

Remedies Measure to Avoid Accidents in Railway Field

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Abstract— The Indian Railway is the third largest network in the world carrying 18 million people to their travelling each day. The increased growth in the railway sector has resulted in an increase in the train traffic density across the world. This has resulted in the increase in the number of accidents involving trains. Recently in Mumbai women nearly fell under moving train on platform. In Mumbai's kalyan station pune two girl falls trying to catch a running train slipped to the gap between platform and train. In Mumbai over 18,400 people died between 2013-18 in train accidents. Mumbai an average of eight people were killed daily on railway tracks in 2016. But know nine people die on the Mumbai local tracks every day. Crossing the tracks was the leading cause of death.

Key words: Ultrasonic Sensors, Arduino Uno

I. INTRODUCTION

The Indian Railway is the third largest network in the world carrying 18 million people to their travelling each day it has been operating by under a single governing body and existence since 1853. The low rate mode of transport for the people of India even today. Recently in Mumbai only women's saree got stuck in the train and the train was in motion. The woman could not get her saree detached from it which is why she went along with the train. Two crpf jawans pulled her away from the train and saved her life.

The out of India there are fully automatic system of railways platform but in India there are not implemented high technic platform. Because of this chances of accidents are happened in India. that why we are implemented to avoided railway accident on a platform . we designed side pannels in between gap of platform and railway to avoid railway accident in between platform gap and railway gap we are also designed any damage in track than It will informed to direct railway control room as well as train operator .And also we provide the proposed system comprises of other warning devices such as automatic barriers for road users and Due to ever increasing used of railway and also increasing number of vehicles daily, it was concluded that using automated technique at level crossing can be useful for the safety of traffic. The alarm device for platform users .It is already used in other cities.

II. LITERATURE REVIEW

Railways have been constantly working towards coming up with new technologies to avoid railway accidents. Their mostly accidents are happened while crossing track through platform, in between railway and Platform gap. To avoid this we are provided transferred glasses through whole track on near the platform to overcome the accident in between platform gap and railway. This is possible by using ultrasonic sensor, arduino Uno etc. when the train or railway was coming on track than automatically transferred glass on both the side becomes up side as well as before coming train

warning devise also implemented such as alarm, flash light, and also given a signal.

When the train or railway was not stop on the platform or passing through that station than that signal will be indicate as a green signal for this situation also transferred glasses automatically becomes up. On that transferred glasses there are green light it indicate the railway was passing through this station or platform as well as flash light, warning devices also gives notification, and also when the train was stop on that station or platform than signal will be indicate as a red. When the signal becomes red it will indicate that the railway stop on station or platform as well as transferred glass automatically came up on both side of track it also become red to give us notification and also flash light ,warning device give a notification to avoid accident in between platform and railway gap.

The glasses which are we implemented or provided that is plastic transferred glass because of it is not costly. when if we use only glasses it will be costly, maintenance will be high , it is not durable hence when it is broken the glasses than it affect the surrounding people it will be dangerous because of railway vibration and it is heavy that why we are not provided. And its height of transferred glasses is 6 ft.

We also provide automatic barriers to avoid accidents through vehicles and manned level crossing. Because of many people are to compel the gateman to open the gate when it is closed for train movement. And also try to cross the level crossing gate when it is closed. It is Illegal crossing of railway tracks when it is closed. automatic barrier and manual controlled crossings (including those monitored by CCTV) are mostly used on public roads with high traffic volume. Automatic half-barrier crossings with less disturbance to road traffic for each train traverse are mostly used compared to manually controlled crossings, but they have a relatively high average risk. Automatic open crossings with flash lights and no barriers have a higher average risk of train colliding with road vehicles. Do not enter/ get down from running trains. Do not travel on footboard. You can miss the train not your future. That why we are provide automatic barriers and also take care or be alert and reduce your speed while approaching Railway unmanned level crossing. Stop your vehicle at the foot of the stop board. Look at either side of the track personally or ask your assistant to do so. Do not cross if you see any train /trolley approaching the gate or hear the sound of a train /trolley. To avoid this situation are implemented traffic lights (LED) are necessary to give active warning to the road users. If there is no train approaching, the active warnings should remain off, road users has a right of way. LEDs signal should be of an energy saving types. They have a long service life but yet require less maintenance. On the description of their high contrast, they shine brighter and more clearly than conventional signal transmitters and are clearly visible even

in direct sunlight. And also warning alarm it is necessary to warn the public / people to avoid accidents while crossing the track. The alarm is activated when the warning light commence of flash. The alarm should go off when the automatic gates descend down. Gate delay is very important in railway signaling system. In situation if gate delay is define as the time when flashing lights begin flashing before the boom gate start lowering down. Gate delay is also necessary to allow the vehicles to clear off the level crossing. In case there are long or either slow moving vehicles at the level crossing, gate delay may be the solution to allow a vehicle which is are still under the boom gate to clear off before the boom gate start descending. And the warning time is depended on the circuits controlling the automatic warning devices should provide a minimum of 25 seconds before the train arrive at the level crossing. This 25 second is a minimum warning time. The warning time should be enough at least to make sure that all the vehicle that are operating at the crossing are cleared off. Factors that determine the minimum closing time are such as; the type of road grade, the crossing width, the speed and length of the vehicle using the level crossing, and the state of crossing surface. Warning time should not be excessive, as road users may enter the crossing if they cannot see the oncoming train especially if the site is curved track line or obstructed. This will overcome the accidents while crossing the track by vehicles.

A. Automatic barking

Any obstacle in between the track that while informs to direct railway control room as well as railway operator it is possible by using sensor. Following are some point:

- To detect the presence of obstacle even from a long range.
- It also informs Human inaccuracy on track to direct railway control room and railway operator.
- Optimal level of brake application also provided.

III. GENERAL INSTRUCTIONS

A. Photographs



Mumbai: dreadful accident at borivali railway station, woman killed on spot.



Miracle in Mumbai: girl crossing track run over by train, she then runs towards the platform with commuters ready to pull her to safety.



Crossing the tracks was the leading cause of death.



B. Aims

- To overcome the accidents on platform and railway gap.
- To avoid unmanned track crossing while barriers are closed.

- To avoid accidents, any obstacle in between the track.
- To design and prepare an effective system of Track.

C. Objectives

- To keep the railway gap and platform gap safe for traveling.
- To protect unmanned track crossing while barriers are closed.
- To keep the railway operator and control room alert for any obstacle on a track.
- To minimizing the accident crossing through one platform to other platform by using track.

D. Output

- Public safety
- Railway track safety

E. Advantage

- Indian railway earns money by using automatic barriers.
- Track and platform will remain safe while entering in train.
- More vacancies would be available

F. Limitation

- It is initial cost would be high
- Man power would be require less

IV. CONCLUSION

The Automatic railway track crossing system is developed on the idea of reducing the accident at track crossing around the world. Track crossing without active warning devices such as barriers, flash lights, and alarms present dangers to both rail and road traffic. Automation of the closing and opening of the barrier gates as well as transferred glasses. At the same time, it necessary to remove a railroad crossing through costly grade separation in order to improve safety for rail, road travellers and platform users. by utilizing the hardware and software components and linking them up into an entry access system would serve as the best, cost effective, convenient, efficient, and secured and best suited to be implemented in the railway industry.

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