MEDIBIOMETRIC – EMERGENCY HEALTHCARE SYSTEM

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Abstract – *Medi-biometric refers to a website for doctors and patients for monitoring health information. This includes access control, identification, registration, verification of patient medical information. Medical information must be automatically updated on every time a patient suffers through medical treatment. Biometrics features allows medical professionals to try and do this easily since their use of biometric identifier, which might be automatically and digitally recorded when anamnesis is opened. Patient biometric authentication feature supported biometric technology provides identity assurance and authentication while protecting privacy and security. the target of this project is to develop a system where an individual can enter his/her medical information. The system mainly focuses on the flexibility to quick access of medical information just in case of any health emergency occurs. The users are going to be able to see the main points of the one who needs any reasonably medical attention. The system provides the knowledge of the person, which incorporates his/her recent case history and private details. The patient can retrieve medical records provided by a hospital.*

Key Words*: *Web development, cloud system, Biometric, Machine Learning

INTRODUCTION

Health monitoring, Travelling, Documents access has become the foremost important think about today's era. During the time of emergency, it'd be difficult for the physicians to understand the past health history of the victim to proceed with further treatments. This project presents a health monitoring system where an individual himself/herself can enter their own health and emergency information into our servers and it is accessed by anyone using the biometric technology at the time of an emergency. The system is implemented within the web based operating environment which is that the most generally used accessible system everywhere the planet. This method helps to stay track on the individual's health information, henceforth giving the simplest way for the physicians to access the knowledge during the time of emergency. This not only saves the lifetime of the victim but also helps the physicians to figure comfortable. Biometric technology can add operational efficiencies to the healthcare system that reduce costs, reduce fraud, and

increases patient satisfaction by reducing medical errors. Many hospitals and healthcare organizations are currently deploying biometric security architecture. Secure identification is critical within the health care system, both to manage logical access to centralized archives of digitized patient's data, and to limit physical access to buildings and hospital wards, and to authenticate medical and social support personnel.

1. FACE RECOGNITION

Face recognition could be a method of identifying or verifying the identity of a private using their face. Face recognition systems are often used to identify people in photos, video, or in real-time. Steps of face recognition:

Face detection

The camera detects and locates the image of a face, either alone or during a crowd. The image may show the person looking straight ahead or in profile.

Face Analysis

Next, a picture of the face is captured and analyzed. The software reads the geometry of your face. Key factors include the space between your eyes, the depth of your eye sockets, the space from forehead to chin, the form of your cheekbones, and therefore the contour of the lips, ears, and chin. The aim is to spot the facial landmarks that are key to distinguishing your face in the records.

Converting the Image to Data

The face capture process transforms analogue information (a face) into a collection of digital information (data) supported the person's facial expression. Your face's analysis is actually was a mathematical formula. The numerical code is termed a face print. Within the same way that thumbprints are unique, everybody has their own face print.

Finding a Match

Code is then compared against a database of other face prints. This database has photos with identification which will be compared. The technology then identifies a match for your exact features within the provided database. It

returns with the match and attached information like name and address

2. FINGERPRINT RECOGNITION

There are five vital stages of the fingerprint scan technology which are the fingerprint image acquisition, image processing, and site of distinctive characteristics, template creation, and template matching

2.1 CORRELATION-BASED MATCHING

Two fingerprint images are superimposed and also the relationship among consequent pixels is computed for various alignments like different displacements and rotations

2.2 MINUTIAE-BASED MATCHING

Minutiae is taken from two different fingerprints and is then stored within the 2-D plane within the sort of different sets of points. This method is to match the candidate fingerprint with the template fingerprint image template.

2.3 PATTERN-BASED MATCHING

It is wont to match the patterns like whorl, loop, and arch from the previously stored fingerprint templates. Pattern-based matching algorithms use the central point from the image and compare the stored image with the fingerprint image of the candidate.

2.4 ACCESS TO RECORD

There are several approaches to access electronic health records (EHR) in emergency situations. Your code is compared against a database of other fingerprints. The technology then identifies a match for your exact features within the provided database. It returns with the match and attached information like name and address.

AIM AND OBJECTIVES

1. It is a website, which uses a login form to authenticate the user into his personal account where he provides all the private details and data of his medical records.

2. The details are saved within the database and a Fingerprint is generated which contains the desired details of the user.

3. In case of emergencies, the Fingerprint may be scanned and also the details stored within the database are retrieved.

4. This saves the time to start out the treatment of a patient admitted at an emergency. This protects time taken to finish all medical

procedures so as to start out operating the patient.

5. This system is safe and secure data storage and retrieval; it not only saves the lifetime of the victim but also helps the physicians to figure comfortable.

PROPOSED SYSTEM

1. Demo Model

• The Initial application is developed.

•Here the essential thought of almost the venture plan was given.

•Through this module, we have displayed the general idea of our application.

1. Login page

• The First module has a login page.

• The GUI design is created in this module.

• The user login by entering the login details.

• Then it follows with the page which contains two sections registration and verification.

2. Registration

• Second module is for user enrolment.

• User enters necessary details like Aadhar number, patient name, date of birth, mobile number, address and the documents having medical details of the patient.

•At that point the unique fingerprint of the client is enrolled and the patient data is saved.

3. Verification

• Third and final module of our project.

• So, we have proceeded with the verification module after the registration.

• In this module the patient details are verified using a registered fingerprint and the medical details are downloaded in form of a document on the respective system.

SYSTEM ARCHITECHTURE
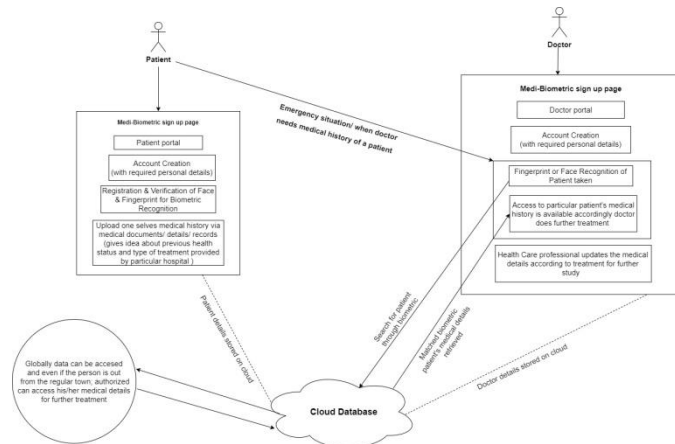
Medi-Biometric - website displays two different portals for respective login i.e. Doctor/Patient. Doctor Portal sign on includes account creation with required personal details of his/her account to access patient's medical details. Patient portal join up includes account creation with required personal details through his/her Face and Fingerprint biometric, once account is made uploading of anamnesis via medical reports, documents, details etc. is done. During emergency situation/when doctor needs access to user's medical details

1. Patient's face or fingerprint is scanned; system searches for the match on cloud

2. If match found, medical details of patient are retrieved from cloud

3. Doctor can study it and treat the patient accordingly

Both admin(doctor's) and patient's data is recorded on cloud so it are often globally accessed - whether or not patient/user is out of standard town his/her case history may be retrieved by authorized doctor to continue further treatment.

CONCLUSIONS

The research proposed a "Medi-Biometric" system that uses technologies for treatment of patients in emergency case using their Face/Fingerprint Biometric. this method comes with more security because it uses biometric as a password which considers physiological element that's unique to someone and can't be copied or passed on to others. It accesses all the medical record of a patient for quick treatment as some people suffer through different allergies and might get negatively plagued by the random treatment given with none background medical knowledge of an individual. It maintains all the information about patient's medical conditions and helps in better treatment. The system objective is sharing

reports within hospital organizations as data is stored on CLOUD so will be globally accessed and whether or not the user/patient is out of station and desires urgent medical treatment anywhere within the world; authorized doctor can retrieve that person's data using his/her biometric. It safe and secures data storage and retrieval. It's user friendly and simply adaptable.

ACKNOWLEDGEMENT

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