

# LOCATION IDENTIFICATION AND PASSENGER ALERT SYSTEM IN INDIAN RAILWAYS

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## ABSTRACT

The main objective is to implement security systems to railway passengers and alert them to their respective destinations and prevent unauthorized entry. They may come across a lot of incidents like passengers who travel in train they miss to arrive at the destination place. To have a safe and secured journey life they design an innovative approach to assist the railway passengers by indicating the respective station. The destination place will be announced through voice board and by using image processing the reserved and unreserved persons can be easily identified.

**Keyword:** - RFID tag, RF transmitter, RF receiver, security, speaker, etc...

## 1. INTRODUCTION

The authenticated person will show their RFID tag and each tag holds some information about the tag. This creates an unnecessary troubles and leads to loss of mind. The train cannot reach destination place in a correct time or sometimes it may reaches the destination place early. So the passengers are difficult to find the station name during night time journey. RFID is mainly used for the different types of applications and it is for scanning objects and tracking goods. For image processing different types of regions are based upon the features. Images are mainly processed with the digital form to reduce the series of numbers. The carryover of this paper is methodized as follows. Section 1 describes the generalized introduction about the proposed system. Section 2 provides a detailed description about the projected system, which provides explanation about the passenger alerting system. A brief description will be explained in the proposed system. Section 3 provides the explanation about the face recognition using image processing. Section 4 deals with the experimental results. Section 5 deals with the conclusion.

## 2. PASSENGER ALERT SYSTEM

Radio frequency identification (RFID) is a generic term that is used to describe a system that transmits the identity which is in the form of a unique serial number of an object or person wirelessly, using radio waves. It is grouped under the broad category of automatic identification technologies. In addition, RFID is increasingly used with biometric technologies for security. The purpose of an RFID system is to enable data to be transmitted by a

portable device, called a tag, which is read by an RFID reader and processed according to the needs of a particular application. The data transmitted by the tag may provide identification or location information, or specifics about the product tagged, such as price, color, date of purchase, etc as shown in fig.1. RFID tag is mainly used for the purpose of identifying the location and tracing the objects. It is a passive tag in which no powerful battery are used instead they used in the radiated energy that are received from the RFID tag. RFID reader decodes the information from the tag and then it is scanned the information and then it passes into the controller.

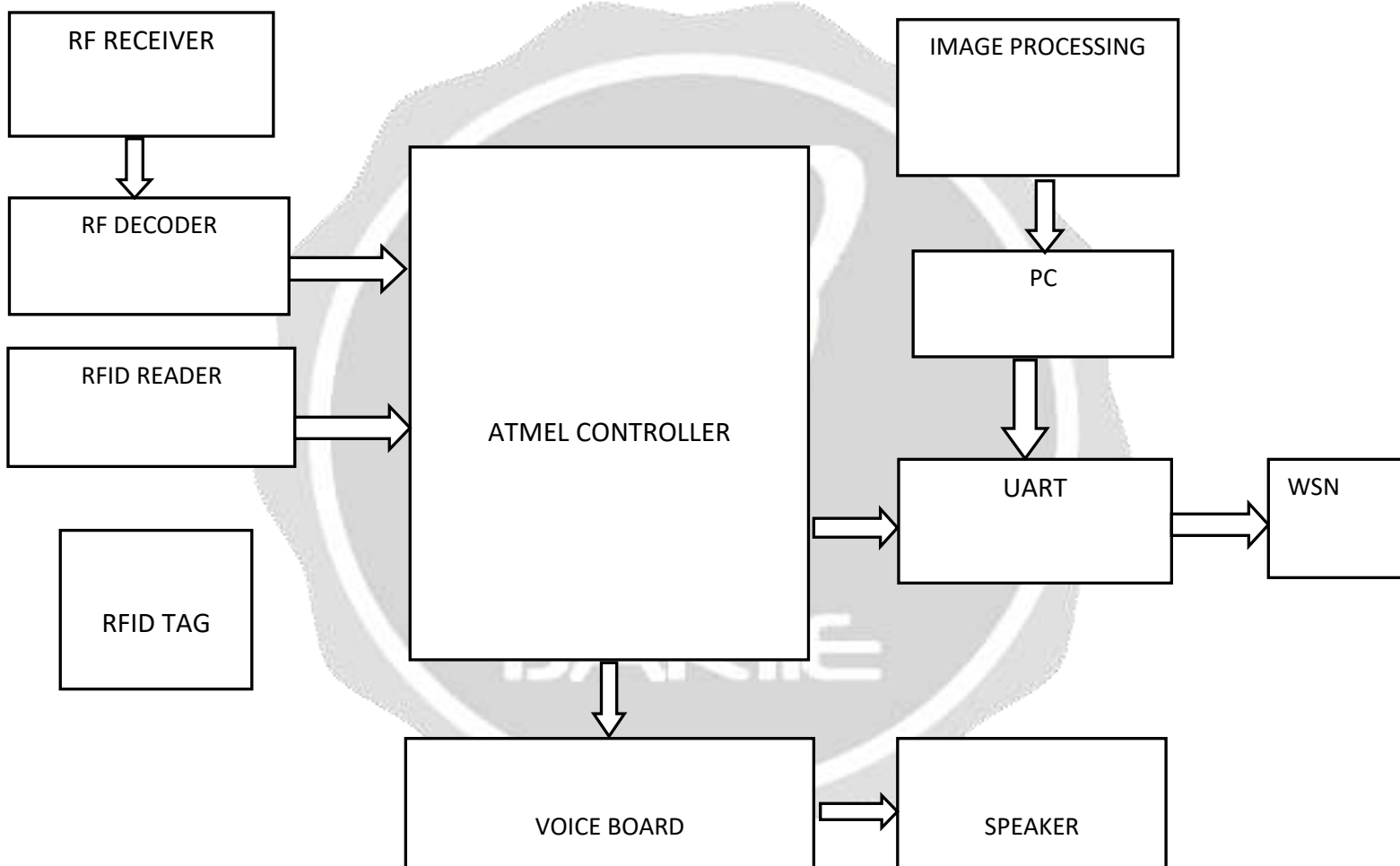
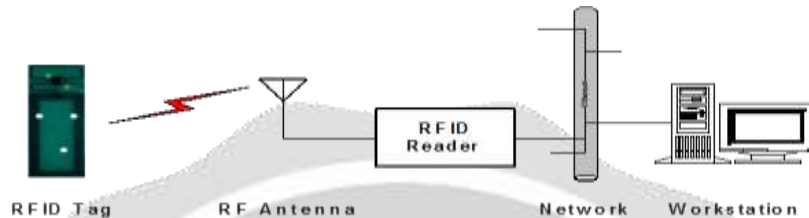


Fig -1: Block Diagram For Train Section

2.1 Components Of RFID System

RFID tag consists of three components namely antenna , transponder and the transceiver which is used to modulate the RF through transmitter and receiver . The chip can store as much as 2 kilobytes of data. When the RFID passes through radiated energy the reader will activates and then it transmits through the tag. In this long range frequencies are normally used to track the objects as shown in fig 2.



**Fig 2:** Components of system

### 3. FACE RECOGNITION USING IMAGE PROCESSING

Face recognition is mainly used for the purpose of extracting the background images. It identifies the facial expressions and their features. Face distance algorithm is mainly used for the image processing to detect the deviation and the mean variance of the images. Thus to remove the Gaussian filter the canny edge is used and it is to detect the wide range of edges as shown in fig 3. Gray scale image is an image in which the value of each pixel carries only the information. It is to detect the background images by using image processing and the datasets has been obtained in the libraries.



**Fig -3:** Face Recognition of Sample Images

### 4. CONCLUSIONS

The input image is captured and they passed through the libraries to extract the feature images. And to reduce the background noise. Thus by using image processing the reserved and unreserved person can be easily identified. By ensuring this it has more security to the passengers who travels in a night time journey. Thus the database of required information can be stored and then the output is obtained. The implementation and commercialization of this project could possibly help millions of passengers travelling during situations of late hours and unfamiliarity of the region of destination. Avoidance of missing the destination can be overcome by

implementing the unique identification card. RFID tag can automatically identify and trace the tags attached to objects. An alarm is raised thus enabling the passenger to have a stress-free, comfortable travel without having to worry about the time of reach of the destination, during the journey and it is mainly useful for handicapped people and aged people to know their destination by themselves. Finally, when the train reaches before destination, the passenger is alerted by the alarm prior and gets notified by the voice message.

## 5. REFERENCES

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