REVIEW OF TRANSPORT MANAGEMENT SYSTEM BVRIT

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ABSTRACT

Transport Management System is an online web-based application to effectively manage Transport system at schools and colleges. The Website basically enables students to create a transport request and send it to the transport administrator/person in charge who can approve the request or even decline the request made by the student. Once the student's request gets approved, he/she can pay the required fee as prescribed by the school or college. Once the fee is paid, student will be able to download the pass for the bus which contains all the basic details like boarding point, boarding time and pass validity duration. The Website contains two actors. They are student and administrator. Both the actors must initially register themselves. Administrator has the privilege to add bus and route details and student can make a transport request and once accepted, he/she has to pay the fee and avail the transport services. This website is built using HTML, CSS, Java Script as front-end languages and Python and its popular framework Django manages the entire backend. SQL database is used for all the database related requisites.

I.   INTRODUCTION

Transport Management System is a web application to manage transport facilities at schools and colleges. Here the admin could manage all the records of buses and students who opted the transport facility in the college. The student benefits a lot using this portal because instead of going to a specialized physical area for managing this, he/she can directly use this to pay the fee, generate bus pass at the comfort of his home. This also benefits a lot to the administrator who is managing the entire transport system of the college because it is really chaotic to manage everything physically, now using this system everything is easily available at the tips of admin's fingers.

Transport Management System will prove to be Smart, economic and efficient Platform for managing transportation in institutions.

The main purpose of this project is to provide a good comprehensive transport management portal to all the students of our college and this portal should be scalable for the future so that it would be used continuously and helps all the admins and students who use college transport.

II.   RELATED WORK

We went through a lot of different research papers to understand all the previous work done on the project that we have undertaken. We have understood the following inferences:

[1]   W .S .Associate, "Transportation and Economy Report", MDOT State Long Range Transportation Plan Karachi,2007, From this paper we have understood that the information system should have an intuitive interface, easily integrated and can be used as a primary or secondary source of information in various production tasks that include various transport management activities.

[2]   N .V. Bondarchuk, G.I. Vanjurihin and A.S Semenov, "Innovacionnyj podhod k upravlencheskomu planirovaniju na osnove teorii raspisanij [Innovative approach to management planning based on the scheduling theory]". Bus Management System, from this paper, we have understood the improved ways in which transport management system can be implemented using the best practices of web development along with the implementation of entire transport system whether it is for a college or even it is for a public transport

[3]   M. C. González, C. A Hidalgo and A.-L. Barabási, "Transportation management designing", Nature, vol. 453, no. 7196, pp. 779-82, Jun. 2008. Transportation Management System for Ubiquitous Computing, In this article, the frame of the novel TMS was designed according to the TMS's requirements and ubiquitous computing's ideas. We can infer to college requirements for creating the best Transport Management System.

[4]   Hajime Adachi, Hidekazu Suzuki, Kensaku Asahi, Yukimasa Matsumoto, Akira Watanabe, "Estimation of bus traveling section ", Web Computing and Ubiquitous Networking (ICMU) 2015 Eighth International Conference on, pp. 120- 125, 2015. Intelligent Transport Management System, This paper gave us good idea on how to make use of best practices in order to develop a scalable and efficient Transport Management System which is fast and intuitive.

[5]   K. B. Chandra , B. S Harichandran and P. C Chikutto, "Transport Mangement for Faculty", Control Conference (CCC) 2015 34th Chinese, pp. 7688-7691, 2015. Smart On-board Transport Management System, This paper is mainly for future scalability that is for adding additional modules which include addition of tracking facilities to the busses that we add in the current Transport Management Portal.

Apart from the above Papers, we have also got to know of how to create a website using best practices in terms of naming conventions, project modularity and even database design during our literature survey. All these things are quite essential for creating an efficient, readable and scalable Transport system that any organization can rely on.

III.   EXISTING SYSTEM

Students should manually go to the person in charge and submit an application letter and pay the fees at the accounts section of the school/college physically which is basically time consuming and also needless since everything can be automated and can be done online. This will be a hectic manual work where sometimes the process may be delayed due to difference in the time of arrival of faculty and students. Sometimes the students may have certain emergencies where the process have to be completed quickly (without time consuming) in this case the existing fails to fulfil this desire.

IV.   PROPOSED SYSTEM

As specified above, everything related to transport will be made available via this portal and students and the administrators do not have to spend time for the manual work which is time consuming.
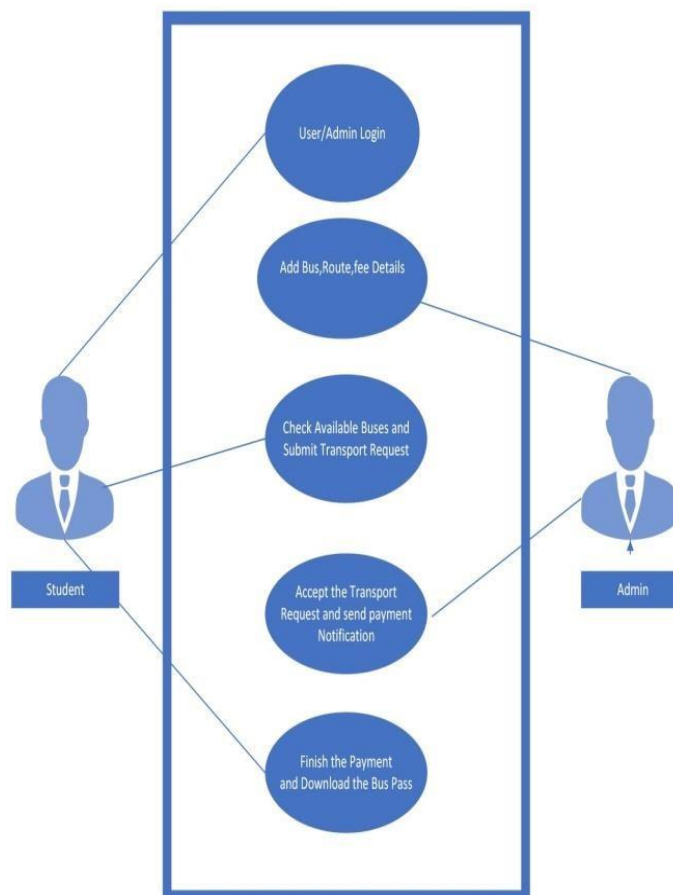

Fig: Basic flow of the application

As shown in the above figure , admin has the facility to add the buses , routes , see the students requests and the admin has the authority to accept or reject the request based on the availability of seats. Moreover the payment facility is also automated where we could skip the process of writing receipts manually and payment via cash.

V.   IMPLEMENTATION

The application contains Student and Administrator Registration and login modules. The system should be able to allow users register and login using token authentication mechanism. System shall show the error message to the user when the user is not properly authorized. The Administrators have the authorities like adding bus and route details as per the college requirements and Students can submit a request to the administrator and has to wait for them to accept. The request is to allocate a bus seat for the particular route and stop. Students will get the SMS notifications regarding the status of the request. Admins will have the privilege to stop accepting requests from students. Based on the count of the unallocated seats, the administrator will accept the request sent by the student. Then the counter of the unallocated seats will gets decreased as the requests are accepted. Payment system is also integrated with the web application, and tracking previous payments. Once the request is accepted, he/she has to pay the fee and avail the transport services. Once the fee is paid, student will be able to download the pass for the bus which contains all the basic details like bus number, boarding point, boarding time and pass validity duration. If there is any unavailability of seats or due to some other genuine reasons the admin could decline the request sent by the student.
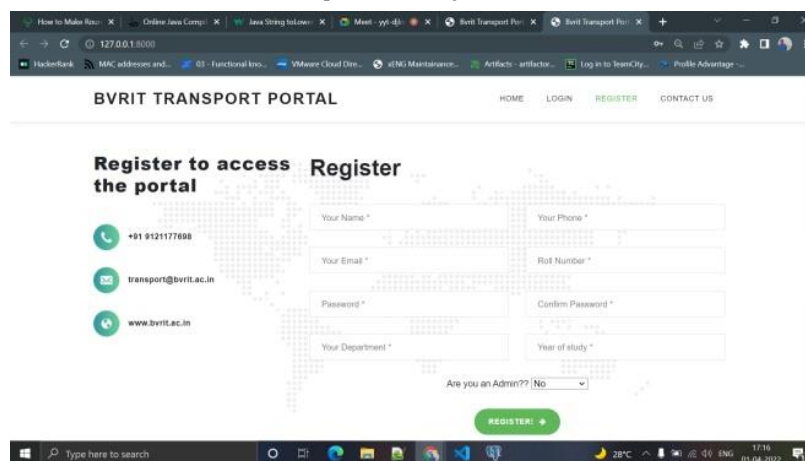
Fig

The Fig is the registration page for both admin and student. In the drop-down which is located at the bottom of the page has two options: Are you an admin ? Yes/ No.

If yes in the application he is treated as administrator and has all the authority of an administrator else he is stored as a student in the database.
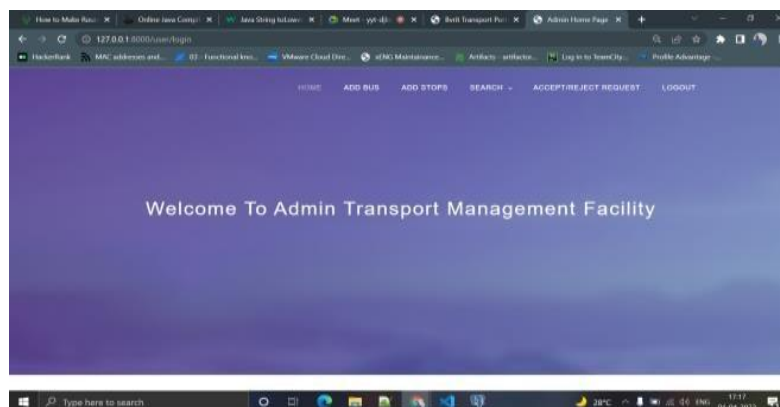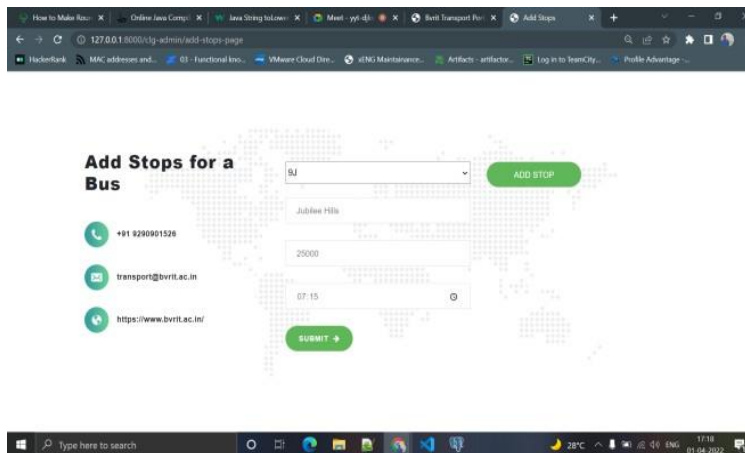

Fig

Fig is the page which appears to the admin when he/she logins with their credentials. This page also contains few navigation buttons which redirects to different pages like Adding buses , stops ; accepting / rejecting the
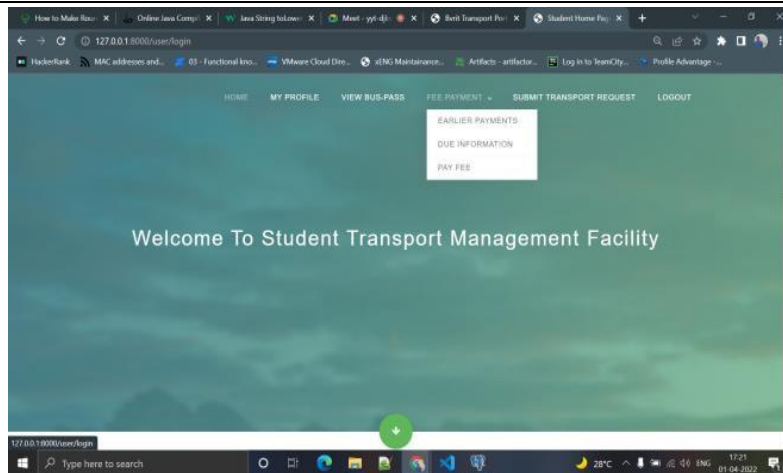
requests ; logout.
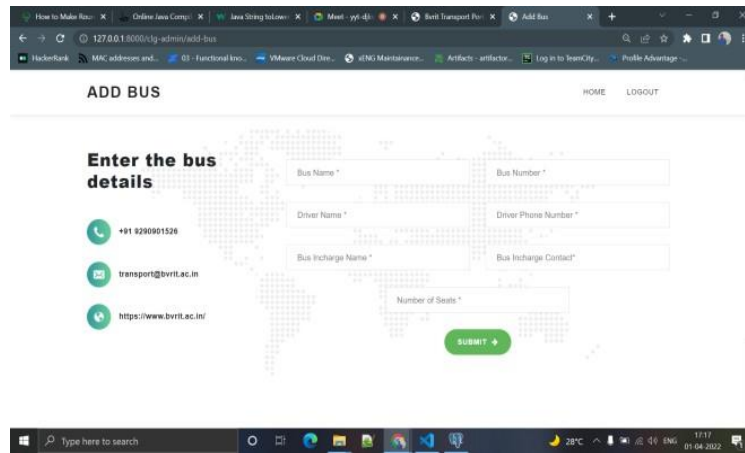
Fig

Fig

In the above Fig shows where the admin will add the buses by entering the bus details. Fig gives the details about adding stops for every bus by the admin. When the admin clicks the add stops button he could add unlimited stops under that bus . That "add stop" button is associated with three other fields . They are : Stop name , fees, time of arrival. The administrator has to set these three fields while adding the stops .
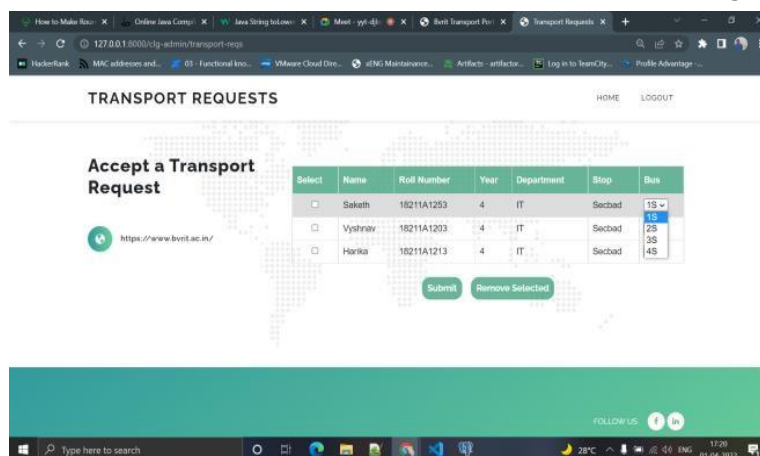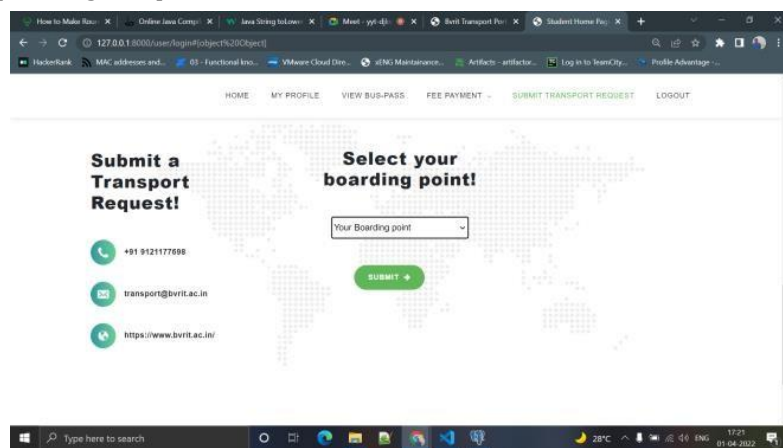

Fig

The admin has the authority to accept or reject the transport request sent by the student as shown in Fig 1.4

Fig

The above page appears when student logins to the portal. We can see My profile, view bus pass, fee payment, submit transport request, logout options.

Fig

The student has the facility to choose the boarding point and submit the transport request.

VI.   CONCLUSION

The Transport Management System platform is to help students, staff and management at a college to efficiently use and manage the transport facilities to and fro to the college. This website helps to maintain the whole transportation system in an easy way. This application can be further extended by adding GPS tracking facility, email notifications, Android application can be developed ,we can also include receipt downloading option.

VII.   REFERENCES

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