

SMART ATM SECURITY SYSTEM USING FPR, GSM, GPS

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Abstract- This paper gives the description of the new approach towards the security of ATM (Automatic Teller Machine) systems. The objective of the paper is to know the Enhanced smart ATM security system which is developed using the Embedded system and advanced technologies. In our proposed system RFID card is used as ATM card, IR sensor in order to sense the presence of the card holders and to turn on Fan and Light, if ATM is tampered then SMS is sent to two main stations via GSM. GPS is used to track the location in case the cash box is robbed. Finger print is used to identify and verify authorized bank personnel. Hence the proposed system is the highly secured system for ATMs.

Keywords—PIC Micro-controller, FPR, GSM, GPS, RFID Reader, IR Sensor.

I. INTRODUCTION

This Anti-theft system ensures safe environment for card holders right from initial transaction to the end. It maintains communication channels with all the relevant national and international security working groups focused on the detection and prevention of crime, either directly against ATMs, or indirectly against ATMs through crimes perpetrated at other terminals.

Banks deploy more ATM's for two purpose: (i) To make sure that the money is available to customers anytime, anywhere. (ii) Reduce their own operating cost of deploying employees to serve customers. Billions of people are making use of ATMs daily in day-today life. So Investigations and researches are going on in order to improve the security of ATM transactions. As the number of ATM related crimes such as, robberies, breaking into ATMs, ATM password hacking are going on around, the technology has to be brought out in order to overcome this and the methodology has to be improved. Banks have to be more vigilant in securing ATM transactions. In this era, the existing system includes Card readers, digital pad, ATM PIN number and Video Cameras. Current system provides customers with an ATM card and it's PIN number. Now a days a PIN numbers can be hacked, and can be scanned easily by using ATM scanning devices and by video cameras. Hence, in order to overcome all these difficulties we have

established advanced, smart high ATM security system.

Our proposed model of ATM System consists of PIC -18 Microcontroller, GSM, GPS Modem, Finger print module, LCD, Keypad, Opto-coupler sensor, IR Sensor and it involves the automatic sliding door. Once the RFID card is swiped by the customer at the entrance, IR sensor is used for recognizing the presence of a person and for turning on the lights and fan, GSM communication is used between ATM to base station, when thief tries to break the ATM and in case of any ATM tamper, the GSM technology is used to send SMS to police station. Automatic top rolling shutters are used if thief tries to break the sliding door to run way from ATM, GPS is used to track and get the location coordinates. Finger print scanner and RFID are used for authorizing bank personnel. Camera is installed for security recording. Buzzer is employed for alerting in case of theft. The cash drawer is equipped with a contact switch which gives feedback when the drawer is opened or broken.

II. LITERATURE SURVAY

In the paper "Secured ATM Transaction System Using Micro-Controller" [1] "The main purpose is utilized to design an embedded system, used for ATM security". The data base of the card holder is scanned using the serial communication that is by UART and automatically generates message each to a mobile of the authorized customer through GSM module connected to a microcontroller 89C51.

In the paper "Anti-Theft ATM Machine Using Vibration Detection Sensor" [2] In this system we are using Vibration detection sensor, RFID, GSM and micro-controller AT89C51. This gives the security to the ATM itself.

In the paper "Fingerprint based biometric ATM authentication system"[3]. In this system the finger print module, PIC16 micro-controller, Buzzer is used. Where Finger print is one of the Biometric authenticating applications. In this era Biometric applications has become more popular and is used for personal identification in ATM systems. In this system Finger print based cashbox accessing system using PIC micro-controller is designed.

In the paper "ATM Robbery Prevention Using Advance Security"[4]. ATM theft security system for ATM