

Literature Survey on Current Public Bus Transportation

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Abstract - Now days lots of passengers struggling to find correct bus which they supposed to enter. The fare collection system which currently in bus transportation is not efficient and corrupted. The conductors collect different amount of money from different persons also they will not give balance also. In this paper we are mainly focusing about different technologies that are available for smart use of bus transportation. Now all around the globe there are many new technologies that make bus transportation smart. The main technologies like BRTS, Rav Kav card etc. The system will help passengers to track each bus. That is the main advantage of our system. Also it helps to anti-corruption and efficient use of bus transportation system.

Keywords- Application, IOT, smart bus transportation.

I. INTRODUCTION

In India buses are the most means of public transportation. Today, within the period of Digital India and Cashless Economy, transport has to adapt the new technology advancement. There's a requirement for smart and reliable system within the public transportation sector. The problems experienced by the passengers while travelling public buses are long and undue expecting the buses, non-refund of balance amounts, etc.

Thus to develop a far better and smooth ticketing experience, we've got proposed our smart application that may automatically allocate the seat to passenger, can reserve ticket digitally and mode of payment are going to be cashless thereby promoting digitalisation and smart cities initiatives by the govt.. There might need been many buses that pass the stops in their area around this point and people buses might even have run getting ready to empty. But unaware of this, they're forced to miss this economical means of transport and appearance for other, costlier alternatives like cabs and auto-rickshaws. This has also resulted in heavy loss to the govt. that fund the transportation industry. By far, not enough focus has been given to redirect the to unguided travelers to search out buses that runs along their route.

The solution for all problems can get through Intelligent Transportation Systems (ITSs) which are recently under research and development for creating transportation more efficient and safer. ITS comprises variety of technologies, including scientific discipline, electronics,

communications and control. But it's some disadvantages like costly equipments, difficult to use in mixed traffic and not suitable condition in India to style

it. The bus tracking using, it's possible to search out exact location of the bus along with coordinates, but it requires more power to control. IEEE 802.15.4 is rapidly growing technology in vehicular networks. The throughput and congestion are the key problems during this technology. RFID has low cost and play key role in transportation and object tracking. It includes reader to read the info from tags.

An Efficient Method for Bus Status and Fare Collection the RFID tags are divided into active and passive, the passive RFID tags widely employed in vehicle and object tracking system. The RFID system can work either in low covering frequency 30 KHz to 300 KHz, high covering frequency 3 to 30 MHz and also the ultra-high frequency 30 MHz to 3 GHz.

The Internet of Things is an interconnection of physical objects to the web has made it possible to access and control remote sensor data. E-ticket system could be a more efficient and reliable method of ticket entry, processing and marketing and used for companies within the airline, railways and other transport and entertainment industries. E-Ticket is typically referred as a travel card a transit card. In our proposed system E-Ticketing is employed for conveyance bus. E-ticketing systems have achieved worldwide renown and conveyance can surely have the benefit of these technological advances. E-Ticket will contain the

subsequent information like ticket number, bus number, departure location, destination location, fare, number of tickets, etc. E-Ticket are generated in smart phones or as an SMS in feature phones. Seat Allotments within the conveyance are accustomed designate a particular pre-negotiated seat which has been bought out and held by a commuter. Allotments will be purchased for a selected period of your time like an entire route, so will be allotted to other commuters.

II. PROBLEM DEFINITION

Due to ever-increasing population, even though the number of people travelling by bus is increasing, the number of people opting for their own vehicle are also rapidly. Because of many times, they find themselves late to work or missing important occasions due to unavailability, miscalculation or mix up in bus timings. There might have been many buses that pass the stops in their area around this time and those buses might even have run close to empty. But unaware of this, they are forced to miss this economical means of public transport and look for other, more expensive alternatives such as cabs and auto-rickshaws. This has also resulted in heavy loss to the government that funds the transportation industry.

III. RELATED WORK

In Ahmadabad, BRTS technique is carried out for bus transportation. The traffic block in Ahmadabad may be very bad. The humans lost plenty of their time by waiting inside the block. So the authorities of India got here up with a brand new smart technique referred to as BRTS (Bus Rapid Transit System) which help human beings to attain destination quicker with out waiting in the visitors block. The device was a success in India. The device will only help to keep away from visitors blocks it will not give modern-day repute of bus.

The rav-kav card in Israel is an clever card used to make electronic bills and additionally a fare collection system. The smart card used in smart railways in addition to bus companies. The users can capable of placed money inside the rav-kav card the use of debit card or credit card. This technique helps to provide a smart environment in bus transportation.

The paper by Vipul Pandey proposes implementation of a Real Time bus Tracking (RTBT) system, by installing GPS devices on city buses which is able to transmit the present location through a GPS Receiver. The GPS Receiver will interface with computer and it'll auto save data. The application will collect the data and store it in server. This data is employed for the display of real time information of bus. The uncertainty in the arrival of bus is

the main problems of public installation. When the info that's collected is given to traveler as per their requirement through internet, they will use their time with efficiently.

In India there exist an mobile/web application called redbus which assist to provide green bus price tag booking system. It join bus visitors with loads of buses. The redbus was based in 2006 to offer green way of bus ticket reserving.

IV. PROPOSED SYSTEM

The proposed system will provide live location tracking of each bus. So the user can avoid waiting time. Also the disadvantage of the current system is also overcame by the proposed system. In our proposed system the components are RFID reader, WiFi module and microcontroller. The RFID reader is used to scan the bus when it reaches at each bus stop. The read value is send to a microcontroller, the microcontroller send the information to cloud server with help of WiFi module.

Once the user registers to device the user can able to access the full features of the system. The user is requested to enter the source and destination of his/her journey. After that the clickbus app(application installed in the mobile phones) will fetch data from cloud server. The user has two options either track the bus or reserve the seats. The tracking system will work with help of the RFID tag placed in each bus stop. Once the data reaches the cloud server it will process the data and send information to those users who have subscribed for that bus. Also seat allocation is done using an efficient algorithm. The user can able interact with system with help of a mobile application which support on different operating system. Using above mentioned moduel we can able to design a system which can able to support all the requirements of our project.

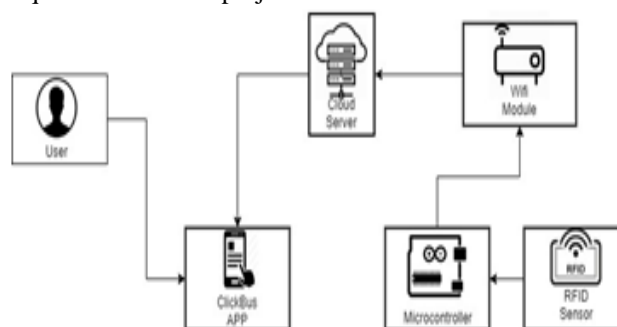


Fig. 1. A block proposed system.

V. CONCLUSION AND FUTURE WORK

In this work analysis, issues faced by the public are lack of proper resources to locate and monitor buses along their routes was discussed. A better solution suggested

was in the form of a bus management and bus tracking system incorporating four independent modules. They provide the use of bus arrival detection, signaling this information to the online storage, processing and calculation of received data present in the cloud and at last make the passengers easy for locating buses along their desired route thereby reducing congestion during rush hours and waiting time of passengers at bus stops. This system ensures normal cost on the passenger side and limited expenditure on the part of the transport system.

The chance for the further improvement of the navigation system is high by including real time tracking leveraging cellular connectivity of smartphones of passengers. When the passengers enter into the bus at that time location of the passenger can be tracked once if the permission is granted as fast as possible. Hence provide the live location updates of the bus to the server. By accurately predicting the expected arrival time using neural network. By adjusting the weights and bias of neural network based on actual arrival time values from preceding days so the present work can be exploited in better manner. Also the drawbacks of RFID like Scanning multiple items, Material like face recognition and finger print sensor.

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