MOVABLE BRIDGE BETWEEN RAILWAYS CROSSING PLATFORM

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ABSTRACT:

This project's major goals are to change platform users' access to a railroad track crossing without requiring steps and to announce the arrival's standing. Additionally, this technology is designed to prevent accident-related problems. Because train accidents are currently happening often in India every day. This project uses IR transceivers to determine each train's position and then communicates that information to a microcontroller. Therefore, railway departments can benefit from this project. According to a recent social analytics survey, the main barrier for people who are physically challenged in using the Indian train system is climbing the overhead steps. The main focus of our suggested method is the elimination of this flaw.   Here, we're going to introduce a brand-new design for an artificial railroad station. In the

Key Words: **Movable Bridge, IR SENSOR (E18-D80NK Infrared Proximity Sensor), Arduino, Servo Motor, LED lights, Buzzer, Adapter**.

1.1 INTRODUCTION: Railways are a necessary component of public transit, and one of the most important areas that needs improvement is safety. Platform crossings are one of the Indian Railways' difficulty areas for making it a safe and reliable system in a severe state. This problem area occasionally results in deaths and accidents, despite the Indian Railways' extensive safety precautions. In order to alter it after and before the train arrives, a short horizontal platform will be attached to either end of the two platforms. This platform may be moved or slid horizontally by sensors and a motor. Itwillbetheportionoftheplatformthatconnectsthefirstplatformtothesecondportionofthebar.

1.2 THEMAIN OBJECTIVIES:

- The main objective of our project is to reduce dailyoccurring accidents which lead to life loss.
- This is also different from other remaining techniques. As old system which is given below escalators &bridges are used for Crossin

2.TECHNOLOGY:

2.1 ARDUINO: Arduino is a open source electronic prototyping platform which enables users to create interactive electronic objects which consists of physical programmable circuit board also known as a microcontroller and a software IDE

(Integrated Development Environment) that runs on computer whichis used to insert and upload computer code to the

physical board [Fig:1].

Fig:1-Arduino Board.

2.2 EMBEDDED C LANGUAGE:

It is an extension of C language which is used for developing programs for embedded devices.

C for embedded system uses standards of C language but with a lot of requirements used for customization and optimization and it always uses the same syntax as C.EXISTING MODEL:

As per existing system railway tracks are crossed in Between the platforms which is very dangerous ,and also by using stair bridges which are very difficult for handicapped and senior citizens. [Fif:2,3,4]

Fig:2-Railway existing bridge.

Fig:3-Railway crossing accidents. Fig:4-Difficulty in crossing platforms

3.PROPOSED MODEL:

As per the project abstract the proposed plan and working will be same. As there are two platforms in general. There will be having the availability of sliding platforms attached to platform. so, whenever there will be train on the platform this sliding platform is in close position, but when train is being coming or its at specific distance the controlling signal will be given to sliding platform and it will be going to opened to cross. This is mainly for the safety of peoples who will be crossing the sliding platform. Along with the controlling signals, buzzers are also provided. After the train departure, again the alert will be given and gates of the sliding platforms will be opened after the alert. [Fig:5]. So by this crossing the platform is done safely. So that handicapped people and senior citizens cross the platforms with comfort without using stairs and escalators.
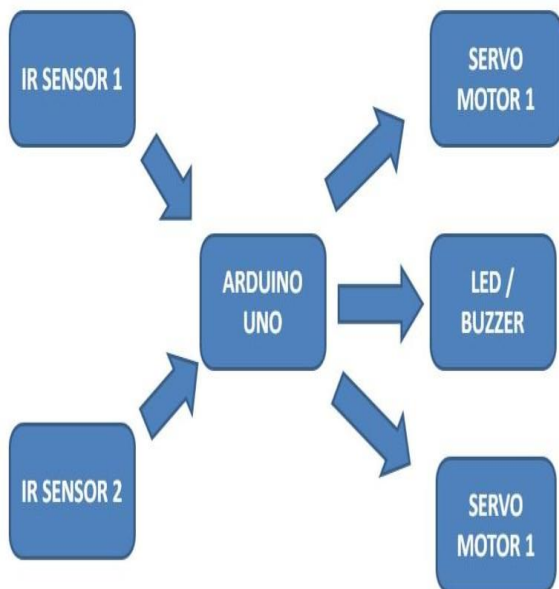
3.1 BLOCK DIAGRAM:

Fig:5-Block diagram of proposing model.

3.2 WORKING MODEL:

When there will be no train being present there then, the footbridge will have been closed and people or senior citizen will cross it with all safety providence. When the train at the specific distance away from the platform then buzzer will sound for close at platform as well as the remaining people those who are standing on footbridge they will cross the platform and after that the footbridge tends to close because the train is coming on platform accordingly with all safety measures, After

closing the footbridge signal will indicate the GREEN signal, so that train can move further. If any problem occurs in system, footbridge will not open inscribe of this signal will indicate the red light & train will stop. So there is no risk of occurring of
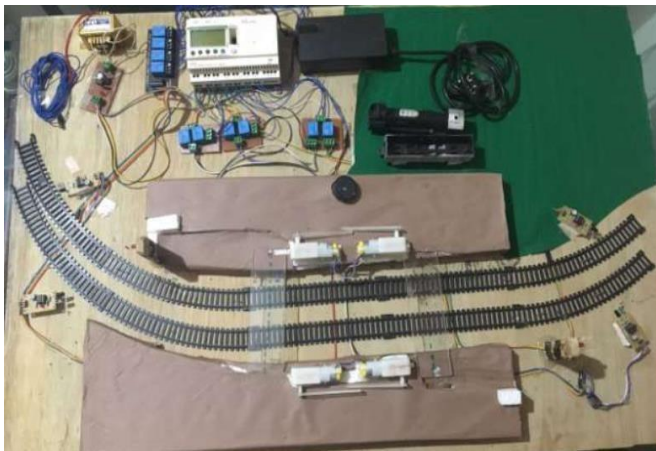
any type of accident [Fig:6].

Fig:6-Working model of the bridge.

This method helps in reducing the time and area requirement. Further in future we can make the bridge as a rotating one for the effortless crossing of railway track for disabled persons.

3.3 APPLICATIONS:

- Power consumption is less
- The system has simple and economic compact.
- No need to cross the track or using lift andelevator.
- Time saving option.
- Luggage can be shifted easily.

4. Mainly useful for eniorcitizensandhandicapped persons to cross the tracks.

CONCLUSION-

The main aim of paper is to consider and develop a system that helps the disabled person to cross the railway platform. The railways need to set rules to allow trains to travel economically while giving priority to safety. And additionally to look up at same time that time between passing of trainsshould be reliable to passengers .

This will save the energy comparatively to elevator, because of this crossing of platform will be so easy. It prevents the level of accidents. Peoples who are suffering from physical disabilities can cross the platforms using this bridge easily and mainly for the senior citizens who feel difficult and scared of crossing platforms. This is a highly innovative idea which is when developed can make the smart innovation forsmart city and the rate of using railways for transportationcan also increase in growth.

5.FUTURE SCOPE:

The modifications to be done in this project are in a new recognition method using stereo vision which automatically calculates volume of objects in bridge can be used. Moreover, we consider various dangerous factors, such as safety accidents as fall between a platform and a train, getting stuck between the bridges.

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