



ONLINE BUS PASS GENERATION USING QR CODE

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Abstract-- The main objectives of this work are to describe the online bus pass generation and ticket booking using QR code. Online bus pass generation is helpful to people who are suffering issues with the present technique for the generation of bus pass and renewal. This project consists of two login pages, one for user registration and the other one for admin. Users need to register by submitting their details through online. Once the registration process is done then a security code called One Time Password (OTP) code will be sent to the user's registered mail. This system is used for ticket generation, bus pass formation and renewing of the bus pass of the users. The user can login with Idno and password to perform the pass booking and renewal. Bus Ticket Checker can scan the users QR code to check the validity of bus pass.

Keywords: Users, Verification, Ticket Checker.

I. INTRODUCTION

As technology is growing fast, people need to update themselves to be in touch with the new technology. The current technique of pass generation is slow, inefficient and tedious process. Users have to wait in long queue to get their pass to be done and this is tedious and difficult process for both users and employees. The current bus pass system have some drawbacks such as pass is regenerated every time and this is a vapid process, which requires to reprint the pass every time. The existing systems don't provide any security options. Latest Digital bus pass generation is helpful for the people to generate and get their pass through online instead of standing in a long queue to get their bus pass. The generated bus pass can be used for long time as users can recharge their digital bus pass each time when pass is about to expire. The conductor of the bus and admin will verify the authenticity of the pass by scanning the QR code which is received through the user's registered mail by using the android mobile and the conductor can check weather pass is valid or not. QR code contains the details about the user such as user name user id's, source, Destination, start date, expiry date etc. When the QR code is scanned, generates a message whether bus pass is valid or not. If it is found to be valid, then it will provide the user's pass details. This application shows a trust worthy relationship between the users and admin.

II. PROBLEM DEFINITION

The current bus pass generation system is a man - handling process in which computers need to submit users applications forms in the main depots by filling the required details in the application. This application form is manually checked by the depot employees and then the pass is issued to the specific user after the verification of the application. This process is quite hard and impatient for users to do manually because it will take very long time to generate users bus pass and the passengers have to wait in long queue for a whole day even sometimes. This existing verification process causes delay to users to get their bus pass on time.

III. PROPOSED SYSTEM

In proposed system the details of the user will be safe, correctly kept and will be well organized and is handled in a database. Users have to book the pass-through android device by selecting the bus station name, wrt to the station user need to select the start station and the end station of the bus. For each station an particular fair will be calculated and once pass is generated the user details will be forwarded to the server side to generate the QR code. To monitor the bus, ticket checker has to login and click on the monitor GPS device to control. Checker has to turn on the monitoring service to tack the bus location with latitude and longitude. Ticket checker need to login by providing valid credentials like bus id and password in order to check the tickets. The conductor will scan the QR code which is generated at the time of pass generation and the QR code will fetch the details weather the pass is valid or not.

IV. DESIGN

4.1 SYSTEM ARCHITECTURE

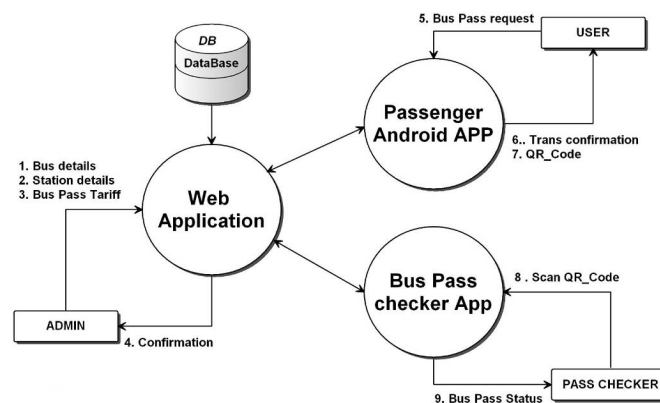


Figure 1: System architecture

In System Architecture there are three applications that is web application, passenger android application and ticket checker application where web application communicates with the database to verify the admin details. Passenger android application will communicate with the web application in which user can request for the bus pass, do payment details and QR code will be generated and this QR code will be scanned by the bus pass checker application and after scanning the ticket checker will be able to fetch the details of the user and know weather the pass is valid or not.

4.2 DATA FLOW DIAGRAMS

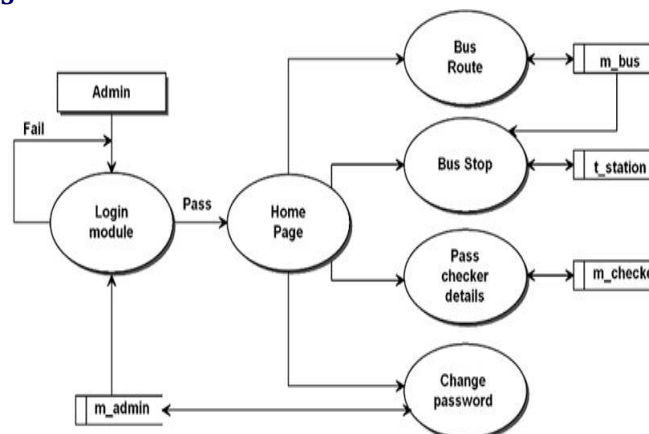


Figure 2: data flow diagram for Admin session

In this admin dataflow diagram the admin has to login with the given id and password. This id and password is checked with he database table called m_admin. If the details entered are correct admin can go to home page and manage bus route, bus stop, pass checker details, change password.

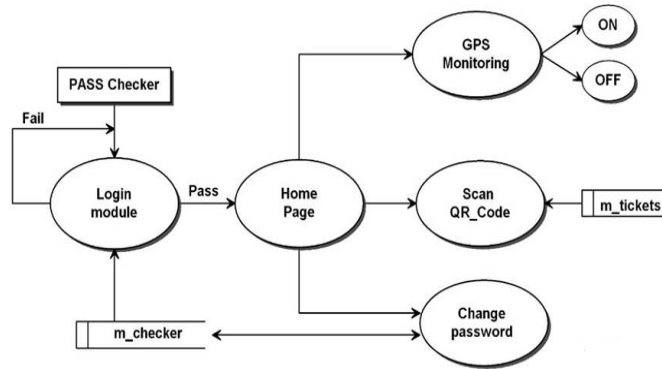


Figure 3: data flow diagram for Ticket Checker

In this ticket checker data flow diagram ticket checker has to login with id and password. After login ticket checker is able to manage GPS monitoring, scan QR code and change password.

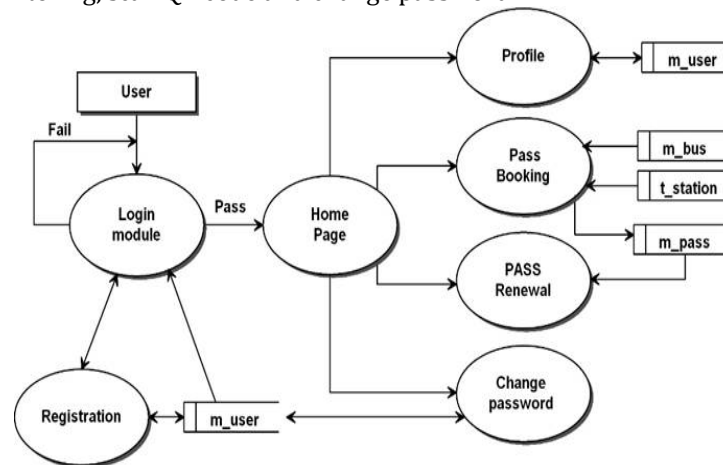


Figure 4: data flow diagram for User session

In this user session data flow diagram, user has to register first and with the provided id and password the user can login and manage the profile, pass booking, pass renewal and change password.

4.3 FLOW CHART

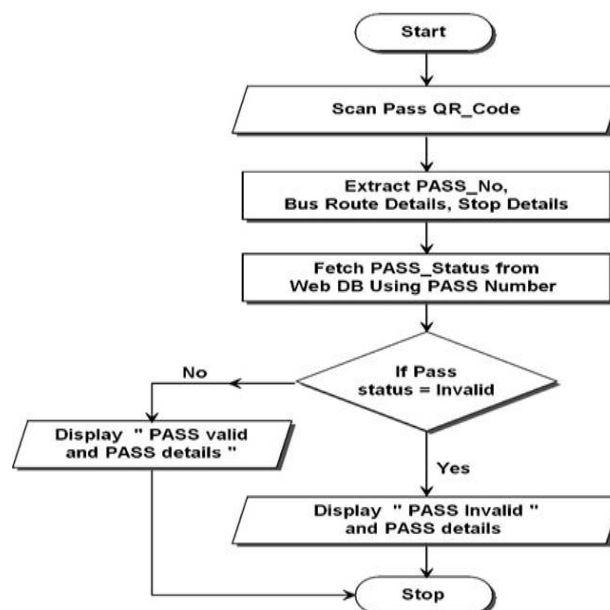


Figure 5: Flow chart

In flow chart the ticket checker has to start first and after starting ticket checker has to scan the QR code and it will extract the details such as pass number, bus Route details and stop details and next step is to fetch pass status from database using pass number and if pass is valid it will display that pass is valid and show pass details and stop. If the pass is invalid then it will show the reason for pass is invalid and the stop.

4.4 SEQUENCE DIAGRAM

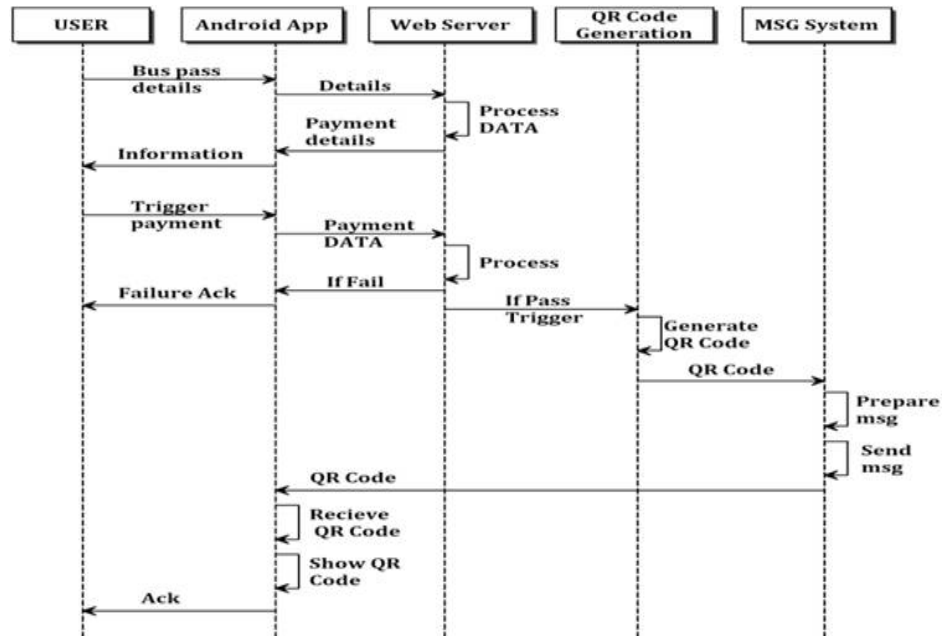


Figure 6: Sequence diagram

V. MODULES IN THE SYSTEM

1. Admin Module
2. Registration Module
3. Authentication Module
4. Payment Module
5. Generation of Bus Pass
6. Bus Pass Renewal
7. Scanning Module

5.1 ADMIN MODULE

In this the admin could be able to add, edit and delete the information about the ticket checker. Admin can also add the bus stations details, bus details and can also change the password.

5.2 REGISTRATION MODULE

In this the user have to fill a valid credentials which contains his/her for creating an account. Once the account is created the users can get their pass easily.

5.3 AUTHENTICATION MODULE

Once the users account is created, the users entered details is checked by the admin. Once the verification is done the user will be able to login with the provided id and password for renewing the existing users bus pass.

5.4 PAYMENT MODULE

In this system, the user have to make the payment at the time of booking bus pass and renewing the existing users bus pass. The payment is done via the online transaction. Once the payment process is done by the user the QR code is sent to the user's register mail id.

5.5 BUS PASS IS GENERATED

The entered details by the user's has to be verified by an admin. If the admin identifies the person as an correct person, then a pdf form is generated that is an QR code and this QR code will be sent to the users registered mail id. This code contains the information of the bus pass such as user name, user id, expiration date.

5.6 RENEWAL OF BUS PASS

For the bus pass renewal user should login with their given idno and password. When an user is authenticated, he/she can perform the renewal month of existing pass. Once the payment process is done users pass will be automatically renewed.

5.7 SCANNING MODULE

The scanning module is an android application which is developed for the conductor side. with this application conductor will scan the QR code in order to check the validity of the existing bus pass. To do this conductor has to login with his/her id and password.

VI. RESULTS AND DISCUSSION

ONLINE BUS PASS GENERATION USING QR CODE

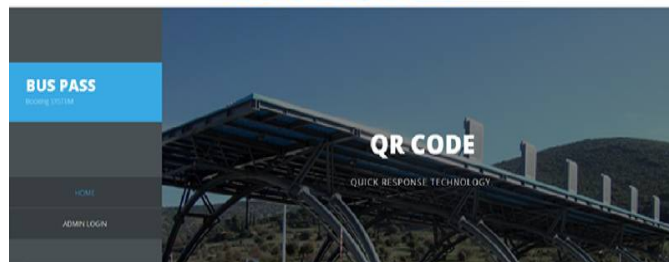


Figure 5.1: Home page

This is an online bus pass generation using QR code's home page and this home page contains two login's one for admin and another one is for user registration.

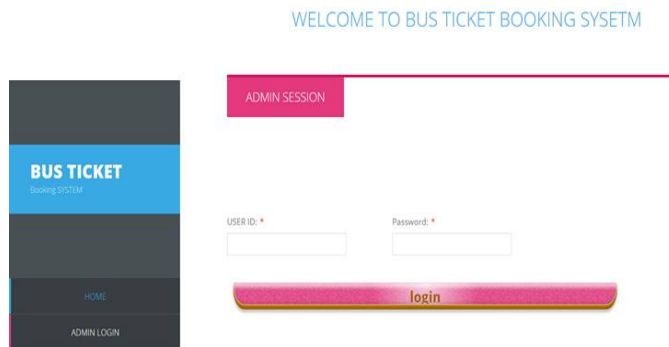


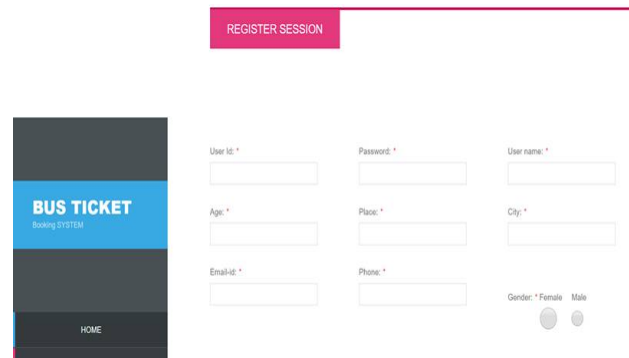
Figure 5.2: Admin page

In this page , the admin should login with their respective id and password.



Figure 5.3: Home page when admin is logged in

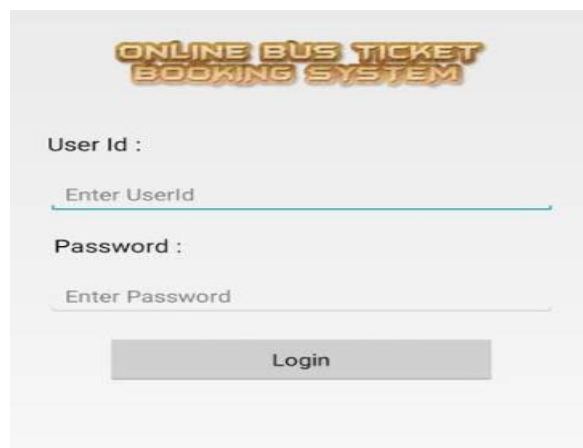
In this page the admin can maintain the information such ticket checker details, bus details, station details, change password and finally the admin can logout after performing the above tasks.



The registration form is titled "REGISTER SESSION" and is part of a "BUS TICKET Booking SYSTEM". It includes a sidebar with a "HOME" button. The form fields are: User id, Password, User name, Age, Place, City, Email-id, Phone, and Gender (Female/Male).

Figure 5.4: Users registration Session

In this page, user has to enter his/her details like user id, password, user name, age, place, city, email id, gender and phone number and upload proofs to complete the registration process.



The authentication module is titled "ONLINE BUS TICKET BOOKING SYSTEM". It contains two input fields: "User Id" with the placeholder "Enter Userid" and "Password" with the placeholder "Enter Password". A "Login" button is located below the fields.

Figure 5.5 : Authentication module

In this page, the admin will verify the user by providing the user's id and password. If the entered details are correct about the user id and password then the user can use the facility of further process.



The "ADD BUS DETAILS" page is titled "ONLINE BUS PASS GENERATION USING QR CODE". It features a navigation bar with "Ticket Checker", "Bus Details", "Station Details", "Change Password", and "Logout". The form includes fields for: BUS Number, Station route, Start Station Name, End Station Name, Latitude, Longitude, and Fare. Each field has a corresponding input box with a placeholder text.

Figure 5.6: Add bus details page

In this page, admin is able to add the bus details by filling the details like bus number, station name, start station name, end station name. Admin can select the latitude and longitude which will be useful for the users to track where the bus is travelling. Based on selected source and destination fare will be calculated.

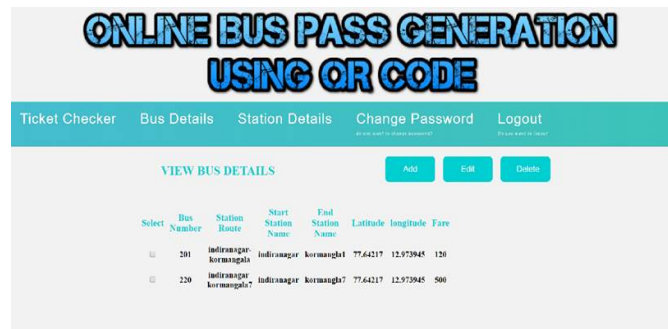


Figure 5.7: View bus details page

In this page, based on users desired source and destination the user is able to fetch the bus details such as bus number, latitude and longitude. Fair will be calculated according to users selected source and destination.

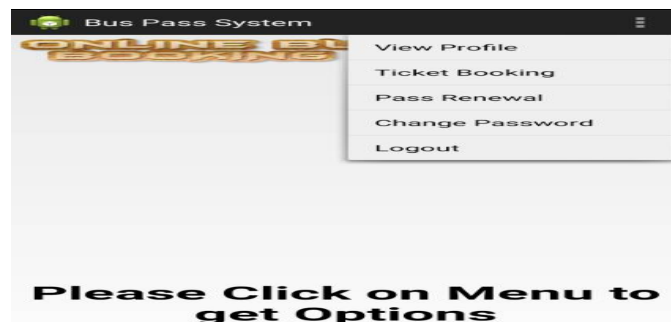


Figure 5.8 Online buss pass booking page

After the user has logged in with his/her id and password. The user can see the options such as view profile, ticket booking, pass renewal, change password and logout.

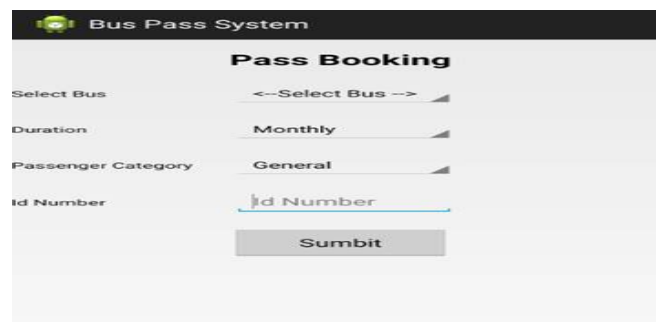


Figure 5.9 Bus pass booking details

In this page, user's has to book the bus pass by selecting the bus, duration, passenger category and id number. Duration can be monthly, quarterly, half yearly and yearly. Passenger category can be general, student, handicapped and senior citizen.

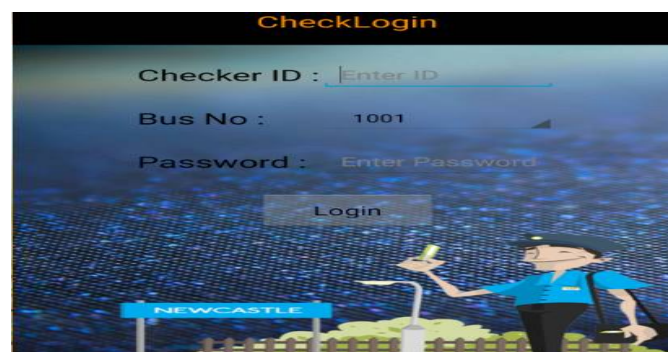


Figure 5.10 Login page for ticket checker

This module is only for ticket checker where checker can login by providing the details like checker id, bus no and password.

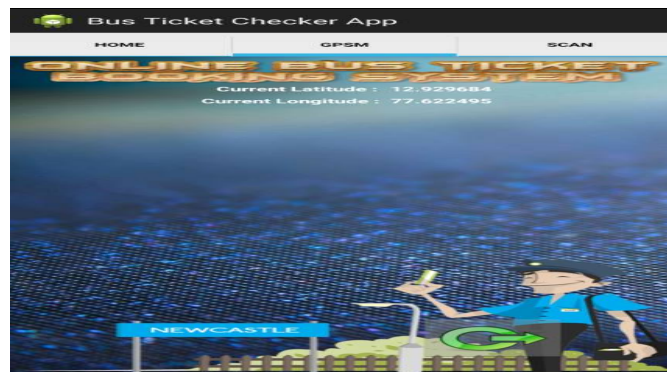


Figure 5.11: Ticket checker home page

Once the ticket checker is logged in he/she can see the options like home, GPSM and scan. In GPSM the current latitude and longitudes can be seen to the conductor.

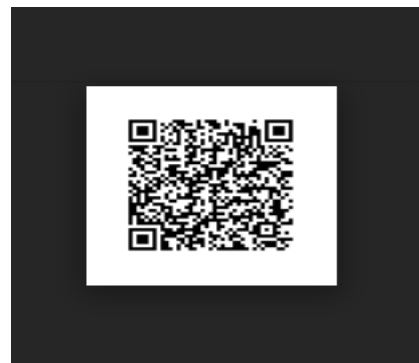


Figure 5.12: QR code generation

Once the online payment is done QR code will be generated and will be sent to users registered mail id.

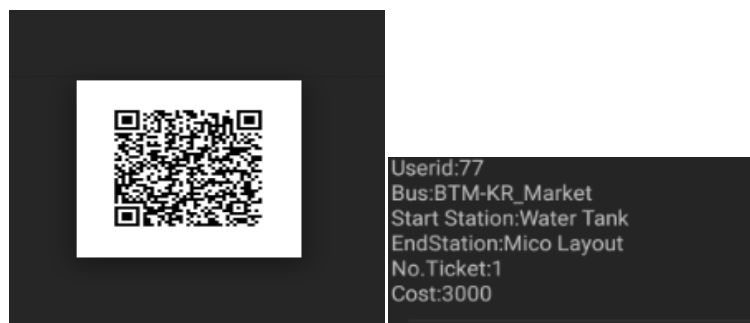


Figure 5.13: Scanned details

The ticket checker will scan the users QR code. Once the QR code is scanned the ticket checker will get the details related to the users booked bus pass and the status of payment.

VII. CONCLUSION

It is concluded that system will works well and thus it will fulfill the end user's requirement. The system is tested and errors are accurately removed. This application can be accessed from one or more than one system and hence login from more than one system is tested. This system is very efficient and user friendly so that every one can use this application easily. User have to provide the proper documentation. The end user's is able to easily understand how this overall application. The system is evaluated, implemented and its performance is found to be satisfactory to the end users.



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