Counterfeit Railway Platform for Domestic Railroad Station

Kurumadalli Leela Santhoshi [1], Nennuru Gayathri [2], K. Geethike [3]

***Abstract*— Dynamic the primary point of this venture is to computerize railroad track person on foot crossing without utilize staircase and declare the status of the landing for stage clients. In this framework is additionally used to stay away from prepare impact issues. Since, now days prepare mishaps are happening every now and again in India. The one of the principle explanation behind prepare mischance is the going of two prepares in same track in inverse course. With a specific end goal to maintain a strategic distance from the miss chances because of the above reason we have outlined this venture. This extend recognizes the status of each prepare utilizing IR handsets and illuminates it to microcontroller. In the event that the sensor unit distinguishes both prepare in same track implies microcontroller consequently trip the supply of the trains, which is more than adequate to maintain a strategic distance from this sort of mishap. This venture is utilized to maintain a strategic distance from the prepare intrigue, subsequently we spare the important human lives and misfortunes. So this venture is helpful for railroad offices**.

***Index Terms*— ARM7-LPC2148, Wi-Fi, Metal detector, IR sensor, Artificial Platform, LED indications**

I. INTRODUCTION

The current review from the social examination was said that the most burdens in Indian railroad is moving up the overhead strides for the physically tested individuals. Our proposed framework for the most part arrangements with the amendment of this detriment. Here we present the new idea of counterfeit railroad stage.

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For the fruitful approach we are utilizing two

sensors and for the execution we are utilizing hand-off what's more, for the controlling operations we are utilizing ARM7 microcontroller.

II. EXISTING SYSTEM

Presently the braking is connected specifically to the trains. So the trading of shafts turns out to be past the point of no return, so they prepare will stop with some time delay. On seeing the stage crossing, it is troublesome for the physically tested individuals. Since it has ventures over the tracks.

Normally manual stopping mechanism is utilized to maintain a strategic distance from collision. In expansion to this we are utilizing exchanging of tracks and prepare timing

Alterations which is tedious process. Manual braking as well works just in the event that it is seen by the prepare driver. No counterfeit stage to limit the separation to travel from one stage to other.

2.1 DRAWBACKS IN EXISTING SYSTEM

- Accidents may occur.
- During platform passengers may fall in tracks.
- We cannot change the tracks immediately.

2.2 PROPOSED SYSTEM

The whole system will controlled by programming way for that installed framework is used. If trains come posts of the tracks are consequently exchanged. With the goal that we can stop the train. During non-running circumstances of tracks the manufactured stages are permitted over the tracks. Recognizes the status of each prepare utilizing IR handsets and advises it to micro controller.

If the sensor unit recognizes both prepare in same track implies microcontroller naturally trip the supply of the trains, which is more than

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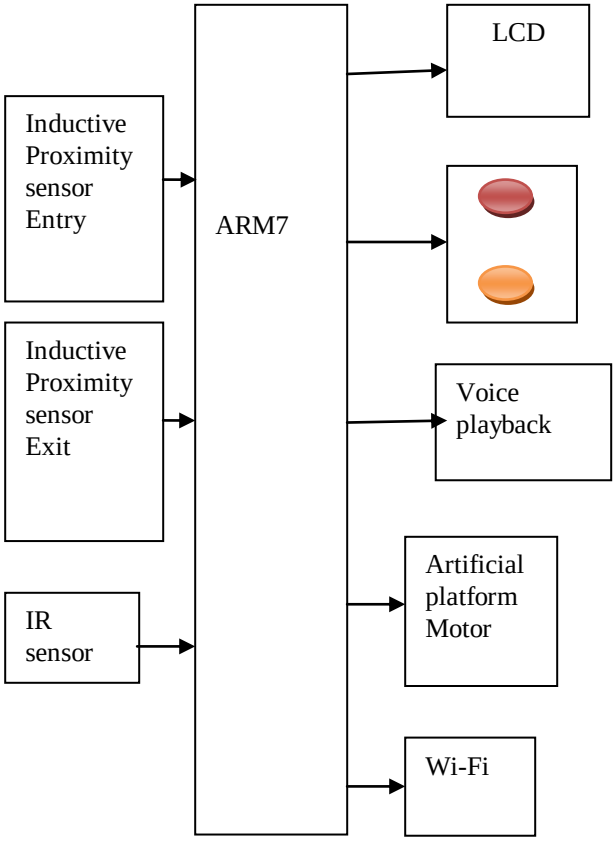
adequate to stay away from crash. A programmed passerby crossing extension to diminish the separation voyaged between stages which works relies on upon prepare development.

2.3 ADVANTAGES

- Reduces train accidents.
- Reduces the timing of braking.
- Highly helpful to physically challenged people.

III. BLOCK DIAGRAM



3.1 MICROCONTROLLER

The NXP (founded by Philips) LPC2148 is an ARM7TDMI-S based high-performance 32-bit RISC Microcontroller with Thumb extensions 512KB on-chip Flash ROM with In-System Programming (ISP) and In-Application Programming (IAP), 32KB RAM, Vectored Interrupt Controller, Two 10bit ADCs with 14 channels, USB 2.0 Full Speed .

Figure 1: LPC 2148 Board

3.2 PROXIMITY SENSOR

Inductive proximity sensors are used for non-contact detection of metallic objects. Their operating principle is based on a coil and oscillator that creates an electromagnetic field in the close surroundings of the sensing surface. ... Sensitivity when different metals are present.

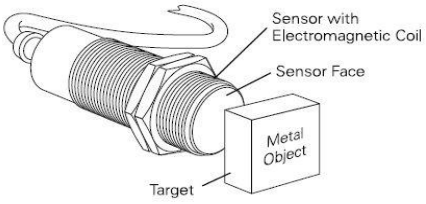


Figure 2: Inductive sensor

Features:

- Types: M8 to M30
- Extended sensing ranges: 1.5 mm to 38 mm
- Electrical configuration: DC 3-/4-wire, DC 2-wire
- Enclosure rating: IP 67
- Temperature range: –25 °C to +75 °C
- Nickel-plated brass housing, plastic sensing face

3.3 IR SENSORS

An infrared sensor is an electronic instrument which is used to sense certain characteristics of its surroundings by either emitting and/or detecting infrared radiation. Infrared sensors are also capable of measuring the heat being emitted by an object and detecting motion.

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Figure 3: IR Sensor

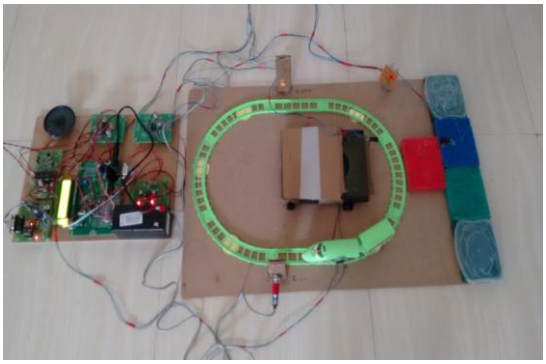

Figure 5: Hardware Design

3.4 Voice playback:

The APR9600 provided all the necessary features for recording and playing the audio with very fewer external components at a very low cost. May be many of you are aware that the APR9600 audio recorder and playback IC is no longer manufactured!. The chip was manufactured by a Taiwan based company called APLUS Integrated Circuits Inc.

Figure 4: Voice Playback

Features:

- Operating Voltage Range: 3V ~ 6.5V.
- Single Chip, High Quality Audio/Voice Recording & Playback Solution.
- No External ICs Required, minimum External Components.
- User Friendly, Easy to Use Operation.
- 680 sec. ...
- Powerful 16-Bits Digital Audio Processor.
- Nonvolatile Flash Memory Technology.

IV. WORKING PROCEDURE

If train comes near to artificial platform, the proximity sensor senses the train position and gives its output to ARM7 microcontroller. ARM7 microcontroller works on the supply of oscillator. It has already had a programmed structure in it which helps to execute. The output of micro controller is given to LCD and Speaker to give an alert to the people move quickly. After that artificial platform starts to open step by step. And gives way to train to stay in platform.

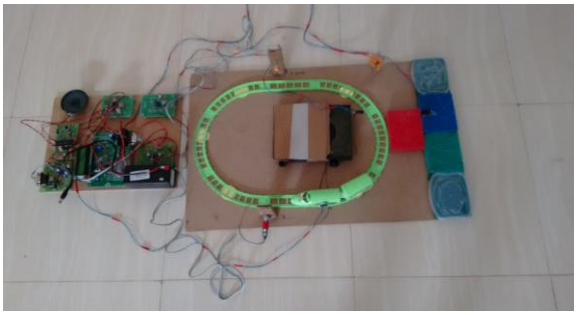

Figure 6: Hardware Implementation

If the train is far away from the artificial platform then the sensor sends the signal to ARM7 microcontroller and that ARM7 micro controllers output is given to speaker. And artificial platform remains closed. In the case of mechanical failure in artificial platform, we use a IR sensor below the platform. It works by the resonance frequency of human being. If the resonance frequency is high then

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the IR sensor gives the output to Microcontroller through Wi-Fi. Then Wi-Fi gives its signal to the train and the train stops far away from the artificial platform.

V. CONCLUSION

Railroad track Pedestrian Crossing Bridge handicaps individuals and more established individuals. By utilizing this venture we can maintain a strategic distance from crash. Indian railroads can utilize this venture to upgrade the administration to individuals.

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