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Criminal Face Identification System

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Abstract: *Criminal record generally contains personal information about particular person along with photograph. To identify any Criminal we need some identification regarding person, which are given by eyewitness. In most cases the quality and resolution of the recorded image segments is poor and hard to identify a face. To overcome this sort of problem we are developing software. Identification can be done in many ways like finger print, eyes, DNA etc. One of the applications is face identification. The face is our primary focus of attention in social interactions course playing a major role in conveying identity and emotion. Although the ability to infer intelligence or character from facial appearance is suspect, the human ability to recognize face is remarkable.*

Keywords: *System Analysis, System Design, Module Description.*

I. INTRODUCTION

This project is aimed to identify the criminals in any investigation department. Here the technique is we already store some images of the criminals in our database along with his details and that images are segmented into many slices say eyes, hairs, lips, nose, etc. These images are again stored in another database record so to identify any criminals; eyewitnesses will see the images or slices that appear on the screen by using it we develop the face, which may or may not be matched with our images. If any image is matched up to 99% then we predict that he is only the criminal. Thus using this project it provides a very friendly environment for both operator and eyewitness to easily design any face can identify criminals very easy.

A. Project Objective

This project is intended to identify a person using the images previously taken. The identification will be done according to the previous images of different persons.

B. Project scope

The scope of the project is confined to store the image and store in the database. When a person has to be identified the images stored in the database are compared with the existing details.

C. Overview of the project

This project is aimed to identify the criminals in any investigation department. Here the technique is we already store some images of Criminal Face Identification System.

The criminals in our database along with his details and those images are segmented into many slices say eyes, hairs, lips, nose, etc. These images are again stored in another database record so to identify any criminals; eyewitnesses will see the images or slices that appear on the screen by using it we develop the face, which may or may not be matched with our images. If any image is matched up to 99% then we predict that he is only the criminal. Thus using this project it provides a very friendly environment for both operator and eyewitness to easily design any face can identify criminals very easy.

II. SYSTEM ANALYSIS

A. Existing System

This system is manual system only. Here, have a facility to store the criminal images. If you want to compare the criminal images with the existing images it is manual process. This process is very slow to give the result. It is very critical to find the criminal

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images.

B. Proposed System

To overcome the drawbacks that were in the existing system we develop a system that will be very useful for any investigation department. Here the program keeps track of the record number of each slice during the construction of identifiable human face and calculate maximum number of slices of the similar record number. Based on this record number the program retrieves the personal record of the suspect (whose slice constituted the major parts of the constructed human face) on exercising the "locate" option.

III. SYSTEM DESIGN

- A. Organize the system into subsystems.
- B. Identify the concurrency inherent in the problem.
- C. Allocate subsystems to processors and tasks.
- D. Choose an approach for management of data stores.
- E. Handle access to global resources.
- F. Choose the implementation of control in software.
- G. Handle boundary conditions.
- H. Set trade-off priorities.

IV. REQUIREMENTS

By conducting the requirements analysis we listed out the requirements that are useful to restate the problem definition.

- A. Insert the image into database
- B. Split the image into no of parts.
- C. Merge the parts.
- D. Identify the image.
- E. Draw image manually.
- F. Maintain separate login for admin and operator.

Maintain information about each criminal.

V. MODULE DESCRIPTION

Well-structured designs improve the maintainability of a system. A structured system is one that is developed from the top down and modular, that is, broken down into manageable components. In this project we modularized the system so that they have minimal effect on each other. This application is designed into five independent modules which take care of different tasks efficiently.

A. User Interface Module

Actually every application has one user interface for accessing the entire application. In this application also we are providing one user interface for accessing this application. The user interface designed completely based on the end users. It is provide friendly accessing to the users.

B. Admin Module

- 1) *Create*: Assign new user id & password for an employee.
- 2) *Delete*: Administrator can delete the user id & password of unwanted employee.
- 3) *Update*: First the details of employees are to be obtained by using user id & password.

C. Client Module

- 1) *Login*: Employee log in to home page by entering id & password.
- 2) *Adding Details*: Personal details of criminal store in to data base.
- 3) *Update Process*: Enter criminal id and obtain his details .

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- 4) *Delete Process*: Enter criminal id.
- 5) *Logout*: Logout in to the home page.

D. Database Operations Module

- 1) *Add Module*: The add module is helpful in adding the details of the criminals along with the details of the criminal photo. While adding the details of the criminal, we crop the image of the criminal and store those cropped parts in a separate database.
- 2) *Delete Module*: This module deletes the criminal details along with the photo. The operator first submits the criminal id and searches for the availability of the id in the database. If that id is available in the database, then the operator may delete the record of that particular criminal.
- 3) *Update Module*: The operator first enters the criminal id and searches for the availability of that id .If that id is available in the database , then the details of that criminal are retrieved and the operator can update the details of that criminal and that updated details of the criminal are stored in the database again for future retrieval.

E. Splitting and Merging Module

- 1) *View clippings*: View all clips and select the clip shown by eyewitness.
- 2) *Construction*: Construct the face of criminal by clubbing all freezed clippings

F. Identify Module

The cropped parts of the criminals, along with the criminal Id are viewed by the eyewitness .The eyewitness selects particular cropped part of the criminal and it is freeze by the operator., then complete face of the criminal is constructed and the details of the criminal is retrieved.

Login Page:

fig.(a)

Criminal Information Page:

Fig.(b)

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Process of Identify the Face:

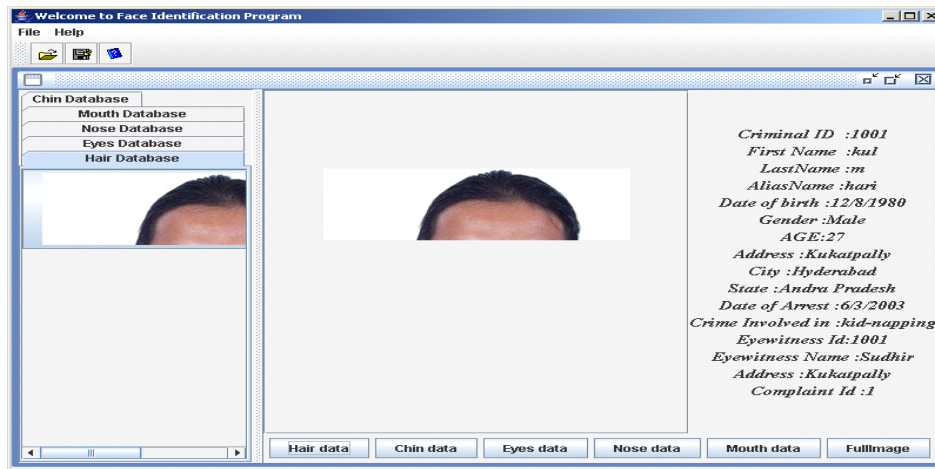


Fig.(c)

Identify The Face:

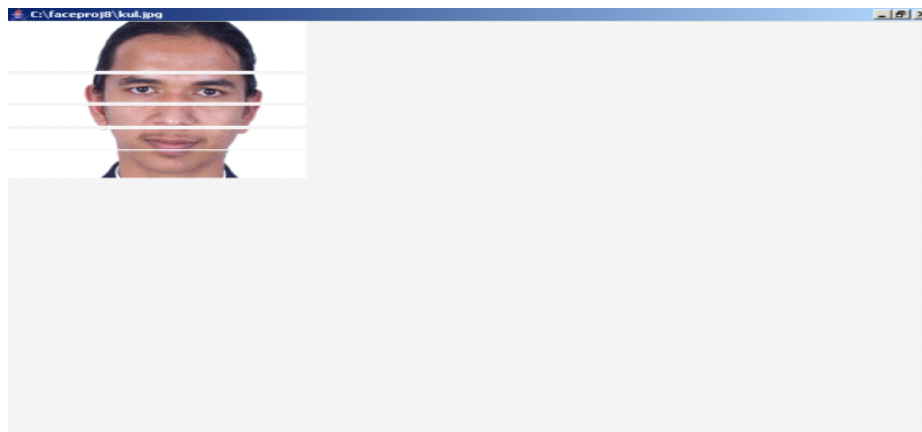


Fig.(d)

Divide The Face:



Fig.(e)

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G. Future enhancements

The Future enhancements of this project include the following:

- 1) The criminal photos may be of any size.
- 2) By selecting any one cropped part of the criminal, we can get the full image of the criminals along with details.
- 3) New face constructed by different cropped parts can be saved.

H. Advantages

- 1) Very fast and accurate.
- 2) No need of any extra manual effort.
- 3) No fever of data loss.
- 4) Just need a little knowledge to operate the system.
- 5) Doesn't require any extra hardware device.
- 6) At last very easy to find the criminals.

VI. CONCLUSION

Criminal Face Identification System is a challenging problem in the field of image analysis and computer vision that has received a great deal of attention over the last few years because of its many applications in various domains.

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