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# Smart Phone Based Security System Using Arm Cortex M-3

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***Abstract:*** **In today's world national security has become a major concern. The whole world is facing a new kind of threat — "terrorism". As all know there was a attack on the parliament of India a few years back. In this project the idea of having a three level security which will enhance the security of high profile places such as defence institutes, research institutes, parliaments etc.**

**In this project of three level security any user who wants to enter the premises has to have the password for all the three levels, then only the entry granted. Thus making sure that the entry is authentic. Also to monitor and control the Secured Access for parliament using an Android Operating system based Smart Phone. The server PC is connected to the smart phone via the Internet. Using specialized software first connect the server PC and the smart phone. Once the connection is established the user will be able to enter his password using the smart phone via Internet. After the connection has been made the user first has to enter the Password via his Smart Phone. If the password is correct then Access is granted. In this way the user authentication can be given from anywhere in the world. The user can also enter new users via his Smart phone.**

***Keywords:*** **Smart phone, Security System Using Arm Cortex M-3.**

## 1. INTRODUCTION

This project level security any user who wants to enter the premises has to have the password for all the three levels, then only the entry granted .Thus making sure that the entry is authentic. The three techniques are:

- **SMART CARD TECHINIQUE**
- **ID TECHNIQUE**
- **SMS MOBILE BASED TECHINIQUE**

## 2. MODEL

- **SMS MOBILE BASED TECHNIQUE:**

In this system the user has to enter the password by typing the password via SMS, then he has to send the SMS to the receiving mobile which is interfaced to pc .The pc then sends the SMS password to ARM Cortex M3 the microcontroller after receiving the SMS decodes the password and matches it with its own password in the memory.

- **SMART CARD TECHNIQUE:**

In this method the user has to place his smart card in front of the smart card reader. Once the card is detected the microcontroller reads the user id stored in the card. Then the user has to enter the same password through the 4*3 matrix keyboard. If both the passwords match the user is allowed to go to the next system.

- **RF ID TECHNIQUE:**

In this method the user will be given a unique frequency. He then has to enter the password through RF ID transmitter. The receiver will then receive the code and match it with the internal memory. If the password matches the access is granted.

## 3. EVALUATION

Evaluating complex systems is difficult. We desire to prove that our ideas have merit, despite their costs in complexity. The reason for this is that studies have shown that security is for crucial importance and is must needed in this crime world [1]. Continuing with this rationale, an astute reader would now infer that for obvious reasons, we have decided not to enable an approach's traditional code complexity. We hope that this section sheds light on the safety of highly secure things.

## 4. HARDWARE AND SOFTWARE CONFIGURATION

**1. Microcontroller ARM Cortex M 3**

**2. LCD:** 1 6*2LAMPEX, backlit facility, 1OOmAmp consumption

**3. RFID Reader:** 125 KHz, 5V, 10 cm radius, 26 bit data frame

**4. Memory:**

2-Wire Serial Interface

High Reliability

Endurance: I Million Write Cycles

Data Retention: l00 Years

Bidirectional Data Transfer Protocol

Internally Organized 256 x 8 (2K), 512 x 8 (4K) or 1024 x 8 (8K)

Maximum Operating Voltage-6.25V

**RS 232 Protocol:**

. Is used for serial communication in between MCS-5 1 to PC.

. In our project the RF module is connected to the microcontroller via RS 232.

. Baud Rate: 9600 Bps , Timer Mode 1

**SOFTWARE:**

1. Microcontroller Programming: Embedded C

2. MPLAB IDE compiler, C language

## 5. CONCLUSION

The three level security approach applied on the above system makes it highly secure and being very user friendly. The three level security system is definitely time consuming approach as the user has to transverse through all the three levels of security but it is highly reliable. This system will definitely come in boom where high security is main issue. The system where highly confidentially data is stored this project is highly reliable.

The concept of Smart-Homes is becoming more and more popular. It is anticipated that Radio Frequency Identification (RFID) technology will play a major role in such environments.

## REFERENCES

[1] “The Electronic Passport and the Future of Government Issued RFID Based Identification” - G. Matthew Ezovskj, Student Member, IEEE, and Steve E. Watkins Senior Member, IEEE.

[2] “RFID Based Security System“- K.Srinjvasa Ravi, G.H. Varun, T. Varnsj, P.Pratyusha Radio Frequency Identification (RFID) is one member in the family of Automatic Identification and Data Capture (AIDC) tecirnologies and is a fast and reliable means of identifying any material object.

[3] Security Framework for RFID-based Applications in Smart Home Environment “- Divyan M. Konidala, Daeyoung Kim, Chan YeobYeun and Byoungcheon Lee.