ABSTRACT:

Travel industry is evolving day to day. As the industry evolves the need to digitalize all the transactions becomes need of the hour. This project which is implemented on Java platform helps to manage bus scheduling and bookings. The use of bus traveling is a large growing business in India and other countries. The manual use of bus reservation is presently very strenuous and also consumes a lot of time by having to stay on a long queue. For this reason, an efficient system is to be proposed in this project to ease the issue of bus reservation amongst indigenes within the country. This Bus Booking System is an easily deployable, integrated end-to-end system starting from searching bus routes to book them.

The system is a web – based application that allows visitors to check bus availability, buy and pay bus ticket online. In this paper, the proposed bus reservation system was developed using Hypertext Markup Language (XHTML), JAVA, Structure Query Language (SQL), Spring, Cascading Style Sheet (CSS), AngularJS and JavaScript.

**Keywords:** Bus Reservation, Queue, Efficient

INTRODUCTION:

The Online Bus Ticket Reservation System is a web-based application that allows visitors check bus ticket availability, buy bus ticket and pay the bus ticket online (Asaad, Ayad and Hayder, 2012). This system is established for all the home/office users after gaining access from the administrator. According to Invaderzim (2011), Online Bus Reservation System provides bus transportation system, a facility to reserved seats, cancellation of seats and different types of enquiry which need an instant and quick reservation. This system can be used by the users in performing online reservation via internet for their all business purposes. Users can use this program directly on their websites and no need to install it.

The use of bus traveling is a large growing business in India and other countries; hence bus reservation system deals with maintenance of records of each passenger who had reserved a seat for a journey. It also includes maintenance of information like schedule and details of each bus (Shivaji, 2010). Also, we get to know that there are many operations, which they have to do manually. It takes a lot of time and causes many errors. Due to this, sometimes a lot of problems occur and they were facing many disputes with customers. To solve the above problem, and further maintaining records of items, seat availability for customers, price of per seat, bill generation and other things, we are offering this proposal of reservation system. The reservation system has three modules. First module helps the customer to enquire the availability of seats in a particular bus at particular date, the second module helps him to reserve a ticket and with the third module he can cancel a reserved ticket.

However, since the current reservation system is still conducted manually and separately at each branch, contact must be made by each branch’s front-officer to the head office (admin) for each customer’s enquiry in order to get the latest update on schedule, seat availability and other reservation-related information; as well as to avoid duplicate bookings or over-capacity. There is also a physical limit to the reservation availability as each branch only operates during certain hours and reservations can only be made on-the-spot. These limitations are not the only issues the company is currently facing. Other factors that create problems include human errors (e.g. miscalculations in ticket price, mistakes in noting passenger data, etc.), the fluctuation of passengers during certain periods of time that causes a bottleneck in the check-in process because of the inability of the front officer to multitask and the lack of overview or report of the on-going business; making it difficult for the company to judge past/current performance or plan future improvements. Looking at these problems and limitations, it is clear that both the company and the customers require an integrated reservation system that is more efficient in information update and reservation handling and also easy to use. Electronic tickets, or e-tickets, give evidence that their holders have permission to enter a place of entertainment, use a means of transportation, or have access to some internet services. Bus Ticket Reservation System enables the customer to buy bus ticket, make payment, and ask for information online easily. Furthermore, staff can sell bus ticket using Bus Ticket Reservation System after check bus ticket availability for the customer and print the bus ticket to the customer that queue up in the counter. The method to solve this problem is to create an online buying bus ticket system. Customer can buy the bus ticket over the Internet, 24 hours a day, 7 days a week and the bus ticket can't be lost, stolen or left behind. In addition, the online system lets the customers check the availability of the bus ticket before they buy bus ticket (Wee, 2007). Furthermore, customers no need to pay cash to buy bus ticket because they can pay the bus ticket by using deposit slip number order by bank.

Literature review:

**2.1** *Bus Ticket System*

Bus ticket booking during the offline era posed various difficulties to the customers as well as the bus operators. Offline ticket booking reduced the scope of customers to choose different options based on their travel criterion (Gayathry, 2013). It also increased the franchising cost for the bus operators. At the same time, the bus operators were also finding it difficult to monitor their bus seat filling information. Many small and medium bus service organizations do not have their own online bus ticket booking system. Online Bus ticketing system web portal is a total internet ticketing operations offering the benefit of total in-house management of bus schedules, ticket bookings, ticket sales, report generation, and other business functions associated with ticket sales (Melisa, 2007). It also offers the power of decision making to customers to make a ticket booking through bus operators’ popularity, performance and ranking. This powerful Internet based ticket booking system that allows a full control of not only on the ticketing inventory, but also the site’s content. According to Melisa (2007), stated the basic components of an Online Bus Ticketing System web portal that provides enhanced service to the bus operators and customers consist of the following:

• Capture of customer information such as name, address, phone number and e-mail address

• Price list

• Bus operators ranking

• Seating chart

• Loyalty Points/Redemption

• Search engine

• Payment information

• Organization's advertisement/slogan, phone number, fax number, and address

• Comments and suggestions section / option

• Reports

**2.2** E-Ticket Reservation System

E-ticketing could be extended to major entertainment and touristic sites and thus facilitate access to major points of interest within cities, making e-ticketing also interesting for travelers. Urban tourism is the fastest growing tourism sector in the world (Paskaleva, 2014). In public transport, e-ticketing systems are not only means of payment but process huge amount of information which offer a large range of possibilities to make public transport easier to use, to manage and to control. They offer as well opportunities to introduce integrated pricing structure that are not easy to implement with traditional payment tools. Electronic ticketing technologies are

classified according to the way they are used for payment. The closer the card is to the payment system, the more reliable the transaction is, but the more constraining it is for the user (Mezghani, 2008). Therefore, the long-term objective is for the customer to be able to pay for public transport without having to show or validate any card,relying on fully automatic fare payment. Public transport operators have been trying to replace paper-based tickets with electronic media, and many countries have implemented or are about to introduce e-ticketing systems. The main characteristic of eticketing is that tickets are sold and stored in electronic devices. However, the benefits of a comprehensive eticketing system for public transport operators are hard to quantify, as the main aim of e-ticketing is an improved service quality. In monetary terms, e-ticketing could reduce administrative costs as fewer cashiers are needed,

fare processing times could be reduced and a better throughput of passengers could be allowed (Maike, 2014). Moreover, fare evasion and fraud resulting from cash handling could be reduced and better price differentiation would be possible. E-ticketing enables a better integration of alternative services into the scheme, making it more attractive for customers to use it (PricewaterhouseCoopers, 2011). Due to accurate data on passenger flows it might also help to better exploit the network’s capacities and to improve the user experience by setting up tailor-made services for individual passengers. Costs apply that can be easily quantified,

e.g., investment and operation costs, particularly the initial one-off costs (e.g., readers, software and consultancy on the scheme design) Integrated schemes appear to be particularly cost intensive, as different applications need to be connected (Wood, Downer, Toberman, 2011).

Additionally, running costs for marketing, maintenance and replacement need to be considered. Costs apply for training staff or resolving passenger disputes and for setting up a (regional or even national) clearing house responsible for centralized data and fare collection. The fear of outsourcing their expertise and responsibilities in ticketing to a third party of suppliers remains a worry to public transport operators (Turner & Wilson, 2010).

PROBLEM DESCRIPTION: