

A New Biometric Atm System With Representation Of Arbitrary-Sized Face Authentication

Mrs. N.Ramya^{1*}, L.Nivetha², S.Pavithra², P.Suriyaprabha²

Assistant Professor, Computer Science Engineering., Sri Sai Ram Engineering College, Chennai, India ¹

Ramya.Cse@Sairam.Edu.In

Student, Computer Science Engineering, Sri Sai Ram Engineering College, Chennai, India ²

ABSTRACT:

A new generation ATM seeks to use biometric identity so that not cards and PIN's is needed, as the keys to allow consumers to access their cash. The ATM offers a prompt to complete authentication via facial recognition on consumers. Face recognition finds its application in a variety of fields such as homeland security, criminal identification, human computer interaction, privacy, security, etc. The face recognition feature inhibits access of account through stolen or fake cards. The card itself is not enough to access account as it requires the person as well for the transaction to proceed First live image is captured automatically through a webcam installed on the ATM, which is compared with the images stored in the database. If it matches, the transaction can proceed. In this proposed paper we implement a new generation ATM machine which can be operated without the ATM card. In this system we have some more screens for the identification of the user and unknown user

Keywords: PIR sensor; Face authentication module; raspberry pi circuit; cloud server

1. INTRODUCTION

The automated teller machine, or ATM, is such a complicated piece of technology that it does not have a single inventor. Instead, the ATMs we use today are an amalgam of several different inventions. Traditionally we use ATM Cards with pin to enable any transaction of money from one account to another. In this proposed paper we implement a new generation

ATM machine which can be operated without the ATM card. In this system we have some more WebPages for the identification of the user and other user. In

first website we have two buttons one for user and another one for third user, if I am user means I want to click user button or otherwise click third user button. Maybe I am third user first I want to enter the authorized user name and password then camera take image mail to authorized person at the same time send alert SMS via IOT.

2. SYSTEM MODULES

In the proposed paper, **digital image processing** is the use of computer algorithms to perform image processing on digital images. As a subcategory or field of digital signal processing, digital image processing has many advantages over analog image processing. It allows a much wider range of algorithms to be applied to the input data and can avoid problems such as the build-up of noise and signal distortion during processing. Since images are defined over two dimensions (perhaps more) digital image processing may be modelled in the form of multidimensional systems.

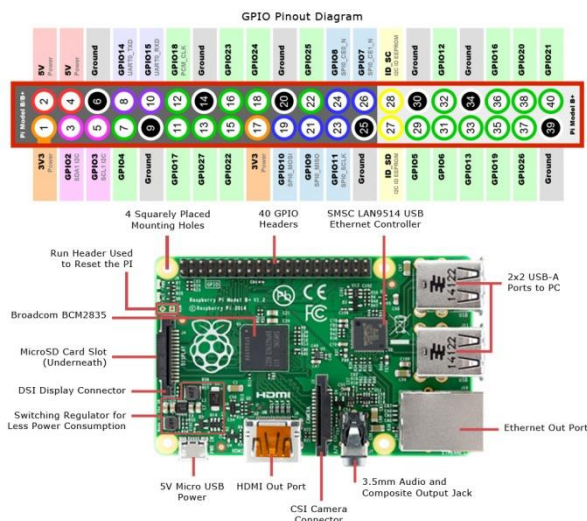
2.1. FACE RECOGNIZING MODULE

User Recognition in this technology plays a major role, recognition used in the description of biometric systems like facial

recognition, finger print or iris recognition relating to their fundamental function, the generic term how ever does not necessarily imply verification closed-set identification or open-set identification.

2.2. VERIFICATION OF THE USER

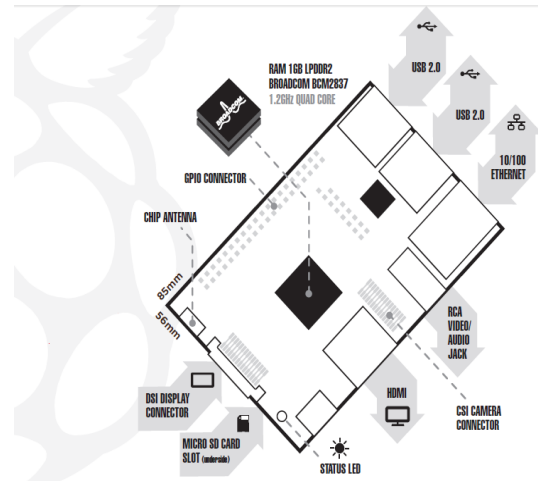
User Verification is the task where the biometric system attempts to confirm an individual's claimed identity by comparing a submitted sample to one or more previously enrolled templates. The concept of recognition and verification which is further illustrated by the picture, where the first image resembles the second image. If any user wears mask that time the alarm will be raised to the admin user and the authorized account holder.



2.3. IDENTIFICATION OF THE AUTHORIZED ACCOUNT

User Identification is the task where the biometric system searches a database for a reference finding a match for the submitted biometric sample; a biometric sample is collected and compared to all the templates in the database. If it is close-set identification, the submitted biometric is known to exist in the database. If it is open-set identification, the submitted biometric sample is not guaranteed to exist in the database, the system determines if

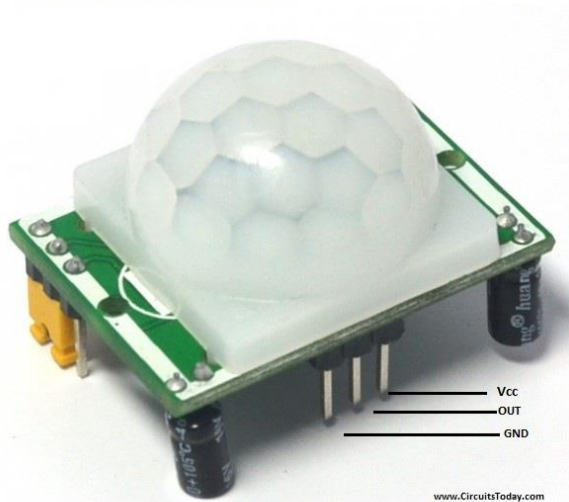
the sample exists or not. Finally ATM takes a picture of the user and compare with the database, if, it matches then transaction is allowed. Otherwise, picture of the unknown user is sent to the account owner and bank employee.



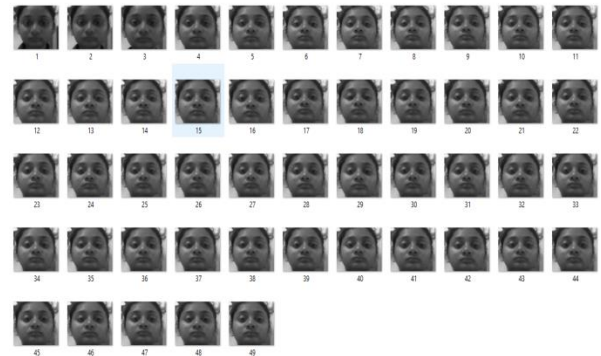
2.4. DETECTION OF HUMAN IN THE ATM SYSTEM

This module is used to detect the user may be wear mask using Open's built-in Haar cascade profile face detector. Measuring the face and body recognition using the frontal face images captured by an embedded ATM camera. If it detects the wrong person suddenly gives the notification to admin and image of the unauthorized person will be sent to the user mail id. This will help to avoid actions of Breaking or damaging the machines threading the ATM user's denial of transactions and any other ATM user by invalid users or mask.

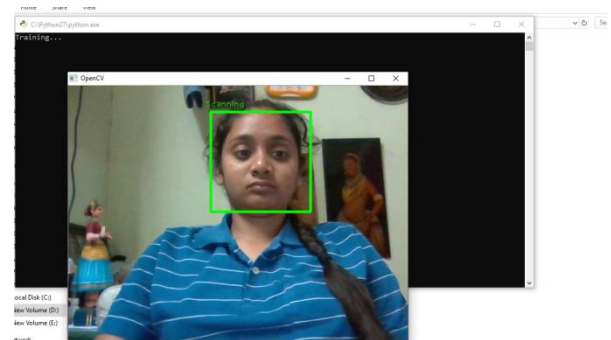
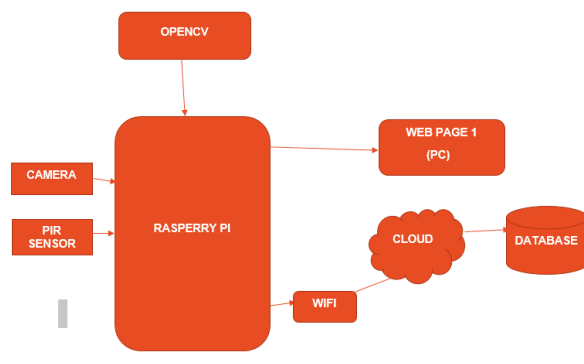
PIR Sensor - (Motion Sensor or Motion Detector)



authenticates the face of the user account. In case of third party requesting access for the user account the image of the unauthorized user is sent to the account holder's bank account.



2.5. SYSTEM MODEL



3. RESULT AND DISCUSSION

As a proof of concept, a prototype system has been implemented to evaluate the face recognition in the banking system. The system has been configured to collect the probe image of the user of an authorized banking authority. The readings of the human detection are taken and the presence of human in the ATM system is identified by using PIR sensor. The probe image obtained from the webcam installed in the ATM system is compared and then

Copyright © 2019 Authors