B.M.S COLLEGE OF ENGINEERING BENGALURU
Autonomous Institute, Affiliated to VTU

OOMD Mini Project Report

Travel & Tourism Website to Boost Customer Engagement
Submitted in partial fulfillment for the award of degree of

Bachelor of Engineering
in
Computer Science and Engineering

Submitted by:

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B.M.S COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

I , Neal Kaul(1BM19CS096), student of 6th Semester, B.E,
Department of Computer Science and Engineering, BMS College of Engineering,
Bangalore, hereby declare that, this OOMD Mini Project entitled "**Travel &
Tourism Website to Boost Customer Engagement**" has been carried out in
Department of CSE, BMS College of Engineering, Bangalore during the academic
 Semester of the year 2023. I also declare that to the best of our knowledge and
belief, the OOMD mini project report is not from part of any other report by any
other students.

Signature of the Candidate

Neal Kaul (1BM19CS096)

BMS COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the OOMD Mini Project titled "**Travel & Tourism Website to Boost Customer Engagement**" has been carried out by Neal Kaul(1BM19CS096) during the academic year 2022-2023.

Signature of the Faculty in Charge   Signature of the Head of the Department

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Chapter 1: Problem Statement

In the rapidly evolving digital landscape, traditional marketing approaches have proven to have limited impact when it comes to branding tourist destinations and increasing their popularity. With changing consumer preferences and the rise of digital media consumption, there is a pressing need to develop innovative strategies that effectively engage customers, create meaningful connections, and harness the power of user-generated content.

The challenge lies in finding a comprehensive solution that not only fosters customer engagement but also encourages collaboration between the destination and its visitors, enabling the co-creation of compelling and authentic content that showcases the unique experiences and features of the destination. By addressing these challenges, the aim is to establish an effective and dynamic destination branding approach that resonates with modern consumers and elevates the popularity and appeal of the tourist spot in a highly competitive market.

Chapter 2: SRS

1 Introduction:

1.1 Purpose of this Document:
The purpose of this document is to address the need for innovative strategies in branding tourist destinations. It highlights the limitations of traditional marketing approaches and emphasizes the importance of customer engagement and collaboration. The document defines the problem statement, focusing on challenges in engaging customers, creating authentic content, and leveraging user-generated content. Its goal is to inspire the development of comprehensive solutions that enhance destination branding, resonate with modern consumers, and elevate the appeal of tourist spots in a competitive market.

1.2 Scope of this Document:
This document focuses on the scope of innovative strategies in branding tourist destinations. It explores the limitations of traditional marketing approaches and emphasizes the significance of customer engagement and collaboration. The scope encompasses challenges related to engaging customers, creating authentic content, and leveraging user-generated content. The document aims to inspire the development of comprehensive solutions within this scope to enhance destination branding, resonate with modern consumers, and elevate the appeal of tourist spots in a competitive market.

1.3 Overview:
This document provides an overview of the importance of innovative strategies in branding tourist destinations. It highlights the limitations of traditional marketing approaches and emphasizes the significance of customer engagement and collaboration. The document aims to inspire the development of comprehensive solutions to enhance destination branding and appeal to modern consumers.

2 General Description:

This document focuses on the importance of innovative strategies in branding tourist destinations and increasing their popularity. It discusses the limitations of traditional marketing approaches in the digital age and highlights the significance of customer engagement and collaboration. The document aims to inspire the development of comprehensive solutions that leverage customer engagement, create authentic content, and resonate with modern consumers. By addressing these aspects, the document aims to enhance destination branding and attract more visitors to tourist spots.

- Customer Engagement: Emphasizes the importance of building emotional connections and fostering relationships with customers to increase brand loyalty and advocacy.

- Collaboration and Co-Creation: Encourages active participation of customers in the branding process, leveraging their experiences through social media, videos, reviews, and testimonials to create authentic and compelling content.

- Leveraging User-Generated Content: Highlights the power of content created by customers to showcase unique destination experiences, attract more tourists, and build a strong brand image.

- Adaptation to Digital Landscape: Recognizes the need for destinations to be "always on" and engage customers through digital platforms such as social media and mobile phones.

- Comprehensive Solution Development: Promotes the development of comprehensive solutions that address customer engagement, authentic content creation, and utilization of user-generated content for effective destination branding.

- Focus on Modern Consumers: Emphasizes strategies aligned with modern consumer preferences, including consumption of digital video and social media content, to effectively reach and engage the target audience.

3. Functional Requirements:

- Allow users to register and create profiles with personal information. Provide options to link social media accounts for easy login and content sharing.
- Display comprehensive information about various tourist destinations, including attractions, activities, accommodations, and local culture.
- Enable users to share their travel experiences, reviews, and recommendations for different destinations.
- Facilitate social interactions between users, allowing them to connect, follow, and interact with each other's profiles.
- Utilize user preferences, browsing history, and engagement patterns to offer personalized recommendations for destinations, activities, and accommodations.
- Ensure the website is responsive and optimized for mobile devices to cater to the increasing number of users accessing travel information on smartphones and tablets.

4.Interface Requirements:

- The website should have a clear and intuitive navigation structure, allowing users to easily browse different sections and find relevant information.

- The chatbot interface should support multiple communication channels, such as web, mobile apps, and messaging platforms.
- The website should have an attractive and visually appealing design that reflects the essence of travel and tourism.
- The website should include interactive elements, such as maps, virtual tours, and interactive guides, to engage users and provide an interactive experience.
- The website should include interactive elements, such as maps, virtual tours, and interactive guides, to engage users and provide an interactive experience.
- Social media sharing buttons and links to official social media accounts should be prominently displayed

.5. Performance Requirements

- Page Load Time:

The website should have fast page load times to ensure a smooth and seamless user experience. Pages should load within a maximum of 3 seconds to minimize user frustration and encourage engagement.

- Responsiveness:

The website should be responsive and adapt to different devices and screen sizes, including desktops, laptops, tablets, and mobile phones.
The content and layout should adjust dynamically to provide optimal viewing and interaction experiences across devices.

- Scalability:

The website should be able to handle a significant increase in user traffic and content volume without performance degradation.
The underlying infrastructure and architecture should be scalable to accommodate future growth and increased demand.

- Database Performance:

Database queries and transactions should be optimized to retrieve and update data efficiently.
The website should utilize appropriate indexing and caching techniques to enhance database performance.

- Search Functionality:

The search feature on the website should provide fast and accurate results.

Search queries should return relevant information promptly, even when dealing with a large amount of data.

- Content Delivery:

Images, videos, and other media content should be optimized for fast delivery and streaming. Content should be served from efficient content delivery networks (CDNs) to reduce load times.
Error Handling and Performance Monitoring:

The website should have robust error handling mechanisms in place to gracefully handle errors and prevent disruptions to the user experience.
Performance monitoring tools should be implemented to track and analyze website performance, identify bottlenecks, and optimize performance.

- Browser Compatibility:

The website should be compatible with major web browsers, including Chrome, Firefox, Safari, and Edge.
The user interface and functionality should work consistently across different browsers to provide a seamless experience.

6. Design constraints

- Responsive Design: The website should be designed to provide a consistent and optimal user experience across various devices and screen sizes, including desktop computers, laptops, tablets, and mobile phones.

- Accessibility: The website should adhere to web accessibility standards and guidelines, ensuring that it is accessible to users with disabilities. Consideration should be given to features such as text alternatives for images, keyboard navigation support, and color contrast for readability.

- Branding and Visual Identity: The website design should align with the branding and visual identity of the travel and tourism business or organization. Consistent use of colors, typography, and imagery should reinforce the brand image and create a cohesive visual experience.

- Information Architecture: The website's information architecture should be well-structured and organized, making it easy for users to find relevant information. Clear navigation menus, logical categorization of content, and intuitive labeling should be implemented to enhance usability and user experience.

- Performance Optimization: The website should be optimized for fast loading times and efficient performance. This includes minimizing file sizes, leveraging browser caching, optimizing images, and implementing content delivery networks (CDNs) if necessary.

- Integration with Third-Party Services: If the website requires integration with third-party services such as booking engines, payment gateways, or social media platforms, design constraints should include compatibility and seamless integration with these services.

- Scalability and Future Growth: The website design should be scalable to accommodate future growth and expansion. Consideration should be given to the addition of new features, content updates, and potential increases in user traffic.

- Cross-Browser Compatibility: The website should be compatible with popular web browsers, including Chrome, Firefox, Safari, and Edge, to ensure a consistent experience for users across different browsers and platforms.

- Content Management System (CMS): If the website is built on a CMS platform, the design should be compatible with the chosen CMS, allowing for easy content management, updates, and customization.

- Security and Privacy: The design should incorporate security measures to protect user data, such as SSL encryption, secure login systems, and adherence to data protection regulations.

7. Non Functional Requirements

- Performance: Ensure fast loading times, quick response to user interactions, and the ability to handle concurrent traffic.

- Usability and User Experience (UX): Provide an intuitive interface, clear content presentation, and mobile responsiveness.

- Reliability and Availability: Minimize downtime, implement backup and recovery mechanisms.
- Security: Protect user data, ensure secure authentication, conduct regular security audits.
- Scalability: Design a scalable architecture to accommodate increasing demand and content volume.

- Compatibility: Support various browsers, operating systems, and devices, and consider accessibility guidelines.

- Localization and Multilingual Support: Provide multiple language options and culturally appropriate content.

- Analytics and Reporting: Track user behavior, generate insights, and support data-driven decision-making.

8. Preliminary Schedule and Budget

Requirements Gathering and Analysis:

Duration: 2 weeks
Design and User Interface Development:

Duration: 4 weeks
Content Development and Integration:

Duration: 3 weeks
Website Development and Functionality Implementation:

Duration: 6 weeks
Testing and Quality Assurance:

Duration: 2 weeks
Deployment and Launch:

Duration: 1 week
Post-Launch Monitoring and Maintenance:

Ongoing
Budget:

Website Development and Design:

Design and UI Development: $10,000
Front-end and Back-end Development: $25,000
Content Creation and Integration:

Content Writing and Copywriting: $5,000
Image and Media Integration: $3,000
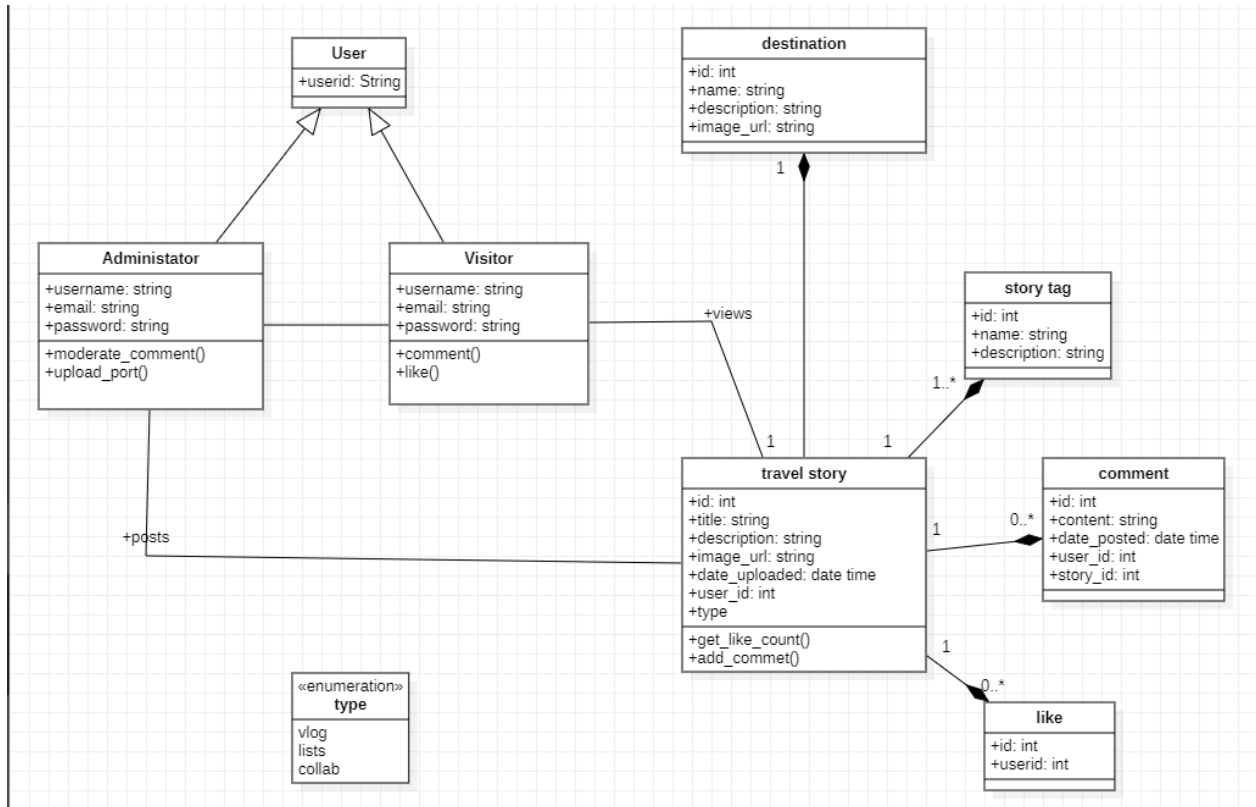Testing and Quality Assurance:

Testing and Bug Fixing: $4,000
Deployment and Launch:

Web Hosting and Domain Setup: $2,000
Post-Launch Monitoring and Maintenance:

Ongoing Website Maintenance and Updates: $500/month

Chapter 3: Class Modeling

- Travel Story:
- Represents an individual story posted on the website.
- Allows users to create, share, like, and comment on stories.

- Administrator:
- Manages the website and has privileges to add destinations and delete stories.
- Plays a crucial role in maintaining content quality and user experience.

- User:
- Registered users of the website.
- Can create stories, like and comment on stories posted by others.

- Visitor:
- Non-registered users who can explore the website but have limited functionalities.
- Serves as a starting point for new users to register and access additional features.

- Destination:
- Represents a specific travel destination featured on the website.
- Provides information about travel spots, attractions, and local culture.

- Like:
- Represents the act of expressing appreciation for a story.
- Allows users to show their engagement and support.

- Story Tag:
- Represents tags associated with stories.
- Helps categorize and organize stories based on themes or topics.

- Comment:
- Represents user comments on stories.
- Facilitates interaction and conversation among users.

Chapter 4: State Modeling

User:
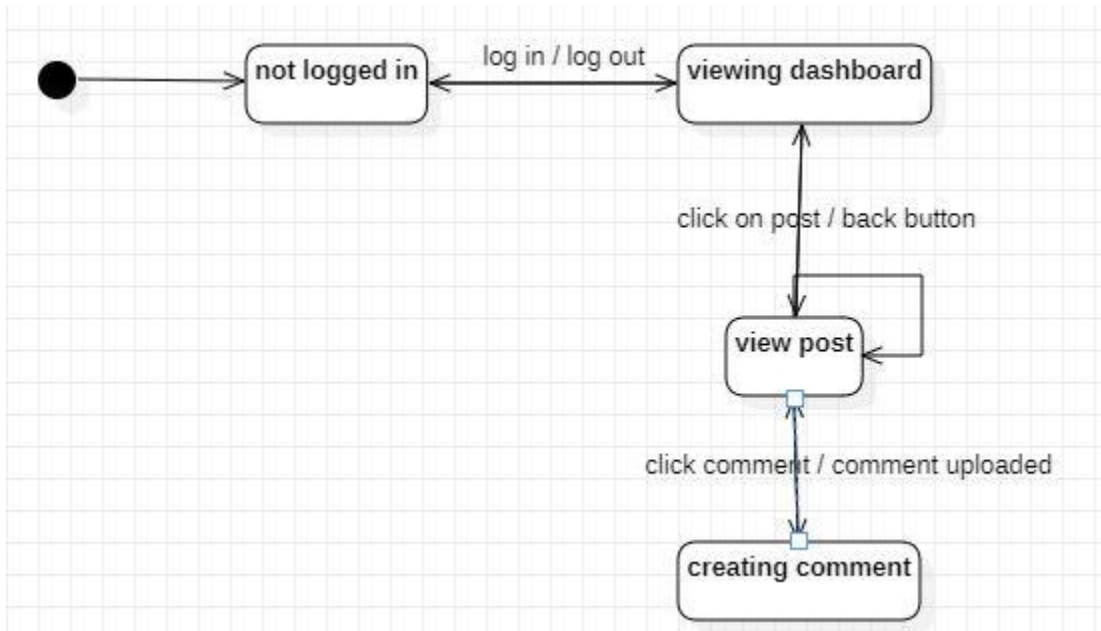
Admin:
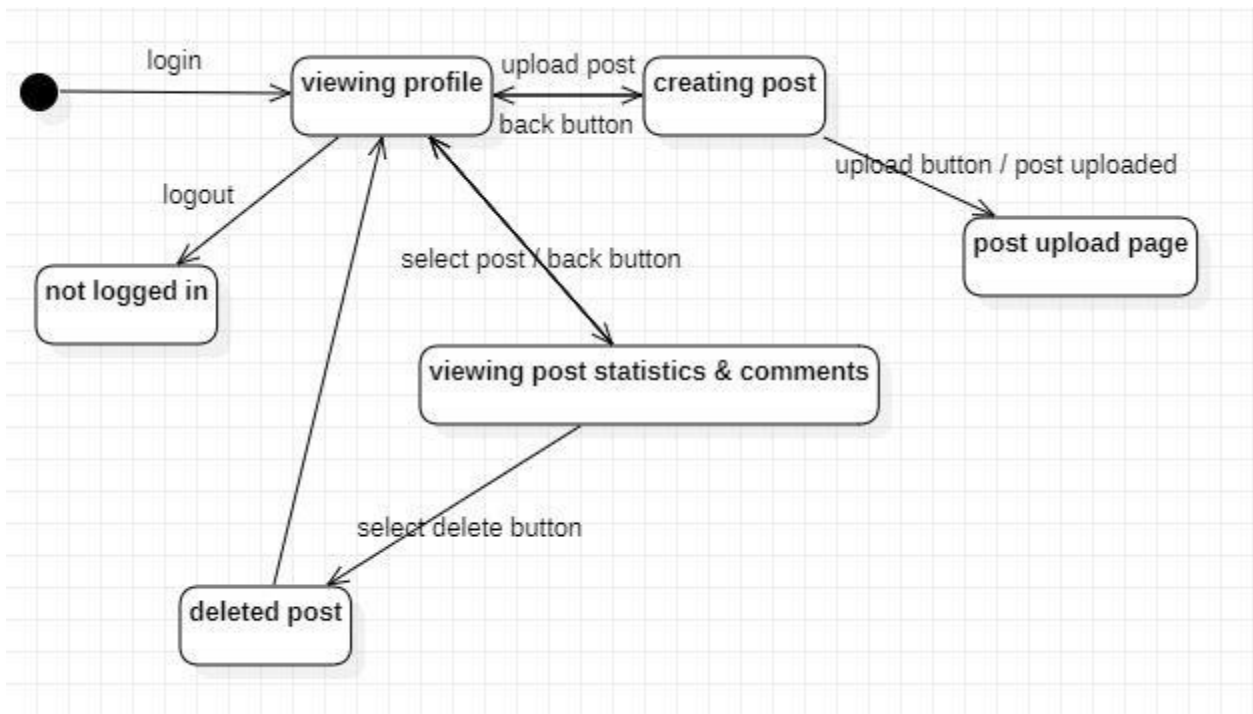
States :

- not logged in:
- This state signifies the state the website in before being logged in.

- viewing dashboard:
- This state is entered with the trigger of logging in and presents the dashboard as the first page that is being viewed.

- view post:
- Once you click on the post, it enters the viewing page for the post which displays everything detailing the post that was uploaded by the admin.

- creating comment:
- Once the button to make a comment is pressed, the section to enter the comment is pops up for the user to type it in.

- viewing profile:
- Once the admin logs in, the viewing profile page is opened and has on display the details of the admin.

- creating post:
- On clicking the upload post button, the page to enable the admin to enter details of the post and upload pictures if any is displayed.

- not logged in:
- Once the admin logs out, the logged out state is entered.

- post upload page:
- Once the post has been typed in, after clicking the upload post button, the post is uploaded.

# Chapter 5: Interaction Modeling

5.1 Activity Diagram
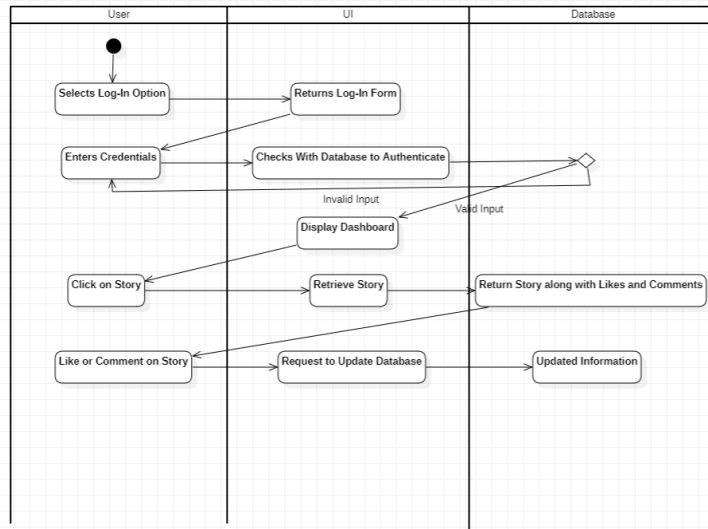
- User:
- The user initiates the activity by browsing stories on the website.
- Then, the user selects a specific story to view and interact with.
- The user can perform actions like liking, commenting, or sharing the story.
- The user may also choose to explore related stories.

- UI:
- The UI (User Interface) receives the user's request to browse stories and displays the available stories.
- When the user selects a story, the UI retrieves the story details from the database and presents it to the user for viewing.
- The UI handles the user's interactions with the story, such as processing likes, comments, and sharing.
- If the user chooses to explore related stories, the UI requests the database for related story information.

- Database:
- The database stores the stories and related information.
- When the UI requests to retrieve stories, the database retrieves the relevant story data and sends it back to the UI.
- Upon receiving the request for a specific story, the database retrieves the corresponding story details and provides them to the UI.

- The database also tracks user engagement by recording likes, comments, and other interaction metrics.

Overall, the activity diagram illustrates the flow of activities and interactions between the User, UI, and Database. The user initiates actions, the UI handles the presentation and user interactions, and the database stores and retrieves the necessary data to fulfill user requests.

5.2 UseCase
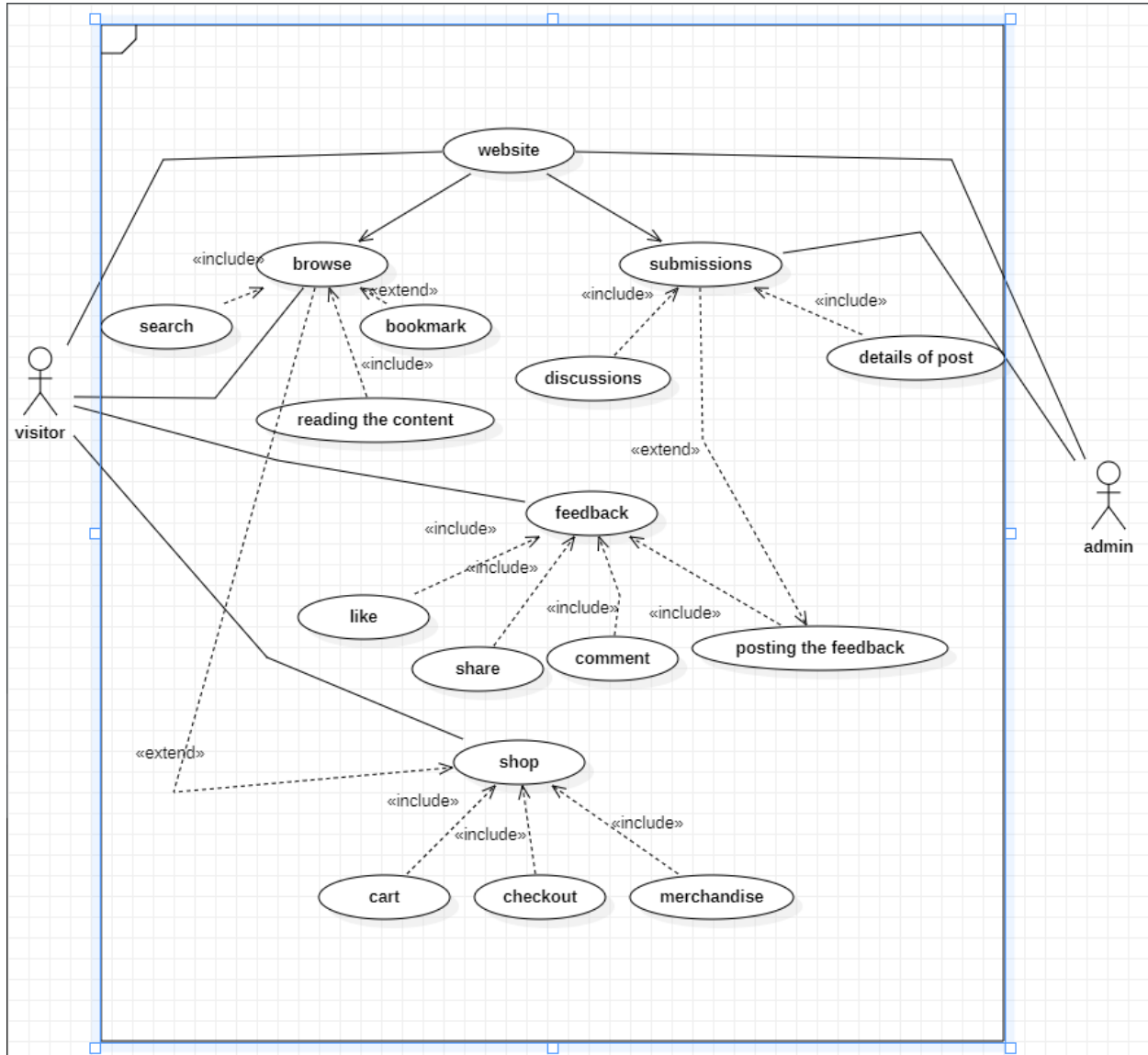
Actors:

- Admin:

The Admin is responsible for managing the website and its content. They have the authority to add, modify, or delete website submissions, discussions, and collaboration opportunities.

The Admin ensures the quality and relevance of the content on the website by reviewing and approving user-submitted submissions, discussions, and collaboration proposals.

- visitor:

The visitor interacts with the website as a visitor or registered member. They can browse through various pages, such as destination guides, travel stories, and articles, to gather information and inspiration for their travels.

Visitors have the option to bookmark interesting pages to save them for future reference or to create a personalized travel itinerary. This feature allows users to easily access their favorite content at a later time.

Use Cases:

Browse:
The Browse use case enables users to explore different sections and pages of the website. Users can navigate through destination guides, attractions, travel stories, and other relevant content to gain insights and ideas for their travel plans.
By browsing the website, users can discover new destinations, learn about local cultures and customs, and gather information on various tourist spots and activities.

Bookmark:
The Bookmark use case allows users to save specific pages or content items for future reference. By bookmarking pages, users can create a collection of their preferred travel destinations, articles, or travel tips, making it convenient to access them later without the need for extensive searching. Users can organize their bookmarks into categories, such as "Bucket List," "Beach Destinations," or "Adventure Travel," to facilitate easy retrieval of relevant information.

Search:
The Search use case enables users to find specific information or content within the website. Users can enter keywords, such as a destination name, activity, or topic of interest, to retrieve relevant search results.
By providing a search functionality, the website offers users a quick and efficient way to locate specific travel destinations, articles, or discussions based on their preferences and interests.

Discussion:
The Discussion use case allows users to engage in conversations, ask questions, share experiences, and seek advice from other users or experts. Users can participate in existing discussions or initiate new ones related to travel destinations, accommodations, itineraries, and more.
Through discussions, users can gain valuable insights, exchange travel recommendations, and connect with like-minded individuals who share a passion for travel.

Feedback:
The Feedback use case allows users to provide feedback, suggestions, or report issues regarding the website's functionality, content, or user experience. Users can share their opinions to help improve the website's features, usability, or overall quality.
By actively seeking and considering user feedback, the website can continually enhance its services, address any concerns, and tailor its offerings to better meet the needs and expectations of its users.

5.3 Sequence Diagram
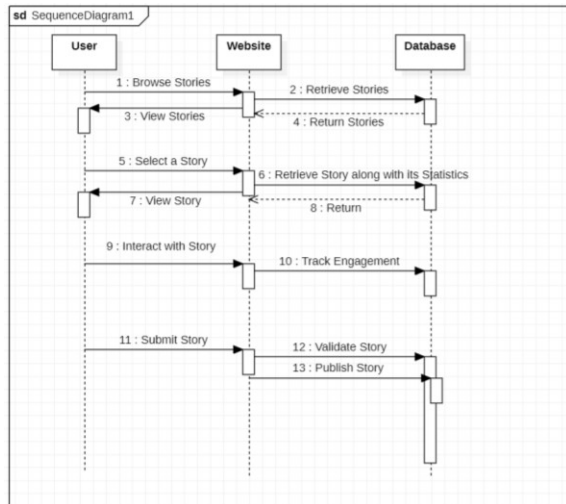
User initiates the interaction by sending a "browse stories" message to the Website. This indicates the user's intention to explore the available stories on the website.

The Website receives the "browse stories" message and forwards a "retrieve stories" message to the Database . This request prompts the database to fetch the relevant stories from its storage and return them.

User selects a specific story by sending a "select story" message to the Website. This indicates the user's choice of a particular story to view.

The Website receives the "select story" message and sends a "retrieve story" message to the Database to fetch the details of the selected story and the database returns it.

The Website then sends the retrieved story information back to the User as a "view story" message. The user can now see the content of the selected story on the website.

User interacts with the story. This could include actions such as liking, commenting, or sharing the story. The Website receives the "interact with story" message and updates the engagement metrics by sending a "track engagement" message to the Database. This allows the system to monitor and record user engagement with the story.

Chapter 6: UI Design with Screenshots
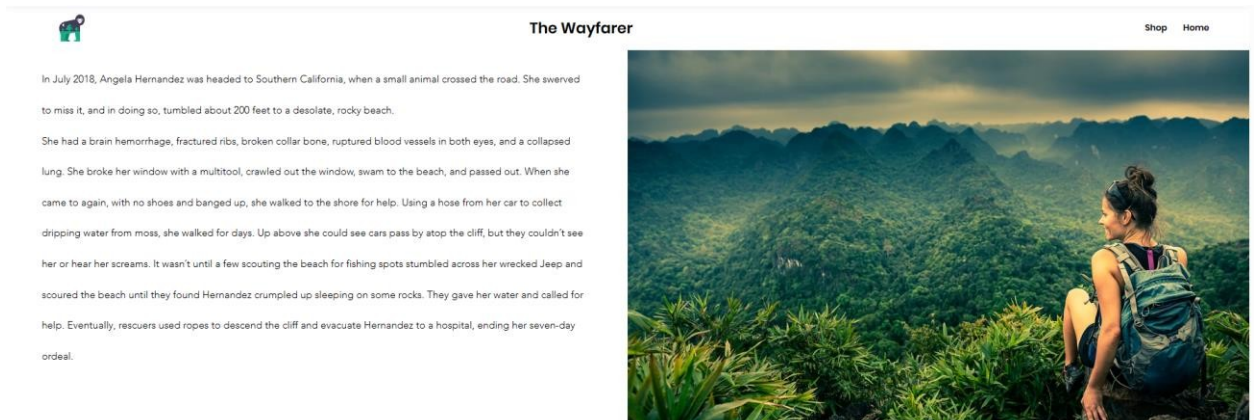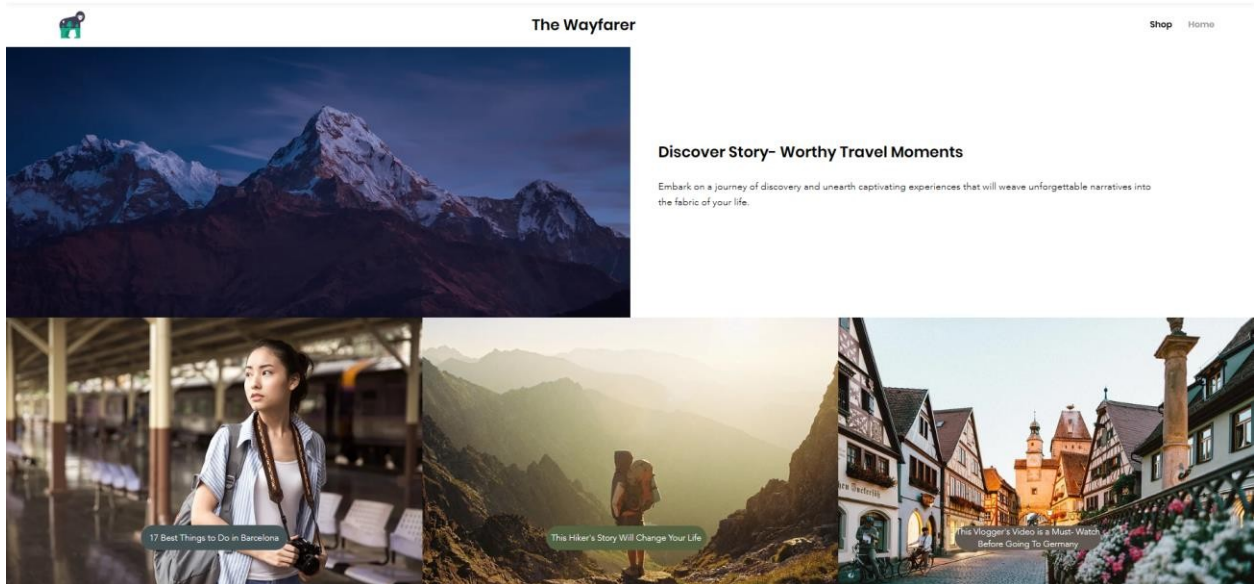
Chapter 7: Conclusion

In conclusion, the evolving digital landscape has necessitated a shift in destination branding strategies for tourist spots. Traditional marketing approaches alone are no longer sufficient to capture the attention and interest of modern consumers. By embracing innovative strategies that prioritize customer engagement, collaboration, and user-generated content, destinations can create meaningful connections with their audience and showcase the unique experiences they offer.

It is through these efforts that tourist destinations can effectively elevate their popularity and appeal in a highly competitive market. By adapting to the changing consumer preferences and harnessing the potential of digital media, destinations can establish a dynamic and effective branding approach that resonates with the modern traveler and sets them apart in the tourism industry.

Chapter 8: References and Annexures

1.International Organization of Supreme Audit Institutions (INTOSAI): www.intosai.org

 2.Government Accountability Office (GAO): www.gao.gov

3.International Public Sector Accounting Standards Board (IPSASB): www.ipsasb.org

4.The Chartered Institute of Public Finance and Accountancy (CIPFA):: www.cipfa.org

5.National Association of State Chief Information Officers (NASCIO): www.nascio.org

6. Government Asset Management Guidance (GAMG) :
www.treasury.govt.nz/information- and-services/property-and-procurement/guidance-and-templates/government-asset- management-guidance

7.Government Finance Officers Association (GFOA): www.gfoa.org