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Ticketless Entry System for Heritage/Museums

Ms. Avantika Jirapure[1], Ms. Tanaya Joshi[2], Ms. Tanushri Kakas[3], Ms. Prachiti Panchbhai[4], Prof. S.C. Shirbhate[5].
[1, 2, 3, 4]*Students,* [5]*Assistant Professor, Computer Science & Engineering, Sipna College of Engineering & Technology, Amravati*

Abstract: ***The traditional process of buying tickets to heritage and museums often leads to long queues and difficulties printing tickets. With the advancement of technology, ticketless tickets have become popular among tourists. This article provides a comprehensive review of the existing literature on walk-in tickets to monuments and museums, highlighting various technologies and their impact on user experience.***
Keywords: Tickets, Museums, heritage, visitors, system, experience, queues, ticketless.

I. INTRODUCTION

Ticketless stands as an internet-based e-ticketing website, facilitating users in the seamless booking of tickets. In an ever-evolving world influenced by digitization, technology assumes a pivotal role in our day-to-day activities. Technology is geared towards delivering products that are not only efficient but also economical in terms of time and cost. Introducing the concept of digitization in the public visitor system holds promise for increased profitability. As the second-largest user of mobile devices, websites, and cloud databases globally, India contributes significantly to enhancing the efficiency and effectiveness of public visits.

The Ticketless website empowers the secure and convenient management of museum visitors, eliminating the necessity for employees to engage in ticket verification. Moreover, the need for manual ticket verification is rendered obsolete.

Visitors now enjoy a seamless entry process without the need for physical tickets, thanks to electronic ticketing systems. They can effortlessly display their electronic tickets or confirm reservations via a mobile app, eliminating the inconvenience of printing or carrying tickets. This shift to ticketless entry significantly reduces queues at ticket counters, enabling quicker entry and better utilization of visitors' time. Consequently, this streamlined process elevates overall visitor satisfaction levels.

Moreover, the flexibility offered by digital ticketing systems empowers visitors to book tickets online, select preferred entry time slots, and modify reservations with ease. Such convenience not only encourages more people to visit museums but also contributes to increased attendance rates. Additionally, these systems provide museums with valuable insights into visitor demographics, preferences, and behaviour's, which can inform analytics, refine marketing strategies, and enhance the overall visitor experience.

Furthermore, ticketless systems can incorporate supplementary services like guided tours, workshops, or special exhibitions into the online booking process, allowing visitors to plan their museum experiences in advance. By embracing ticketless entry, heritage museums can deliver a modern, efficient, and visitor-centric experience, ensuring broader accessibility to their exhibits and collections for educational and cultural enrichment.

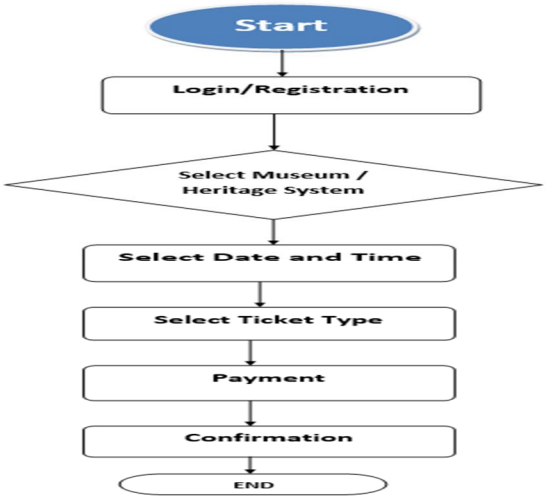


Fig 1: Flowchart

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II. OBJECTIVES

The main goals of creating a ticketless website are:

1) Improve visitor experience
2) Ease of entry
3) Reduce wait time and crowds
4) Reduce paperwork by eliminating the need for printing and mailing (e.g. environment) booking to reduce fees.
5) It helps to manage visitor information more accurately.
6) It can increase sales because visitors can make reservations 24 hours a day, buy whenever they want, and copy electronic tickets.

III. PROBLEM STATEMENT

Museums and monument certifications can be time-consuming, challenging and challenging for visitors, resulting in long and slow queues. The risk of physical tickets being lost or stolen makes baggage management even more difficult. Additionally, the need for ticket validation and processing can result in significant costs and demands on museums and monuments. To solve these problems, this study focuses on investigating the feasibility and effectiveness of using anonymous entries on the website for museums and monuments.

The solution focuses on improving the visitor experience by reducing the administrative burden and costs associated with legacy queues, while providing greater flexibility and efficiency. Our research focuses on evaluating the benefits and challenges of adopting ticketless access over the web. We also aim to use this research to inform the design and implementation of practical, effective solutions to cultural management.

IV. LITERATURE REVIEW

No ticket entry systems currently require users to log in directly from the first screen to register an account; This can be a cumbersome process for those who just want to check available tickets. The idea aims to solve this problem by only having user authentication at the booking stage and make the website more user-friendly for guests who want to check available tickets. The idea involves creating an encrypted QR code on the screen and allowing users to take a photo to verify later. This new method not only increases the ease of users checking the availability of tickets, but also ensures the security and storage of tickets in the form of QR codes.

An idea presented in a paper titled "Android Application for Ticket Booking and Ticket Checking in Suburban Railroads" explores ticket booking and verification through QR codes delivered via SMS. However, the limitation of SMS technology prevents the transfer of images, limiting it to text-based data. To overcome this limitation, the proposed solution generates a QR code directly on the website interface, allowing users to take a screenshot if necessary for later verification. This enhancement ensures the seamless transmission of ticket information while maintaining encryption and validity.

Overall, this proposed website not only offers greater flexibility for guest users to check ticket availability but also facilitates secure and encrypted transmission of tickets, thereby improving the user experience and efficiency of the ticketing process.

V. RESEARCH METHODOLOGY

1) *Needs Analysis:* Understand the specific needs and requirements of the monument or museum that will use the ticketless system. This includes factors such as peak visitor periods, startup processes, security considerations and technology.
2) *Technology Selection:* Choose the right technology for your enterprise. This may include QR code design and technology, website development, secure storage of ticket information and ticketing integration or administrative control.
3) *Ticket Booking Website Development:* Create a user-friendly website that allows visitors to check tickets, select their desired options and pay hassle-free. The app should generate a unique QR code for each ticket purchased.
4) *QR code generation and verification:* Follow the QR code generation and verification mechanism in Website and at monument or museum entrances. Each ticket purchased through the Website must be associated with a unique QR code containing information about the ticket.
5) *Integration with access control:* Integration of ticketless access with the museum or museum's existing access control. This will involve placing QR code scanners at the entrance and connecting them to the ticket office for instant verification.

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6) *User training and support:* Provide adequate training and support to museum staff and visitors on how to use the admission ticket to achieve good results. This includes instructions on how to download and use the website, scan the QR code, and resolve any issues that may arise.
7) *Testing and Quality Assurance*: The ticketless access system has been tested for reliability, security and usability. There. This includes testing the websites on various devices, simulating different use cases, and justifying the QR code scanning and verification process.
8) *Delivery and delivery:* Use the ticketless entry system at the museum or museum and gradually transition to the new system. Communicate changes to guests in a variety of ways and provide initial support.
9) *Track and Trace:* Pay attention to the effectiveness of the ticketless access system and resolve business problems or respond to users in a timely manner. Periodic maintenance and updates are required to ensure that the system remains operational and meets the changing needs of the monument or museum.

VI. PROPOSED SYSTEM

The primary objective of this initiative is to develop a user-friendly website to streamline ticketing operations for museum visitors. This website offers several functionalities, including ticket booking, status checking, and cancellation. To access these features, users must log in to their registered accounts with the appropriate credentials. Once logged in, users can proceed with ticket cancellation or view their ticket status. To check ticket availability, users need to input relevant museum information. Upon confirming ticket availability, users can proceed with the booking process by logging into their registered accounts. The booking process has been optimized for speed and simplicity, with integrated details facilitating quick completion. Upon booking, tickets are generated in encrypted QR code format, displayed on the website screen for easy screenshotting. These QR codes serve as digital tickets and can be used for validation later. Additionally, the implementation of biometric technology enables visitor verification, which can be seamlessly integrated with a centralized database. This digital approach to ticket validation and visitor authentication allows for the creation of a fully digital museum ticket reservation system. Effective authentication techniques, coupled with database integration, ensure efficient and secure operations.

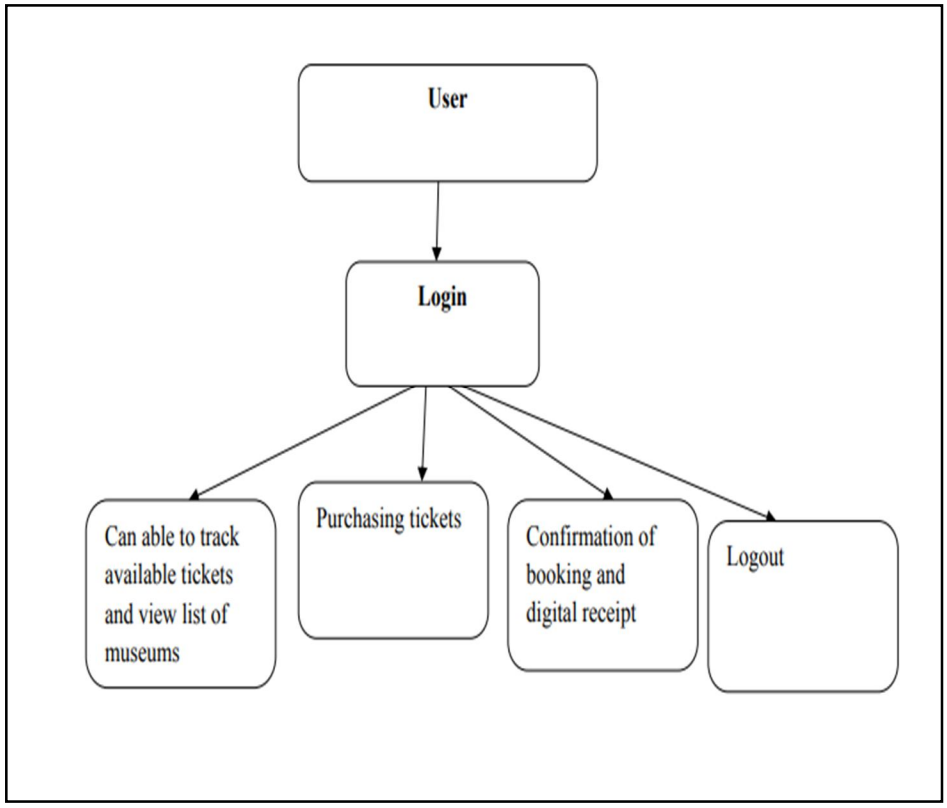


Fig 2: User Section

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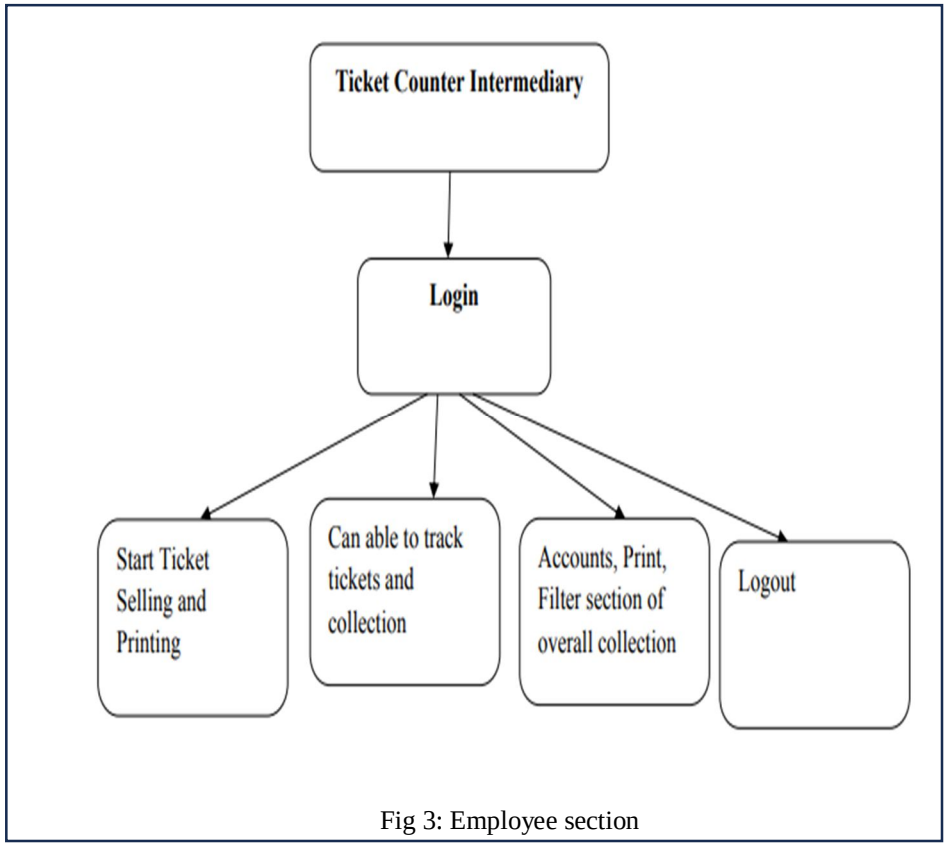


Fig 3: Employee section

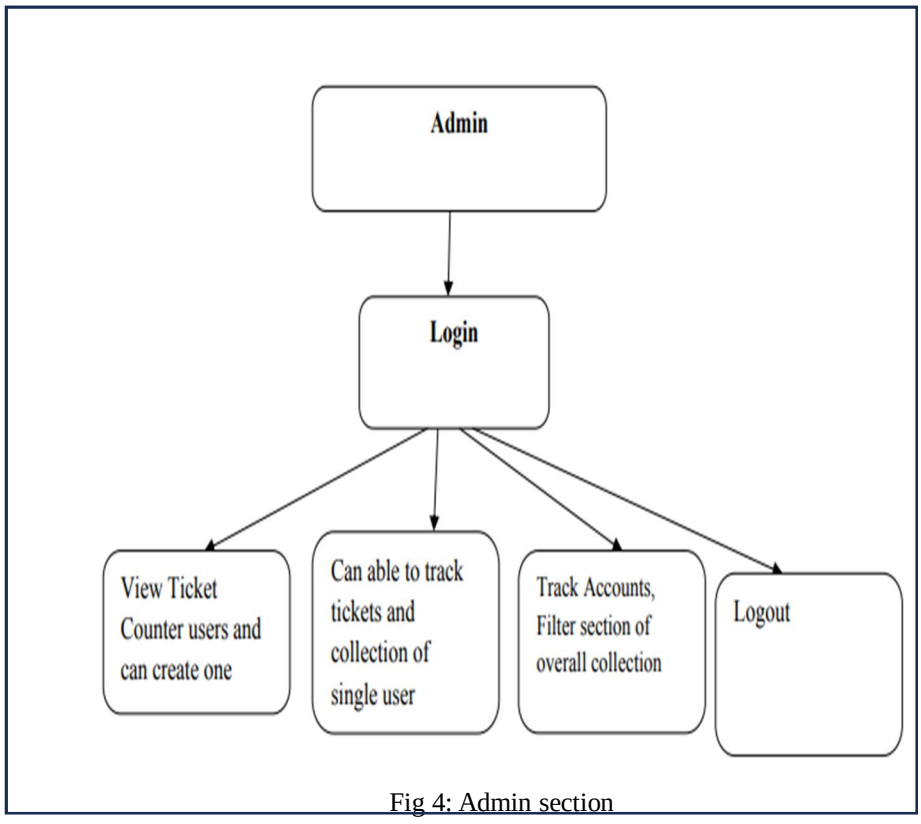


Fig 4: Admin section

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VII. SOFTWARE SPECIFICATION

1) *Front End:* Html5, css3, JavaScript, jQuery, Bootstrap
2) *Server- Side Technology:* PHP
3) *Backend Tech:* MYSQL
4) *Tool:* XAMPP

VIII. RESULTS

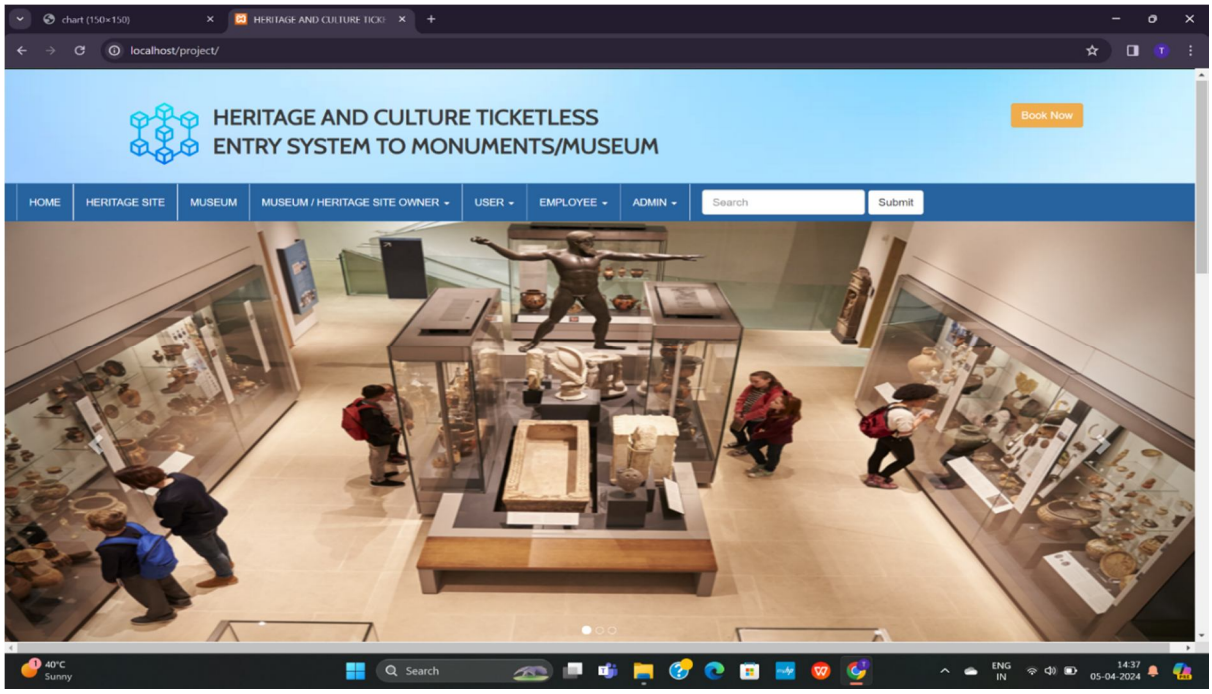


Fig 5: Home Page

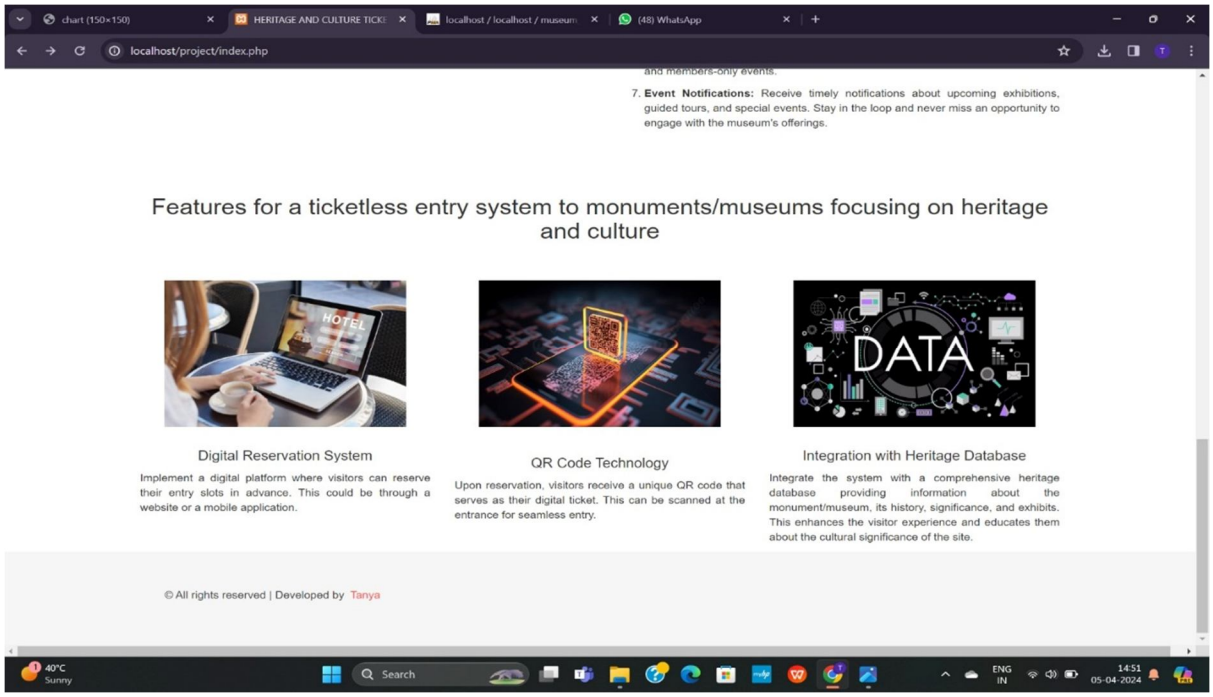


Fig 6: Features of Website

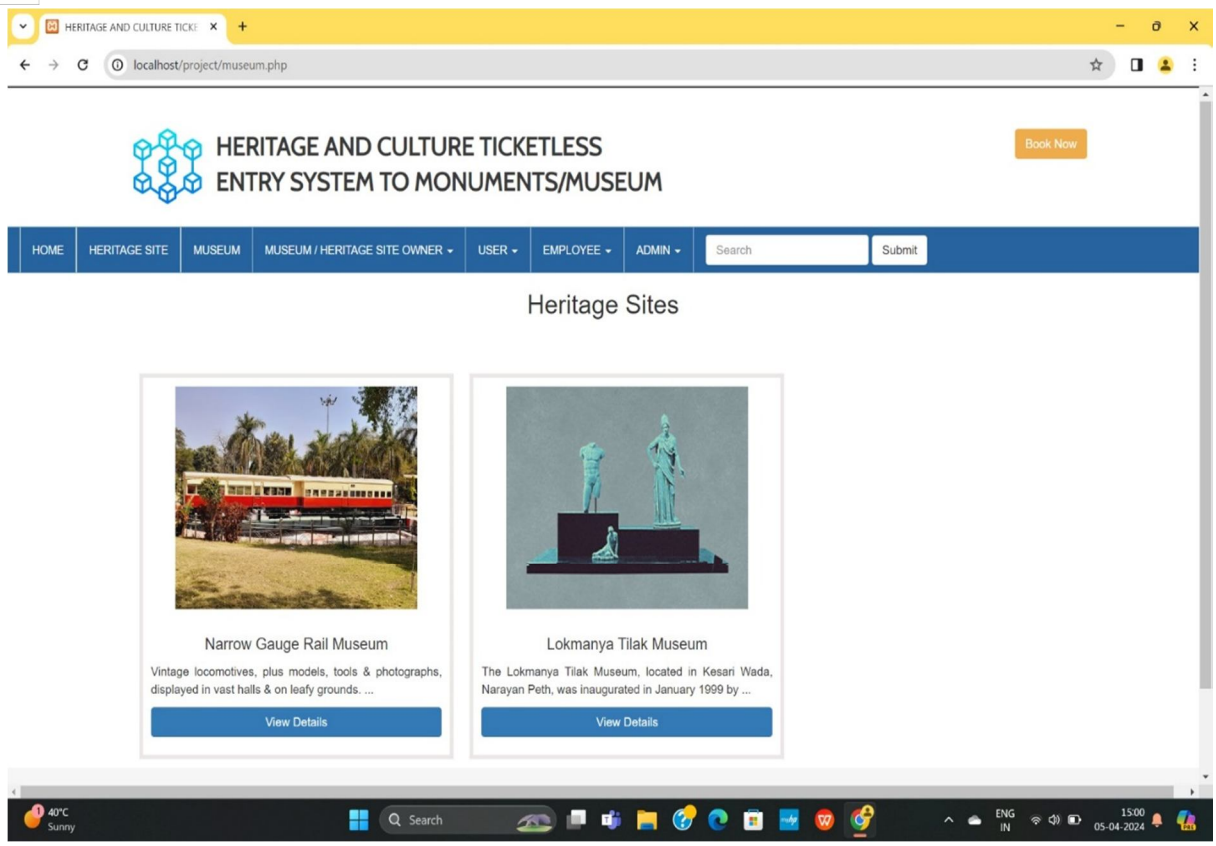


Fig 7: List of Several Heritages/Museums on Website

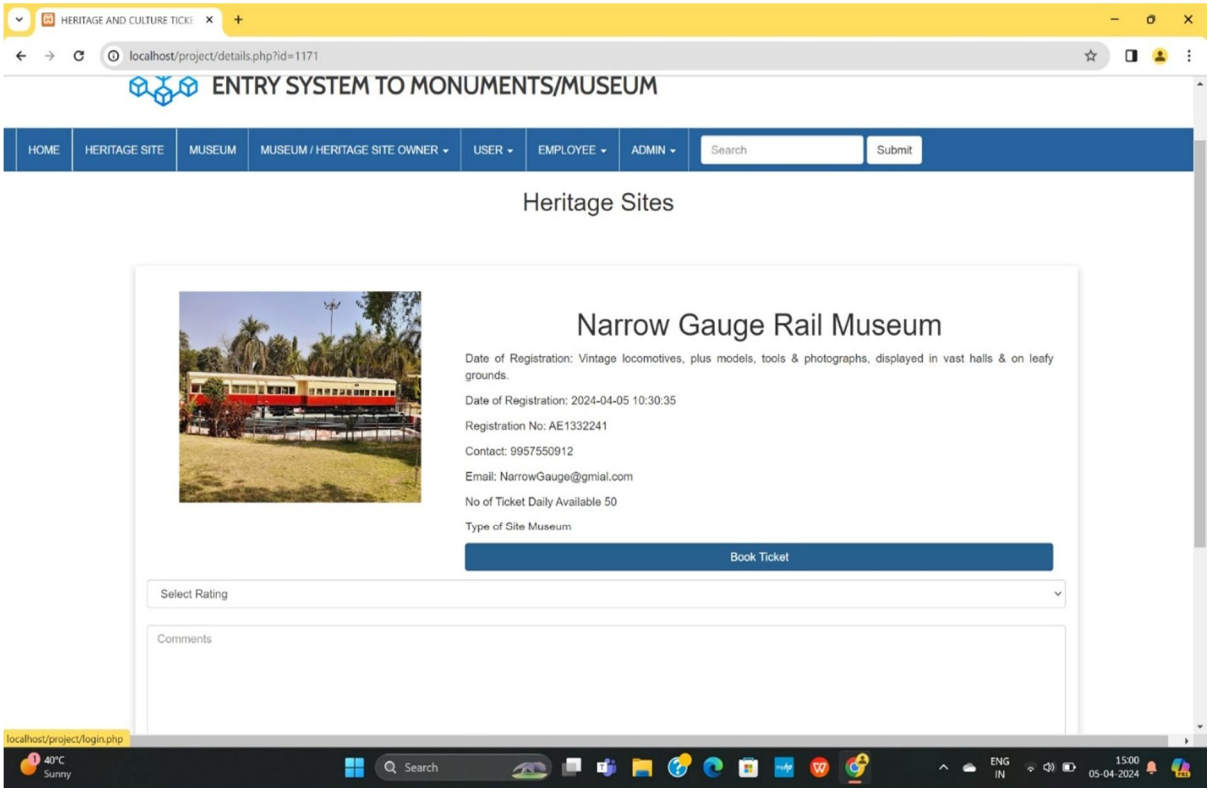


Fig 8: Heritage Information

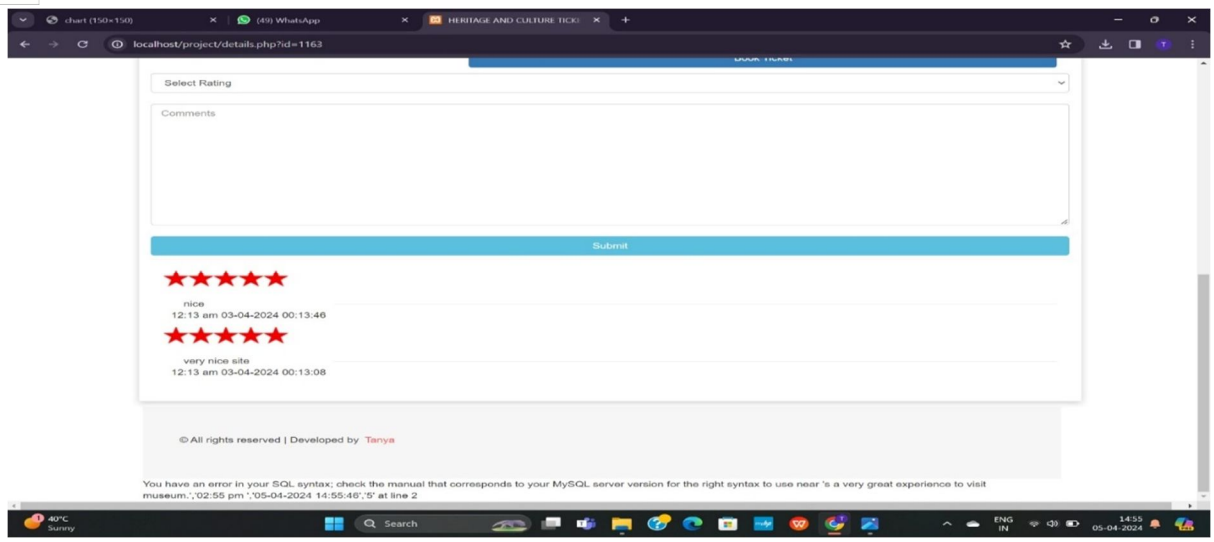


Fig 9: Comments and Ratings about Heritage/Museums

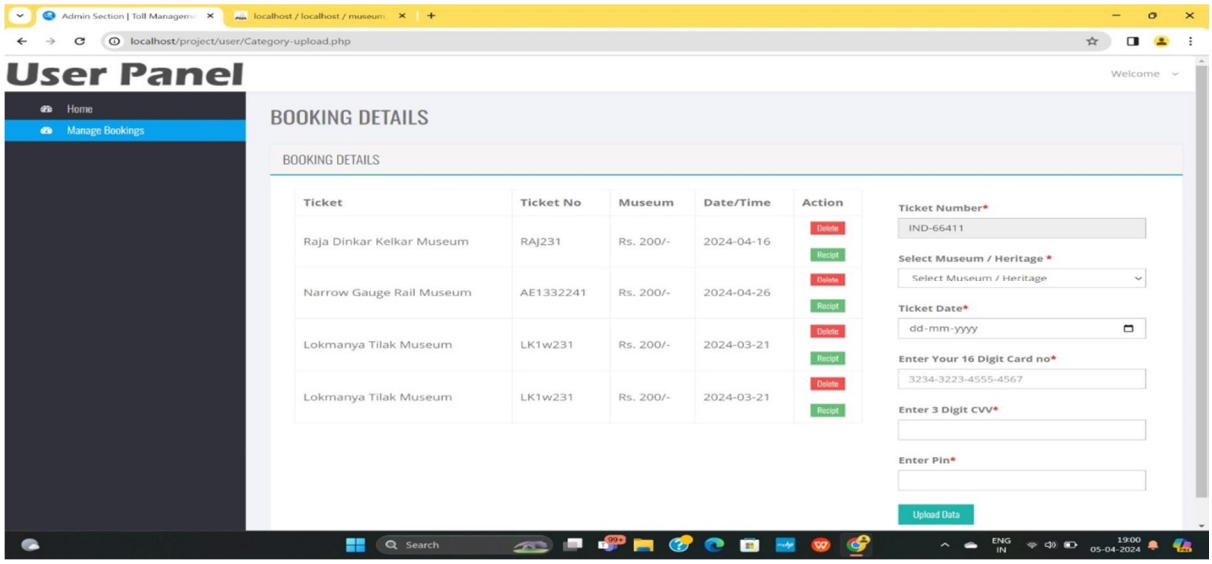


Fig 10: Ticket Booking Process

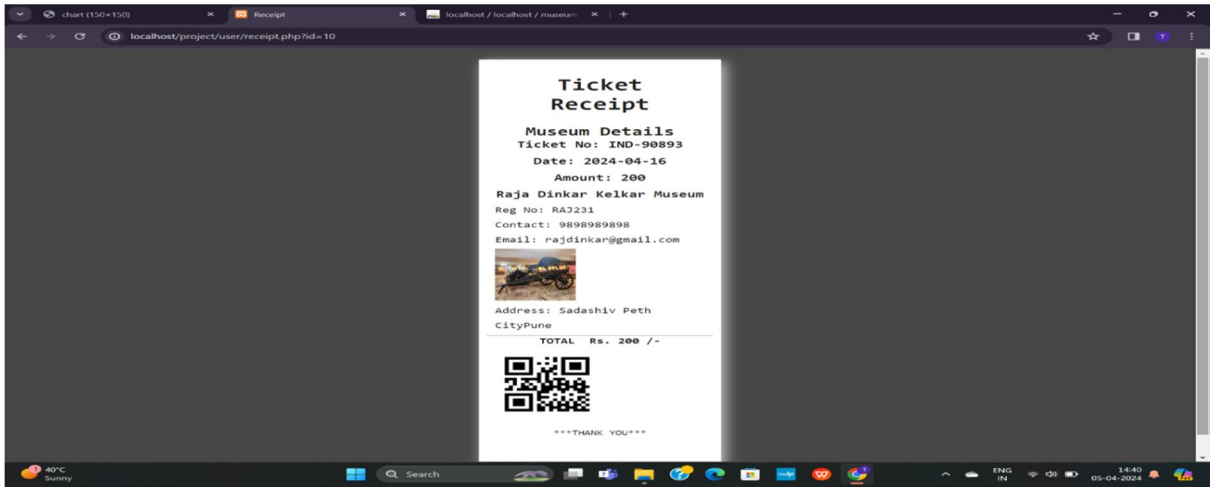


Fig 11: E-Ticket after Booking

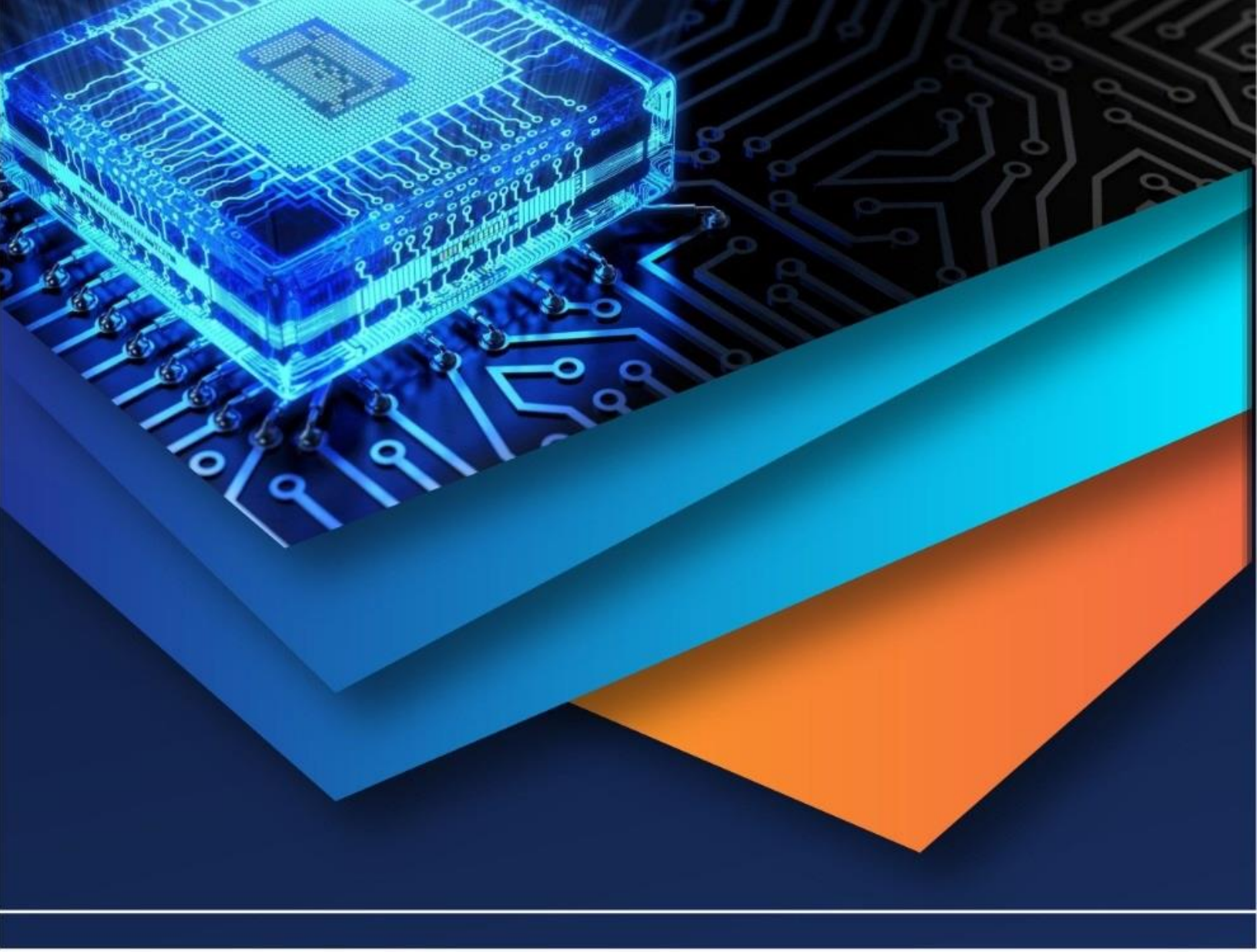
IX. CONCLUSION

The main purpose of this article is to create a website where travellers can access various ticketing options in a user-friendly and convenient way. Use quick response (QR) codes and provide a system for ticket verification and passenger identification. This article explains the ticketing process and correct identification of passengers using QR codes. Implementing these recommendations will provide significant support in digitization and preservation.

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