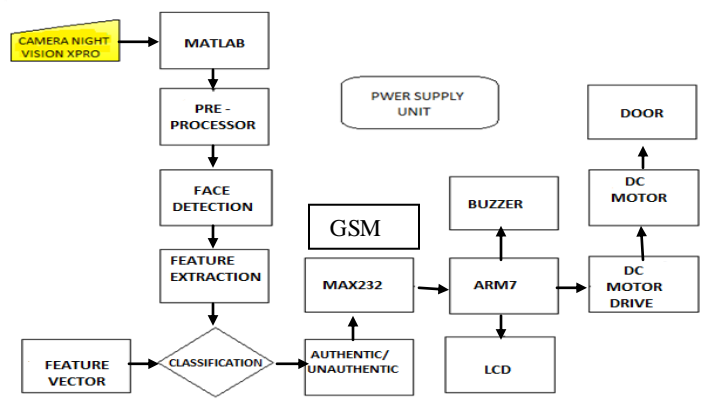
Keywords:-Skin detection; Face detection; Viola-Jones algorithm, MATLAB Computer Vision System Toolbox.

I. INTRODUCTION

The new skill has been industrialized by the Defence Advanced Research Project Agency (DARPA) and appears promising due to its little cost. For only \$3,300 per fighter, the military could be equipped with technology so advanced that it can detect networks and enemies in any weather or discernibility condition, night or day. The Pixel Network for Dynamic Visualization set would run “frontline mindfulness and peril finding and identification,” according to a DARPA press release. In light of this, researchers have endeavoured during the past years to produce and use various algorithms to address several glitches that arose with the growth and execution of face credit system

II. BLOCS.K DIAGRAM

Another problem that surfaced with the application of face recognition systems is the fact that the usage of makeover databases invades the secrecy of publics and, if not properly secured



A. Face Detection Block

This block is the one that procedures the say image. The input image is an image frame grabbed from the video stream conveyed by the camera[1]. This block will serve as the starting point of the system. This block feeds the succeeding block with an image which is derived from the Novel image.

The ECU skin and face database created by Phung et al. at Edith Cowan University was utilized to derive the optimal threshold ranges and evaluate the performance of skin and face detection.

B. Feature Extraction Block

This block initiates after the face detection hunk. It accepts, as input, the processed image fashioned by the previous block[1]. This block is a decisive part of any face recognition system. One of the central factors for this part is the extent of certain biometric facial features which can be considered as unique for every person.

C. Liquid Crystal Display

This is the example for the Parallel Port. This example doesn't use the Bi-directional feature found on newer ports, thus it should effort with most, if not all Similar Docks. It however doesn't show the use of the Status Port as an say for a 16 Appeal x 2 Line LCD Module to the Parallel Port. These LCD Units are very collective these times, and are quite humble to work with, as all the reason compulsory running them is on board.

Features:

- Very dense and bright
- Low power feeding
- No geometric falsification
- Not affected by screen burn-in
- No high voltage or other hazards current during repair/service
- Can be made in nearly any size or shape
- No theoretical resolution limit

D. ARM-7

The LPC2141/42/44/46/48 microcontrollers are based happening a 16-bit/32-bit ARM7TDMI-SCPU with real-time emulation and entrenched trace care, that combine the microcontroller with embedded high-speed flash memory ranging from 32 kB to 512 kB. A 128-bit wide memory boundary and sole accelerator architecture allow 32-bit code execution at the maximum clock rate[3]. For critical code scope applications, the alternative 16-bit Thumb mode reduces code by more than 30 % with minimal performance penalty.

Due to their miniscule size and little power feeding, LPC2141/42/44/46/48 are ideal for applications where miniaturization is a main obligation, such as access control and point-of-sale.

Key features:

- 16-bit/32-bit ARM7 microcontroller in a tiny LQFP64 package.
- 8 Kb to 40 Kb of on-chip static RAM and 32 Kb to 512 Kb of on-chip flash memory.
- 128-bit wide border/accelerator allows high-speed 60 MHz task.
- In-System Programming/In-Application Programming (ISP/IAP) via on-chip wader loader software. Single flash segment or full chip erase in 400 ms and programming of 256B in 1 ms.

E. RS232

RS232 (Recommended standard-232) is a standard interface approved by the Electronics Industries Association (EIA) for linking ongoing devices. In other words, RS-232 is a long reputable standard that describes the physical border and procedure for fairly low speed serial data communication between computers and related devices.

F. Power Supply

The ac power, typically 230V, is linked to a modifier, which steps that ac voltage down to the level of the desired dc production. A diode rectifier then delivers a full-wave rectified voltage that is initially filtered by a simple capacitor mesh to produce a dc power. This resulting dc voltage usually has some ripple or ac voltage variation.

A regulator circuit eliminates the waves and also remains the same dc value even if the input dc voltage varies, or the load linked to the output dc voltage variations. This voltage regulation is usually obtained using one of the popular voltage regulator IC units.

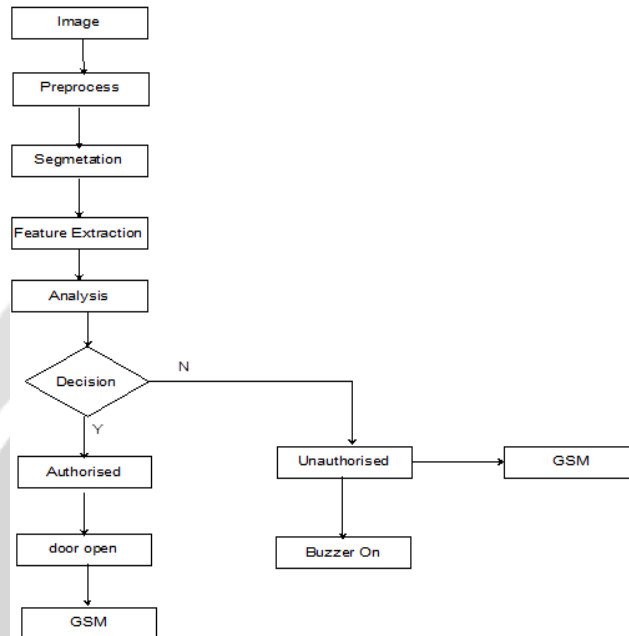
III. SOFTWARE OVERVIEW

A. Algorithm

1. Start.
2. Initialize the system.

3. Capture the image through camera.
4. Preprocess, segment and extract the features of the image using MATLAB.
5. Analyse the image:
 - If authorised personnel found then open the door and send the message through GSM.
 - If unauthorised personnel found then trigger the buzzer and send the message through GSM.

B. FLOWCHART



IV. THE VIOLA/JONES FACE DETECTOR

Our object detection process classifies imageries based on the value of simple features. There are many motivations for using features rather than the pixels directly[2]. The most common reason is that features can act to encode ad-hoc domain knowledge that is difficult to learn using a finite quantity of training data. For this system there is also a second critical incentive for features: the feature based scheme operates much faster than a pixel-based system.

The simple features rummage-sale are reminiscent of Haar basis occupations which have been used by Papageorgiou . More specifically, we use three kinds of topographies. The price of a two-rectangle feature is the difference between the sum of the pixels within two rectangular regions [2]. The regions have the same size and shape and are horizontally or vertically adjacent (see Figure 1). A three-rectangle feature computes the amount within two outside rectangles subtracted from the sum in a center rectangle. Lastly a four-rectangle feature computes the difference between diagonal pairs of rectangles. Given that the base resolution of the detector is 24x24, the thorough usual of rectangle features is quite large, over 180,000 . Note that unlike the Haar basis, the set of rectangle features is overcomplete1.

IV. FIGURES



fig.a. Liquid crystal display

Fig.a. shows module used interfaced to the microcontroller. LCD is used to display the message the person is authentic or unauthentic

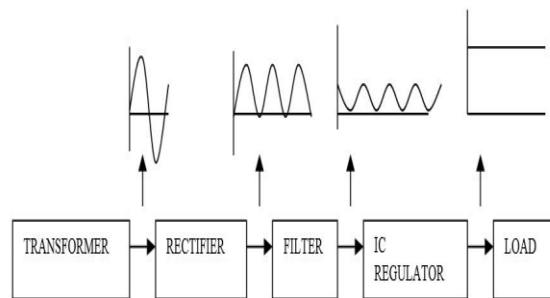
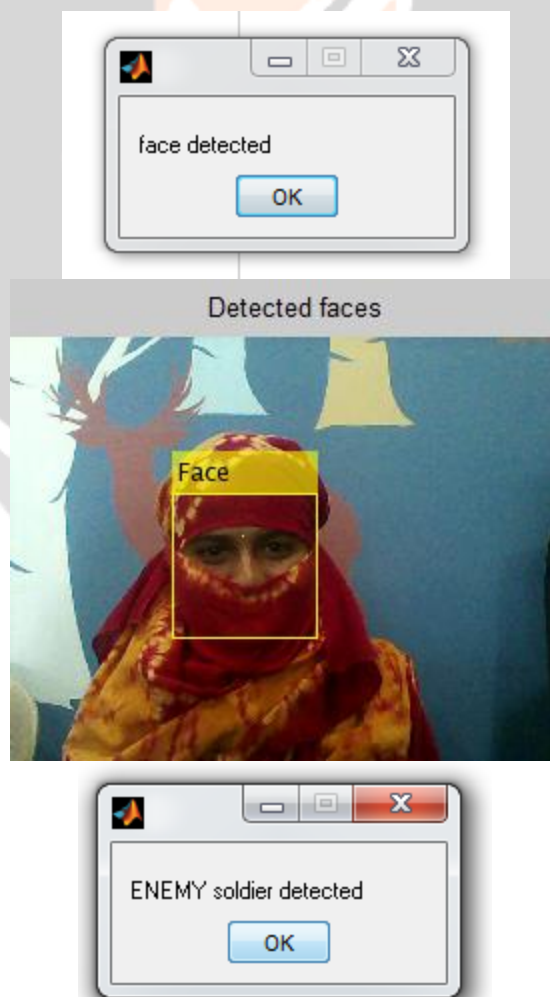


Fig. b. Power supply

Fig.b. shows the ac voltage, typically 230V, is connected to a transformer, which steps that ac voltage depressed to the level of the desired dc output. A diode rectifier then provides a full-wave rectified voltage that is initially drinkable by a simple capacitor filter to produce a dc voltage

Result



Conclusions

We have future an illumination invariant face detection procedure using Viola/Jones algorithm. In our proposed method, we have better the face detection rate and the haste of detection. In this algorithm, thermal images binarized using Otsu's thresholding technique. After that, the horizontal estimate of the image is calculated to identify the global minimum. The tallness and size of the head region is identified by using the global minimum point. We have also developed a file (UTAR-YK thermal database) to evaluate the presentation of the proposed algorithm. The experimental results for our future algorithm in terms of face discovery rate and processing time shows that the proposed algorithm has achieved good results.

Acknowledgment

Every organization work has imprint of many people and this work is no different. This work has given us an opportunity to express deep gratitude for the same.

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Every work is an outcome of full proof preparation, continuous and organized effort. This work is combination of all the three put together sincerely.

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