

# Automatic Movable Railway Platform With Train Arrival Detection

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**Abstract-** The main aim of this project is to automate railway track pedestrian crossing without use staircase & announce the status of the arrival for platform users. In this system is also used to avoid train collision problems. Because, now a day 'strain accidents are occurring frequently in India. In order to avoid the accidents due to the above reason we have designed this project.

This project is used for automatically close or opens the mobile platforms in between the track trains. Normally the mobile platform connects the two platforms through which the passenger can walk on the platform to reach on the next platform. Sensors are placed on the two sides of track. If the train reaches one sensor the mobile platform will automatically close and allows the train to go through the tracks and then when the train leaves the second sensor the mobile platform will automatically open the bridging platforms. The microcontroller will sense the presence of train by using infrared sensor. So on sensing the train on one path controller will give pulses to the stepper motor to close the mobile platform automatically.

## I. INTRODUCTION

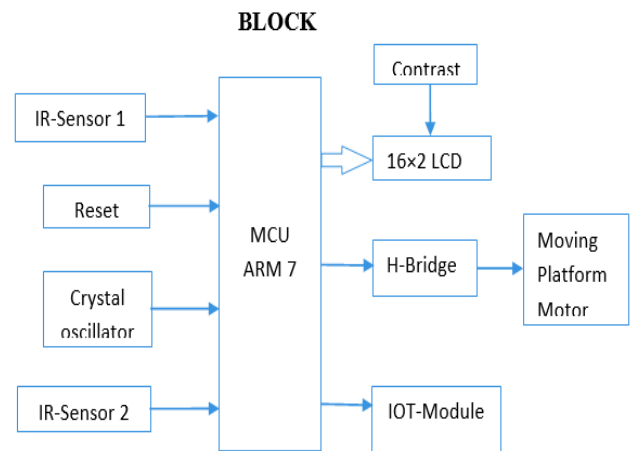
### 1.1 GENERAL

Travel is fascinating, of them train travel is more exciting. With the increased comfort levels in train transport and traffic in trains we are in an extremely important situation to improve the safety concerns in train travel.. This paper explores the possible ways of increasing train track safety using onboard monitoring and dynamic track monitoring system. India with its increased technological inputs is in a demanding situation to counter this problem. Emulating the previous human based erroneous and procedural system where track monitoring is done twice in a year, our dynamic technology will enable the trains to run safely.

The railway system is the most commonly used transportation mode in India. It is also one of those modes of transport that faces a lot of challenges due to human errors such as level cross accidents, collisions, etc. A level cross, an intersection of a road and a railway line, requires human

coordination, the lack of which leads to accidents. The recent survey from the social analytics was said that the most disadvantage in Indian railway is climbing up the overhead steps for the physically challenged people. Our proposed system mainly deals with the rectification of this disadvantage. We introducing the new concept of artificial railway platform. The present railway systems in India are not automated which are fully manmade. In railway stations normally we use bridges. It is very difficult for the elderly persons or handicapped persons to use the bridge .This paper find a good solution. Mainly the tracking of a train is sensed by sensor, this is used for automatically close/open the mobile platform. Sensors are placed on two sides of track to sense the motion of train. The microcontroller will sense the presence of trains by using infrared sensors. So on sensing the train on one path, the controller will give pulses to the motor to close the mobile platform automatically

## II. BLOCK DIAGRAM



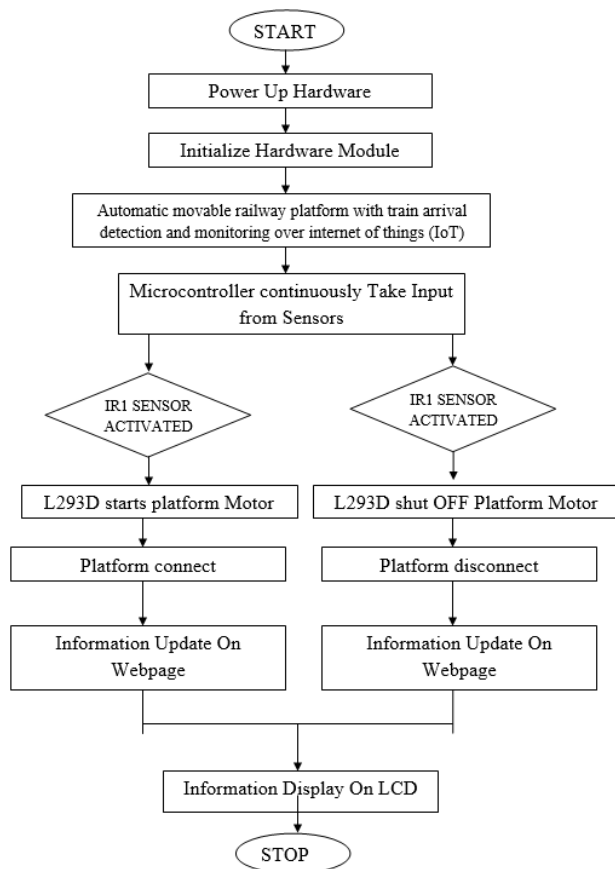
When the train comes near the artificial platform, the proximity sensor senses the train and gives informs to the microcontroller. So that the platform is not connected during the arrival of the train.

When the train is far away from the artificial platform the signal is given to Microcontroller, then the output signal

from the controller is send to H -Bridge. Then platform is connected to allow people to walk from one platform to another easily without any strain of climbing stairs. All the information is available in web using IoT module interfaced to the controller.

This project uses regulated 5v, 750mA power supply. 7805, a three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac output of secondary of 230/12v step down transformer. The IOT module requires a separate +5v power supply.

### FLOWCHART



### ALGORITHM

STEP 1:- Power Up hardware.

STEP 2:- Initialize hardware Module.

STEP 3:-Display On LCD as “Automatic movable railway platform with train arrival detection and monitoring over internet of things (IoT)”

STEP 4:- IR1 Sensor senses the train and inform it to the microcontroller

STEP 5:- Microconroler sends signal to l293d , according that platform will open or close.

STEP 6:- when the train leaves platform the second IR sensor is activated then platform is disconnected .

STEP 7 :- All the information is available in web using IoT module interfaced to the controller.

STEP 8 :- All the information is displayed on LCD.

### III. CONCLUSION

This project is used for automatically close/open the mobile platform .It saves the time for passengers to cross the next platform. The sensing is made continuously whenever the trains arrive and pass through. Thus the tracking of train is sensed continuously, which automatically c00lose/open the mobile platform

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