

AUTO GATE OPEN FOR AUTHORISED PERSON USING ARDUINO AND GSM

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Abstract — This system is aimed to provide privacy protection, such that unauthorized persons cannot open the door under any circumstances. This kind of automated gate/door with security can be implemented at important places where high level security is essential. Most of the security systems those offers password protection is quite common these days, in some places scratch cards or RFID cards are used to identify the users, but these are very old, people are looking for new methods and there by this project work is designed using biometric technology and keypad to open the gate. In these abstract networks, all forms of authorization and access control require networks to have a secure method of authenticating users. The purpose of this project work is to provide high level security system, where un-authorized persons are strictly restricted

Keywords – Biometric, Keypad, RFID.

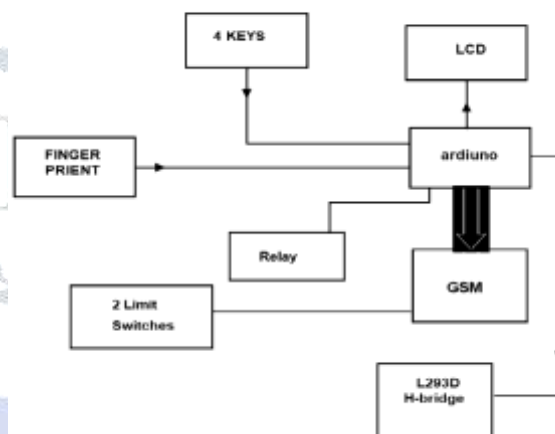


Figure-1 Block diagram

I. INTRODUCTION

High level security system through biometric fingerprint technology, keypad and GSM is one of the innovative topics in the embedded systems industry. This project work is intended to introduce more security for the gate opening using biometric technology and keypad, which describes about design, development and fabrication of one demonstration unit of the project “High level Security Authentication” of an individual. In project work the auto gate control mechanism of opening is designed using biometric equipment fingerprint scanner, keypad, GSM, DC motor and its driving circuit, limit switches, relay, wireless video camera, etc. along with the Arduino controller ATMEGA 328.

II. FUNCTIONAL DESCRIPTION

In this we are using a finger print scanner a keypad and a camera, When authorised person scans his finger and enter correct password the gate will be opened, else if an unauthorised person scan his finger or enter wrong password, buzzers will be activated, a message is sent to police stating “unauthorised entry” and relay will be activated automatically which switches on camera automatically to see who is trying to enter in, these all are controlled using” ARDUINO MICRO CONTROLLER “and a “GSM MODULE”.

III. WORKING

First a person is asked to scan his finger, if he is an authorised person then he is asked to enter password, if the password is correct then the gate will be opened, if password is incorrect then gate will not be opened and we will get buzzer alert and a message is sent to police and automatically relay switches on which is used to on camera automatically this camera will capture the picture of the person who is trying to enter in. If an unauthorised person tries to scan his finger we get buzzer alert and a text message to police and camera will be switched on to capture the picture of the unauthorised person and the gate will remain closed.

IV. LITERATURE SURVEY

Biometrics is automated methods of recognizing a person based on physiological or behavioural characteristics. Among the features measured are: face, fingerprints, hand geometry, handwriting, iris, retinal, vein, and voice. Biometric technologies are becoming the foundation of an extensive array of highly secure identification and personal verification solutions. As the level of security breaches and transaction fraud increases, the need for highly secure identification and personal verification technologies is becoming apparent. Biometric-based solutions are able to provide for confidential financial transactions and personal data privacy. The need for biometrics can be found in federal, state and local governments, in the military, and in commercial applications. Enterprise-wide network security infrastructures, government IDs, secure electronic banking, investing and other financial transactions, retail sales, law enforcement, and health and social services are already benefiting from these technologies.

V. RESULT

When an authorised person scans his finger print he is asked to enter password

i.

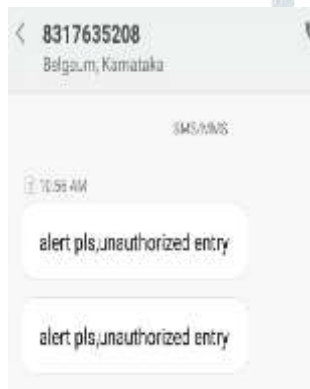


If wrong password is entered we get “unauthorised entry and we will get a message and switches on relay which switches on the camera.

i.



ii.



iii.



If correct password is entered we get “authorised entry”

i.



And gate will be opened.



VI. CONCLUSION

The increased need of privacy and security in our daily life has given birth to this new area of science. These devices are here and are present around us everywhere in the society and are here to stay for a long time to come. Indeed, it will be interesting to watch the future impact that they will have on our day-to-day lives.

The project work is designed and developed successfully. For the demonstration purpose, a prototype module is constructed; and the results are found to be satisfactory. Since it is a prototype module, a simple module is constructed, which can be used for many applications like highly confidential area or where high level security is required. In this project we have explained why security is important in an Ambient Intelligent environment. In order to achieve Trust and Security not only cryptographic algorithms are needed but also secure methods for generation and storage of secret keys. By construction of such security devices the cards, keys, etc. can be made tamper proof and avoid them from destruction by the anti social elements or the unofficial persons. Moreover the applications of this finger print scanner are plenty generally categorized for the security purposes.

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