

# Security System with Human Identification

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**ABSTRACT**-Automated teller machines (ATMs) are well known devices typically used by individuals to carry out a variety of personal and business financial transactions and/or banking function. The purpose of this project is to increase the security that customer use the ATM machine. Once user’s bankcard is lost and password is taken. The criminal will draw all cash in the shortest time, which will bring more losses to customer, so to rectify this problem we are implementing vein recognition system. In addition, GSM based security system is provided to prevent theft of money and other illegal activities in ATM machine. The security system will automatically send information to nearby police station.

**Key word**-ATM, GSM, Vein recognition, personnel and business financial transaction, banking function.

## I. INTRODUCTION

Now days money is very important for human being. So that protection is also very important. In this project an advance and cost effective approach for ATM security with consolidated bank holder ID databased. The information age is quickly revolutionizing the way transactions are completed. Access codes for buildings, bank accounts, computer systems often use PIN’s for identification and security clearance. Using the proper PIN gain access, the successful transactions can occur, but the user of the PIN is not verified .when ATM cards are lost or stolen; an unauthorized user can often come up with the correct personnel codes. This paper describes how face recognition technology can help to the real world ATM machines.

### A. Existing system

Existing ATMS are convenient and easy to use for most consumers. Existing ATMs typically provide instructions on an ATM display screen that are read by a user to provide for interactive operation of the ATM. Having read the display screen instructions, a user is able to use and operate the ATM via data and information entered on a key pad. However read the drawbacks in the existing system is that the user should carry their ATM card without fail. But in many cases we forget it .so only we designed a system which helps us to use the ATM machine without the a ATM card.

## II POWER SUPPLY

### A. Description

All digital circuit works only with low DC voltage. A power supply unit is required to provide the appropriate voltage supply. This unit consists of transformer, rectifier, filter and a regulator. AC voltage typically of 230 V rms is connected to a transformer which steps that AC voltage to the desired AC voltage level. A diode rectifier then provides a full wave rectified voltage that is initially filtered by a simple capacitor DC voltage. This resulting DC voltage usually has some ripple or AC voltage variations. Regular circuit can use this DC input to provide DC voltage that not only has much less ripple voltage but also remains in the same DC value, even when the DC voltage varies , or the load connected to the output DC voltage changes. The required DC supply is obtained from the available AC supply after rectification, Filtrations and regulation.

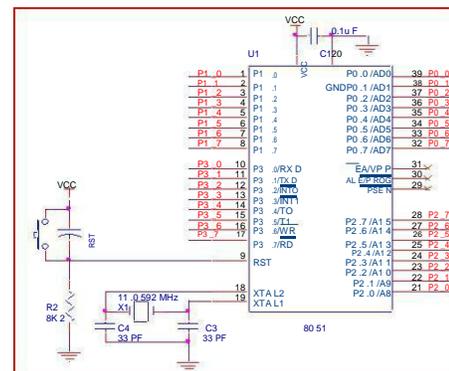


Figure 1. Practical Work Of Circuit Diagram

## III. OBJECTIVES & OVERVIEW OF THE PROPOSED MECHANISM

### A. Objectives

The main objective is to implement finger vein techniques that can provide the important functions required by advanced intelligent automated teller machines, to avoid numerous cards and protect the usage of unauthenticated users.

**B. Overview of the proposed Mechanism**

In this proposed system we have created the new generation ATM machine which can be operator without the ATM card. By using this system ATM machines can be operated by using our SIM in the reader unit of the ATM machine it transfers the mobile to the server. In server we can collect the related information of the mobile number (ie) the users account details, their photo etc., the finger vein scanner presented near the ATM machines will capture the user’s bio-pad image and compare it with the user image in the server.

Only when the image matches it asks the pin number and further processing starts. Otherwise the process is terminated. So by using this system need of ATM card is completely eliminated we can operate the ATM machine by using our SIM itself. By using this system malfunctions can be avoid our transaction will be much secured.

**IV. MICRO CONTROLLER OVER VIEW**

**A. Description**

Here 16F877A micro controller used. The 40 pins make it easier to use the peripherals as the functions are spread out over the pins. This makes it easier to decide what external devices to attach without worrying too much if there are enough pins to do the job.

One of the possible advantage is that each pin is only shared between two or three functions so it’s easier to decide what the pin function ( other devices have up to 5 function for a pin).

In fact the 8 pin (DIL) version of the 12F675 has an amazing number of internal peripherals.

- Two timers
- One 10 bit ADC with 4 selectable inputs
- An internal oscillator
- An analogue comparator
- 1024 words of program memory
- 64 bytes of RAM.
- 128 bytes of EEPROM memory.

**A. Features**

In fact a PIC microcontroller is an amazingly powerful fully featured processor with internal RAM, EEROM FLASH memory and peripherals. The architectural decisions are directed at the maximization of speed to cost ratio. The PIC architecture was among the first scalar CPU design and is still among the simplest and cheapest. This architecture in which

instruction and data come from separate sources, simplifier timing and microcircuit design greatly and this benefits clock, speed, price and power consumption

One of the smallest ones occupies the space of a 555 timer but has a 10 bit ADC, 1k of memory, 2 timers, and high current I/O Ports a comparator a watch dog timer... this will indicate in the table 1

ICSP	In Circuit Serial Programming	Hardware protection
WDT	Watch dog timer	Software error protection.
BOR	Brown out reset	This detect if the power supply dips slightly and reset the device if so
POR	Power on set	This microcontroller starts initialization
PWRT	Power up time	A time delay to let VDD rise
OST	Oscillator start up timer	Wait for 1024 cycles after PWRT
SLEEP	PIC microcontroller sleep mode	Enter low power mode.

**V. PERFORMANCE EVALUATION**

**A. Performance**

Finger vein ID is a biometric authentication system that matches the vascular pattern in an individual’s finger to previously obtained data. Hitachi developed and patented a finger vein ID system in 2005 .The technology is currently in use or development for a wide variety application, including credit card authentication, automobile security, employee time and attendance tracking, computer and network authentication, end point security and ATM machines.

**B. Evaluation**

When a person enters in to the ATM section, first swipe the ATM card. In User ATM, contain name, account detail, address, contact number and user vein. Here RF TX/RF Rx user to receive or transmit information through Visual Basics. Then user vein scanned by using scanner, after scanning compare with known vein, if it matches the process will started to move. if it is not match, then automatically process will stop. Start or stop process will informed through SMS by using GSM. Here one time password used.OTP indicate that a person will use password at once .In addition all bank are available i.e. SBI, Candara, City union etc.,

