



# SMART WAY TO COMMUNICATE THE PASSENGERS IN THE TRAIN USING THE HYBRID TECHNOLOGY

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## Abstract:

**In order to cater to the needs of passengers travelling in the train by reserving the seats, the system is designed so as to provide passenger specific information as well as common information to all the passengers travelling. Passenger specific information can be like information in advance about the destination along with the information of the live train. Whereas the common information to the passengers can be like information about the live train. The system is designed such that it works on time every time because of the technology used which is called the hybrid technology. Here combination of internet and intranet technology is used. The passengers can avail this facility by opting the same during the seat reservation process.**

## Introduction:

Providing information to the passengers in the train is very important now days because of various reasons. Which is done and the facility is available to the passenger with the help of internet. But I want to provide the facility to the passenger who is travelling without making use of internet directly. The touch screen device will provide information related to location of the train and will also provide information about the destination of the passenger. The touch screen device when touched will provide this information. Apart from that it will also alert to the passenger about the destination in advance by means of alarm. As internet connectivity

may not be available at all location especially in the forest area, this method of using intranet

communication will provide the best solution for the same. This is an innovative method of providing information /alertness to the passenger without using the mobile device.

The basic information of passengers performing reservation will be available with the railway authority and this has to be exported to the main server arranged for a particular train. The server has to import the data and has to transfer the same to various clients which are located at every passenger seat along with the common client for each block of the bogie. The purpose of client common to block of each bogie can be referred as common client system is to provide general information common to all the passengers, whereas the purpose of the individual client is to provide particular information to specific client. The server will be updated every time from the main server and the same information will be used to provide the alerts and alarm to the specific passenger. The communication between the server in the train and the client can be done using intranet communication system and between two servers with internet. The basic idea which is novel is to see that the information which has to be provided to the passenger should be given on time and every time. The various devices used are touch screen devices with alarm facility (speakers) referred as clients along with the hubs at every bogie and the main server in the train. The communication can be with the help of wires as well wireless. So as soon as the train is ready for departure at source station the information will be imported and the same can happen at multiple other stations. The passenger will be given an option to select the facility while the passenger

performs the reservation. This facility will be provide only to the passengers travelling by purchasing tickets in advance (reserved). Where as in general compartments the arrangement can be done only for the common clients which will inform about the position of the live train.

### Design consideration:

1. The system is designed with the help of internet and intranet technology to provide passenger specific and common information.

a. As the chances of designing with internet technology may fail in many locations.

b. The system is designed with touch screen devices so as to make it easier to use for the common man or for a passenger who is not well versed with technology.

c. The system will provide different information to the clients according to the destination chosen.

d. The System designed helps for specific individual as well as common to all.

e. Usage of hybrid technology is novel so as to see that the system works on time every time.

f. The system is easily managed because of having total control of data.

2. The system is designed using intranet so that the same works in all the geographical locations where internet do not /may not work.

3. A system as said in claim 1 is designed by using touch screen device is an innovative idea/novel idea as the common man faces problems with the latest technology.

4. The system designed is very innovative in terms of providing information as the destination chosen by the passenger. The system will alert and guide the passenger in advance, so that there will not a problem at the last minute.

5. The designer of the system is very complicated and innovative as the same system has to provide information to individual passengers when prompted as well as to all passengers sitting in the compartment at specific time interval.

6. Designing the system with hybrid technology was innovative concept so that we can have better and concrete system at place.

7. The algorithm used here will help the build a robust system.

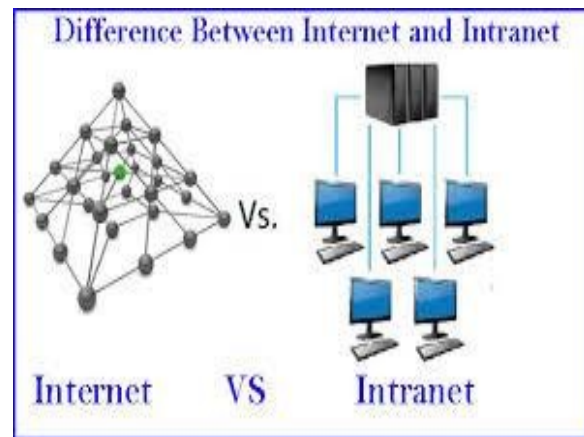
8. The system is designed so as to cater to the

need of people who are not well versed with technology.

Fig.1 Image of Intranet used in the process of passenger communication



Fig.2 Image of internet and intranet used in the process of passenger communication



### Challenges:

To store the data from the source station before the train starts and to feed the same in the main server which will be placed in the drivers cabin and to see that the cables laid out for passenger communication are not disturbed or cut by any means. The touch screen device should be made very tough or robust so that it will be damaged easily by the passenger wanted or by mistake.

### Existing System:

In the existing system the passengers are made to depend on the mobile phones or they need to depend on another passenger to provide information regarding the current location of the train as well as to wake up in the morning for the destination station. The problem here is if the mobile network is not working than there is every chance of system being collapsed. So in order to reduce the dependency the new system

will help to provide information to the passenger as and when they required as well as they can get the information half an hour before they actually have to get down the station.

**How the system works:**

As the system uses intranet and internet technology which otherwise can be called as hybrid technology it is very easy to provide information to the passenger in much better way. The information will be collected at the source station with the help of internet facility and the information will be shared among the various passengers with the help of intranet facility along with the touch screen devices arranged.

The information which is the data pertaining to the passengers reserved for that particular train will be gather and stored in the server system at the source station, then all the nodes which are connected to the hubs in various bogies are connected. The nodes will get the information from the server using intranet technology. So here the data is stored in the server with the help of internet and the same is shared among various nodes using intranet technology, then the dependency on the mobile technology and mobile network is completely zero.



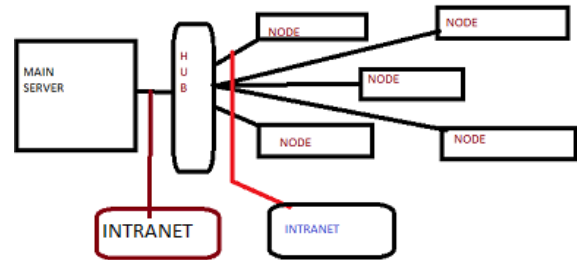
Fig: 3 shows the touch screen which will be used by the passenger.

**Results:**

The data is stored in the server system from the main railway reservation system using internet technology which can be referred as MD1 and then using the intranet technology between the server and the various hubs and the nodes connected to the hubs the data is transferred from

the main server to the nodes via hubs which can be referred as ND1...NDn.

Fig: 4 Refers to communication between the main server and the nodes present in various bogies.



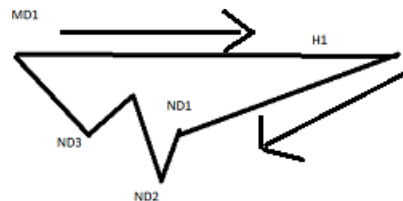
MD1->ND1 MD1->ND3

MD1->ND2 MD1->ND4

So the information is passed from the main server i.e MD1 to rest of the nodes including the hubs and accordingly the passenger can get the information regarding the various stations and the distance from the destination.

MD1>H1>ND1 MD1->H1->ND2

Fig:5 How the data flows from MD1 to H1 and from there ND1...NDn



Information between the MD1 and the H1 which is the hub is communicated using intranet and from there to the various nodes is also by intranet technology only.

Whereas the information from the main reservation server to the main server in the train is communicated using internet technology.

**Conclusion:**

When the system is designed it will be very useful for the passengers who are travelling by taking the upper part of the berth because there is no other way for them to get the information

related to the places they are visiting and arriving. This particular system will help them to get information regarding the position of the train and also can get the information about their destination in advance. The passenger for this may have to shell minimum amount which can be used for the development of the system in future. Over all the conclusion is that this is going to be well defined asset for the passengers as well as the railway board as it helps to increase the revenue and passengers will be happy because o getting right information at right time. The passengers will be provided with touch screen for this purpose.

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