Literature Survey

E-ticket booking always has its pros and cons. Even though it has its difficulties, if developed with strong algorithms and technical usage, it will be very helpful for any commoner. One such difficulty is the railway revenue management problem of homogeneous seats. The method can increase the total revenue by optimizing the resources of multiple trains with different train stop plans [1]. The developer has to deal with various factors like the user details (senior citizens, ladies, children below 5, etc.), i.e., multiple class users should be allotted multiple seats. This can be formulated as a linear programming (LP) model based on a three-dimension network representation of time, space, and seat class [2].

E-ticket booking when extended to mobile will be very useful since it is easily accessible and perform various functions for the user. But the major advantage of such an application is, that tickets can be bought easily anytime, anywhere and the ticket will be present on the customer's phone in the form of a "Quick Response Code" [3]. These applications can be accessed using unique identification codes like aadhar cards or fingerprints, this will also ease the job of ticket collector by maintaining the ticket booked history [4]. Ticket generation using machine learning and NFC technology is faster also than these systems using QR codes for ticket verification, hence it seems to be an efficient approach [5]. For verifying the QR codes the ticket collectors are allotted a different mobile application which is connected to a central cloud database. This approach will be easy to use but the security of data remains a question mark. This mobile application also has additional features like live tracking of train locations using a GPS module [6].

However, the system is said to be efficient only if it works in real time. Hence, dynamic seat allocation and real-time charting play a vital role. This can be achieved only if, proper database management is implemented. Standard SQLite Database helps in the mission [7]. Paying attention to the impact created by e-ticket booking among people is as important as the development of such systems. This can be investigated by a structural equation model using socioeconomic status and perceived control of passengers [8]. The above-mentioned literature survey made one thing clear, digitalization of railway ticketing services will be profitable as well as uplift the efficiency of ticket booking.

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