

## **Virtual Shuffling Keypad and Wireless Password Transfer for Secure ATM Transactions**

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**Abstract:** Now-a-days, in the self-service banking system has got wide popularization with the typical offering high-quality 24 hours service for customer. In this era of technology, ATM (Automatic Teller Machine) card is the essential part of life. To have transaction ATM pin code is compulsory and it must be secure. Use of ATM is helpful for money transaction. ATM is activated by placing the card, then entering the pin number of the particular card. But this system is not safe to use because anybody can access the system.

**Keywords:** ATMs, Bluetooth, GSM Module, PIN Theft, Security.

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### **I. Introduction**

In this era of technology, ATM (Automatic Teller Machine) card is the essential part of life. To have transaction ATM pin code is compulsory and it must be secure. Use of ATM is helpful for money transaction. ATM is activated by placing the card, then entering the pin number of the particular card. But this system is not safe to use because anybody can access the system.

Unfortunately, common approaches to entering passwords by way of keyboard, mouse, touch screen or any traditional input device, are frequently vulnerable to attacks such as shoulder surfing and password snooping. Current approaches to reducing shoulder surfing typically also reduce the usability of the system, often requiring users to use security tokens, interact with systems that do not provide direct feedback or they require additional steps to prevent an observer from easily is ambulating the input to determine the authentication methods do not support traditional password schemes.

Shoulder surfing is an observation technique of theft the information by looking over someone's shoulder. In some cases the thieves may steal the original ATM PIN number by placing the external devices like cameras on the top of the ATM counter which is focused on the keypad when person enter the password. The solution for this type of problem is to develop the Bluetooth application between the users and the ATM counter. Whenever the person enters into the ATM counter after card insertion the Bluetooth of ATM ask to authenticate to enter the password. The person who is inside the counter enters the password via his/her mobile Bluetooth application after the authentication. The proposed idea is helpful to reduce this type of password guessing in future and also reduce the legal person to access the personal saving.

### **II. System Implementation**

The security level in ATM counter is further increased by modifying the existing ATM into our proposed idea one is to develop the ATM keypad as virtual shuffle manner which reduces the PIN theft from shoulder movements the person who stand outside the counter. Another one is develop the wireless password transfer from mobile application to ATM counter bluetooth. In the past there had been many research that deal with secure login authentication techniques that could avoid shoulder surfing but fully functional solution has not yet been invented.

A very similar approach was designed in USA and there also position of password where the input but that solution would fail if close circuit camera is keying an eye on them as user directly touches password easily can be seen by anyone who records it secretly. One such scheme proposed is that of pass faces. A user chooses a set of images as his passwords. In this method a user can authenticate by going through no of image but is prone to shoulder surfing because one can easily view position of mouse cursor while authentication and picture can be noted.

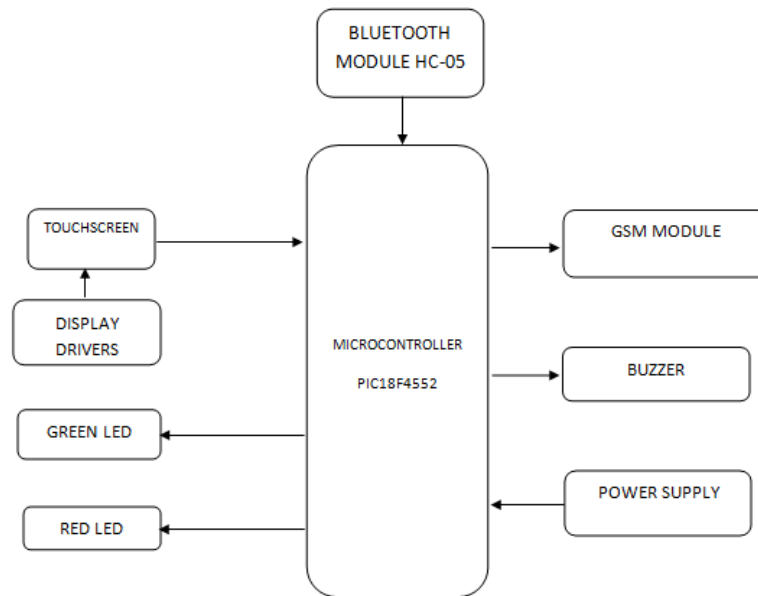


Fig.1: Block diagram of Keypad Shuffling System.

### III. Figures And Tables



Fig 2: Bluetooth terminal window

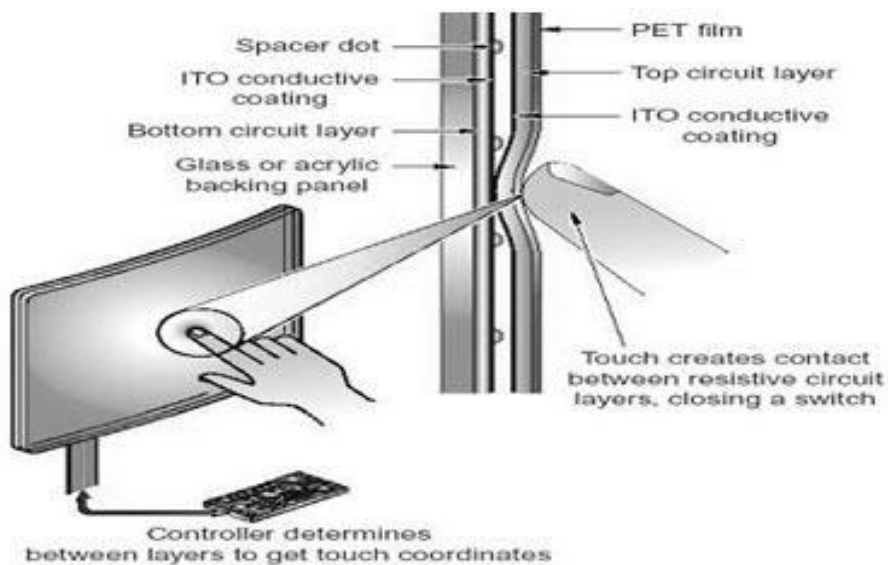


Fig 3: Structure of Touch Screen.

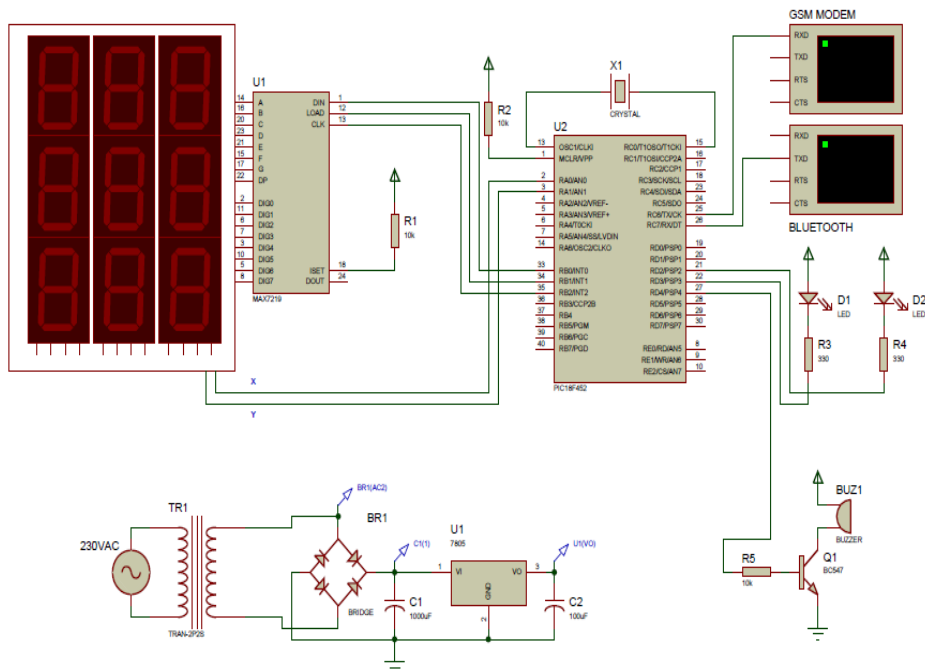


Fig 4: Circuit Diagram

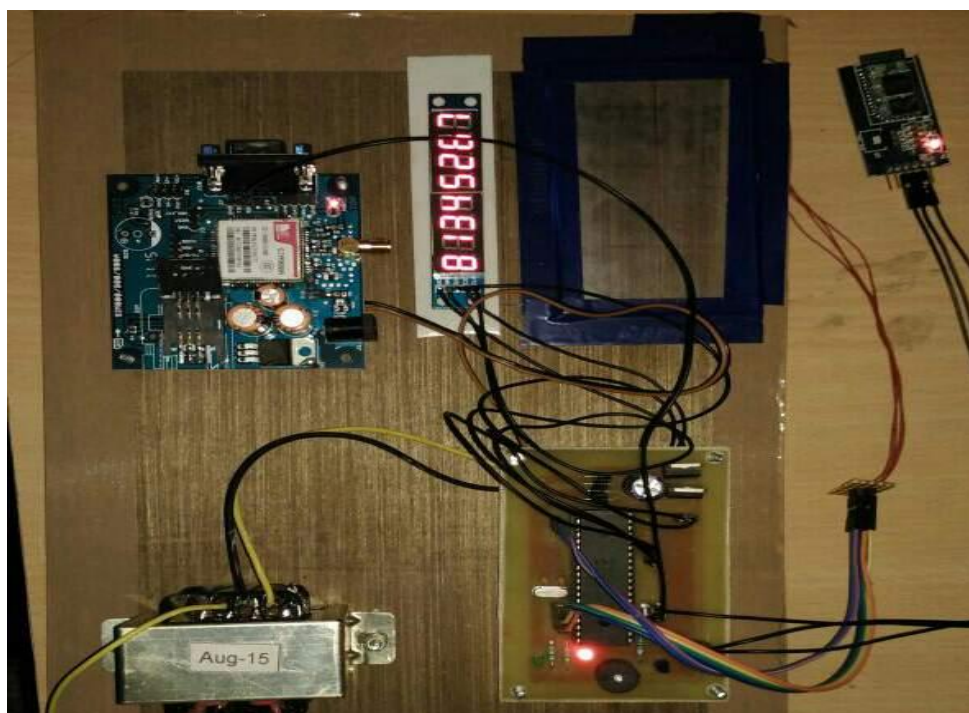


Fig 5 :Hardware implementation of Keypad using PIC18 microcontroller.

#### IV. Conclusion

This project recognizes a model for the modification of existing ATM systems by virtual shuffling of keypad and wireless password communication provide an effective way of preventing PIN theft. The Proposed idea will confuse the Password guessing and password thieving in future from unauthorized person. Therefore this kind of additional technique preventing pin theft in future. In the course of project it was noticed that the implementation of this circuitry can really prove successful in providing people security. The use of this system

provides a security in all online banking and proves useful so as to implement in ATM cabinets. The touch screen and its related components can be easily implemented in the ATMs all over easily. . The implementation of it also very reasonable and is very safe mode of security.

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### **References**

- [1]. Zaid Imran and Rafay Nizami, "Advance Secure Login" International Journal of Scientific and Research Publications, Vol. 1, Issue 1, SSN 2250-3153, December 2011.
- [2]. Gazal Betab and Ranjeet Kaur Sandhu, "Fingerprints in Automated Teller Machine-A Survey" International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Vol.3, Issue-4, April 2014.
- [3]. V.Varalakshmi, Mrs.P.Kanimozhi "Secure PIN Authentication for ATM Transactions Wireless Devices" International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) Vol. 3, Special Issue 22, April 2016
- [4]. Kumaresan S, Suresh Kumar K, Dinesh Kumar G "Implementation of Secure ATM by Wireless Password Transfer and Shuffling Keypad" International Journal of Novel Research in Electronics and Communication Vol. 2, Issue 1, pp: (8-12), Month: March 2015 - August 2015.

#### **Examples follow:**

##### **Journal Papers:**

- [1] M Ozaki, Y. Adachi, Y. Iwahori, and N. Ishii, Application of fuzzy theory to writer recognition of Chinese characters, *International Journal of Modelling and Simulation*, 18(2), 1998, 112-116. *Note that the journal title, volume number and issue number are set in italics.*

##### **Books:**

- [2] R.E. Moore, *Interval analysis* (Englewood Cliffs, NJ: Prentice-Hall, 1966). *Note that the title of the book is in lower case letters and italicized. There is no comma following the title. Place of publication and publisher are given.*

##### **Chapters in Books:**

- [3] P.O. Bishop, Neurophysiology of binocular vision, in J.Houseman (Ed.), *Handbook of physiology*, 4 (New York: Springer-Verlag, 1970) 342-366. *Note that the place of publication, publisher, and year of publication are enclosed in brackets. Editor of book is listed before book title.*

##### **Theses:**

- [4] D.S. Chan, *Theory and implementation of multidimensional discrete systems for signal processing*, doctoral diss., Massachusetts Institute of Technology, Cambridge, MA, 1978. *Note that thesis title is set in italics and the university that granted the degree is listed along with location information*

##### **Proceedings Papers:**

- [5] W.J. Book, Modelling design and control of flexible manipulator arms: A tutorial review, *Proc. 29th IEEE Conf. on Decision and Control*, San Francisco, CA, 1990, 500-506