

Automated GSR Based GSM Security System

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Abstract— Today's world improved security system is a huge demand. Few of the security systems which are highly developed are very costly and difficult to use. Common people have no access to such kinds of powerful security systems. Most of banks in the developing countries use very poor kind of security system for their lockers. It is really a necessity to develop an easily affordable but highly powerful security system.

Index Terms— Economic, GSM interfacing, GSR compatibility, High Security, Low maintenance, Multiuser, Userfriendly

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1. INTRODUCTION

Security system is a very vital part of our daily life. Every young boy needs a good security to keep his first pocket money safely. Similarly, an aged person needs to keep all his earnings through out his life safely. It is very difficult for a person who gets a poor salary to meet up his monthly requirements if a part of his earnings gets stolen from his own house. Although it is also really difficult for these people to set up a powerful security system which will on the other hand be easy to use. Firstly, cost is very high, secondly, it is very difficult to use and maintain.

GSR based GSM security system is an innovative idea to meet up all these demands, since it uses the unique Galvanic Skin Resistance of the user's thumb tip to provide security and a microcontroller is used to send SMS in any kind of unauthenticated usage. The device also sends a SMS to the user if GSR is found compatible.

2. PROCEDURE

First default GSR values are set into the microcontroller. GSR values of user and his family members are calibrated very easily via wheatstone bridge circuit calibration. Authentic users let us assume to be three. These values are embedded in the microcontroller by programming.

Electrodes measuring GSR are kept along with the device. When an authentic user puts his thumb on the electrode, the microcontroller sends a SMS to the default number saved in its memory "User-1" or "User-2" or "User-3" as the GSR values are saved. Authentic users trigger another driver circuit to which a stepper motor is attached which opens the lock automatically.

On the other hand, if any unauthenticated person tries to open it, GSR values do not match, then it sends a SMS to the default number "Unauthenticated User" and an alarm is triggered for 30 seconds. And the security system gets locked, which can be opened easily by authentic persons' GSR.

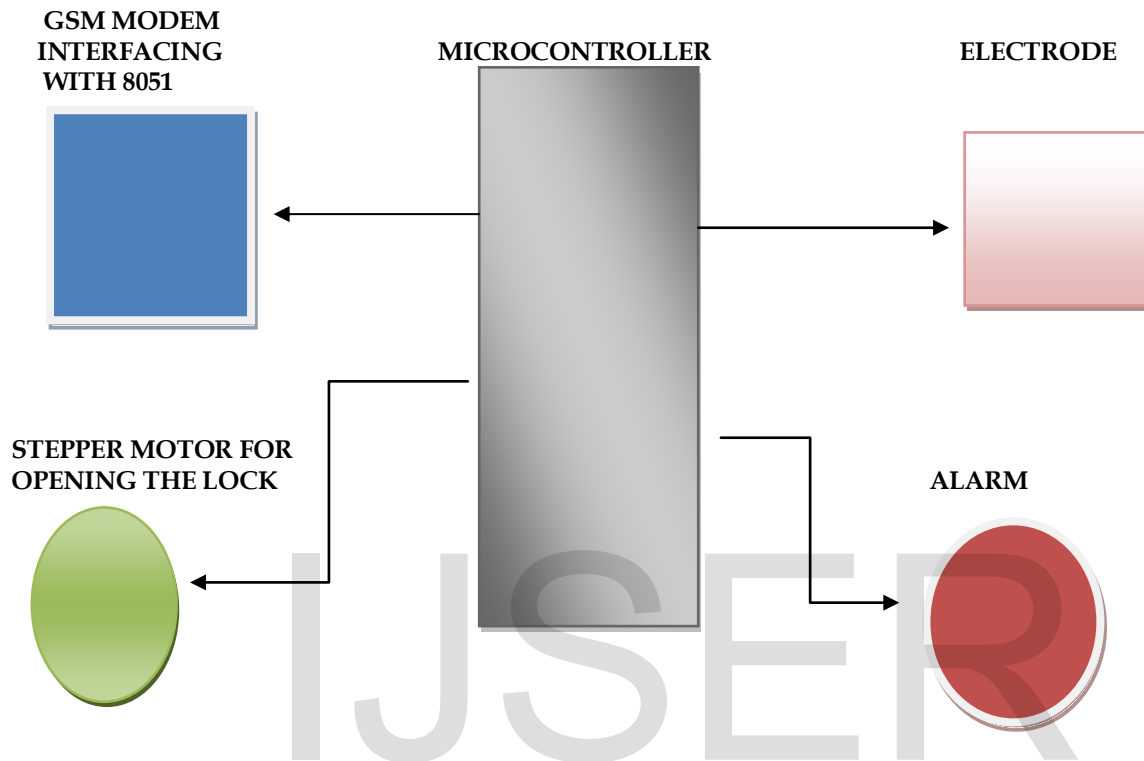
3. LIMITATION

In case two persons having same Galvanic Skin Resistance, it is possible the lock to be opened by an unauthenticated person. But it is really very difficult to get two persons having exactly same GSR as tested in laboratories several times. It was never found two persons having exactly same GSR.

Another case is the GSR of a child. As the child grows, his GSR values change, it is recommended to set the default GSR of an adult.

In case of a cut on the tip of the thumb, GSR value may again change.

4 .BLOCK DIAGRAM



5 .CONCLUSION

- GSR Based GSM Security system is an ideal device to keep high level security in an affordable cost.
- Its maintainace cost is very low.It needs very low current to run through out the day and needs a sms pack of any mobile service provider.
- Keeps one tension free and has no harm ful effects of direct radiation.
- Based on very low current so risk factors are minimized.
- If one system gets faulty other back up system works.i.e. if one doesnot get the sms incase of unauthentic usage atleast the alarm rings up to warn.And the system remains locked unbreakable.

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