CONCEPT AND APPROACH OF ONLINE PREPARING AMENDED CHART BY TRAVELLING TICKET EXAMINER

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ABSTRACT

In this technological world, where the technology steps in to various fields e.g. Banking, Commerce, industries and education. The growing usage of computer and internet are making the work easier, cheaper, faster and more accurate.

Various departments of Indian Railways also using technologies i.e. Payment system in personnel department, Interlocking system in signal department, Passenger reservation system and unreserved ticketing system in commercial department, use of panel system instead of old patterned lever system in operating department, online crew management system for loco pilot and guard booking with usage of technologies etc. With the aid of these technological innovations Indian Railway's Administration have also gained positive results.

In the present paper Network Enabled charting device model is proposed. This model is compatible with current technologies used with Indian Railways with slight modification. It would be helpful in easily obtaining the status of waiting list tickets and also helpful in system improvement.

Keywords: Reservation chart, Indian Railways, NEC device, waiting list, QR code.

1. INTRODUCTION

Indian railway is vast medium of transportation. There are over 7 billion passengers and over 921 million tones of freight transportation annually by Indian Railway, as of 2011. It plays a leading role for Indian economy, therefore it is also called as lifeline of our country. Railway administration aims at providing convenient and relax journey to its passengers. Indian Railways have A.C. first class/Executive class (upper most class) to second class (seat) in which facility of advanced reservation is available and second class (unreserved) as the lower most class for travel in Indian Railways in which reservation facility is not available. About four lakhs berths and seats are reserved each day on the entire Indian Railways. [1-3]

Passengers can purchase reserved tickets by Railway reservation centre or book their tickets online by logging into irctc.co.in for e/I tickets. Facility of booking reservation ticket via SMS is also available. [4-5]

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What is Reservation chart?

It is a list of passengers who has booked their seats/berths in a particular class of a train. Chart displays PNR (passenger's name record) Number with other details viz. from & to station, name, sex and age of passenger etc. Fig. 1 shows the image of reservation chart.[6] With the help of reservation chart it can easily observed that how many berths/ seats are falling vacant in the particular compartment.

What is amended chart?

With the motto of providing reservation facility Railway administration deployed ticket checking (amenity staff) for ensuring that right passenger has occupied their berths. The passengers are in possession of a valid authority for travel in that class. Amenity staff has provided with a copy of computerized prepared chart to match passenger's tickets with it. Discrepancy if any would be dealt according to extant Railway rules.

The ticket checking amenity staff has to prepare an amended list manually in prescribed format during the journey after checking the particular compartment with reference to the computerized reservation chart provided for this purpose.

The ticket checking staff after matching the particulars of actually occupied passenger with PNR (Passenger Name Record) number, which is specified in computerized reservation chart, mark the berth/seat as occupied denoted by 'O'. If there is any vacancy occurs in case of not turning up of passenger, the berth/seat is marked as not turned up denoted by 'NT'. Which thereafter allotted to RAC (Reservation Against Cancellation), W/L (Waiting List) or other desired passengers as per rule.[7]

This amended list which is prepared by amenity staff is called amended chart. It can be easily seen that passengers who are in actual occupation of seats/berths.

RAC/ Waiting List

When all the available seats/berths booked in advance in a particular train, then booking is done under reservation against cancellation system.

As per the system, sitting facility is given to the passenger with the condition that if there will any room result of cancellation or not turning up of passenger en-route in the concerned train, the same will be confirmed first. All reservation booked under the RAC should be confirmed before confirming any waiting list.

After the RAC list over, booking is done under waiting list. For booking waiting list ticket one have to pay full charges as required for confirm ticket, but they are not allotted with seats/berths facility even they are not allowed to travel in reserved compartment. Ticket booked under waiting list may be confirmed after confirmation of RAC tickets.

Although, waiting list passengers are not allowed to travel in reserved compartment unless confirm, yet they are allowed to travel in unreserved class of the train otherwise may get refunded.[8]

Problem with the manual amended chart

Due to amended chart is prepared manually there are many irregularities and problems occur:

1. Giving priority in confirming berth to waiting list passengers rather than to RAC passengers.
2. Waiting list passengers has no idea whether his ticket is confirmed or not in the course of journey unless they regularly approach to concerned TTE and asks about it.
3. Moreover, Waiting list passengers pretend that they board the reserved coach for knowing the status of their waiting list ticket with TTE and train got started.
4. Confirmed passengers getting harassed and have fear about safety of their belongings because of entrance and travelling more passengers than prescribed for the compartment.
5. No one could know the vacancy of berth/seat in running train unless the TTE of that train. Therefore, there is a chance of bias and malpractice in allotment of berths/seats.
6. Due to uncertainty of availability of seats in running train, passengers get demoralized of travel by the training ask refund of their tickets resulting loss of traffic.
7. It is the main reason of corruption facing by passengers almost.

In present scenario a Network Enabled Charting device- NEC is proposed to overcome maximum problems occurred in manual amended charting system and makes the system more transparent and fast.

2. PROPOSED SYSTEM

Network Enabled Charting device - NEC is a digital device like palmtops/ tablets equipped with QR code scanner, printing availability and Wi-Fi network. The induction of following technical equipments and network system are required:

1. The availability of Network should be ensured in train even during in running condition.
2. TTEs should be equipped with NEC (Network Enabled Charting) device.
3. Tickets should be issued with QR (Quick Response) code.
4. Coach should be equipped with QR Code scanner to facilitate self occupation of seats/berths.
5. Network enabled computers on Railway stations with display unit for showing vacant position of seats or berths in upcoming trains and with ticket printing facility.

Fig. 2 shows the schematic diagram of proposed system. This system is consist of modified ticket embed with QR code as shown in Fig. 3. The code could be scanned by the NEC device available with TTE. All information of the ticket is automatically transmitted by the device to

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PRS server through NEC server. The updates of running train regarding availability of seats/berths are also available on digital display boards of en- route stations.

3. WORKING OF NEC (NETWORK ENABLED CHARTING) DEVICE

In this system TTEs would be equipped with NEC (Network enabled charting) device. The chart of concerned train would be prepared online and that will available on the NEC device, hence no need to carry printed copy of reservation chart. The NEC device would be capable to scan the QR code marked on the ticket. By scanning QR code the information of the ticket would be gathered in the NEC device; therefore it may ensure occupation of berths/seats automatically as well as checking of tickets. If there is any berth/seat fall vacant in case of not turning-up (NT) of passenger who have already reserved a confirm seat/berth, The TTE of the coach would click on NT button against the berth number on NEC device. While the NEC device scan QR code or action done in case of not turning-up of passenger as stated above, the information of occupation or vacant berths/seats would be transferred to network enabled computers on Railway stations en-route of the train, where the availability of seat/berth in running upcoming train would be displayed after confirming waiting list already booked. Passengers who desire to travel may book their tickets as per vacant position from network enabled computers on Railway stations or by TTE in the train (with the help of NEC device). A receipt would be printed out from the NEC device which shows difference of fare paid (in cash or by swapping debit/credit card), coach number berth/seat number, distance and class of travel etc. with date and time.

As soon as any passenger books seat/berth in upcoming train, the information of booking of ticket would be synchronized to the whole network and NEC device too. So there is no chance of booking more than one passenger on the same seat/berth for booked portion. In case, any passenger cancels a booked ticket from station which is en-route, the information of the same is synchronized and available in NEC device in running train as well as the whole network. As there would any vacancy arise, the vacant seat/berth would be sequentially allotted to waitlisted passengers. For this purpose a message would be sent on mobile number and e-mail address of the waitlisted passenger. Therefore, a waitlisted ticket may confirm. When the passenger board the coach for which he/she has got confirmation message, the TTE of the coach would scan the QR code of the ticket and give occupation of relevant seat/berth to the passenger. NEC device also contents telephone numbers of head offices and control offices to convey or consult in case of lack of passenger amenity in train or any emergency or unusual event. Fig. 4 shows the sample layout of NEC application.

4. CONCLUSION

This System would be beneficial for Indian Railways in following manner:
i. RAC system can be abolished by the application of this system.

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ii.   No need to carry printed chart. Therefore helpful in saving papers and comfortable in handling.

iii. Automatically confirmation of waitlisted tickets and sending confirmation message to the passengers.

iv.   There is no chance of booking more than one passenger on the same seat/berth for booked portion.

v.   Public would also be aware about the availability of seats/berths in the running upcoming train (In the current situation only TTE of the relevant coach is aware about the availability of seats/berths in the running train).

vi.   It is helpful in bringing transparency in the system.[9]

vii. Also helpful in controlling activities of corruption often reported by passengers.

viii. This system would be helpful in discouraging Touts.

ix.   Summary of collected amount is available on single click on NEC device.

x.   May also helpful in maintaining customer's goodwill.

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आरक्षण सूची   RESERVATION CHART

गाड़ी संख्या - 12791, सिकंदराबाद-पटना एक्सप्रेस   TRAIN NO. 12791, SC PNBE EXPRESS

क्लास - शयनयान   कोच संख्या - एस 10   CLASS - SLEEPER   COACH - S10

स्थिति इंजन से - 13   POSITION FROM ENGINE - 13

सिकंदराबाद जं.से पटना जं.   SECUNDERABAD JN TO PATNA JN

सिकंदराबाद जं.से छूटने की तारीख - 13.03.2012   LEAVING SECUNDERABAD JN ON 13.03.2012

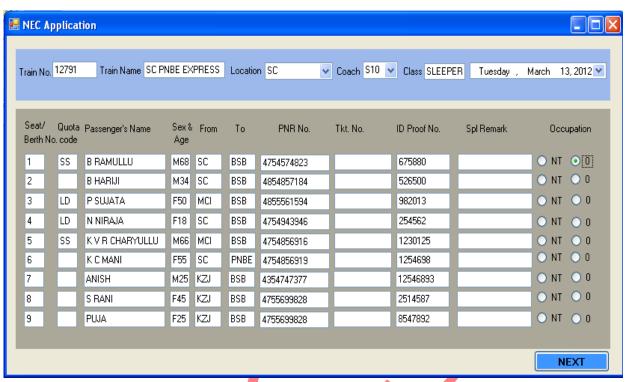| यात्री का नाम	Seat/ Berth No.	Quota Code	Passenger's Name	Sex/ Age	PNR No.	From	To	ID Proof No.	Pending amount	TTE remarks
1	2	3	4	5	6	7	8	9	10	11
बी रामुलु	1	SS	B Ramulu	M 68	4754574823	SC	BSB	675880		
बी हरिजी	2		B Hariji	M 34	4854657184	SC	BSB	526500		
पी सुजाता	3	LD	P Sujata	F 50	4855561594	MCI	BSB	982013		
एन नीरजा	4	LD	N Niraja	F 18	4754943946	SC	BSB	254562		
के वी आर चारयुल्लु	5	SS	K V R CHARYULLU	M 66	4754856916	MCI	BSB	1230125		
के सी मनी	6		K C MANI	F 55	4754856919	SC	PNBE	1254698		
अनिश	7		ANISH	M 25	4354747377	KZJ	BSB	12546893		
एस रानी	8		S RANI	F 45	4755699828	KZJ	BSB	5214587		
पुजा	9		PUJA	F 25	4755699828	KZJ	BSB	2546125		
लक्ष्मी	10		LAXMI	F 44	4754856916	SC	PNBE	8547892		
			RAC PASSENGERS							
गीता देवी	39	RC	GEETA DEVI	F 38	4856342965	SC	DLN	2562200		
सोनी	39	RC	SONI	F 21	4856342965	SC	DLN	678954		
एस कुमार	47	RC	S KUMAR	M 54	4756814756	SC	BSB	555544		
के कुमार	55	RC	K KR	M 35	4856342965	SC	PNBE	222546		

Fig.2: Schematic Diagram of NEC System

Fig.3: Proposed Ticket with QR code

Fig. 4: sample layout of NEC application