Bio-Metric Authentication Based Url Access System

M.Padma Priya[1],S.Nithya[2],S.Swetha[3],M.Sampavi[4],B.Sangeetha[5]
[12345]B.Tech Information Technology
[12345]Saranathan college of Engineering,Trichy

Abstract- *The advent of fast growing technologies makes users to have high security systems with electronic identification options. These identification technologies include ATM and other intelligent cards, user IDs and password based systems, and so on. But, unfortunately these are unsecure due to hacker attacks, thefts, and forgotten passwords. In spite of all these shortcomings and malfunctions these systems are still prevailing; however, the biometric or fingerprint authentication based identification is the most efficient and reliable solution for stringent security In this system, a raspberry pi based prototype of url access system using fingerprint sensor module is implemented. This project is used here to access the url by only authenticated persons.*

Keywords- bio-metric, fingerprint, authentication, raspberry pi based prototype and url access system..

I. INTRODUCTION

Biological character identification is the fast growing technology, there are different types of biological behavioral are available such as face, eye, Irish, handwriting, gait, voice print and etc. particularity fingerprint becomes an effective means of individual identification because of the amazing and stability particularity of the human fingerprint [1]. With the development of electronic information technology, automatic fingerprint identification technology is concerned vastly, it has been widely used in criminal investigation, financial management, access control system and other fields. The computer and Micro Control Unit (MCU) are used as a platform in traditional fingerprint identification system, MCU acquires fingerprint information and sends it to the computer through the serial port, the computer realizes the identify algorithm. This method not only takes the computer system resources, but also limits the speed of identification.

Furthermore, it is difficult to transplant the system to the small mobile devices which has high security requirements [2-3]. So it's very important to design a new automatic fingerprint identification system with the characteristics of small size, fast speed and high portability

A new fingerprint identification system which is based on System on Programmable Chip (SOPC) is shown in this paper. In this system, a raspberry pi based prototype of url access system using fingerprint sensor module is implemented. This module is used here to access the url by only authenticated persons.

II. LITERATURE REVIEW

Qingqing Fu. Et.al [4] present the automatic fingerprint identification system based on SOPC is successfully. The realization of the finger-print image acquisition, processing, identification and design of human-computer interaction within only one FPGA chip.

Alilla, A. Et.al [5] present A new low cost fingerprint recognition system on FPGA. The main aim of the paper lies in the adopted approach, as having the opportunity to combine an high level simulation environment (Matlab) with the enormous flexibility of reconfigurable hardware platform like FPGA. This make possible to evaluate and implement different recognition processes (for example changing the kind of sensor) with development time reduced and prototyping cost extremely lows.

Fons, M. et.al [6] present novel system architecture for a fingerprint authentication system based on hardware-software code sign has been proposed in this paper. In comparison with conventional architectures, the suggested topology is based on a general-purpose microcontroller and a small-size reconfigurable FPGA used as hardware accelerator integrated into the system. The FPGA gives additional flexibility and increases the workload capability of the platform by downloading functions to the FPGA as they are needed, and reconfiguring it along the process.

Fergyanto E. et.al [7] introduced the Attendance System on Android Smartphone. In this paper, Fingerprint as one way to do identify against someone can be collaborated with GPS and mobile technology to create an accurate attendance system applications.
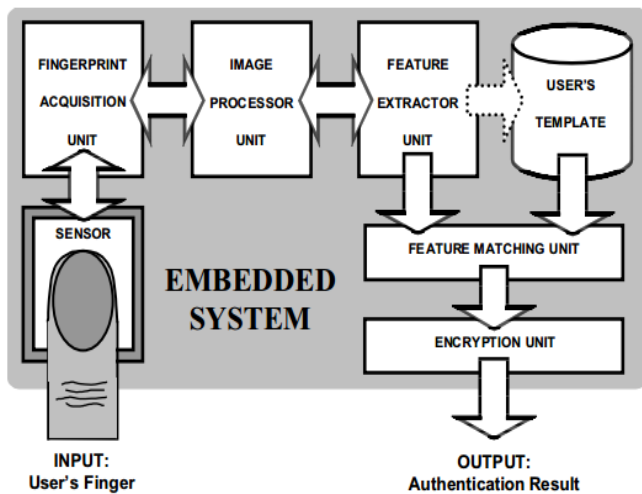
Fig.1.The basic block diagram of the existing system is shown in the

MAJOR LIMITATIONS OF THE EXISTING SYSTEM:

- System has only a two layer security
- No biometric security
- Accessing by somebody is so easy.

III. PROPOSED SYSTEM

To improve the Finger print security and the Secured access the new bio-metric authentication based url access system is introduced which is show in the fig.2.
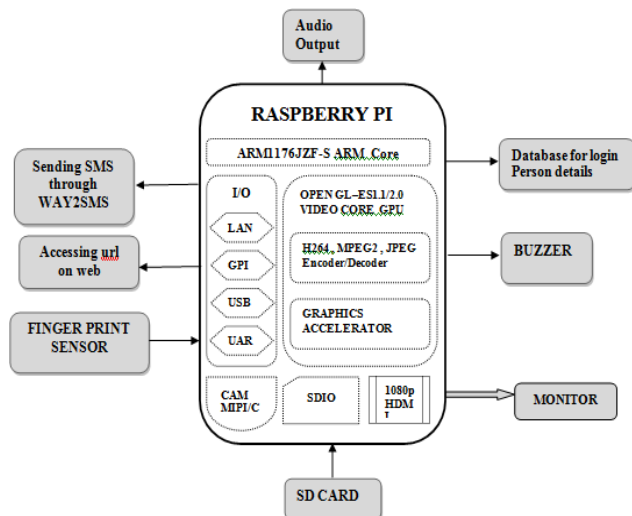

Fig.2. the Secured access the new bio-metric authentication based url access system.

HARDWARE AND SOFTWARE REQUREMENTS

Hardware requirements

- Raspberry pi with Raspbian Jessie os
- Monitor
- Finger print sensor

Language used:

- Python
- HTML
- PHP
- Sqlite

REFERENCES

[1] Zhongmin Li, and Zixu Wang, "Fingerprint Identification System Based on USB2.0 Interface," Computer Automated Measurement & Control, vol.13, no.7, pp.718-720, 2005.

[2] Hong Wang, and Juan Guo, "The Hardware Realization of Fingerprint Identification Arithmetic Based on FPGA ," Microelectronics & Computer, vol.24, no.4, pp.63-68, 2007.

[3] Lei Fu, and Yandong Shi, "Design and development of a new type fingerprint identification system," Application of Electronic Technique, no.2, pp.16-18, 2010.

[4] Qingqing Fu; Aiping Wu; Yonghua Li, "Fingerprint Identification System Based on SOPC", Wireless Communications, Networking and Mobile Computing (WiCOM), 2011 7th International Conference on ,vol., no., pp.1,4, 23-25 Sept. 2011."

[5] Alilla, A.; Faccio, M.; Vali, T.; Marotta, G.; DeSantis, L., "A new low cost fingerprint recognition system on FPGA", Industrial Technology (ICIT), 2013 IEEE International Conference on , vol., no., pp.988,993, 25-28 Feb. 2013.

[6] Fons, M.; Fons, F.; Canto, E., "Design of an Embedded Fingerprint Matcher System", Consumer Electronics, 2006. ISCE '06. 2006 IEEE Tenth International Symposium on , vol., no., pp.1,6

   a. "Attendance System on Android Smartphone" Benfano Soewito Graduate Ford Graduate Program Bina ,Echo Simanjuntak Graduate Program Bina Nusantara University Jakarta, Indonesia Fergyanto E. Gunawan Graduate Program Bina Nusantara University