

Local Train Tracking: Checking the Live Status of the Running Local Train

Karishma Chavan¹, Indira Bhattachariya²

¹Student, Dept of MCA, VESIT, Maharashtra, India

²Assitant Professor, Dept of MCA, VESIT, Maharashtra, India

ABSTRACT:Have you ever tracked someone or anything which which you want to know the live status of ?In todays world Internet has opened many doors for sharing ,exchanging,navigating and searching, and the growth of Internet usage is getting increased day by day.Nowadays NAVIGATION has become so important that if we just want to visit a place from our home to another place we just open the google maps put the source and destination and within secs it shows us the route in how many mins we can reach that place by car ,walking or by auto.It also help us in live tracking so that we are able to know that we are going in correct and navigated way shown by the google maps.In this todays techno world everything is tracked lived like CABS,MAIL EXPRESS,FOOD OREDER DELIVERY,ONLINE SHOPPING ORDER,MOBILE TRACKING used by cops etc.LIVE TRACKING has become so important that everyone wants the live update of everything.Earlier the live tracking of express trains was not there but from few years it has been made possible by the INDIAN RAILWAYS by using GPS helps to show the live status of the express trains.There is an APPLICATION called M-INDICATOR which shows the live status of the train

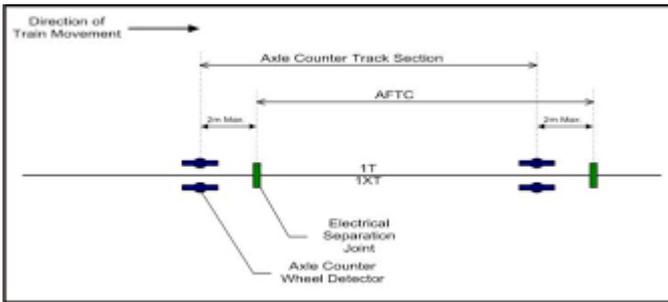
whether it has been departed from the station or upto where it has been reached and at what time it will come to next station and also the delayed time.MUMBAI LOCAL which is called as the LIFELINE of the mumbaikars is as important as daily necessities of a man.If it just gets late for a few minutes the whole schedule gets change.sometimes the train shown on indicator dose not comes or it change the platform.sometimes the fast local runs as slow or vice versa.Thus to solve this messey issue this paper aims to find the perfect solution to track the LOCAL TRAINS so that the passengers will able to get the correct information of the locals.This idea can be made possible using DIGITAL AXEL COUNTER(DAC) which detects the passing of a train between two points of a track or direct access to TRACK CURCUIT real time acces by putting GPS in every locals.so that the people can get the live update of there particular local train and therefore the idea is just proposed for the future betterment of the passengers to know the live update.

Key-words:Navigation,Live Tracking, Digital axel counter(DAC),Track Curcuit

1.INTRODUCTION:-

Live tracking means getting the live update of particular spot.The live train running status for Indian Railway trains means the exact location of any train ,its real time delay system,on which platfrom its going to arrive,train on right time,does the train has been rescheduled or not.It may also include estimated arrival of the train at any particular station enrout.The two things which are important to be noted while checking Live Train Status are"Last Reported location"and "Estimated Time of Arrival(ETA)"at upcoming stoppages.The "Last Reported Station"signifies the station based on the which the current live train running status is determined . It also conveys that the train has either arrived or departed or crossed that particular station.The "Estimated Time Of Arrival (ETA)"value conveys the expected time at which the trains is supposed to arrive at any of its upcoming to be there to board the train.To make local train tracking possible DIGITAL AXEL COUNTER (DAC) should be used.It detects the the passing of a train between two

points on a track.A counting head is installed at each end of the section ,and as each train axle passes the counting head at the start of the section,a counter increments.A detection point compromises two independent sensors ,therefore the device can detect the direction and speed of a train by the order and time in which the sensors are passed.The second way is to track the local train is getting direct access to the server which is handled by the railway department which actually shows the server in which RED shows the train is stopped and the GREEN shows the train is in running stage.



DIGITAL AXEL CONTROL



TRACK CIRCUIT

2.RELATED WORK:-

As we know that the express trains run in one way means at a time only one express train goes through a particular route. So Express trains live tracking has been made possible easily through M-Indicator application. We are able to track it by putting our source and destination and we come to know the live status of the express where it is or if it is delayed then by how much time or it has taken halt due to signal.

A visit to the signal panel of trains at CST showed me how the trains are managed, how their names are changed, if any express is not departed then next local is made available instead of that. For EG. if the train is shown at indicator is Titwala and the train changed named to Khopoli is all done at signal control panel. If we want to make local train tracking live then we need to handover the main server to the third party so that it can be done through the application and we can be able to see the live tracking. The other alternative would be putting GPS in every local. But it also shows that at a time many local trains run simultaneously, so it can become difficult to track each and every train individually.

3.EXTRACTION AND CLASSIFICATION:-

For making the above idea of live tracking possible there are two ways mainly

I.DIGITAL AXEL COUNTER:-

The two types of DAC are

A. Single section Digital Axle Counter:

The Single Section Digital Axle Counter SSDAC-710P is the latest model of Single Section Axle Counters from CEL. It is used for Train detection in station sections for detecting occupancy of railway track section primarily for the vital control of section occupancy. Examples of applications of axle counters are:

- Train detection in automatic signalling section for signal control
- Train detection in the block section for block proving
- Train detection in Railway yards



Single Section Digital Axle Counter (DACF-710P) (Approved by RDSO in Part-I)

B. Multi section Digital Axle counter:-

MSDAC-730P is a multi section digital axle counter system that is designed using the principles of fail-safety and has a two-out-of-three fail safe architecture. It is microcontroller based and has a redundant power supply arrangement. Its modular nature allows you to plan your upgrade and extensions without any problem. It is extensible with 8 detection points in a module set. It provides an easy-to-use GUI for configuration. It is used for detecting railway track occupancy primarily in a station. It is used for track circuiting a whole station. MSDAC-730P is modular in design and can be used with 40 detection points per chassis. Each detection point has a track sensor that identifies a track section boundary. A track section can be defined with 2/3/4 detection points.

The system consists of the following components:

1. Axle Detectors
2. Electronics Field Units
3. Central Evaluator
4. SM's Reset Panel
5. Monitoring Unit



**Multi Section
Digital Axle Counter
(DACF-730)**

II. TRACK CURCUIT:-

It includes the tracking server where it shows the route of the trains ,on which track it sis running ,which platform is going to arrive.If this is connected to the Google API then the live tracking will be possible.The passengers would be able to know where the particaular train has recached ,or at which station it has reached,or it has taken halt due to signal or for crossing of another train.

4.GOVT ACCEPTANCE:-

As this project includes a system under the govt it requires permission to give access to the railway server.Because anybody can make misuse of it and do malfunctioning with it.It also requires funding as it's a huge project bcoz making the all the locals track live is not so easy.If govt finds this idea nice it can make this idea live .But according to the NATIONAL TESTING SERVICE to apply this project at all India level it will cost more .Because locals create more mess than tracking the express trains as they run in huge numbers than the express trains.Also the tracking may or may not be made possible because the railways are not also in a great profit so the prices of train tickets have been increased.but finally it requires permission to all the access.

5. RESEARCH METHODOLOGY:-

Research methodology includes the the process ,how the system works ,what output it gives.As described above the live tracking of train requires the actual server of the local trains so that it can be connected to the google API

system to show the live status of the train to the passenger.once it is done the live tracking becomes easy.

6.REFERENCES:-

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