VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT.

Third Year
Bachelor of Computer Application (T.Y.B.C.A.)

Semester - V

Vimal Tormal Poddar BCA College
Pandesara, Surat.

Minor Project
On
Zoo Management System

AS A PARTIAL REQUIREMENT FOR
Subject: 501-01 (Advanced Web Designing)

YEAR: 2023-24

Submitted by:
Roll No : B-52
Name : Mahesh Vala

Guided by:
Dr. Pooja Panchal

VIMAL TORMAL PODDAR BCA COLLEGE

BACHELOR

OF

COMPUTER APPLICATION

B.C.A

Certificate

This is to certify that **Mahesh Vala**

Seat No. **3128** has satisfactorily completed his software computer Practical Work in **PAPER No. 501-01 – Advanced Web Designing** for the **SEMESTER - 5** during the academic year **2023-2024.**

Date :_____

_____

Teacher-In-Charge

Explore the Wild!

BY

Mahesh Vala

www.maheshvala.in

ACKNOWLEDGEMENT

I would like to express my sincere gratitude for the successful completion of the Safari Project, a Zoo Management Website. This project marks a significant milestone in my journey toward enhancing the user experience and streamlining zoo management operations.

I extend my heartfelt appreciation to all those who supported and guided me throughout the project's development. Their invaluable feedback and insights have been instrumental in shaping the website's features and functionality.

Last but not least, I am deeply thankful to the users of the Safari website, whose enthusiasm and interest in wildlife conservation have inspired me to create a platform that offers an immersive and educational experience.

This project stands as a testament to the power of dedication and innovation, and I am proud of the effort that has gone into its success. Together, we have created a platform that not only simplifies zoo management but also enriches the connection between people and wildlife.

Thank you all for your invaluable support and encouragement during the Safari Project.

Sincerely,

Mahesh Vala

ABSTRACT

The Safari Zoo Management System is a user-centered platform designed to revolutionize the wildlife experience. With two primary panels, User and Admin, it simplifies visitor interaction and streamlines zoo operations.

In the User Panel, visitors can register, access precise zoo timings, navigate via interactive maps, search for animals, and book tickets online. The system enhances the visitor journey.

The Admin Panel empowers zoo administrators with efficient animal management tools and insightful visitor reports, facilitating data-driven decision-making.

Safari Zoo Management System fosters a deeper connection between visitors and wildlife while optimizing zoo operations.

INDEX

PROJECT PROFILE

Project Name	**SAFARI**
Project Author	**Mahesh Vala**
Recipient	**Dr. Pooja Panchal**
Project Type	**Web Application**

▶ Technologies Used

- **Frontend:** HTML, CSS, jQuery
- **Responsive Design:** Bootstrap
- **Backend:** PHP
- **Database:** MySQL

▶ System Requirements

- **Hardware:**
  - Computer or Smartphone
  - Processor: Dual-core processor or higher
  - RAM: 1 GB or higher
- **Software:**
  - **Web Browsers:**
    - Google Chrome (latest version)
    - Mozilla Firefox (latest version)
    - Microsoft Edge (latest version)
    - Apple Safari (latest version)
- **Internet Connection:**

PROBLEM STATEMENT

Before the introduction of the Safari Zoo Management System, purchasing tickets for the zoo was an arduous and time-consuming process, characterized by long queues and limited accessibility. Visitors often faced the following challenges:

Inconvenient Queues: Visitors had to endure long queues at the zoo's ticket counters, resulting in extended waiting times and frustration.

Limited Ticketing Options: The absence of an online ticketing system meant that visitors had only one way to obtain tickets, making it difficult for those unable to visit the zoo in person.

Lack of Information: Visitors had limited access to real-time information about zoo timings and exhibits, making it challenging to plan their visits effectively.

Manual Ticket Issuance: Ticket issuance was a manual process, prone to errors and inefficiencies, often leading to incorrect ticket information.

Visitor Discomfort: The lengthy ticketing process often resulted in visitor discomfort, impacting their overall zoo experience and discouraging repeat visits.

INTRODUCTION

The Safari Zoo Management System is a pioneering web application designed to elevate the wildlife experience for both visitors and administrators. Developed by Mahesh Vala, this project presents a user-centric platform that reimagines how individuals interact with zoo environments.

At its core, the Safari Zoo Management System is a comprehensive web application that seamlessly integrates various technologies, including HTML, CSS, jQuery for frontend development, and PHP for robust backend functionality. To ensure an intuitive and responsive design, Bootstrap is employed for creating a user-friendly interface.

This project is tailored to meet the needs of zoo administrators and visitors alike. It facilitates effortless user registration and login, enabling visitors to access crucial information such as precise zoo timings, interactive maps, and a comprehensive animal database. Additionally, guests can conveniently book tickets online, eliminating the need for cumbersome on-site processes.

On the administrative front, the system empowers zoo managers with efficient tools for animal management. Zoo administrators can effortlessly update and modify animal information, ensuring that visitors receive accurate and up-to-date details about the wildlife exhibits. Moreover, the system generates insightful reports, categorizing visitors by age groups (children, adults, and seniors) and tracking total revenue. This data-driven approach enhances decision-making and contributes to a more efficient and visitor-centric zoo management.

The Safari Zoo Management System represents a significant step forward in redefining the visitor experience while simplifying the operational complexities of zoo management. With a user-friendly interface, responsive design, and comprehensive features, this project strives to foster a deeper connection between people and wildlife, making it an exciting journey into the wild.

SCOPE & OBJECTIVE

▶ Scope

Comprehensive User Experience: The system aims to provide a comprehensive and engaging experience for zoo visitors, with an interactive UI and UX that enhances their interaction with wildlife exhibits and zoo facilities.

Efficient Animal Database: Users will have access to an extensive animal database, categorized by species, habitats, and unique characteristics, enabling them to explore and learn about the diverse wildlife.

Precise Information Access: Visitors can easily access precise zoo timings, facilitating efficient trip planning and a seamless visit experience.

Interactive Navigation: The system incorporates interactive maps to assist visitors in navigating the zoo grounds, finding exhibits, amenities, and attractions effortlessly.

Streamlined Ticketing: Users can conveniently book tickets online, reducing on-site waiting times and receiving digital tickets via email for added convenience.

Effective Animal Management: For administrators, the system offers efficient tools to manage the zoo's animal information, ensuring that visitors receive accurate and up-to-date details.

Data-Driven Insights: Administrators can generate insightful reports that categorize visitors by age groups (child, adult, senior) and track total revenue, facilitating informed decision-making.

SCOPE & OBJECTIVE

▶ Objective

Enhanced Visitor Engagement: To engage zoo visitors through an immersive and interactive user interface (UI) and user experience (UX), encouraging a deeper connection with wildlife and fostering education.

Operational Efficiency: To streamline zoo operations by providing administrators with efficient animal management tools, online ticketing capabilities, and data analytics for resource optimization.

Information Accuracy and Currency: To ensure that visitors have access to the most accurate and up-to-date information about the animals in the zoo, contributing to wildlife awareness and conservation efforts.

Effortless Ticketing: To offer an online ticket booking system that enhances the visitor experience by reducing waiting times and simplifying ticketing processes.

Informed Decision-Making: To provide administrators with data-driven insights that aid in optimizing zoo operations, marketing strategies, and visitor engagement initiatives.
Cross-Platform Accessibility: To make the system accessible and compatible with a wide range of web browsers and devices, ensuring inclusivity and user reach.

Tailored Visitor Services: To track and categorize visitors by age groups, enabling the development of tailored offerings, promotions, and educational programs for diverse demographics.

MODULES

▶ Login and Registration

Registration: This module allows new users to create accounts easily. Users are required to provide their username, email, password, gender, age, and city during registration.

Login: Registered users can log in using their email and password credentials, granting them access to the system's features and functionalities.

▶ Home Page

Interactive Design: The index module serves as the main entry point for visitors. It offers an interactive and visually appealing design that provides easy navigation to various sections of the system.

Zoo Services: Visitors can access information about the zoo's services, amenities, and facilities, enhancing their overall experience.

Maps and Timings: The module includes interactive maps of the zoo grounds, helping visitors navigate to exhibits, amenities, and attractions. Precise zoo timings are also provided for efficient trip planning.

▶ Animal Module

Animal Information: This module offers a comprehensive catalog of zoo animals, complete with images, detailed information, and engaging descriptions. Visitors can explore the diverse wildlife inhabiting the zoo.

Search Functionality: To enhance the user experience, a search feature is integrated, enabling visitors to quickly locate specific animals based on species, habitat, or unique characteristics.

MODULES

▶ Ticket Module

Ticket Purchase: In this module, visitors have the convenience of purchasing tickets for children, adults, and seniors, catering to diverse visitor demographics.

Payment Processing: Users can make secure payments using their credit or debit cards, ensuring a seamless and cashless transaction process.

Email Confirmation: After successful ticket purchase, visitors receive email confirmations containing essential details about their bookings, enhancing convenience and reducing the need for physical tickets.

▶ Admin Panel

Insightful Data: The admin panel provides administrators with valuable insights and statistics related to zoo visitors, including data categorized by age groups (child, adult, senior) and total revenue generated. These insights support data-driven decision-making.

Animal Management: Administrators have the capability to manage the zoo's animal database efficiently. They can add, update, or remove animal information, ensuring that visitors receive accurate and up-to-date details.

Admin Account Management: The module also facilitates the administration of admin accounts, allowing for secure and controlled access to system features and functionalities.

MODEL USED

The Waterfall Model is a well-suited choice for software development projects under specific circumstances. Firstly, it shines when project requirements are meticulously defined and remain relatively stable throughout development. This methodology thrives on the concept of having a clear project scope and objectives from the outset, enabling a systematic and structured approach to project execution. Secondly, the Waterfall Model is favored when clients prefer minimal involvement during the development process and are comfortable with a review of the final product at project completion. It caters to situations where clients place trust in the initial requirements and the development team's capability to deliver a product that aligns closely with these specifications.

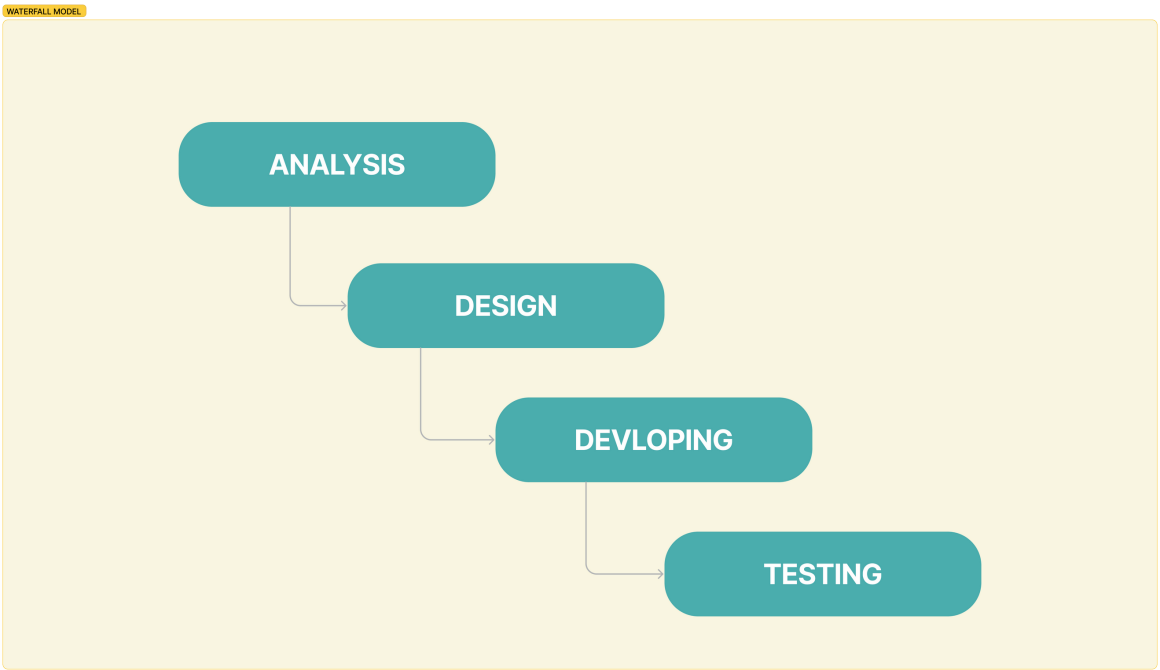


Figure 1: Waterfall Model

MODEL USED

▶ Analysis Phase

Requirement Gathering: This phase begins with gathering and documenting all the requirements for the system, including user needs, features, and functionality. It involves discussions with stakeholders to understand their expectations.

Feasibility Study: A feasibility study is conducted to assess the practicality and viability of the project, considering factors like technical feasibility, financial feasibility, and operational feasibility.

System Design: During this phase, high-level system architecture and data structures are outlined. This includes defining the database structure, user interfaces, and the overall system flow.

Use Case Diagrams: Use case diagrams are created to visualize how different actors (users and administrators) interact with the system and what actions they can perform.

▶ Design Phase

User Interface Design: Detailed user interface (UI) designs are created, considering user experience (UX) principles. Mockups and prototypes are often developed to visualize the final look and feel of the system.

Database Design: The database schema is designed, specifying tables, fields, relationships, and data constraints. It ensures efficient data storage and retrieval.

System Architecture: Detailed technical architecture is developed, including the selection of technologies, frameworks, and platforms for both frontend and backend development.

MODEL USED

▶ Development Phase

Frontend Development: Development of the user interface using technologies like HTML, CSS, and JavaScript/jQuery. It includes creating web pages for user registration, login, interactive maps, and animal displays.

Backend Development: Building the backend logic using PHP for server-side processing. This includes user authentication, animal management, ticket booking, and email confirmation functionality.

Database Implementation: The database design is implemented using MySQL to store user data, animal information, and transaction records.
Integration: Frontend and backend components are integrated to ensure seamless communication and data flow between them.

▶ Testing Phase

Unit Testing: Individual components, such as user registration, login, and animal display, are tested to ensure they work as expected in isolation.

Integration Testing: The interaction between different modules is tested to verify that data flows correctly between them.

Functional Testing: The system's functionality is thoroughly tested, including user registration, login, animal search, ticket booking, payment processing, and email confirmation.

User Acceptance Testing (UAT): Real users, including administrators and visitors, participate in testing to ensure the system meets their requirements and is user-friendly.

Bug Fixing: Any identified issues or bugs are addressed and fixed during the testing phase.

DATA FLOW DIAGRAM

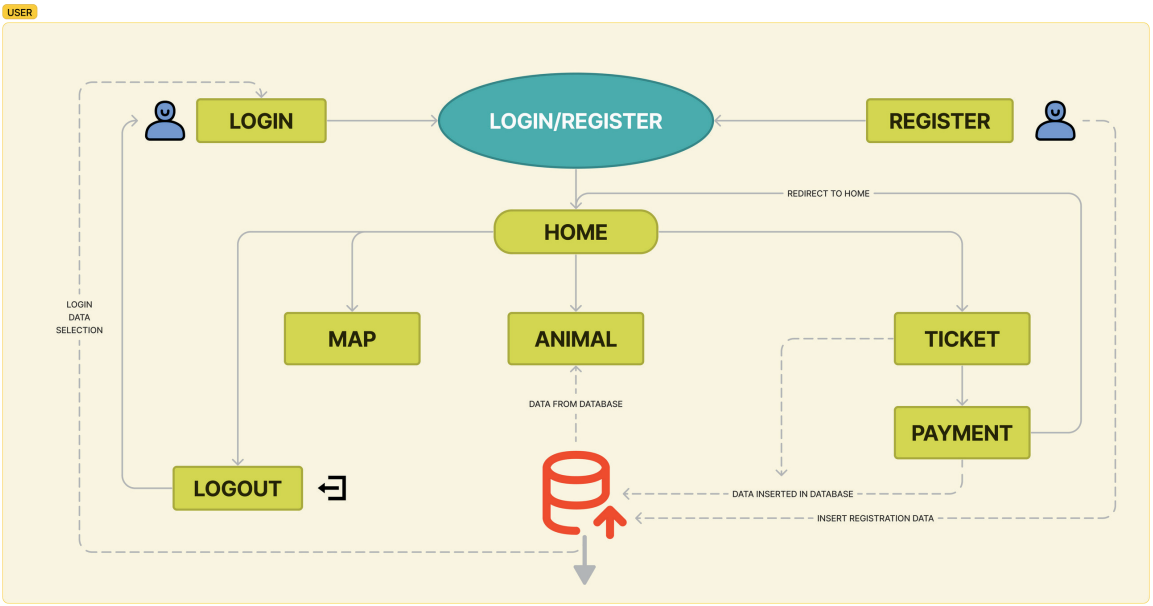


Figure 2.1: User DFD

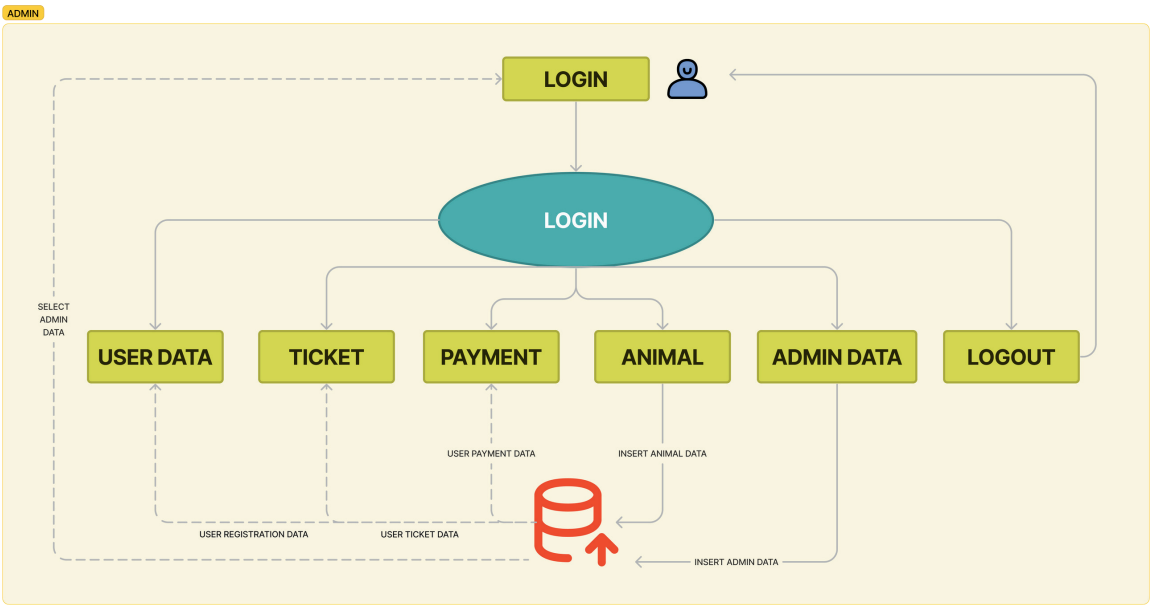


Figure 2.2: Admin DFD

DATA DICTIONARY

▶ Register Table

Field Name	Data Type	Field Length	Cortstraint	Description
id	int	11	🔑Primary Key	Auto Increment id
name	text	50	Not null	Name of User
email	text	50	Not null	Valid Email of User
password	text	50	Not null	Strong Password
gender	text	50	Not null	Preferable Gender
age	int	50	Not null	Age of User
city	text	50	Not null	City of User

▶ Ticket Table

Field Name	Data Type	Field Length	Cortstraint	Description
name	varchar	50	Not null	User Registered Name
email	varchar	50	Not null	User Registered Email
child	varchar	50	Not null	No. of Child
adult	varchar	50	Not null	No. of Adult
senior	varchar	50	Not null	No. of Senior
date	varchar	50	Not null	Selected Date of Visit
total	varchar	50	Not null	Total Amount

DATA DICTIONARY

▶ Card Table

Field Name	Data Type	Field Length	Cortstraint	Description
email	varchar	50	Not null	User Registered Email
number	varchar	50	Not null	Payment Card Number
name	varchar	50	Not null	Card Holder Name
expiry	varchar	50	Not null	Card Expiry Date
cvc	varchar	50	Not null	Card CVV Code

▶ Animal Table

Field Name	Data Type	Field Length	Cortstraint	Description
id	int	11	🔑Primary Key	Auto Increment ID
name	varchar	50	Not null	Name of Animal
weight	varchar	50	Not null	Weight of Animal
height	varchar	50	Not null	Height of Animal
habitat	varchar	50	Not null	Habitat of Animal
diet	varchar	50	Not null	Diet of Animal
range	varchar	50	Not null	Range of Animal
desc	varchar	500	Not null	Description of Animal
img	varchar	50	Not null	Animal Image Name

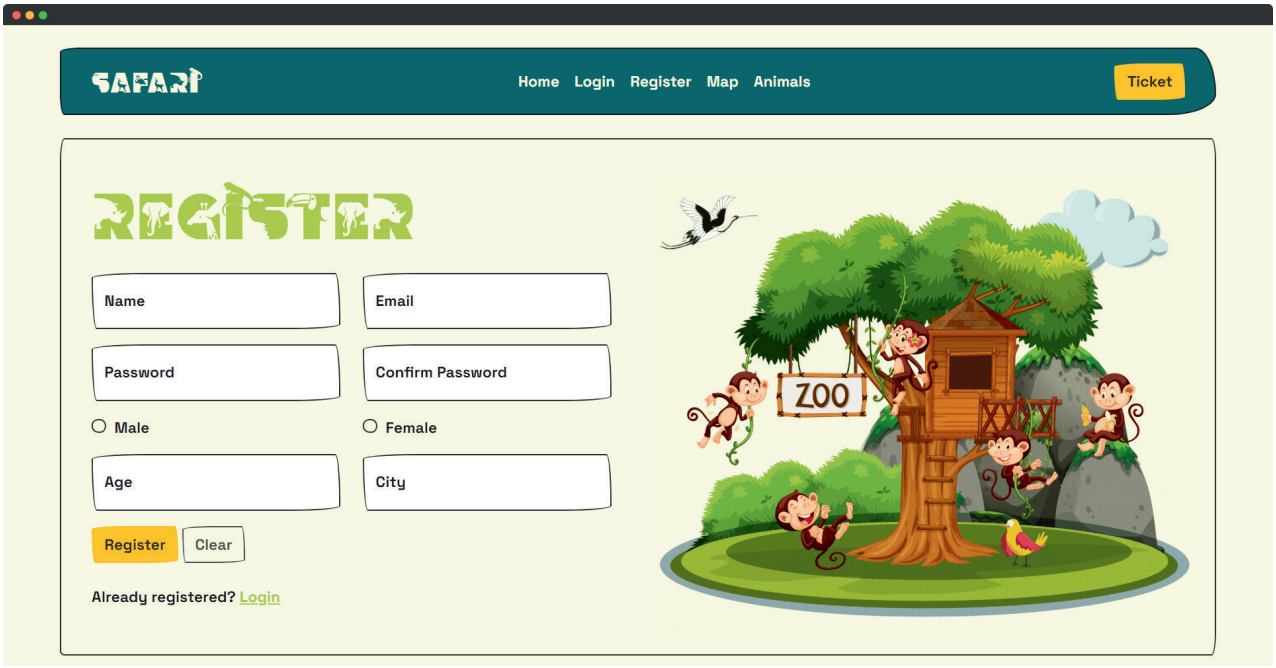
DATA DICTIONARY

▶ Admin Table

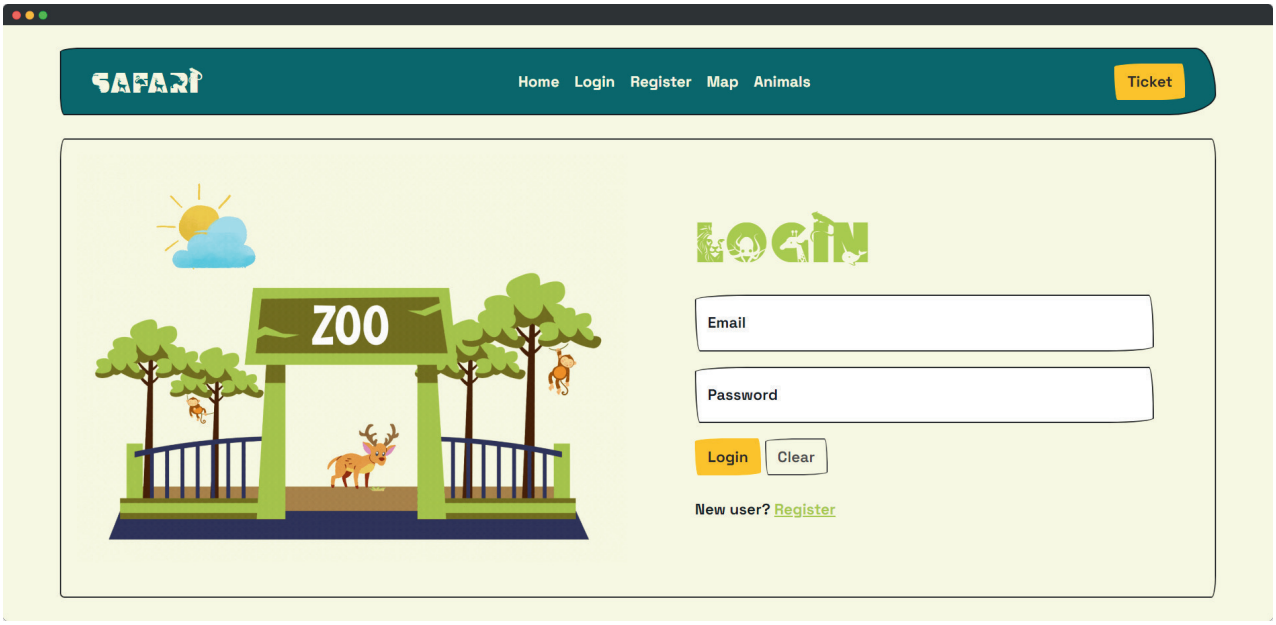
Field Name	Data Type	Field Length	Cortstraint	Description
id	varchar	50	🔑Primary Key	Admin's Admin ID
pass	varchar	50	Not null	Admin's ID Password

SCREEN LAYOUT

▶ REGISTER PAGE

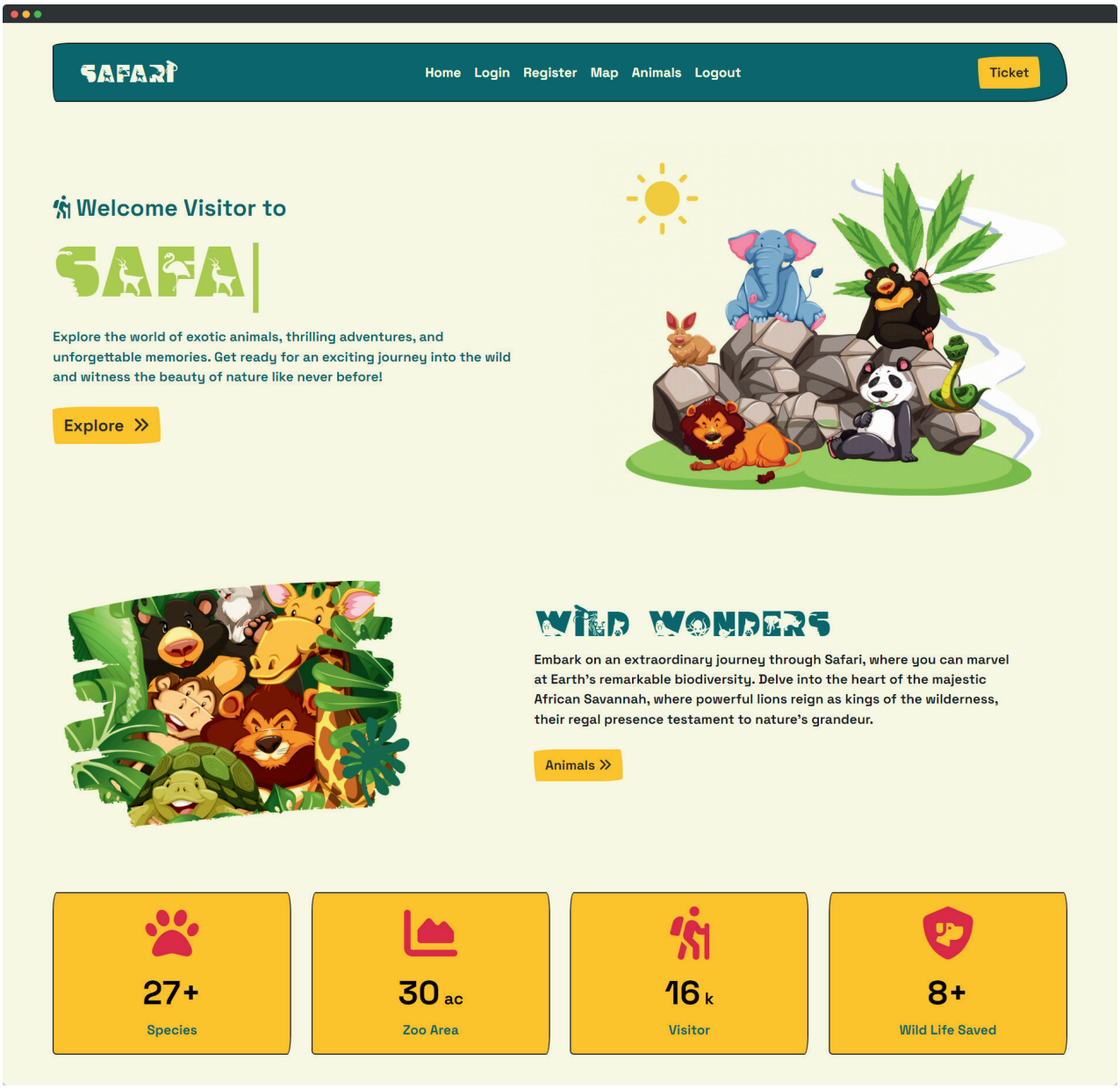


▶ LOGIN PAGE



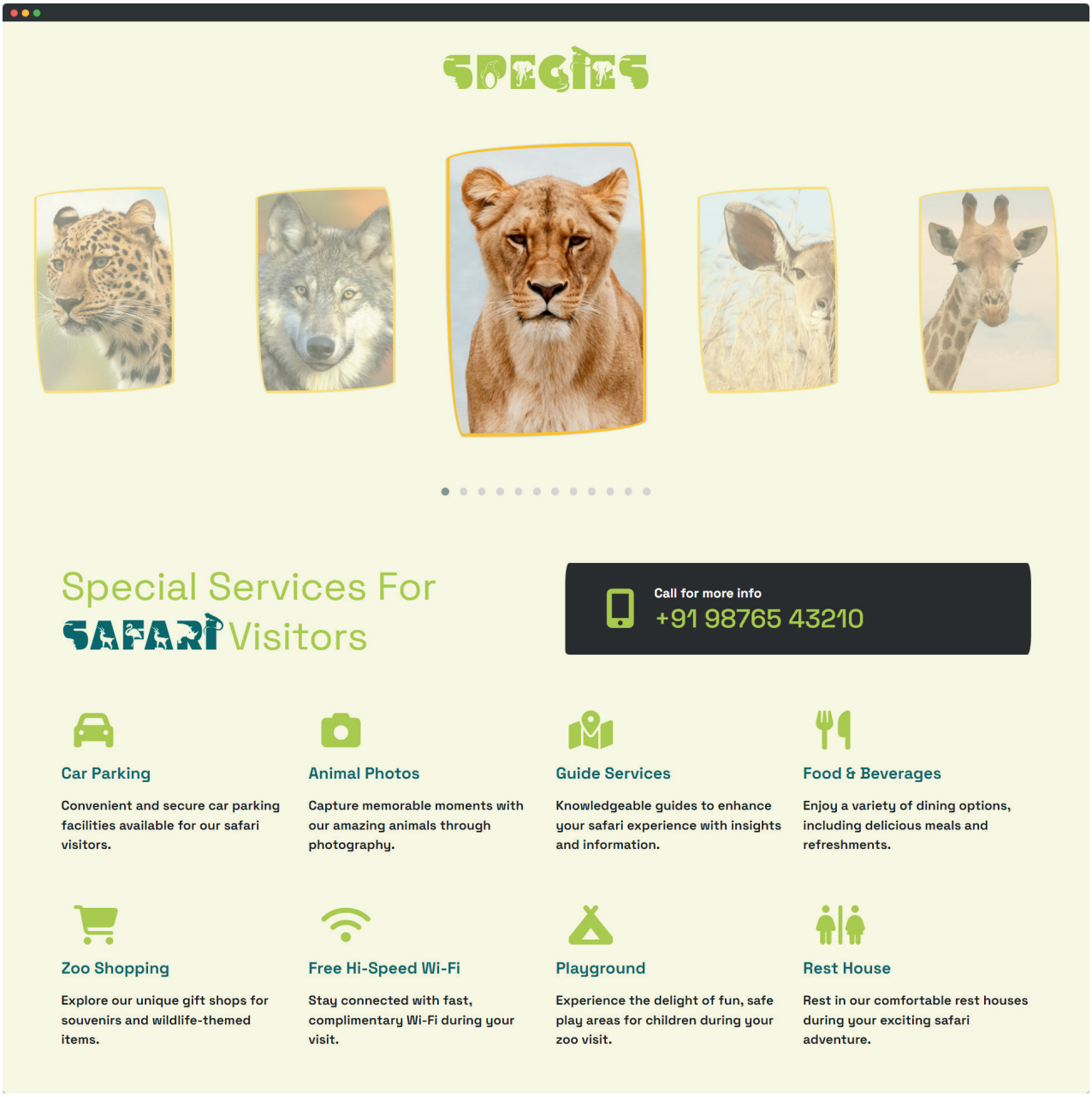
SCREEN LAYOUT

▶ HOME PAGE



SCREEN LAYOUT

▶ HOME PAGE

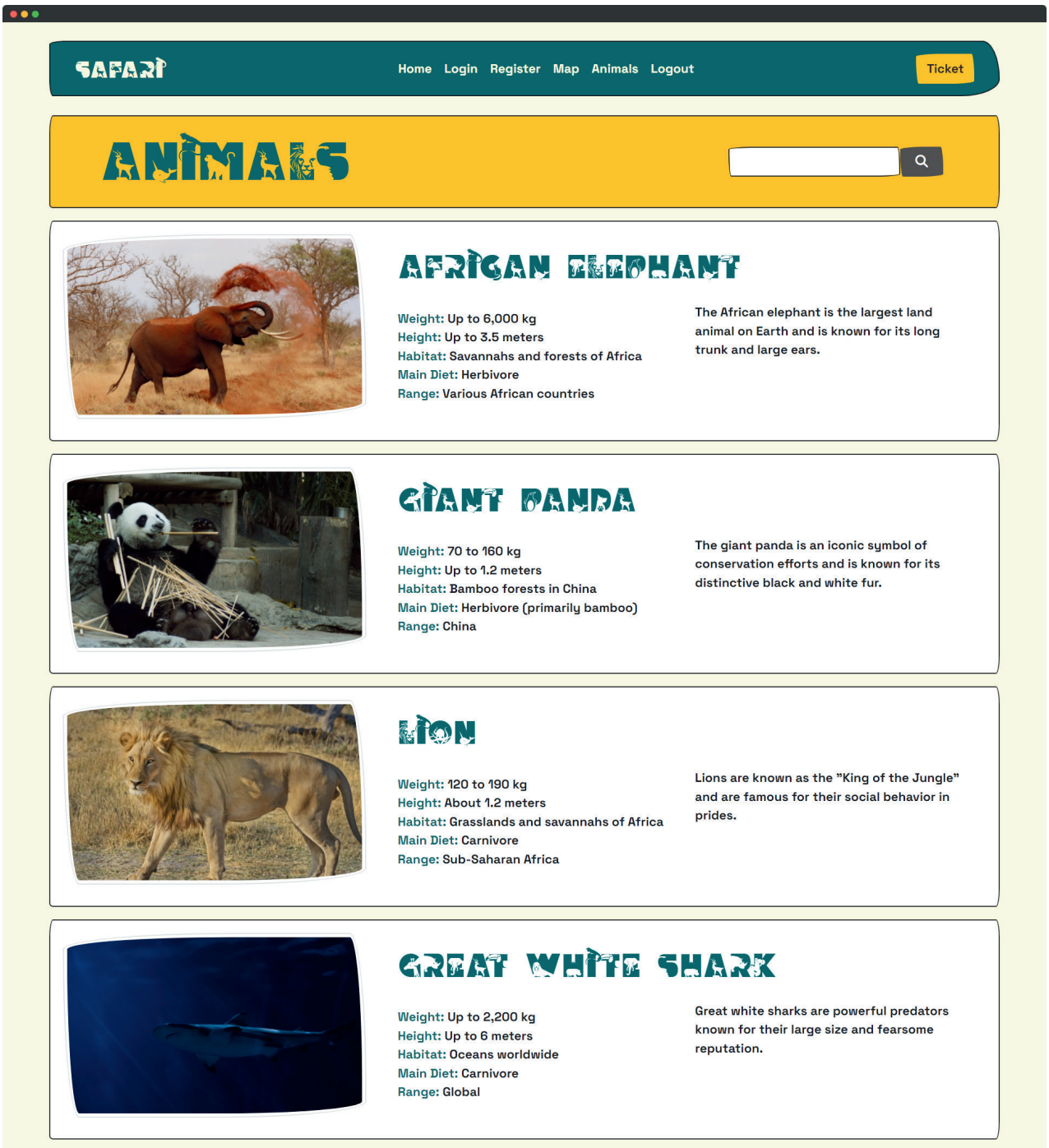


SCREEN LAYOUT

▶ HOME PAGE

SCREEN LAYOUT

▶ ANIMAL PAGE

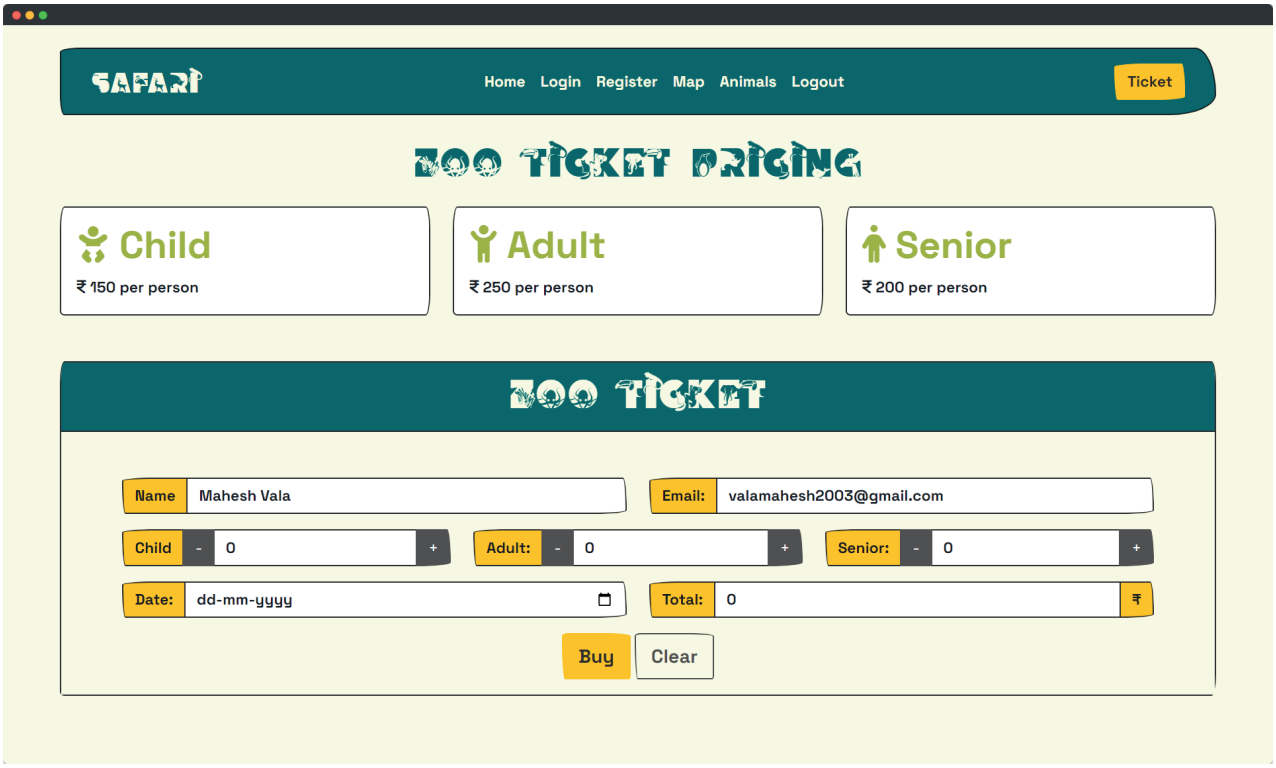


SCREEN LAYOUT

▶ MAP PAGE

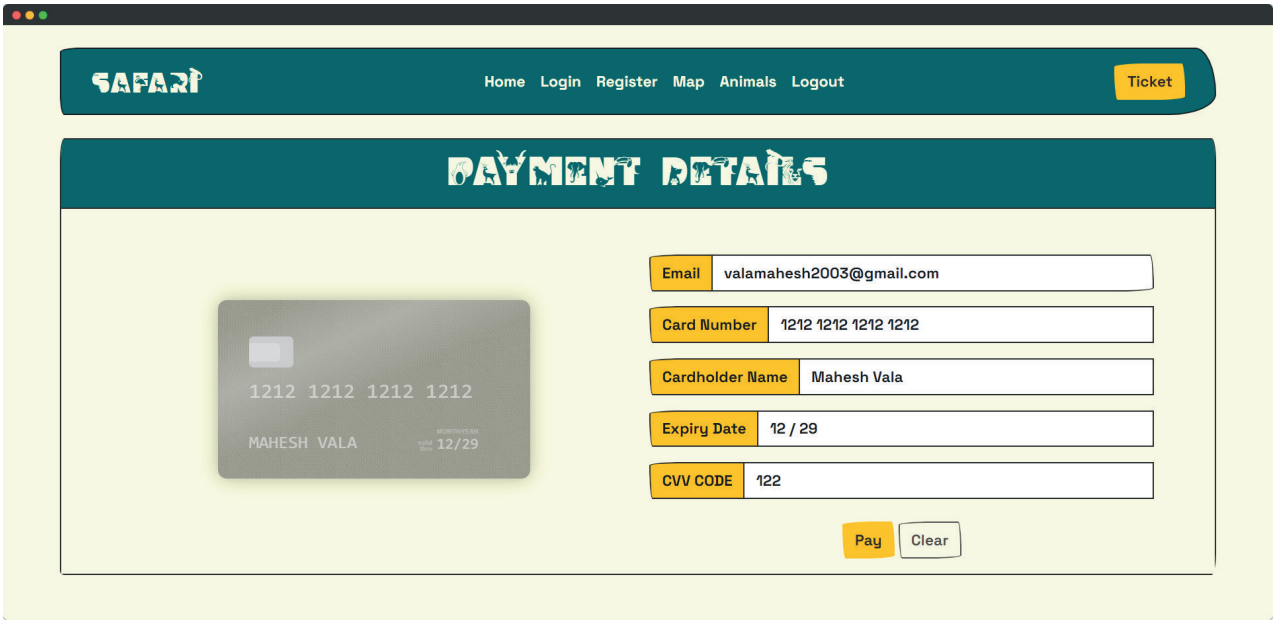
SCREEN LAYOUT

▶ TICKET PAGE



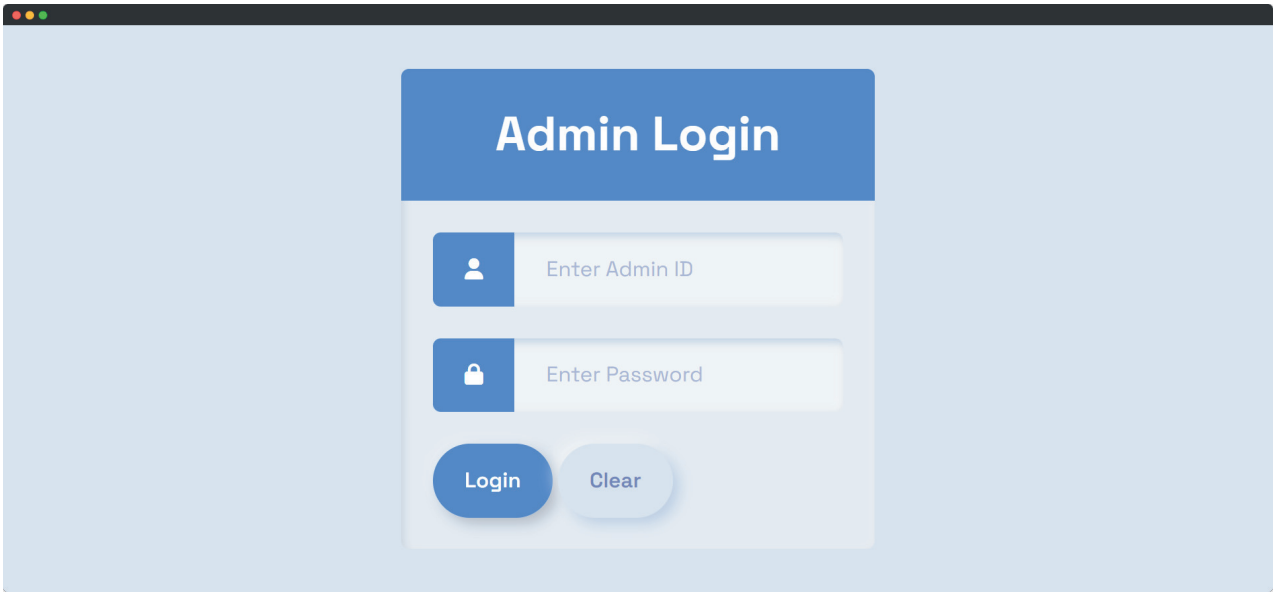
SCREEN LAYOUT

▶ PAYMENT PAGE



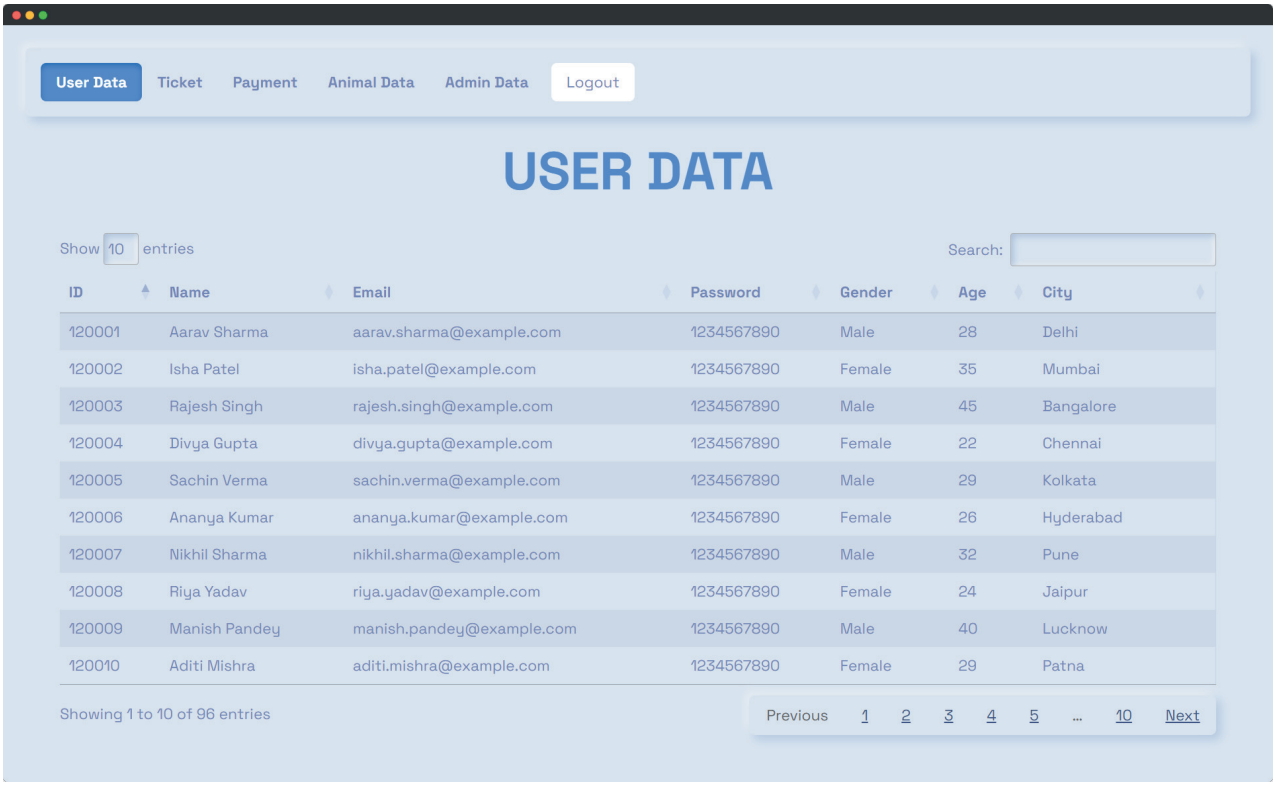
SCREEN LAYOUT

▶ ADMIN LOGIN PAGE



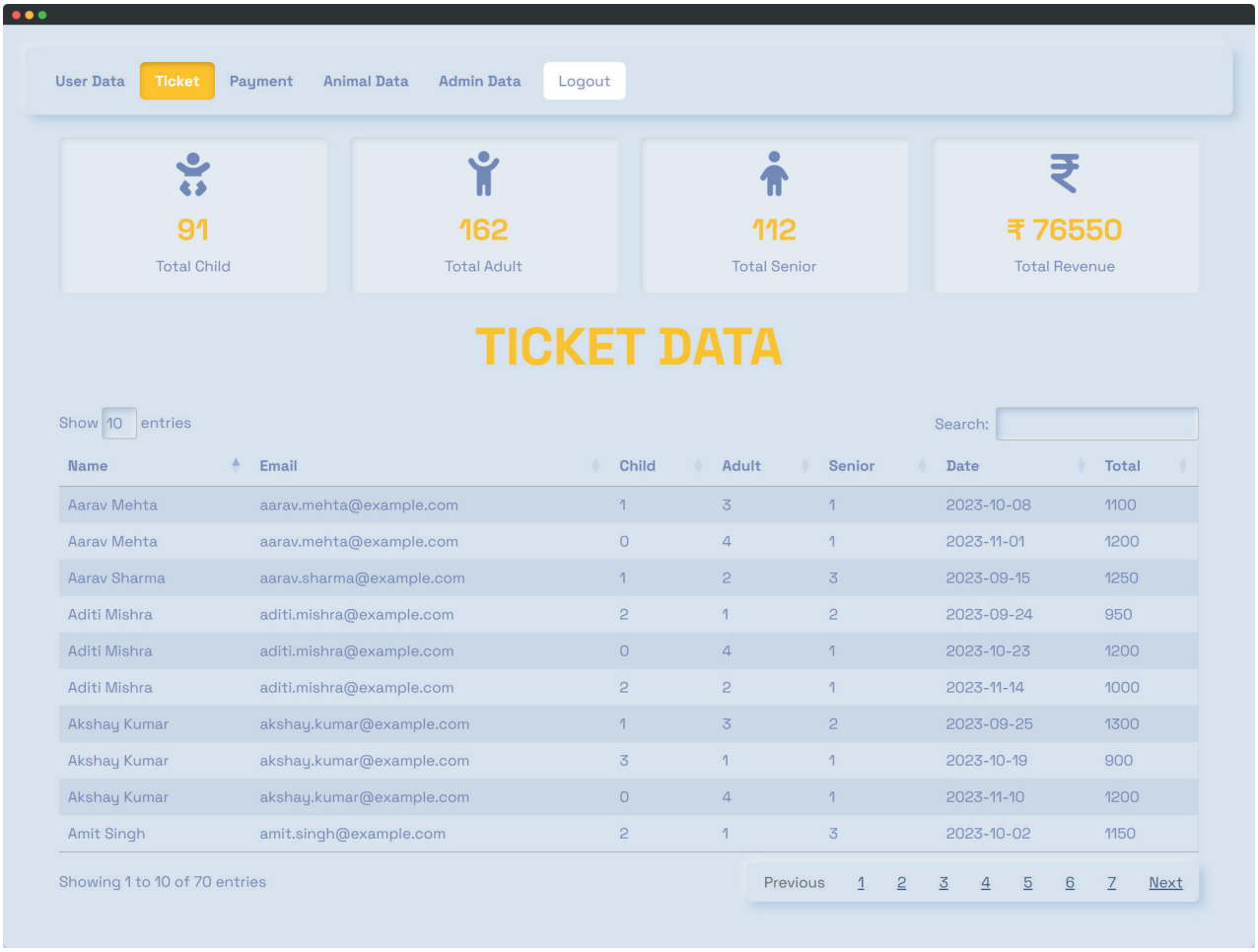
SCREEN LAYOUT

▶ ADMIN HOME PAGE



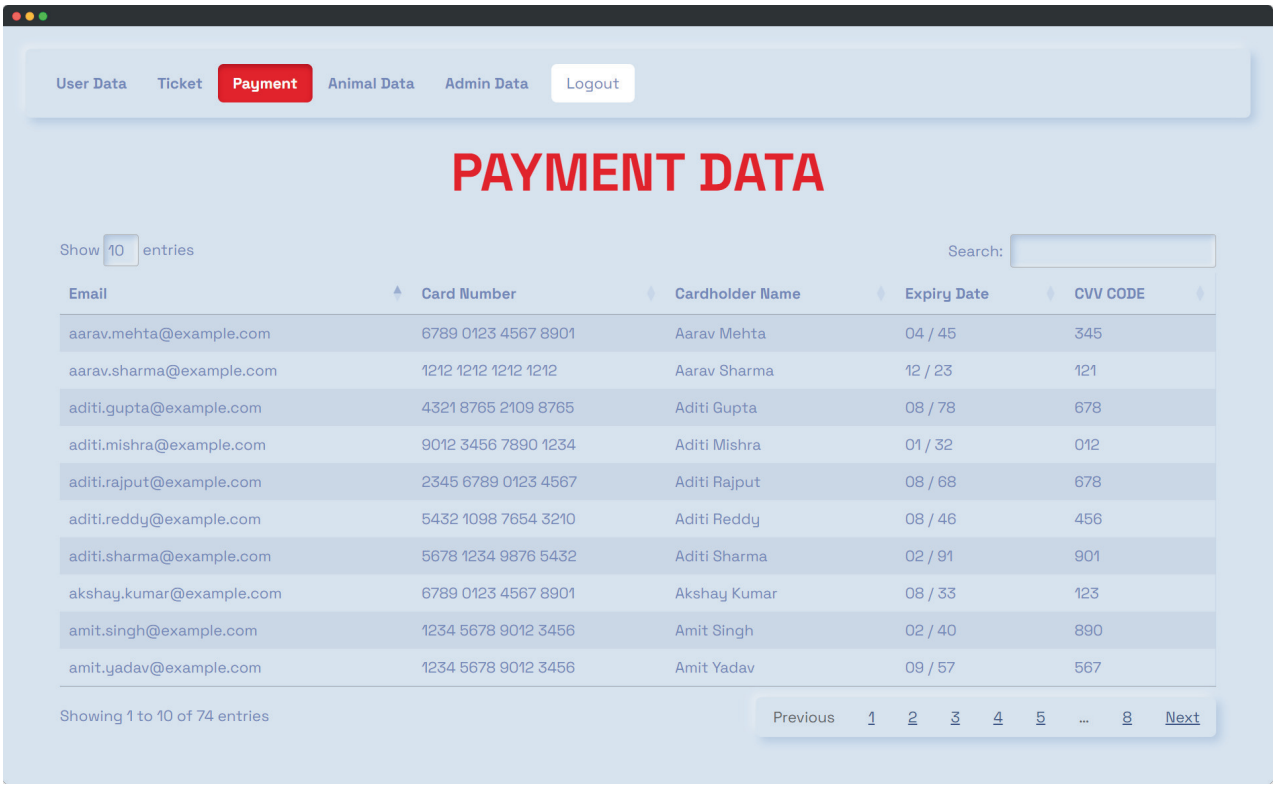
SCREEN LAYOUT

▶ ADMIN TICKET PAGE



SCREEN LAYOUT

▶ ADMIN PAYMENT PAGE

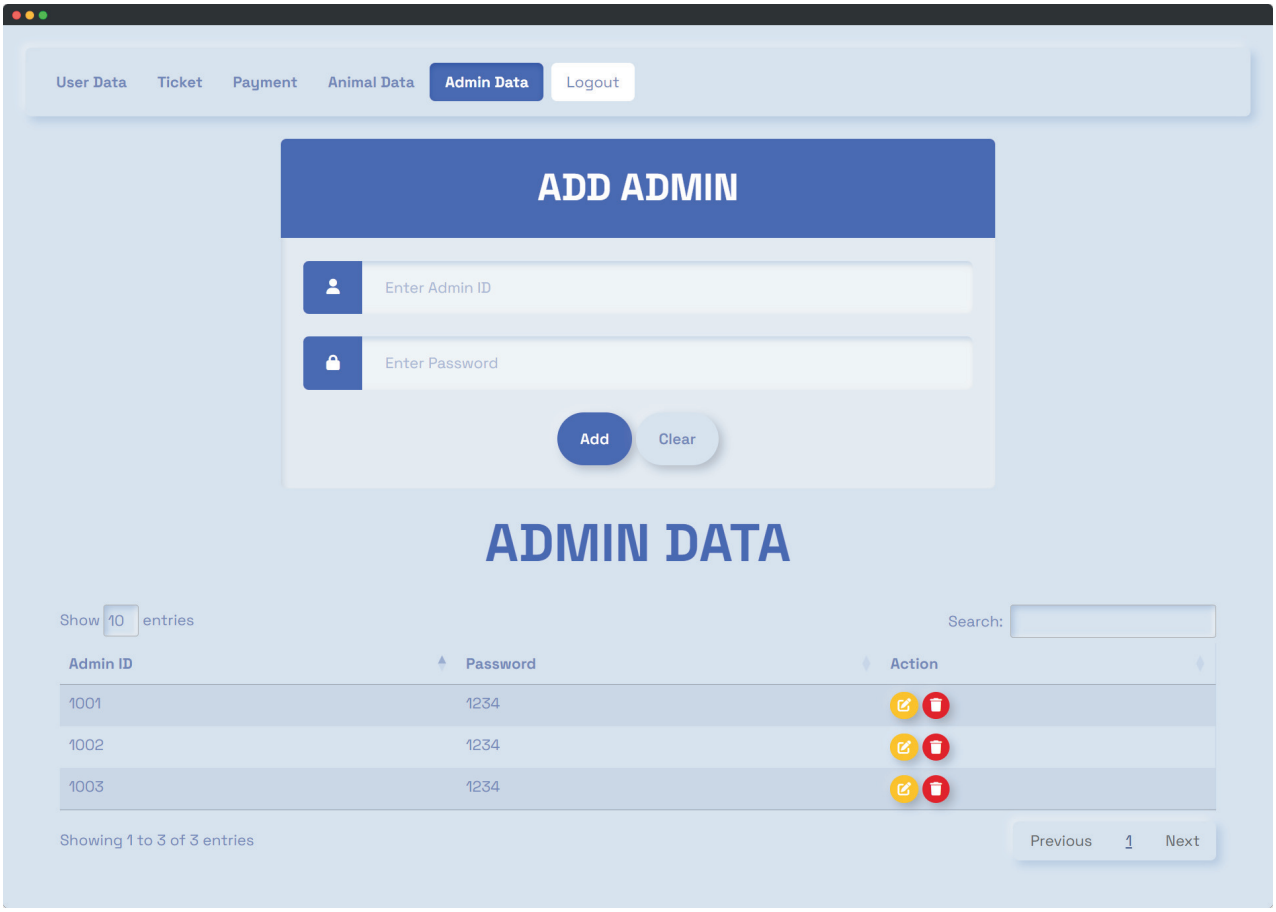


SCREEN LAYOUT

▶ ADMIN ANIMAL PAGE

SCREEN LAYOUT

▶ ADMIN'S ADMIN PAGE



BIBLIOGRAPHY

▶ WEBSITES

Bootswatch

- **Website:** Bootswatch
- **Description:** Bootswatch offers a collection of free, open-source themes for Bootstrap, allowing web developers to easily customize the look and feel of their websites.

Slidesgo

- **Website:** Slidesgo
- **Description:** Slidesgo provides a wide range of free, professionally designed presentation templates for creating stunning slideshows and presentations.

ChatGPT

- **Website:** ChatGPT
- **Description:** ChatGPT is a language model powered by OpenAI, offering natural language understanding and generation capabilities for chatbots, virtual assistants, and more.

Canva

- **Website:** Canva
- **Description:** Canva is a user-friendly graphic design platform that enables users to create a variety of visual content, including social media graphics, presentations, and more.

BIBLIOGRAPHY

▶ LIBRARIES

Typed.js

- **GitHub Repository:** Typed.js on GitHub
- **Description:** Typed.js is a JavaScript library that creates animated typing effects on web pages, making text come to life.

SlickSlider

- **GitHub Repository:** Slick Carousel on GitHub
- **Description:** SlickSlider is a responsive carousel/slider library for creating interactive and mobile-friendly image sliders and carousels.

CounterUp

- **GitHub Repository:** CounterUp2 on GitHub
- **Description:** CounterUp is a lightweight jQuery plugin that adds animated counting functionality to numerical elements on web pages.

PHPMailer

- **GitHub Repository:** PHPMailer on GitHub
- **Description:** PHPMailer is a powerful and flexible PHP library for sending email messages via SMTP, providing a convenient way to integrate email functionality into web applications.

FUTURE ENHAMCEMENT

▶ Form Validation Refinement:

- Improve and refine form validation mechanisms to ensure data accuracy and user-friendly error messages.
- Implement real-time validation for fields such as email addresses, ensuring that users receive immediate feedback on their input.
- Enhance security by validating and sanitizing user inputs to prevent potential vulnerabilities.

▶ Ticket PDF Generation Enhancement

- Enhance the ticket generation module to provide more customizable and visually appealing PDF tickets.
- Include additional details on the PDF tickets, such as QR codes for easy scanning and access control.
- Allow users to personalize their tickets with optional customizations, such as background themes or personalized messages.

▶ Email Notification

- Enhance email notification functionality to provide visitors with timely updates, such as event notifications or special offers.
- Enable users to choose their email notification preferences, ensuring they receive relevant information.
- Implement email tracking and analytics to measure the effectiveness of email campaigns.

CONCLUSION

In the ever-evolving landscape of zoo management and visitor engagement, the SAFARI Zoo Management System stands as a testament to innovation and continuous improvement. Throughout this documentation, we've explored the system's capabilities, its user-friendly features, and its potential for growth and enhancement.

As we conclude our journey through this documentation, it becomes evident that the SAFARI Zoo Management System is not just a static platform but a dynamic and adaptable solution. Its ability to refine form validation, provide dynamic timing and pricing options, and offer an interactive UI/UX demonstrates its commitment to delivering an exceptional visitor experience. These enhancements are more than just technological upgrades; they are a reflection of our dedication to ensuring that visitors can effortlessly plan their trips, access valuable information, and enjoy the zoo to the fullest.

In this ever-connected world, the SAFARI Zoo Management System is positioned not only to meet the needs of today's visitors but also to anticipate and embrace the evolving demands of the future. With a strong foundation built on user-centric principles, dynamic content management, and a commitment to accessibility and security, we embark on a journey of continuous improvement and innovation, promising an unforgettable and seamless experience for all who engage with our zoo.