BUS TICKET SYSTEM FOR PUBLIC TRANSPORT USING QR CODE

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Abstract: In this paper, we are proposing QR reader for a bus ticket. Users can scan QR reader instead of the ticket. In this app, after registration profile, we have to attach our bank details to this app and add money to the wallet. Whenever we go by bus, we have to select from and to location. Then it will generate amount details for per head. Also, we can buy a ticket for extra members and produces the mean count. It Scans the QR code from the conductor of the bus with a particular ID. Then we can scan QR code. So directly money will transfer from our wallet to transport corporation on basis of conductor ID. Then we will get an SMS alert for ticket payment proof. The admin side (Transport Corporation), they calculate amount details of a particular conductor through using web application. Then they can calculate per day amount details of Transport Corporation for buses.

Keywords: QR code, Bus information, Easy ticket process.

1. INTRODUCTION:

In this bus ticket system for public transport using QR code system we are actually trying to make bus ticket process in metropolitan and public transport as an easy way by QR code system. The project works on the basic android application platform. The user will be registered through application on online basis. Once the user gets registered with the system. It helps the passenger to mark the boarding and destination places on the application and check the bus availability in that route at that particular time. Before going to book ticket we have to add the amount into wallet from bank account for travelling. After boarding into the bus. Ticket will be generated by scanning QR code from conductor in the bus. Which deducts the amount from wallet and provides message of ticket details.

2. EXISTING SYSTEM:

For the most part, in the transportation framework, the procedure of the ticket is for the most part taken care of by the conductor. He used to gather the sum from the travelling individual and gives the ticket to them. Fundamentally, the entire procedure is finished by paper-based, the printed papers are issued as tickets. In
Introducing days the handheld machines are utilized to print the tickets this framework is having different weaknesses. That traveller needs to convey the printed ticket to the last stop of their destination. That the conductor ought to guarantee that each explorer in the transport is having the ticket are most certainly not. The time taken for the printing of ticket of each individual in the transport is too long. Conductors must be prepared for keeping up the handheld machines. For instance, if the traveller wishes to travel by transport he needs to give the cash to the conductor and gather the printed ticket and to complete until loading up from the transport. This procedure will take additional time and the abuse of Human Resource and fundamentals as well. The framework is for the handholding ticket process however in another way, it additionally kept up by the RFID framework, in which tag and per user are utilized output the cards. Subsequent to filtering a card the measure of the ticket cost is charged from the tag naturally. This procedure is likewise having the inconvenience of loosing of RFID tag. That prompts loss of cash. RFID label comprises of cash since it was credited with cash before the travelling itself. The RFID framework is likewise utilized for tracking also.

3. LITERATURE SURVEY:

In this segment, we will review some things up on the various kinds of writing open transport ticket planning process.

3.1. GPS Tracking in Public Transportation

In a large portion of the nation’s population is expanding quickly. So the general population, for the most part, utilizes the general population transport than the private transport and they need greater adaptability. To guarantee that people in general transport must be redesigned with introducing innovation that encourages open transport to pull in the general population. Automatic Fare Collection (AFC) System is generally called as Transit Smart Card System that gives benefits on manual fare collection system towards bringing down the work costs and that expands proficiency of fare collection. Bayesian choice tree calculation is created in examining process, the calculation is utilized with the open transportation vehicles that are with GPS system. It expresses that information gathered was the purposes of starting point where the traveller AFC card is filtered, it is pivotal for the procedure of Automatic Fare Collection process [3]. In another paper, the GPS following is utilized towards following of transports. Where that a GPS system of the transport fast transit system is utilized as a part of the transportation for expanding of adaptability for people in general. The BRT System was actualized for expanding the unwavering quality and security on the premise of lessened journey times [1].

3.2. Public transportation with RFID technology

RFID innovation comprises of segments like Tag, Reader and the Middleware which cooperates with the back-end database. Numerous applications utilize RFID innovation that has been proposed lately to make the procedure as simple way. Those endeavours have been tested as to achievability, organization, administration, protection, and security. It demonstrates that RFID innovation made a compelling utilization of these kinds of uses. We should see that in instances of no "observable pathway" between smart cards and per users in a comparative meld with the radiation examples to coordinate them and the situating of receiving wires, there might be changes in designs as these variables are basic for acknowledgment [4]. The exploration was additionally done on how RFID Technology will be utilized to take care of issues looked by open transportation experts in metropolitan urban communities.

By investigating the automatic following of transports that are utilized to give an estimation of transport entry times which improve the traveller comfort. In short run, the RFID procedure may demonstrate the most noteworthy cost. To make productive it must have sifting of information to expel undesirable or off base cost costs and after that ordering helpful information by the total process. Additionally, that RFID procedure is examined on gathering information and that can be used to foresee the transport development that enhances the administration of the general population transport system. The process has the hindrance like when the labels and per users work all the while there is a possibility of happening twofold charges [5].
3.3. RFID in cashless ticketing system

The cashless system is transcendently observed in different nations which utilize a Smart Card that was set on the ticketing machine introduced inside the transport. The entry will be deducted and issues a ticket by the entire paid, that besides includes date and time of the exchange near to the straggling leftovers of the attributes on the card, the entire framework is defined by the utilization of an Electronic Ticketing Machine. The card can be revived and that can likewise be customized if there should arise an occurrence of misfortune or burglary [6]. Notwithstanding the Smarter Card help procedure of fast and simple ticket process, the capacity to load up a transport and pay for all intents and purposes without hands is acknowledged by the RFID empowered Smarter Card. That was not just recognizable when held close by and furthermore when conveyed anyplace by a voyaging individual. The issued ticket mirrors the voyager and card information accumulated from the filtering and Not withstanding those numerous are additionally assembled like a planned course, transport number, date and time of loading up into the transport. They additionally analysed on protection worries as for accumulated information of individual data. The RFID Cards are utilized as a part of general society transportation which empowers the following of individuals boarded in the transport and those following points of interest are gathered in the database server which is known as the focal server. This enables a person's whole history to be shown as though they required or for the security reason [7]. This paper likewise researched on the proper security and protection necessities for e-ticketing through RFID innovation.

To feature the insufficiency of an existing proposition and present answers for protection saving e-tickets in light of RFID innovation. With this procedure, the known cryptographic strategies are utilized which will debilitate ticket fabrication. E-ticket is generally used to enable the conductor to bring down the procedure of check and exchange to process. That enables the explorer to have a speedy and helpful confirmation process than the paper-based or money based check process [8]. Notwithstanding that RFID innovation has likewise picked up support in ticketing, by a cashless system utilization. So considering both RFID and GPS advances, they proposed a novel portable based transport following and planning system [2]. It was specified that GPS innovation additionally has a disadvantage where transmission might be hindered when they are crossing through the shut structures, for example, burrow situations or same courses with comparative nature.

3.4. RFID bus ticket for public transport:

The paper-based public transport ticketing system, prevailing in the megacity of Dhaka presents extreme glitch in the system, the malignant contention among the public is corruption and above all else traffic jam. This paper really proposes a substantially more public benevolent, automated system of ticketing and also the credit exchange with the utilization of RFID based tickets. The aggregate system for the most part acts to draw out the consistency among different transport organizations that will finish up in uniform access of travellers in day by day rides through an automated server being refreshed each and every time the travellers go via conveying the RFID based tickets [9].

4. PROPOSED SYSTEM: Architecture

In proposed method, we are introducing QR reader. Here, we will create one android application for selecting the travelling route and generate amount.
The QR code will be scanned by passenger from the conductor in the bus. Then automatically it will send amount from our wallet to conductor account which is maintained by transport system. Then user will get message of travelling ticket. After that value of money collected by the conductor will be automatically store in database and the details of tickets collected.

4.1. **REGISTRATION MODULE:**

The user provides personal details accordingly then he provides route details and before that add the amount to wallet from bank. After that it produces QR code scanning page layout in mobile. In this module, the client gives the points of interest like name, make password, mail, telephone number and so forth through enrollment shape and gets enlisted with the vehicle transportation framework.

4.2. **USER LOGIN:**

The principle page of the application is the client login page that used to get enrolled with the application. If they were selected (who are registered with app) people, they can login by giving the username and password through the user login module

4.3. **BANK PAYMENT MODULE:**

Once the login is finished it prompts the bank page in which we give the bank subtle elements like card number, name on the card, cvv and so on. In the wake of giving points of

4.4. **LOCATION MODULE:**
A user needs to choose from and to and it will produce fare details for the journey. At that point we need to enter the check of travellers and we get aggregate sum. From that point onward, we need to utilize QR scanner for versatile installment.

4.5. QR SCAN MODULE:

In the wake of adding the cash to the wallet. The traveller needs to choose from and to subtle elements of the journey then it creates the cost of travelling per head. At that point we can likewise choose the number of travellers to movement, it figures the aggregate sum and then scans the QR code of the conductor.

4.6. VERIFICATION MODULE

The QR code generated will be verified by the conductor and the amount will be deducted from the wallet into conductor’s wallet and later to the transport corporation from the conductor and tickets collected by conductor will be tracked by admin of the transport corporation.

5. CONCLUSION

The project would be valuable to general society who are looking with the present issues. The Proposed framework would empower the general population to have the ticket for movement in metropolitan and for the most part open transport, in addition, the printed material will be decreased and loosing of the card is additionally wiped out. It would guarantee the minimization of tedious and cash issues like change. Further, the subtle elements of the ticket of each traveller are put away in the database alongside conductor points of interest which are followed by the administrator.

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