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# E-Passport Using RFID Tag & Fingerprint Sensor

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**ABSTRACT:** RFID is an acronym for Radio Frequency Identification. RFID is one member in the family of Automatic Identification and Data Capture (AIDC) technologies and is a fast and reliable means of identifying just about any material object. This project can be used for security purpose where it gives information about the authorized persons and unauthorized persons. The purpose is to limit the use of counterfeit documents. This, in turn, will prevent illegal entry of the travellers into any specific country at the same time maintaining the privacy and personal security of the e-passport bearers and track the person in which country. This proposed system uses Radio Frequency Identification (RFID) is a technology that uses wireless communication for identification purposes. The key characteristic that differentiates one RFID application from another is the purpose of identification.

**KEYWORDS:** Radio Frequency and Data Capture(RFID), Security, E-passport.

## I. INTRODUCTION

The e-passport, as it is sometimes called, represents a bold initiative in the deployment of two new technologies: Radio Frequency Identification (RFID) and biometrics. System are wireless technology for automatic identification. They bring forth the era of next generation ID cards. several national governments plan to deploy identity cards integrating RFID and biometrics for domestic use. We explore the privacy and security and other issues of the epassport in this article cards. RFID and biometric technologies when combined, promise to reduce fraud, ease identity checks, enhance security[2]. Secure and trusted travel documents are an essential part of international security, as they allow states and international institutions to identify the movement of undesired or dangerous persons. The specific choice of each country as to biometric security features to include makes a major difference in the level of security and privacy protection[1].

The e-passport with wireless contact on border control requires that any information is available without the holder's consent. It can be realized based on the access control procedure. Electronic passports have notable a good and quick readying all around the world since the International Civil Aviation Organization the globe have adopted standards whereby passports will store biometric identifiers[3]. The employment of life science for identification has the potential to create the lives easier, and therefore the world folks board a safer place..

The aim of biometric with RFID Tag suggests that e-passports are to stop the misappropriated entry of a person into a selected country and limit the employment of counterfeit documents by a lot of correct identification of a person. This paper analyses the fingerprint biometric e- passport style[4]. These papers concentrate on the privacy and private security of bearers of e-passports, the particular security profit countries obtained by the introduction of e-passports victimization fingerprint recognition systems.

## II. MODELING AND ANALYSIS

The purpose is to limit the use of counterfeit documents. This, in turn, will prevent illegal entry of the travellers into any specific country at the same time maintaining the privacy and personal security of the e-passport bearers and track the person in which country. This proposed system uses Radio Frequency Identification (RFID) is a technology that uses wireless communication for identification purposes. The particular security profit countries obtained by the introduction of e-passports victimization fingerprint recognition systems[1].

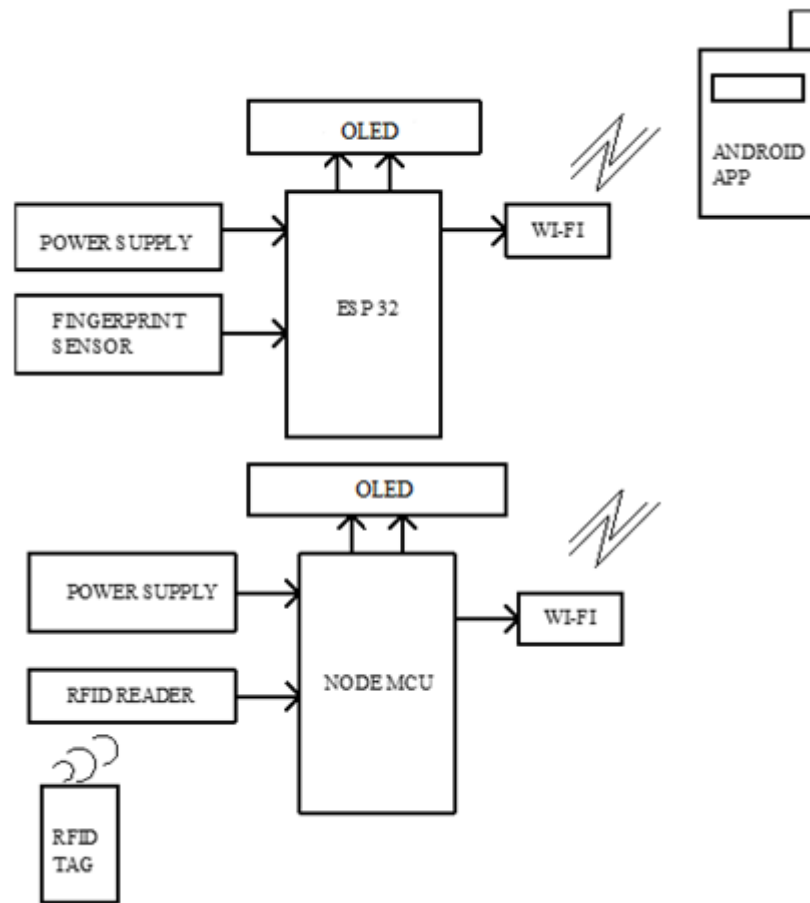


Figure 1: System Architecture

### III. LITERATURE SURVEY

VaibhavThorat, TusharBhite, KetakiKurane “RFID Based E-Passport System” System are wireless technology for automatic identification They bring forth the era of next generation ID cards. several national governments plan to deploy identity cards integrating RFID and biometrics for domestic use. We explore the privacy and security and other issues of the epassport in this article cards. RFID and biometric technologies when combined, promise to reduce fraud, ease identity checks, enhance security.

V.ravali, p.bhavani, d.samathkumar “passport verification system using RFID” RFID is one member in the family of Automatic Identification and Data Capture (AIDC) technologies and is a fast and reliable means of identifying just about any material object. This project can be used for security purpose where it gives information about the authorized persons and unauthorized persons. This can be applied in real time systems as such in recording the attendance, in the companies, airports for accessing the passports and in industries to know who are authorized. RFID is increasingly used with biometric technologies for security.[2]

Kumud Kumar electronic passport using technology Electronic passports have an integrated chip, generally embedded in the cover page of the document that contains personal information of the document owner. A contactless (or RFID) technology has been chosen for the inspection process. An e-passport, or a digital passport, is a combined paper and electronic passport that contains biometric information that can be used to authenticate the identity of travellers.[3]

M.Priyadharshini, Prof.I.Kalphana finger print system used in vehicle documents verification Finger print

authentication or popularity refers back to the automatic technique of verifying suit among human fingerprints. Fingerprints are one in every of many paperwork of biometrics used to identify individuals and confirm their identity. The analysis of fingerprints for matching functions normally requires the contrast of numerous functions of the print pattern. The major goal of this project is to confirm a character individual license id, RC Book details, Insurance information are tested through without hard copy of person individual the use of fingerprint sensor.[4]

Shubham Kailas khairnar, Prasad Prakash Bhamare, AbhishekSharad Hire, JunaidMoinuddin Khan E-Passport Using RFID Tag and Fingerprint Sensor This paper analyses the fingerprint biometric epassport style. These papers concentrate on the privacy and private security of bearers of e-passports, the particular security profit countries obtained by the introduction of e-passports victimization fingerprint recognition systems. The research worker analysed its main crypto graphical features; the fingerprint life science presently used with e-passports and regarded the encompassing procedures.[5]

#### IV. PROPOSED SYSTEM

Physical passport verification is time intense and error-prone. This project eliminates forgery and time wastage in confirming passports. RFID tags and fingerprint scanner stores a singular code with a special coding that's wont to access the user knowledge hold on the info. The problems with paper passports are that they do not provide privacy, identity can be revealed to anyone who can physically access the passport. The paper passport can be used by someone else what is known as identity theft, data can be modified on the passport as everything is accessible and readable and it can be duplicated. This will affect both the user and the border control checkpoints

**Use case diagram is a simple representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved.**

Use case diagrams are usually referred to as behavior diagrams used to describe a set of actions (use cases) that some system or systems (subject) should or can perform in collaboration with one or more external users of the system (actors). Each use case should provide some observable and valuable result to the actors or other stake holders of the system. Note, that UML 2.0 to 2.4 specifications also described use case diagram as a specialization of a class diagram, and class diagram is a structure diagram.



Figure 2: Use Case Diagram

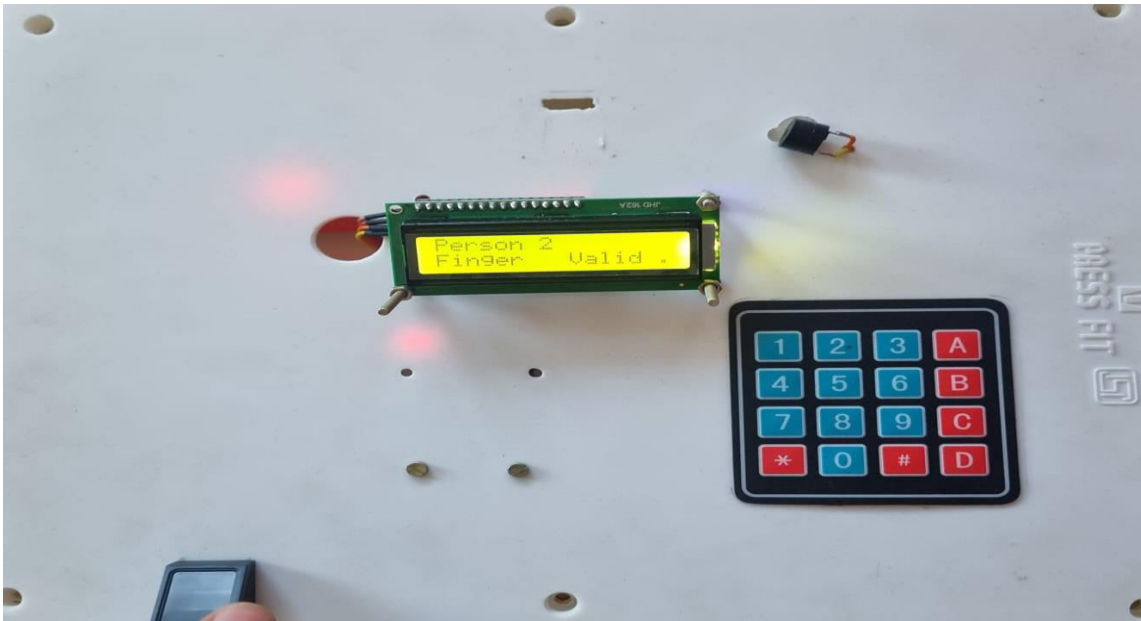


Application areas :

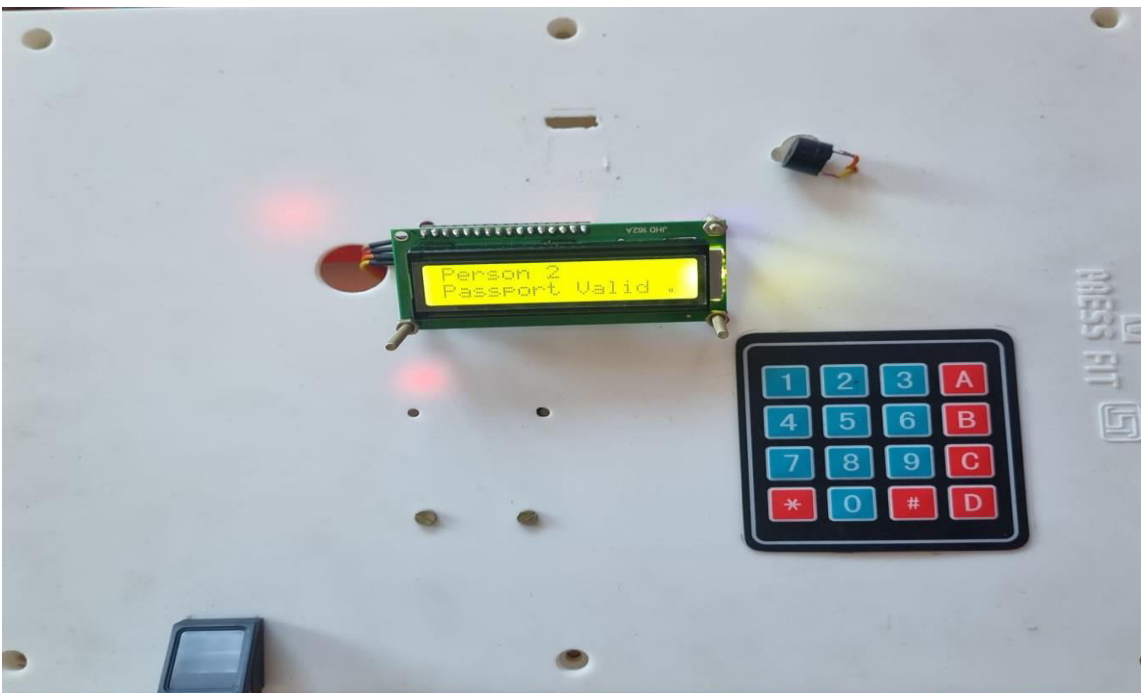
o

Airport

## V. OUTPUT



*Fig 1. Person 2 finger valid*



*Fig 2. Person 2 passport valid*

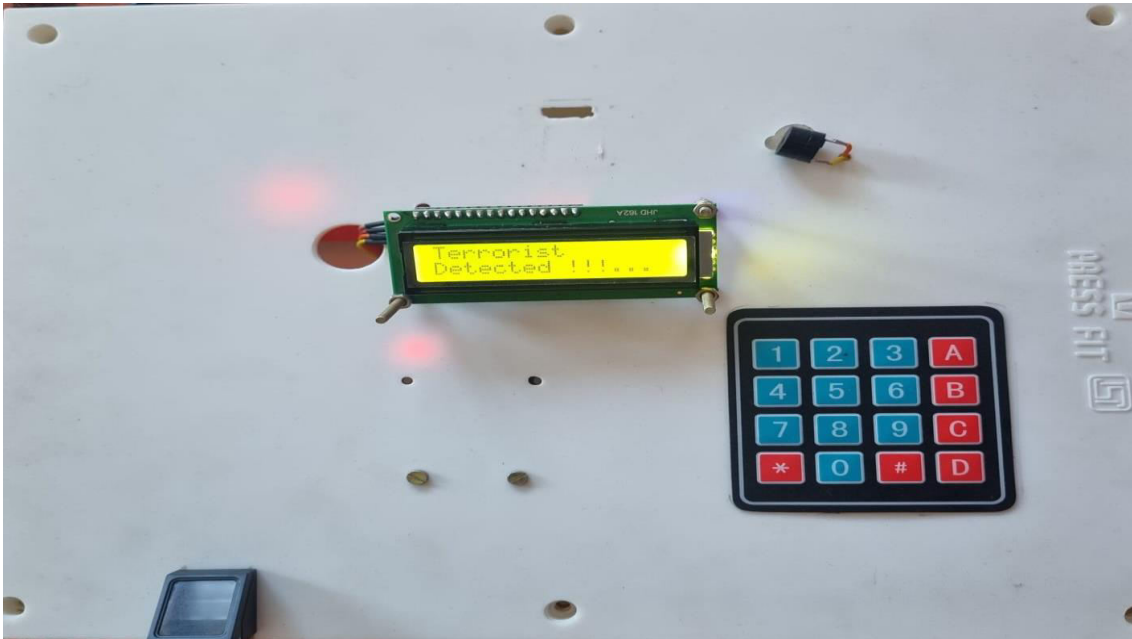


Fig 3. Terrorist Detected

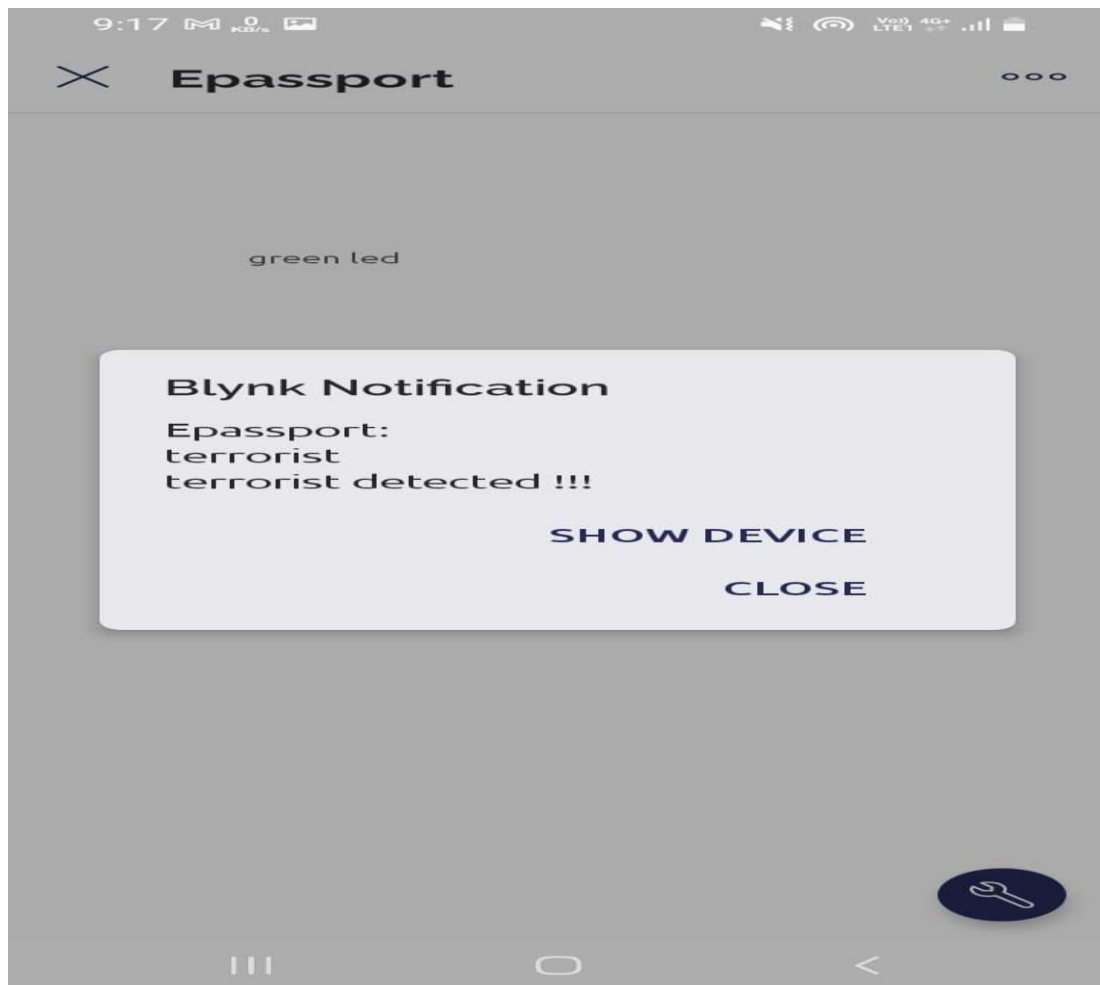


Fig 3.1. Terrorist detected msg on app



## VI. CONCLUSION

This project gives clear idea about the Electronic passport system which is much more beneficial for the airports and universities. It also reduces the burden of documentation as well as it reduces the time consumption. We analysed the major current and potential uses of RFID in identifying documents and the most important feature of this project is security, this will make the system centralized. The security of the system can be further increased by adding biometric information such as fingerprints, palm scan, iris scan, digital signature and another active authentication in the passport system.

## REFERENCES

1. Ms. Pratibha V. Waje, Dr. R. Jain, A Recommendation System for Execution Plans, Journal of Shanghai Jiaotong University, Volume 16, Issue 11, November - 2020,107-113
2. VaibhavThorat, TusharBhite, KetakiKurane “RFID Based E-Passport System International Research Journal of Modernization in Engineering Technology and Science.
3. Shubham Kailas khairnar, Prasad Prakash Bhamare, AbhishekSharad Hire, JunaidMoinuddin Khan E-Passport Using RFID Tag and Fingerprint Sensor International Journal of Scientific Research and Engineering Development— Volume 2 Issue 5, Sep – Oct 2019.
4. VaibhavThorat, TusharBhite, KetakiKurane RFID Based E-Passport System © 2019 JETIR June 2019, Volume 6, Issue 6 [www.jetir.org](http://www.jetir.org) (ISSN-2349-5162)
5. V.Ravali, p.Bhavani, d.Sampathkumar Passport verification system using rfid © 2018 JETIR September 2018, Volume 5, Issue 9 [www.jetir.org](http://www.jetir.org) (ISSN-2349-5162)





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