FACE RECOGNITION SYSTEM

Project Synopsis

Version 1.0

B.TECH (ECS 791)

Degree

BACHELOR OF TECHNOLOGY (CSE)

PROJECT GUIDE:

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Project Title

FACE RECOGNITION SYSTEM

Domain

The user can use the system only after the authenticating face is recognized .Otherwise one can not use the system.

Problem Statement

Face Recognition is important for the interpretation of facial expressions in application such as intelligent man-machine interface and communication, intelligent visual surveillance, teleconference and real-time animation from live motion images. There have been many computer models proposed for machine based recognition for face images. The distinctive features of this methods are: the eigenvectors reflect the statistical properties of face images they represent; they capture more global “signatures” of the faces and therefore more tolerant and immune to local variations. Because face recognition is commonly subject to to a wide range of changes in viewing angle and facial hair as well as to partial occlusion and blurring , the eigenface method in computationally more robust and biologically more plausible than other template matching techniques that are based on the detection of visible local facial features and the representation of face models b y geometric model of such features ,for example the location and size of eyes, nose and mouth as well as their distance . Eigen faces also provide an attractive mechanism for the transmission of coded image sequences through networks. However there is a fundamental problem with the existing Eigen face models. Current Eigen face models only recognize single face images that have been taken from a strict narrow view angle, most commonly a frontal view. This substantially limits its robustness and effectiveness. For example, two face image of the same face class (i.e. an individually).

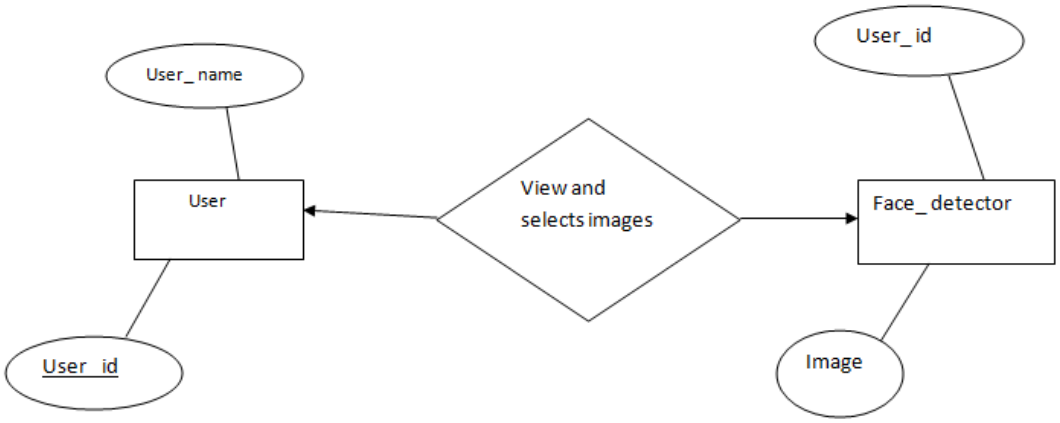
1.1 Project Modules

Face Recognition system project is divided into 1 modules

1. Face Detector
    - User id
    - User image
    - View selected image
    - Detect image and then face

5 Implementation Methodology

ER-Diagram



6 Technologies to be used

6.1 Software Platform

a) **Front-end- Spyder**

b) **Back-end-** Anaconda Command Prompt

6.2 Hardware Platform

RAM- 2 GB

Hard Disk - 20 GB
OS- windows 10
Editor- Word
Browser - Firefox

6.3 Tools

Tools	Vendor Name	Version Name
Spyder	Don Ho	3.1
Anaconda Command prompt	Wmic Csproduct	2013
My SQL	Oracle	2013

7 Advantages of this Project

In daily life, we do recognize each other not by fingerprints, palm prints, iris, etc., but by human face . Thus, facial recognition technology is the most attractive one among biometric technology , it is the most intuitive and natural , it has the following advantages:

face recognition technology
1. Non-contact, user acceptance is high
Facial recognition technology using cameras as the identification information acquisition, it obtain human facial features and complete face verifying in non-contact automatically.
2. High speed identification
Compared with other biometrics authentication technology, face recognition is a kind of automatic identification technology, which with faster verification. Not perceived characteristics comparing is important, which makes the identification method is not offensive, and because it is not easy to cause people's attention.
3. Difficult to counterfeit
Face recognition technology requires identification object must come to scene for verifying, do not accept fakers. On basis of this unique ability, it won't be deceived by others inactive photographs, puppets, or wax head.
4. Wide application fields
In addition to all current applications of fingerprint recognition, such as Time and Attendance, Access Control System. Face recognition also can be applied to all kinds of people face video surveillance alarm system, digital camera, and the future of robots, it has a broad market prospect.

8 Future Scope and further enhancement of the Project

1. **Identifiable online daters**. An important part of online dating is, of course, anonymity. You make up a screen name because you want an element of surprise when you meet

someone — and because you don't want creepers showing up at your office uninvited. In 2010, Acquits published the study, "Privacy in the Age of Augmented Reality." He and his fellow researchers analyzed 6,000 online profiles on a dating site in the same US city. Using four cloud computing cores and the facial recognition software PittPatt, they were able to identify 1 in 10 of these anonymous daters. And remember, this technology has improved three-fold since then.

2. **Better tools for law enforcement**. After the Boston Marathon bombing, the Boston police commissioner said that facial recognition software had not helped them identify Dzhokhar and Tamerlane Tsarnaev, despite the fact that the two were in public records databases—and photographed at the scene. Only, those images were taken from far away, the brothers were wearing sunglasses and caps, and many shots of them were in profile — all things that make facial recognition difficult. Experts say that technology can overcome these difficulties. In an interview with Salon.com, Acquits said that the increasing resolution of photos will help (hello, gig pixel!), as will the improved computational capabilities of computers and the ever-expanding mountain of data available from social networks. In a fascinating article via Yahoo, Paul Schuepp of the company An metrics shares a more specific advance: software that turns 2D images into a simulated 3D model of a person's face. In a single second, it can turn an unidentifiable partial snapshot into a very identifiable headshot. He claims the software can boost identification rates from 35 percent to 85 percent.

3. **Full body recognition?** Allyson Rice of the University of Texas at Dallas has an idea for how facial recognition software could become even more accurate for law enforcement purposes — by becoming *body* recognition software. In a study published this month in *Psychological Science*, Rice and her fellow researchers asked college students to discern whether two photos — which had stumped facial recognition software — were indeed of the same person. They used eye-tracking equipment to discern how the participants were making the call. In the end, they found that students were far more accurate in their answers when the face *and* body of the subject was shown. And while participants reported judging based on facial features, their eyes were spending more time examining body build, stance, and other body features. "Psychologists and computer scientists have concentrated almost exclusively on the role of the face in person recognition," Rice tells *The Telegraph*. "But our results show that the body can also provide important and useful identity information for person recognition."

4. **A face scans for your phone. "**Face Unlock" is a feature that allows you to unlock Android smart phones using your "face print," i.e. a map of the unique structure of your face. This is just the beginning of face-as-security measure. In June, according to eWeek.com, Google patented a technology that would turn goofy facial expressions — a wink, a scrunched nose, a smile, a stuck-out tongue — into a code to unlock devices. The hope: that this would be harder to spoof than a face print. Turns out, apps such as Fast Access Anywhere, which uses your face as a password, can reportedly be fooled with a simple photo, says USA Today.

5. **Facial recognition as advertising.** Could facial recognition technology be used to influence what we buy? Very likely. In 2012, an interactive ad for Choice for Girls was launched at bus stops in London. These billboards were able to scan passersby, judge their gender and show them appropriate content. Girls and women got a video, while boys and men got statistics on a subject. This ad was for a good cause, but this technology will no doubt expand — and could allow corporations and organizations to

tap into our personal lives in unpredictable ways. Personalized ads as we walk down the street, a la the classic scene in *Minority Report*, yes. But as Acquits notes in his talk, there's a potentially more subtle application of this technology too: ads that can identify us and our two favourite friends on Face book. From there, it's a snap to create a composite image of a person who'll star in an ad targeted just to us. For more in what's coming in the facial recognition advertising realm, check out Leslie Stahl's 60 Minutes segment "A Face in the Crowd: Say goodbye to anonymity." Among other fascinating titbits, it introduces us to Face Deals — which notes when you've walked into an establishment, mines your Face book likes and text messages a deal created just for you.

6. **Shattered Glass**. As Acquits notes in his talk, the fact that someone's face can be used to find out private information is especially disconcerting given Google Glass' emergence on the scene. In June, US lawmakers questioned Google about the privacy implications of the device and, in response, Google stressed that they "won't be approving any facial recognition Glassware at this time." But of course, it's not completely up to them. In July, Stephen Balaban announced to NPR and the world that he had hacked Glass in order to give it facial recognition powers. "Essentially what I am building is an alternative operating system that runs on Glass but is not controlled by Google," he said. On a similar note, one Michael DiGiovanni created a program called Winky for Glass that lets the wearer take a photo with a wink, rather than using the voice command.

7. **Your face as currency.** In July, a Finnish company called Unique released a video of a project in the works, a pay-by-face authentication system. The idea? At a store, rather than paying with cash or a credit card, you give a "meaningful nod" to a scanner to make a purchase. A Huffington Post article describes this new tech, and also gives a peak at the Millennial ATM, which uses facial recognition as its primary security method.

Facial recognition is evolving rapidly. What here sounds cool and useful to you, and what sounds like a trip to Scarytown? For me, I may well be investing in these custom t-shirts, which claim to trip up facial recognition.

9 Team Details

Group#	Course Name	Student ID	Student Name	Role	Signature
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- **Conclusion**

Face recognition project it detects the face which provide to the project for the detection of face.

This (Face recognition) helps in recognize the face for example Apple's IPhone X which did not unlock till the right face will not detect and the system will not satisfies with the face of unlocking screen.

References

www.google.com

https://www.slideshare.net