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TICKETLESS ENTRY SYSTEM TO MONUMENTS/MUSEUM

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Abstract: -In the world full of assiduity people are now avoiding stand in queue for booking tickets. So, for easing up their this problem we make a system which book ticket online or generate E-ticket. The System consists details of various monument and museums with brief description through which visitor can take overview of monument and museums and book ticket according to their interest. For booking e-ticket for monument or museum there is a payment gateway that accept UPI, credit and debit card payments . After payment a QR or Quick Response code is generated which is unique for every monument and museum which is valid for some scheduled time.

Keywords: Assiduity, UPI, QR, E-tickets.

I. INTRODUCTION

Ticketless entry system is a technology that allows visitors to gain access to a venue or event without the need for a physical ticket. Instead of a paper ticket or electronic ticket, visitors can use their personal QR on their mobile phone to gain entry.The ticketless entry system works by using advanced technology to scan a visitor's ID or mobile phone at the entrance. The system then verifies the visitor's information and either grants or denies access. This process is fast and efficient, and eliminates the need for visitors to stand in long lines or worry about losing their ticket.One of the major benefits of a ticketless entry system is its ability to reduce the risk of ticket fraud and counterfeit tickets. This is because the system uses unique identification codes that are difficult to replicate, making it much harder for fraudsters to gain entry to an event.

In addition to reducing the risk of fraud, a ticketless entry system also provides valuable data insights for event organizers. By tracking visitor information such as demographics, ticket sales, and entry times, event organizers can gain a better understanding of their audience and make informed decisions about future events.

Ticketless entry system is a convenient, secure, and efficient way to manage access to events and venues. It eliminates the need for physical tickets and reduces the risk of fraud, while also providing valuable data insights for event organizers.

II. PROBLEM FORMULATION

One of the main problems faced by museums and monuments is the long waiting time and the inconvenience of purchasing tickets. This can discourage potential visitors and lead to a decrease in revenue. A potential solution to this problem is the implementation of a ticketless entry system, which would allow visitors to enter without the need for physical tickets. However, this system must be secure and efficient, ensuring that only authorized visitors are granted access and that the system can handle a large number of visitors at once. Additionally, the system should be user-friendly, easy to navigate, and accessible to visitors of all ages and backgrounds.

The aim of implementing a ticketless entry system is to efficiently manage the number of visitors present at museums and monuments, while also preventing unauthorized entries by those without tickets. This system would enable the optimization of the ticket checking process by allowing only those with e-tickets to enter the premises. Additionally, it would enable better management of resources for the visitors, resulting in a more convenient and hassle-free experience for them.

III. LITERATURE REVIEW

Studies have shown that the implementation of ticketless entry systems can lead to significant benefits for museums and monuments. One study by Han et al. (2019) found that the implementation of an e-ticket system resulted in increased revenue and decreased waiting times for visitors. Similarly, a study by Lee et al. (2017) found that a ticketless entry system improved the overall visitor experience, resulting in increased satisfaction and repeat visits.

Furthermore, research has also focused on the security aspect of ticketless entry systems. A study by Choi et al. (2018) proposed a secure ticketing system that uses blockchain technology to prevent fraudulent entries and ensure the privacy of visitors' data. Another study by Zhang et al. (2020) proposed a facial recognition-based ticketing system that can quickly and accurately verify the identity of visitors.

Overall, the literature suggests that the implementation of a ticketless entry system can bring significant benefits for both visitors and museums/monuments. However, the security and privacy concerns must be addressed to ensure the success of the system.

IV. METHODOLOGY

Explanation of the technology stack used in the ticketless entry system:
Node.js and Express: Node.js is a server-side runtime environment that allows developers to run JavaScript on the server-side. It provides a non-blocking I/O model that makes it efficient for handling large amounts of data. Express is a popular web framework for Node.js that makes it easier to build web applications. Express provides a set of features for building APIs, handling HTTP requests, and serving static files.
In the ticketless entry system, Node.js and Express would be used to handle the server-side logic. This would involve implementing APIs for user registration, ticket purchase, and ticket validation. The APIs would receive HTTP requests from the client-side and respond with the appropriate data. Node.js and Express would also be used to interact with the MongoDB database to store and retrieve user and ticket information.
MongoDB: MongoDB is a popular NoSQL document database that provides a flexible and scalable solution for storing data. It allows developers to store data in JSON-like documents, making it easy to work with data in a web application. MongoDB also provides features such as indexing, replication, and sharding that make it

suitable for large-scale applications.

In the ticketless entry system, MongoDB would be used to store user and ticket information. User information such as name, email address, and password would be stored in a users collection. Ticket information such as the number of visitors, visiting date, and payment details would be stored in a tickets collection. MongoDB would be accessed using the Node.js driver for MongoDB.

Stripe Payment Gateway: Stripe is a popular payment gateway that provides a secure and easy-to-use platform for accepting payments online. It provides a set of APIs for handling payments, managing subscriptions, and handling disputes. Stripe also provides features such as fraud detection, multi-currency support, and recurring billing that make it suitable for e-commerce applications.

In the ticketless entry system, Stripe payment gateway would be used to process payments for ticket purchases. When a user purchases a ticket, they would be redirected to the Stripe payment page where they can enter their payment details. Once the payment is processed, Stripe would send a notification to the server indicating that the payment was successful. The server would then generate a QR code for the user's ticket.

HTML, CSS, and JavaScript: HTML, CSS, and JavaScript are the three core technologies used in building web applications. HTML provides the structure and content of a web page, CSS provides the styling and layout, and JavaScript provides the interactivity and dynamic behavior.

In the ticketless entry system, HTML, CSS, and JavaScript would be used to implement the user interface for ticket purchase and QR code display. The user would be presented with a form to enter their ticket details, and once the payment is processed, the QR code image would be displayed on the screen. JavaScript would be used to handle user interactions such as form validation and QR code scanning.

QR Code Scanning Library: QR code scanning library such as qr-scanner in JavaScript would be used to implement QR code scanning in the ticketless entry system. This library provides a simple API for scanning QR codes using the camera on the user's device. When the user presents their QR code at the venue entrance, the scanner would read the QR code and send a request to the server to validate the ticket. The server would respond with a message indicating whether the ticket is valid or not.

In summary, the technology stack used in the ticketless entry system would include Node.js and Express for handling the server-side logic, MongoDB for storing user and ticket information, Stripe payment gateway for processing payments, HTML, CSS, and JavaScript for implementing the user interface, and QR code scanning library for scanning QR codes.

The various phases of the waterfall model are as follows:

- Requirements Gathering and Analysis
- System Design
- Implementation
- Testing
- Deployment
- Maintenance

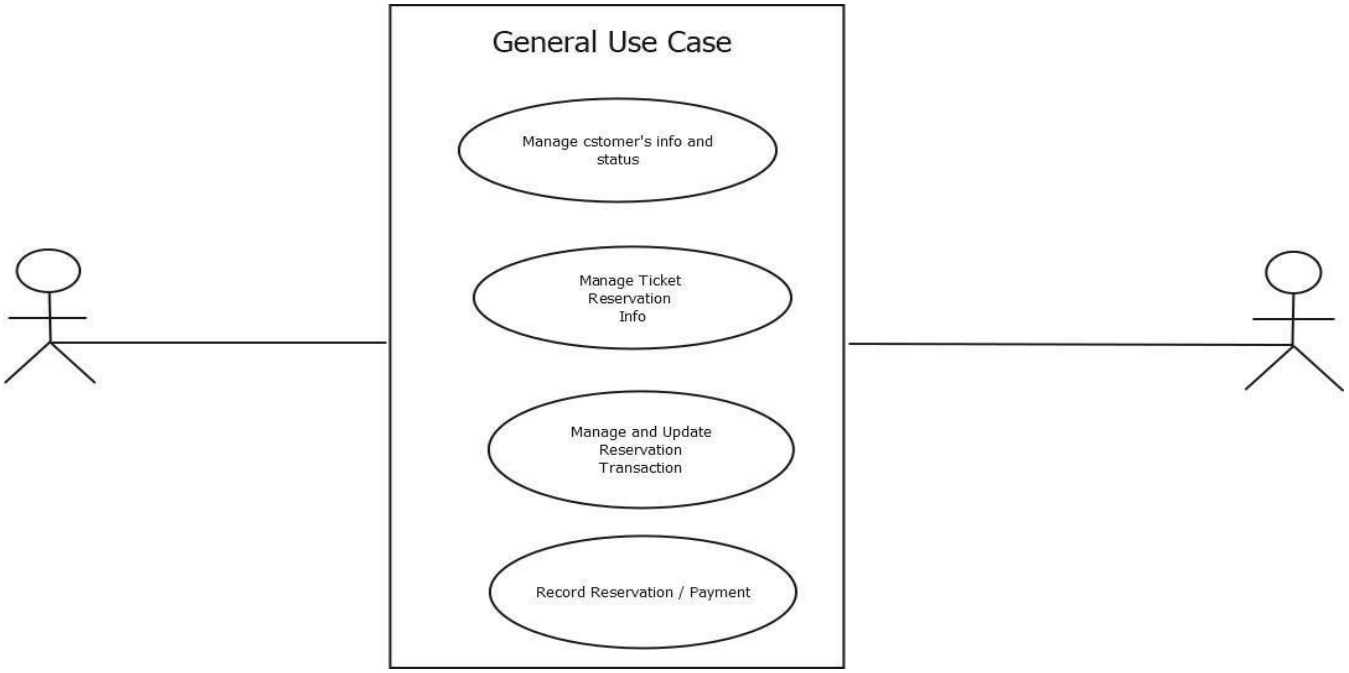
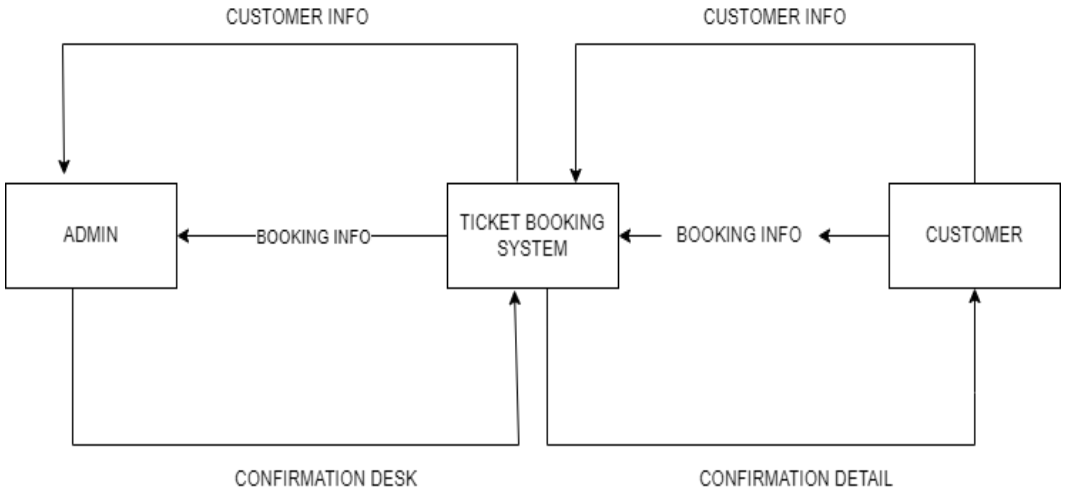
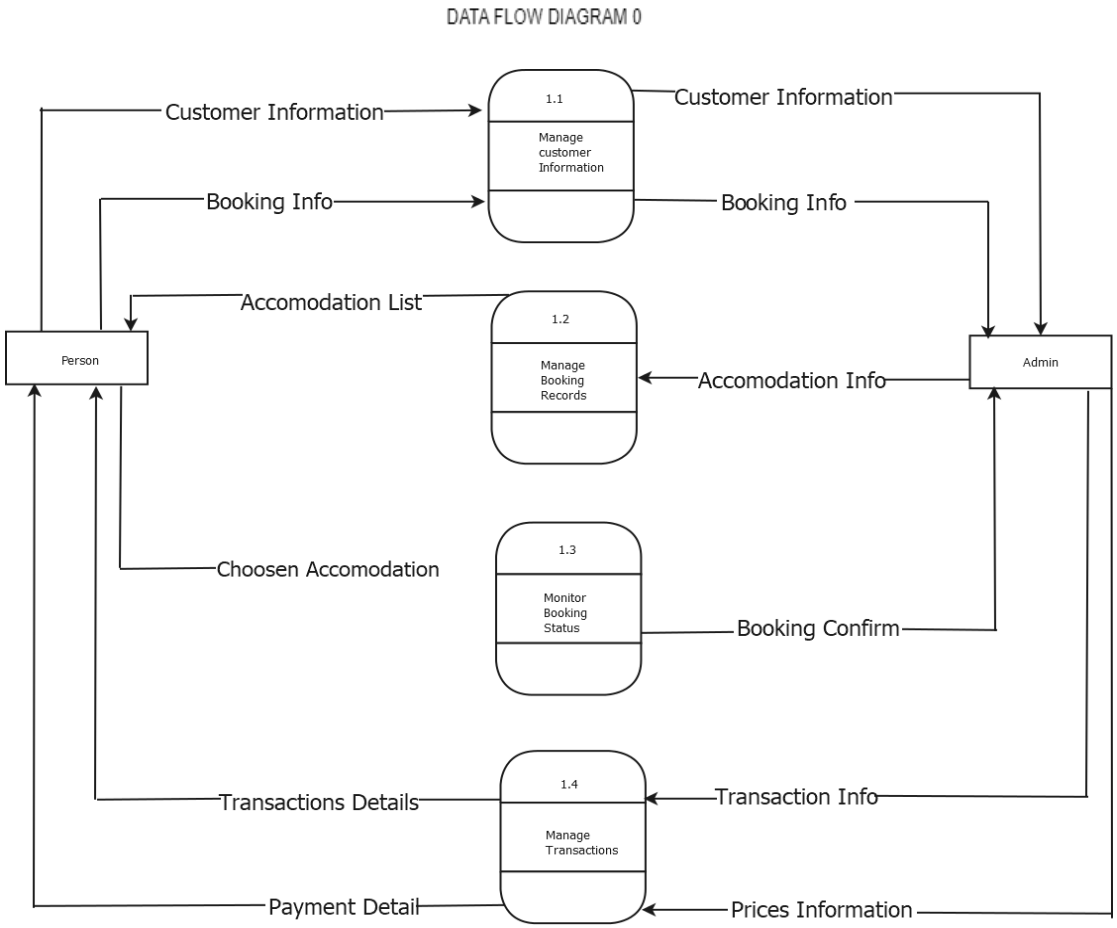


Figure 1. USE CASE





Data Flow Diagram Level 1

Figure 2.2 DFD Level 1

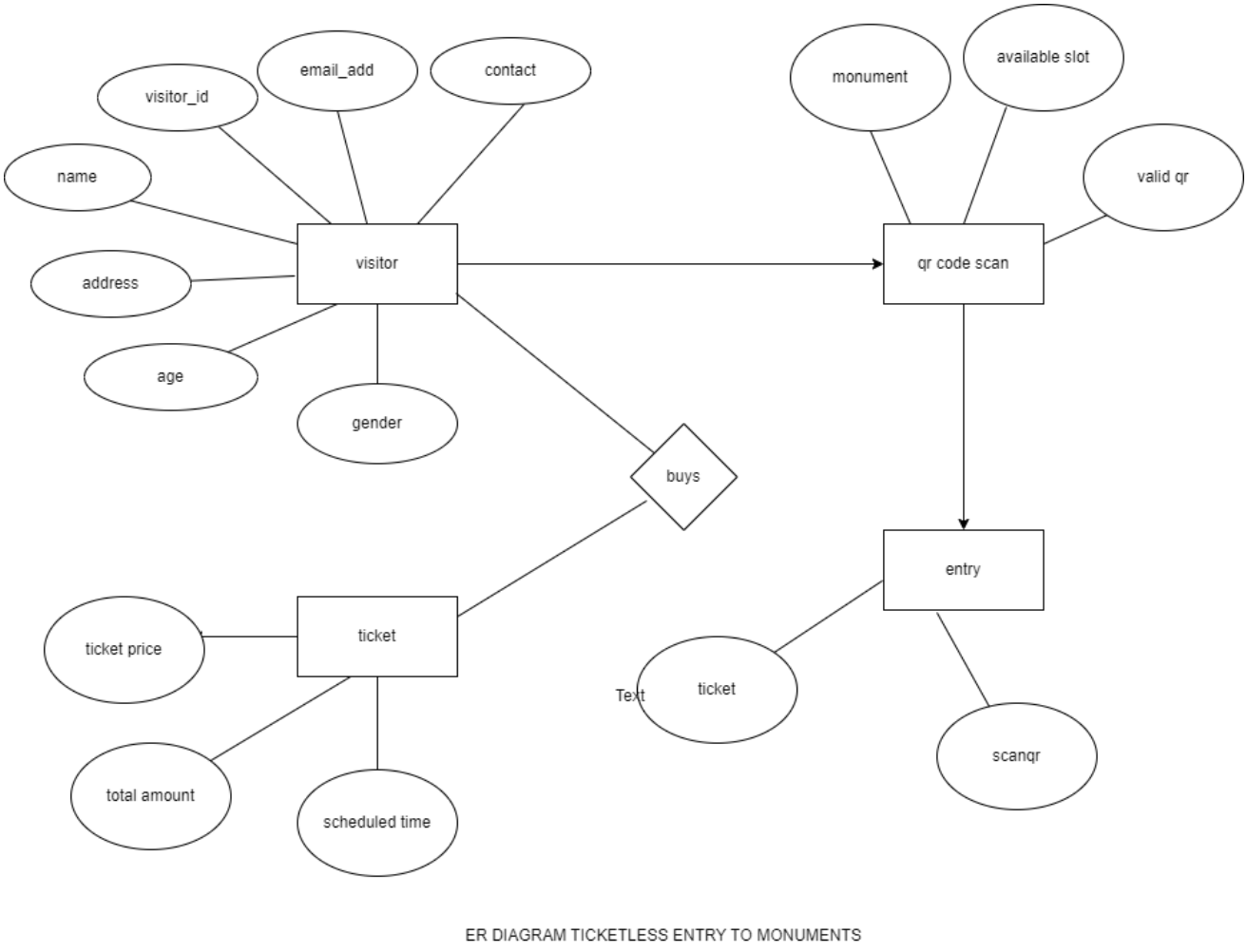


Figure 3. ER Diagram

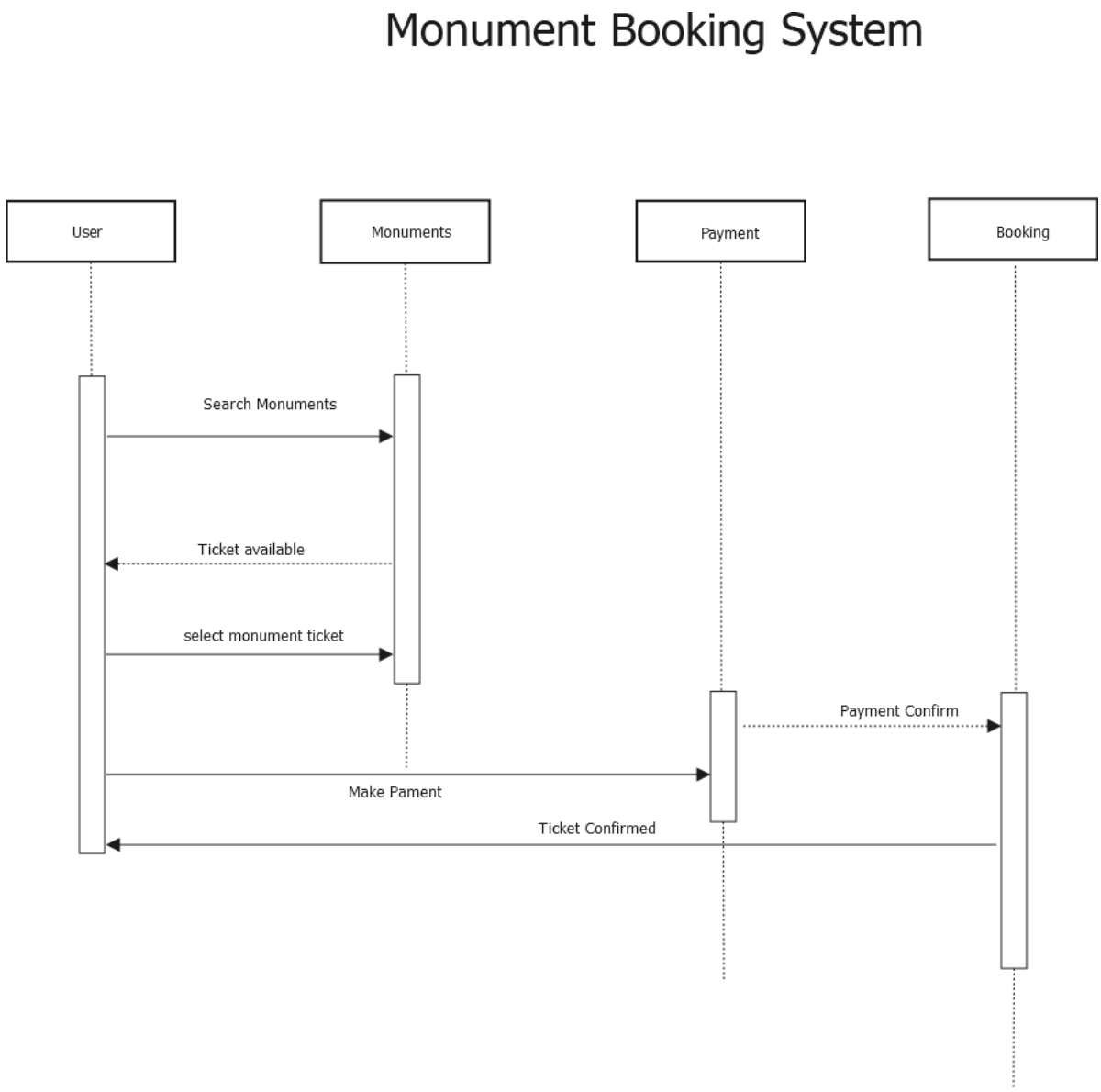


Figure 4. Sequence Diagram

4.1 Technology Used:

- ❖ Node,js
- ❖ QR Code Generator
- ❖ Stripe

V. RESULT DISCUSSION

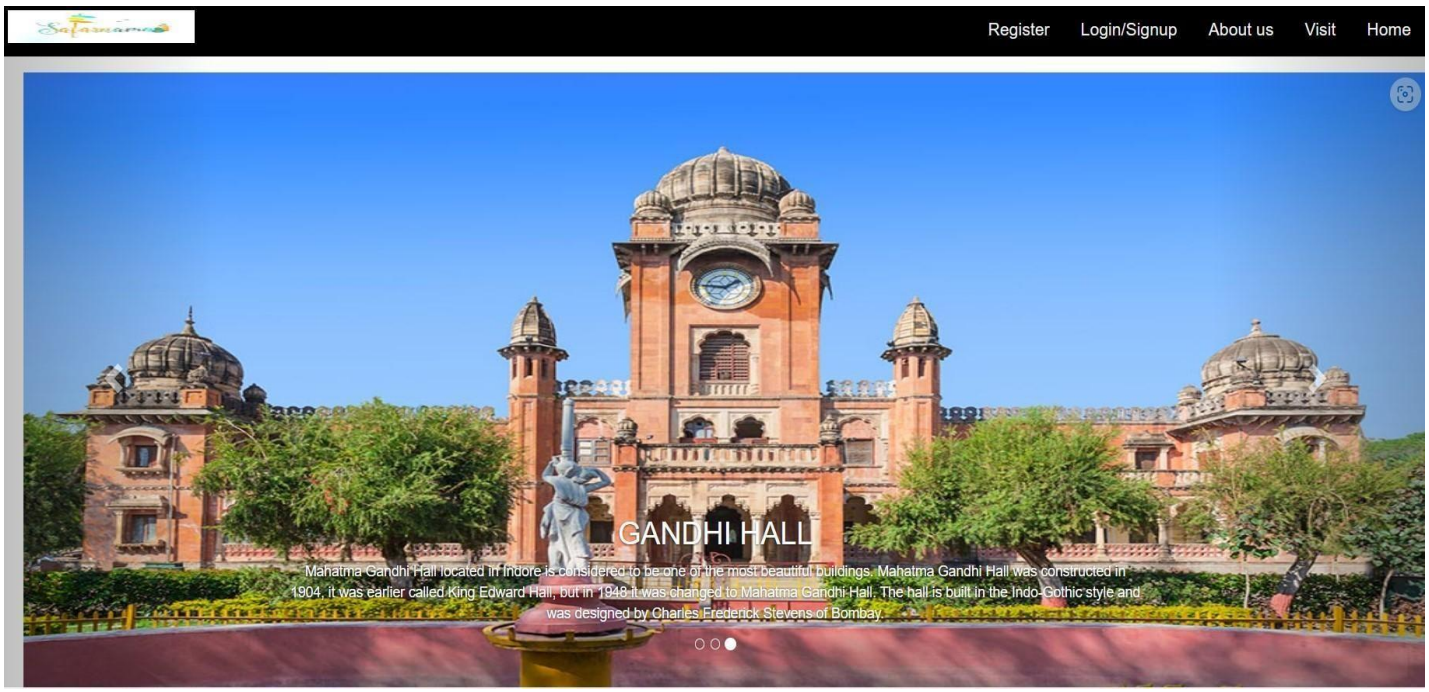


Figure 5.1 Screenshot 1

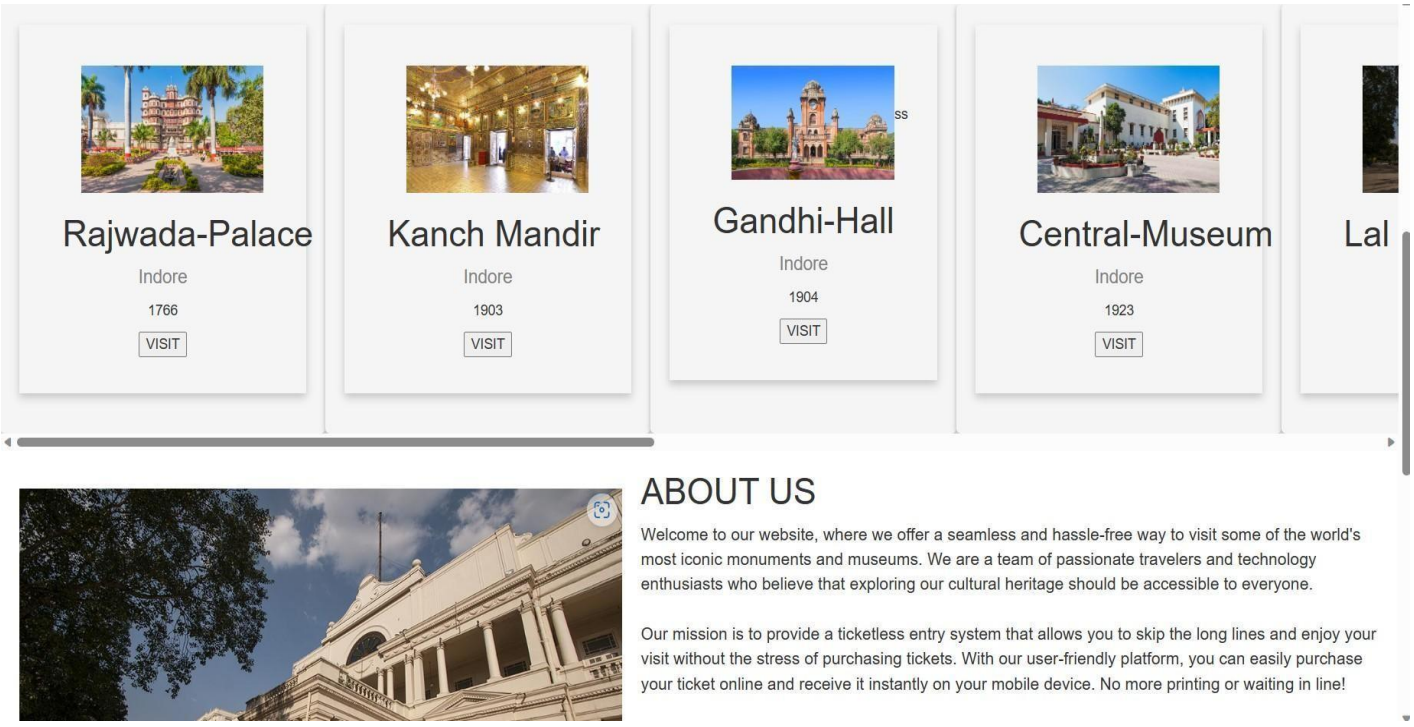


Figure 5.2 Screenshot 2

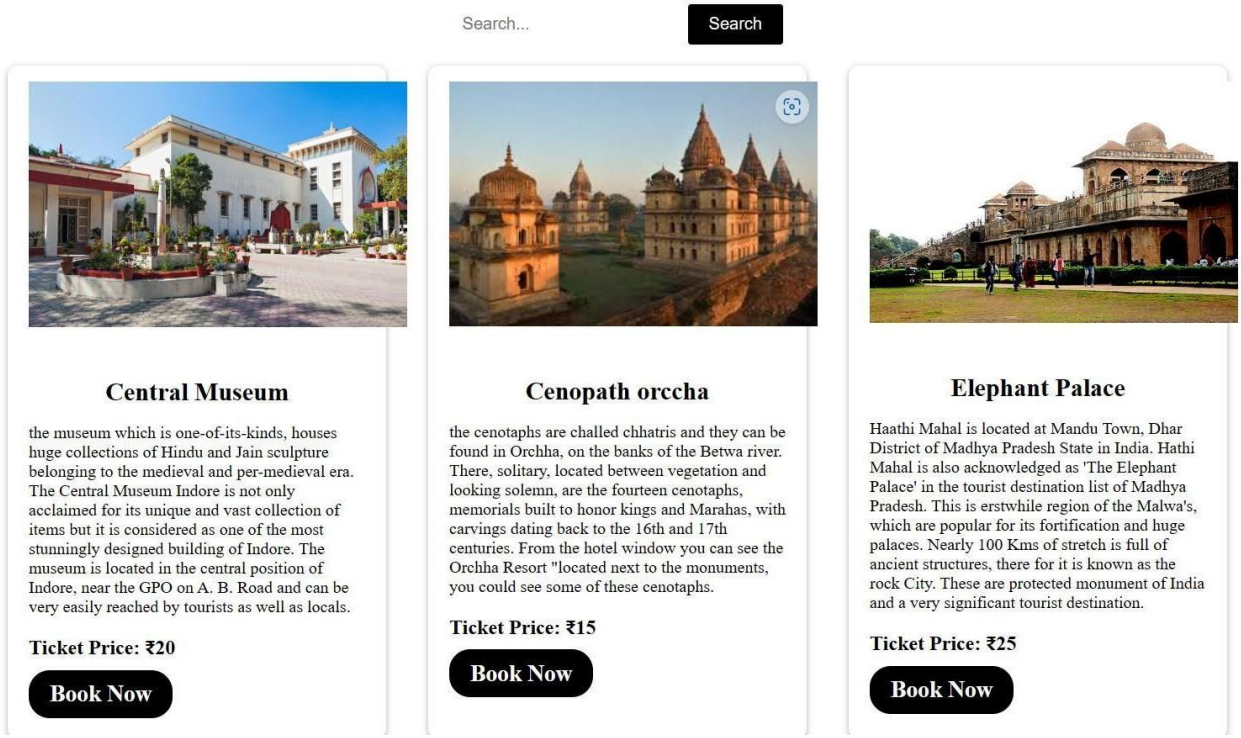
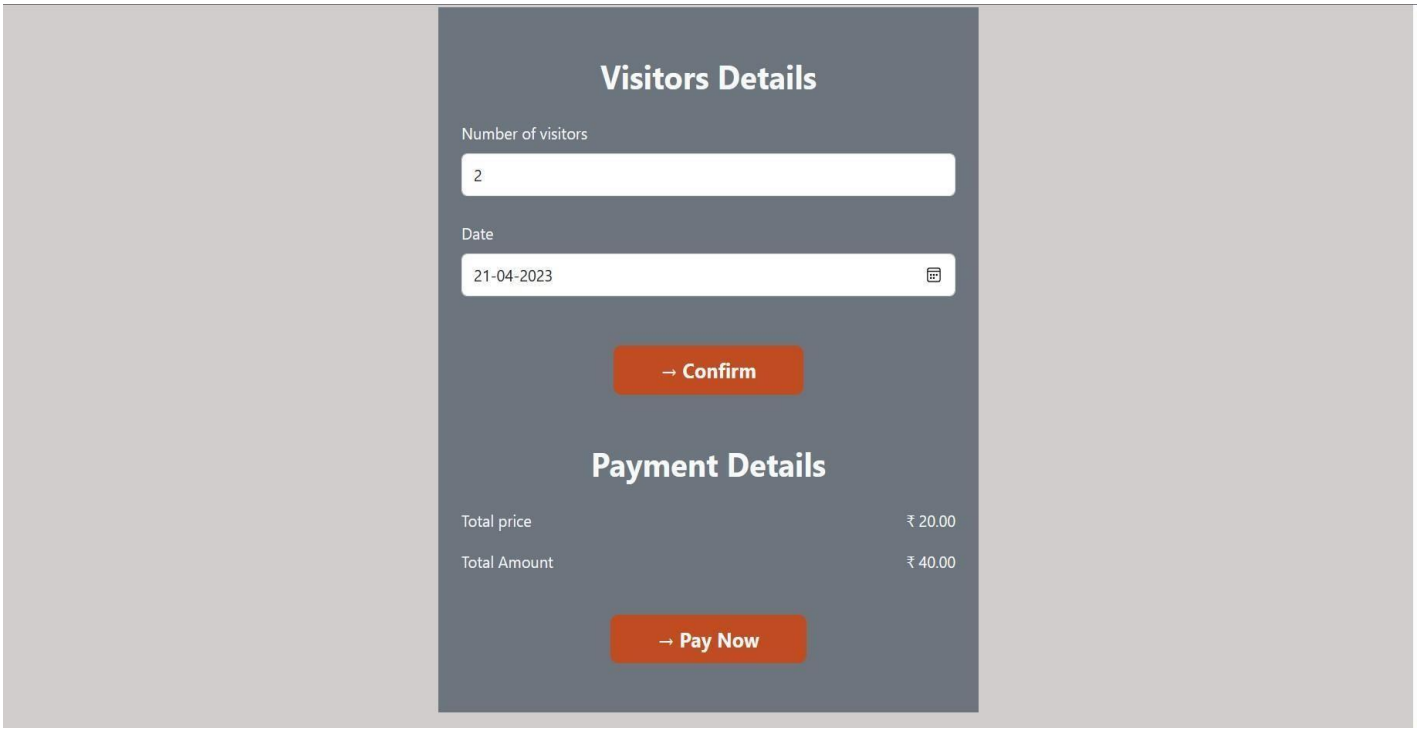


Figure 5.3 Screenshot 3



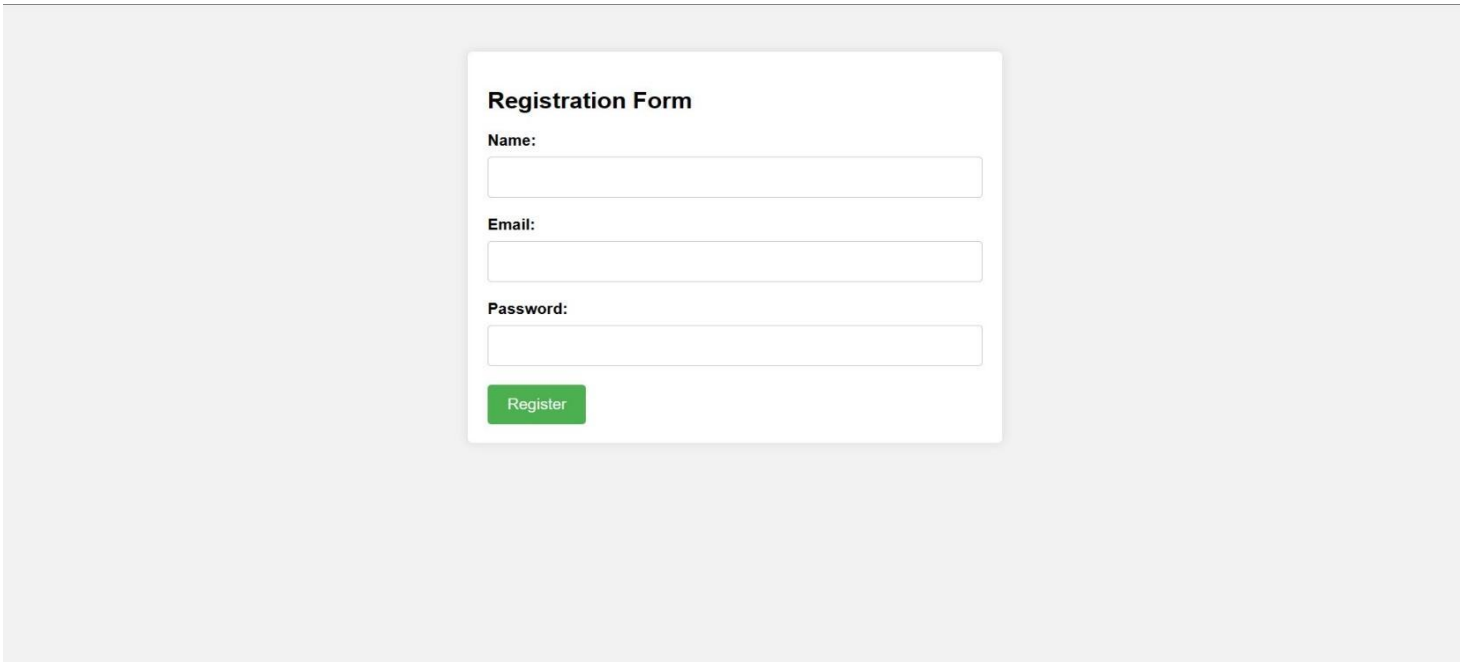


Figure 5.4 Screenshot 4

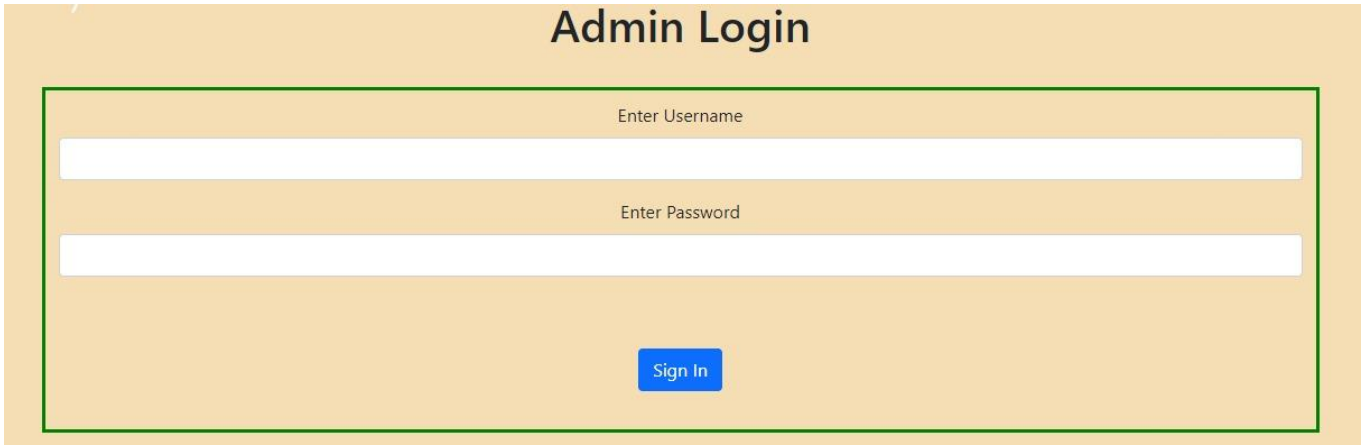


Figure 5.5 Screenshot 5

VI. CONCLUSION

In conclusion, a ticketless entry system for museums and monuments presents a promising solution to improve the visitor experience, increase accessibility, and optimize operations for organizations. The system's ability to streamline the entry process, reduce wait times, and increase inclusivity can enhance visitor satisfaction and attract a more diverse audience.

Moreover, the system can provide valuable data insights into visitor behavior and preferences, which can inform future planning and decision-making. With this information, museums and monuments can tailor their programming and exhibitions to better serve their audience and ensure long-term sustainability.

VII. ACKNOWLEDGMENT

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