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# Crowd Detection in Train

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**Abstract:** In today's world 50% of population travel with the trains. Whenever we travel with trains we always see the General bogie is always overloaded or in vacation time there are most bogie overloaded. There might be scenario that some bogie is overloaded and some are vacant. This problem leads to unhappy journey in overloaded bogie. So, this problem will be solved by our project. In this project we will make journey of passenger who does not have their reserved ticket. We are going to use two Infrared ray sensor and arduino kit. User will have our android app and will select a train no from our android app. when user select and presses submit button it will get the status of each and every bogie rush. With the help of rush status traveler can find the empty bogie and will go on that boggies. Sometimes many accidents are happened due to lot of rush and we also miss our train due to the rush on the platform. So, our project will help to detect rush in boggies and thus passenger will get status of bogie and due to that rush on the platform will reduced and the no of accidents happend will also be reduced. So, our project will make the journey of passenger "Happy".

## I. INTRODUCTION

Railway information system is generally built upon a computer based network to support rail information collection transmission, processing and dissimulation in order to ensure safe and stable rail transportation and provide high quality operational service as well as passenger information system. A new generation wireless application protocol and web technologies from next generation is utilized. The project is designed to achieve control over the railway level Empty Bogie Identification System by the client. The proposed system will have android application which will tell no of people in the Bogie. This system involves sending an SMS to user when train is some KMs away It will display red, yellow, green colors to Bogie depending upon the rush

Our project introduces railway empty Bogie identification system with an objective to make the system more efficient, easier and fast. This project explores how computer technology can be used to solve the problem of user

## II. MODULE IDENTIFICATION

- A. *Arduino Module Development*
- B. *Passenger Rush Detection*
- C. *Saving the Rush Counter*
- D. *Android App*

## III. MODULE DESCRIPTION

- A. *Arduino Module Development*

In this module we are connecting two infrared ray sensor to our arduino kit. They are attached one another to one. We are initializing the passenger count to zero for the first time.

- B. *Passenger Rush Detection*

whenever passenger enters in the train sensor one is on first and then sensor two is on so we can predict passenger is entering the bogie We increase the count of the passenger and pass the value to next module. whenever passenger exits from the train sensor two is on first and then sensor one is on so we can predict passenger is exiting the bogie .We decrease the count of the passenger and pass the value to next module.

- C. *Saving The Rush Counter*

In this module, the total count of rush will be stored in database.

- D. *Android App*

This app will show us the all information of bogie. When rush is more than 70%, the will be red.



When the rush is about 45%-50%, the signal will be yellow. And, when the rush is below 20%, the signal will be green.

#### IV. LITERATURE SURVEY

In literature review it is found that the monitoring of crowd in the bogie in the railway consists of mainly the following steps:

- A. Sensing: It is the sensor which detects the in and out of the passenger
- B. Transmitting: Sensor Transmits the signal to controller
- C. Processing: Controller do the processing. Depending upon the in and out status of the passenger.
- D. Displaying: Displays the crowd in bogie using above mention color code.(red,green,orange)

#### V. CONCLUSION

In this emerging world of computers, almost all-manual system has switched to automated and computerized system.

So this project will help users to determine vacant boggies in train using automated way.

This App will make passenger journey a HAPPY JOURNEY

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