“Trip Advisor with AI Module"

A Major Project Report

Submitted in fulfilment of the requirements for
the award of the degree of

MASTER OF SCIENCE

In

COMPUTER SCIENCE

Submitted by

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Under the Guidance of

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SEPTEMBER-2023

Declaration

I hereby declare that the project entitled ***Trip Advisor with AI Module*** submitted for the M.Sc. (CS) degree is my original work conducted under the guidance of ***Dr. Nishtha Kesswani***

I further declare that to the best of my knowledge the project does not contain any part of any work that has been submitted for the award of any degree either in this university or in any other university without proper citation.

Name: **Ganesh Saini**

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Dr. Nishtha Kesswani

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Abstract

TripnCount is a revolutionary travel platform that offers personalized recommendations, automated expense monitoring, integrated shopping, checklists, streamlined bookings, weather updates, and language translation. It addresses limitations of existing systems to enhance the overall travel experience. With AI-powered recommendations based on user preferences and budgets, TripnCount provides tailored suggestions. The automated expense management system categorizes expenses in real-time and generates detailed reports. Integration with platforms like Amazon Shopping App enables convenient purchases through TripnCount. The checklist feature helps users create customized packing lists to ensure nothing essential is forgotten. Seamless integration with various reserving services simplifies reservations. Real-time weather updates assist in travel planning decisions while the language translation feature breaks down communication barriers for smooth interactions with locals. TripnCount revolutionizes travel planning by offering personalized experiences and eradicating common challenges faced by travellers today.

Acknowledgement

I would like to express my deepest gratitude to two remarkable individuals who have played a pivotal role in the successful completion of this project.

Firstly, I am profoundly thankful to ***Dr. Nishtha Kesswani*** for their unwavering support, invaluable guidance, and constant motivation throughout this journey. Their expertise and passion for the subject matter have played a pivotal role in shaping my understanding and pushing me beyond my limits. It is through their encouragement that I found the strength to work hard and strive for excellence.

Secondly, I am immensely grateful to ***Mr. RJ Raawat***, Founder Director and Sr. Software Engineer at WENGS Solutions LLP, for his exceptional contribution towards turning this project into a reality. His valuable insights, technical expertise, and dedication were crucial elements in bringing our ideas to life. Without his assistance, it would not have been possible to implement this real-life project successfully.

I also extend my gratitude to the team members at WENGS for their support and collaboration throughout the project. Additionally, I want to thank my family, friends, and colleagues for their understanding and encouragement as their collective efforts greatly contributed to achieving the objectives of this project. While I take full responsibility for any errors or omissions that may have occurred during the course of this project's execution, I am grateful for the opportunity it provided me with learnings, growth, and self-improvement.

Ganesh Saini

M.Sc. 4th Sem

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21 AUG 2023

From
RJ Raawat
Managing Partner
WENGS Solutions LLP

To
Whomsoever it may concern

I'm writing to acknowledge **Ganesh Saini**, who has been with us since 17th April 2023 to 19th August 2023, contributing to Web Development and AI projects. His work on "**TripnCount**" and "**The Samajh**" has been satisfactory, showcasing his strong expertise and commitment.

Ganesh's dedication, attention to detail, and collaborative spirit have positively impacted our projects. We appreciate his contributions and look forward to his continued efforts.

Best regards,

Managing Partner
WENGS SOLUTIONS LLP

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Chapter 1

Introduction

Traveling is a beautiful experience that gives us the chance to discover new locations, become immersed in other cultures, and make lifelong memories. Traveling brings up a world of opportunities, whether it is a quick weekend break or a lengthy foreign journey. But organizing a trip can be really difficult. There are many things to think about, from selecting the finest places to go and booking hotels to planning transportation and budgeting. TripnCount enters the picture here.

The focus of this project is on creating the TripnCount website, which attempts to overcome the difficulties that travellers encounter when looking for the best destinations to visit and controlling their trip expenses. The main objective is to offer a comprehensive platform with a range of travel-related services, removing the need for consumers to visit other websites.

1.1 Background and Motivation

In recent years, traveling has grown in popularity as more and more individuals desire to discover new places and encounter diverse cultures. However, many travellers find the process of trip planning to be daunting. They frequently have to spend hours doing extensive research on a variety of topics, including travel alternatives, lodging, transportation, and financial planning. Additionally, a variety of websites and online platforms provide access to a wealth of travel-related information. Users find it challenging to compile all the necessary information in one location without having to visit several websites as a result.

The purpose of establishing TripnCount was to establish a consolidated platform that facilitated users' travel planning. TripnCount strives to make the entire trip process simpler by providing a wide range of features related to location suggestions and spending management. Travellers will not have to spend countless hours looking up suitable destinations or comparing costs on various platforms thanks to TripnCount. Along with in-depth information about well-known tourist destinations throughout the world, the website will also feature user reviews and ratings.

TripnCount also aims to help travellers manage their budgets wisely while traveling by integrating expense management features into its platform. Users will be able to quickly keep track of their spending thanks to this function, which also offers information on areas where money can be saved. TripnCount's overall objective is to make travel planning simpler while also enhancing the overall experience by lowering the anxiety and uncertainty involved in arranging a trip.

1.2 Problem Definition

1.2.1 Finding the Best Places to Visit on a Trip Can Be Difficult

The onerous chore of choosing destinations for their journeys is one of the frequent difficulties faced by travellers. With so many possibilities accessible throughout the world, it might be difficult to choose the best places based on individual preferences including spending limits, favourite activities or attractions, and particular hobbies.

1.2.2 Obstacles to Efficient Travel Expense Management

Managing one's costs effectively while traveling is a key challenge that many travellers encounter. Manually recording expenses can be time-consuming and error-prone. It might also be difficult to keep track of various expenses, such as those for lodging, transportation, meals, and other incidental expenses.

1.2.3 The hassle of having to visit multiple websites to find various travel-related features

When planning their trips, travellers frequently discover themselves browsing through a variety of websites - one for location recommendations, another for reserving lodgings, and still another for researching nearby attractions or activities - which results in a fragmented user experience. In addition to wasting important time, this fragmentation makes it difficult to compare solutions across several platforms.

1.2.4 Few Free Features Are Available; Most Require Additional Payment

Many currently available travel-related platforms provide basic functionality for free but charge more for more in-depth capabilities (premium subscriptions or paid upgrades). Users are unable to completely explore all of the resources without making an initial cash commitment due to this restriction.

1.3 Project Specifications

TripnCount seeks to offer an integrated solution that combines destination suggestion services with spending management capabilities under one practical platform in response to these issues that travellers today are facing.

A complete travel website like TripnCount provides consumers with a variety of features and functionality to improve their vacation experience. The initiative intends to overcome the difficulties that tourists encounter when looking for the top destinations to visit and efficiently handling their travel expenses.

1.3.1 AI-powered Recommendation System

The AI-driven recommendation mechanism on TripnCount is one of its most notable features. The site offers personalized trip recommendations based on user preferences including spending limits, favourite activities or attractions, and special interests by utilizing cutting-edge algorithms, machine learning techniques, and data analysis. Travellers can use this function to find new and intriguing places that meet their specific needs.

1.3.2 Automated Expense Management System

TripnCount has an automated expense management solution to make it easier to track expenses when traveling. Through a smartphone app or web interface, users can effortlessly enter their expenses into the platform. The technology then automatically classifies expenses (such as travel and lodging charges) so that users can easily create thorough expense reports and track their spending patterns in real-time.

1.3.3 Booking Service Integration with Amazon Shopping App

TripnCount connects with well-known online booking platforms like the Amazon shopping app in order to offer users a seamless booking experience. Users can quickly book lodging (hotels/hostels), flights, and vehicle rentals with this interface without having to visit various websites separately.

1.3.4 Feature for Language Translation

TripnCount includes a language translation tool because it is aware that speaking a foreign language can be a big impediment. This feature uses machine translation technology to enable users to translate text in real-time from one language to another, making it easier for them to understand critical information published in foreign languages or converse more effectively with locals.

1.3.5 User Data Protection Privacy Measures

TripnCount values your privacy. To prevent unwanted access or breaches, the site employs strong security measures, such as encryption methods. To maintain data integrity and confidentiality, user information including personal information, payment information, and travel history is safeguarded.

TripnCount aims to offer a comprehensive and user-friendly platform with these key features that streamlines the trip planning process, effectively manages expenses, offers personalized destination recommendations, makes it easier to integrate booking services, offers language translation capabilities, and prioritizes user privacy and data protection.

1.4 Hardware Specifications

TripnCount was created on computers made by Lenovo, the IdeaPad line. These laptops were equipped with an Intel i5 (12th generation) processor and 8 GB of RAM to effectively handle AI algorithms and data analytic duties. A 256 GB SSD was used for quicker read/write speeds and a 1 TB HDD was used to store bigger datasets and multimedia files. The development of TripnCount web applications, data processing, training of AI algorithms, and testing phases were all made possible by these hardware requirements.

1.5 Software Specifications

An overview of the technology and techniques used to construct TripnCount may be found in the section on the software specification.

1.5.1 Visual Studio

For the duration of the project, Visual Studio was used as the primary Integrated Development Environment (IDE) for creating, compiling, and debugging code. This complete IDE provides in-depth support for a wide range of applications, including desktop, mobile, web services, and ASP.NET web applications. Visual Studio helped the creation of dynamic websites with interactive user interfaces and seamless functionality by enabling the combination of HTML, CSS, JavaScript, and C#. Additionally, the IDE offered pre-built components and productivity aids that shortened the manual coding process and sped up development time.

Visual Studio prefers strong authentication and authorization systems when it comes to security considerations. This guarantees that TripnCount's website has the appropriate security safeguards in place to guard against hacking or unauthorized access to user data.

1.5.2 MS SQL

We used the dependable Relational Database Management System (RDBMS) Microsoft SQL Server (MS SQL) for effective data management on the TripnCount website.MS SQL was vital in keeping all pertinent data pertaining to users' travel choices, booking details, expense reports, and other important details.

We could efficiently handle a variety of tasks, including data retrieval, processing, and querying, by utilizing MS SQL's capabilities. The database system was able to maintain high performance levels while keeping data integrity because to advanced features including indexing for improved search efficiency, transaction support that ensured ACID qualities, and concurrency management techniques.

1.5.3 C#

C# is a versatile and strong object-oriented programming language. It provides a secure and efficient environment for constructing strong applications. With its broad framework support,

including ASP.NET for web development, C# allows for the building of dynamic and interactive web pages. It smoothly interacts with MS SQL Server with ADO.NET, enabling convenient communication with the database system.

1.5.4 JavaScript

JavaScript is a client-side programming language that increases user experience on webpages. It offers interaction and dynamic capabilities directly within web browsers. JavaScript supports activities like as form validation, real-time updating of content without page reloads (Ajax), event handling, DOM manipulation, animations/effects creation, etc. By employing frameworks like React.js or AngularJS along with libraries like jQuery or Axios.js, JavaScript speeds front-end development processes while assuring cross-browser compatibility.

1.5.5 SSMS (SQL Server Management Studio)

During the creation of TripnCount, Microsoft SQL Server databases were managed and overseen using the graphical user interface known as SQL Server Management Studio (SSMS). For simple navigation, it offered a handy tree-like view of database objects, including tables and stored procedures. Developers may write T-SQL queries with syntax highlighting and query execution plan visualization using the Query Editor. Additionally, SSMS provided data import/export wizards, performance monitoring & tuning features, security setup options, and scripting tools for creating scripts.

When working with SQL Server databases in the TripnCount project, SSMS acted as a comprehensive toolset that made database management duties easier by giving developers and administrators a user-friendly interface.

1.5.6 API (Application Programming Interface)

An application programming interface (API) key is a special identification that is used to authenticate and allow access to the API. It serves as a safe token that developers and consumers can use to communicate with the API. The key makes sure that only approved users or programs may access the data or services offered by the API, safeguarding sensitive data and keeping control over usage restrictions.

We may use ChatGPT, a potent language model, into our product Tripncount thanks to the OpenAI GPT API key. We may send requests to the GPT API using this API key, and the model will respond with results. This makes it possible to have natural language dialogues with users and improves how our program interacts with them. Since our API key gives us access to OpenAI's resources so that we may use ChatGPT in our project, we should make sure to keep it safe.

Chapter 2

Literature Survey

2.1 Existing System

The purpose of the literature survey section is to give a summary of the current travel planning websites and apps that are available. It entails investigating and evaluating various systems to identify their advantages and disadvantages. In this stage, we investigate various websites that provide services like travel suggestions, expense tracking, reservation services, and language translation skills. We can learn more about the functions, user experiences, constraints, and areas for improvement of these existing systems by closely examining them.

We might come across well-known vacation booking websites like TripAdvisor or Expedia, for instance. These online resources offer in-depth destination information, reviews from other travellers, and choices for making reservations for lodging or activities. However, they can be missing tailored recommendation systems or have restricted capability for spending tracking.

Additionally, we might come across mobile applications like Trail Wallet or Spendee that are made exclusively for managing travel expenses. These apps concentrate on making it easier for users to keep track of their spending effectively, but they might not provide other features like platform-wide destination recommendations. We can find market gaps and chances to develop TripnCount with special features that solve those restrictions by examining a variety of existing systems.

2.2 Proposed System

The distinctive aspects of TripnCount that seek to do away with the drawbacks of the current systems are described in the proposed system subsection:

1. **AI-powered Recommendation System:** Using WhatsApp's chat-based GPT, TripnCount adds a cutting-edge AI-powered recommendation system. It offers individualized travel advice based on user choices, financial limitations, and particular interests.

2. **Automated Expense Management System:** For simple expense tracking, TripnCount incorporates an automated expense management system. It automatically classifies expenditures, provides real-time spending updates, and produces thorough reports.

3. **Integration with the Amazon Shopping App:** Users can quickly buy travel necessities and other useful things through the TripnCount platform thanks to a smooth integration with the well-known Amazon shopping app.

4. **Checklist Feature:** TripnCount has a checklist feature that enables users to make personalized lists for travel essentials, packing essentials, and other necessary goods. Users can rely on this function to make sure they do not overlook anything important while traveling.

5. **Integration with Booking Services:** TripnCount offers customers direct links to book flights, trains, buses, and other forms of transportation through integrations with well-known transportation service providers. Users can easily access these connections from within the platform to make direct bookings with reputable providers. Through this connectivity, the booking procedure is streamlined, giving customers a quick and easy trip.

6. **Language Translation Function:** TripnCount combines the potent language translation functionality of Google Translate, enabling users to effortlessly get around language obstacles when traveling. A seamless travel experience is provided by the website's integration of the Google Translate iframe for real-time text translation between languages. This improves interaction with locals.

7. **Weather Forecasting Feature:** TripnCount's weather forecasting feature uses real-time data from ChatGPT to present up-to-date weather information about locations. Based on reliable and fast weather reports from TripnCount, users can plan their activities and make knowledgeable decisions when traveling.

2.3 Feasibility Study

The technological, financial, operational, and legal implications of executing this web-based trip planning project are examined in the TripnCount feasibility study.

2.3.1 Technical Feasibility

Successful implementation is possible given the availability of the necessary technology, resources, and knowledge.

- The software development frameworks, database management systems, data analysis tools, and AI algorithms required to build TripnCount are available.
- Technically speaking, integration with well-known services like the Amazon shopping app and Google Translate is possible.

2.3.2 Economic Viability

The financial consequences of the project, including the costs of development and prospective sources of income, are examined.

- Business models that could be used to make money from TripnCount are taken into consideration.
- To ensure financial feasibility, cost-benefit analyses and return on investment (ROI) assessments are performed.

2.3.3 Operational Feasibility

Integration into current workflows for travel planning is assessed to see if it satisfies user requirements and expectations.

- To improve operational efficiency, seamless integration with reservation systems or other travel-related platforms is being investigated.
- User input and testing aid in ensuring applicability in real-world situations.

2.3.4 Legal Feasibility

To safeguard user information within TripnCount, compliance requirements connected to data privacy laws are met.

- To ensure user information security, compliance with data privacy laws is prioritized.
- User consent and transparency in data usage are essential to meet legal requirements.
- Measures are taken to protect user data from unauthorized access or misuse.
- The project aims to comply with relevant regulations such as GDPR or CCPA regarding the collection, storage, and processing of personal information.

In order to successfully apply the platform in the travel sector, TripnCount wants to ensure its applicability, viability, and compliance by completing a thorough feasibility assessment across these dimensions – technological, economic, operational, and legal.

Chapter 3

System Analysis & Design

The TripnCount project employs a methodical approach to system research and design with the goal of addressing travellers concerns and offering them an effective technological solution.

3.1 Requirement Specification:

To create a thorough list of requirements for TripnCount, the team conducts an analysis of the demands and challenges faced by travellers during the requirement definition phase. These specifications cover both functional and non-functional criteria, guaranteeing that the end result satisfies all parties. Requirements for compliance or regulation are also taken into account.

3.1.1 Disadvantages of the Existing system:

The existing systems in travel planning often rely on manual methods, which can be time-consuming and require significant human effort from users. This poses limitations such as potential errors in tracking itineraries or inefficient management for large-scale trips.

3.1.2 Characteristics of the Proposed system:

- **User-Friendliness**: The TripnCount platform has been developed with an intuitive user interface that is simple to use.
- **Efficiency:** For increased efficiency, the system optimizes resource use and reduces power consumption.
- **Scalability:** TripnCount is designed to manage a huge volume of data effectively while handling a big number of users.
- **Less technological Knowledge Needed:** The platform is created to be usable even by users with less technological knowledge and requires only a small amount of training.

TripnCount strives to deliver an intuitive, effective, scalable, and user-friendly travel planning solution that satisfies user expectations while overcoming restrictions seen in conventional approaches by following to these principles during system analysis and design.

3.1.3 Functional Requirement

TripnCount should be able to carry out the following precise operations or functionalities, according to the functional requirements:

1. **User registration:** Users should be able to create an account on TripnCount.
2. **Destination recommendations:** TripnCount ought to offer tailored travel advice based on user interests.
3. **Expense tracking:** The system must enable users to keep track of their out-of-pocket costs.
4. **Integration of booking services:** The platform should allow users to make reservations for flights, rental cars, train and other services.
5. **Language translation feature:** Enable text translation between languages in real-time.

3.1.4 Non-Functional Requirement

In order to successfully implement the trip project, non-functional requirements must provide security, stability, scalability, usability, performance, compatibility, accessibility, and maintainability.

1. **Security:** The system should safeguard user data from illegal access and misuse, ensuring its security.
2. **Reliability:** The system must be dependable and always accessible to users, with little downtime or interruption.
3. **Scalability:** The system must be able to accommodate growing user and data loads without sacrificing functionality or performance.
4. **Usability:** With minimum training and clear instructions, the system should be simple to use and intuitive.
5. **Performance:** The system must operate effectively, with quick response times and few lags.
6. **Compatibility:** The system needs to work with a variety of hardware and software environments, including diverse devices and operating systems.
7. **Accessibility**: By allowing for other input methods or screen readers, the system should be usable by people with disabilities.
8. **Maintainability:** The system should be simple to upgrade and maintain, with help from the vendor or development team and comprehensive documentation.

3.2 Flowcharts / DFDs / ERDs

3.2.1 Flowchart

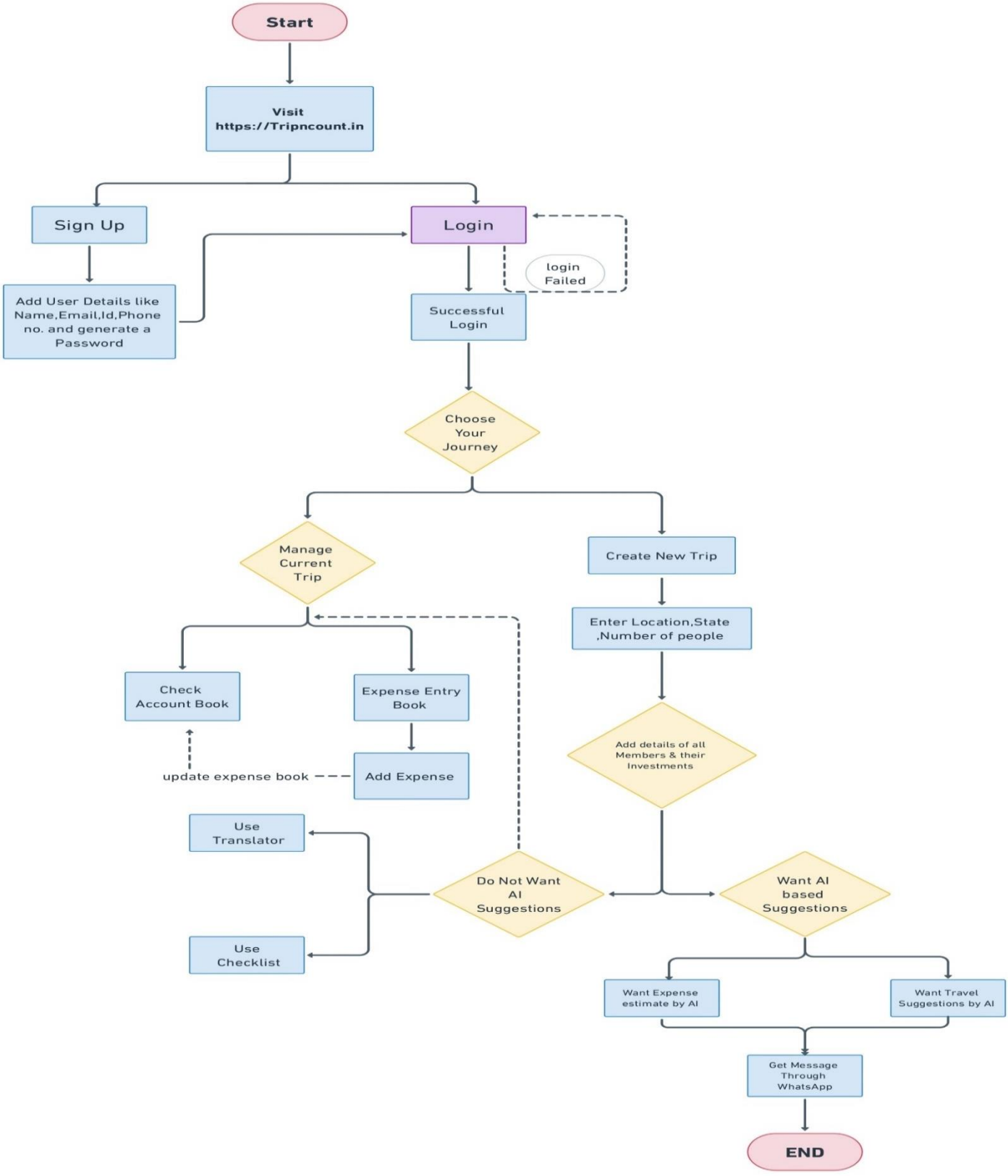


Fig 3.1: Flowchart

3.2.2 Data Flow Diagram (DFD)

A Data Flow Diagram (DFD) is a graphical representation of how data flows within a system. It provides an overview of the inputs, outputs, processes, and interconnections involved in a system or process. DFDs are widely used in software development to analyze and design information systems.

DFDs are usually created at different levels to depict various levels of abstraction. The three commonly used levels are:

1. Level 0 DFD: Also known as the Context Diagram, it represents the entire system as a single process with external entities that interact with it through data flows.

2. Level 1 DFD: This level breaks down the Level 0 processes into more detailed subprocesses. It provides an expanded view by decomposing higher-level processes into smaller functional units.

3. Level 2 DFD: Further decomposition occurs at this level by breaking down Level 1 subprocesses into even more detailed subprocesses if needed.

Each subsequent level adds more detail and granularity to help understand the flow of data within the system.

To create an effective DFD, certain components need to be considered:

1. External Entities: These represent sources or destinations outside the scope of the system being modelled, such as users or other systems interacting with it.

2. Processes: Processes transform input data flows into output data flows through some actions or calculations performed on them.

3. Data Flows: These represent the movement of data between external entities, processes, and storage locations within the system.

4. Data Stores: Data stores symbolize persistent storage locations where data can be stored for future use.

5. Annotations/Labels: To provide additional information about elements in a diagram like names/nouns describing each entity/process/data flow/store.

By considering these components and their relationships accurately in each level of DFD, a comprehensive representation of the system's data flow can be achieved.

0 level DFD

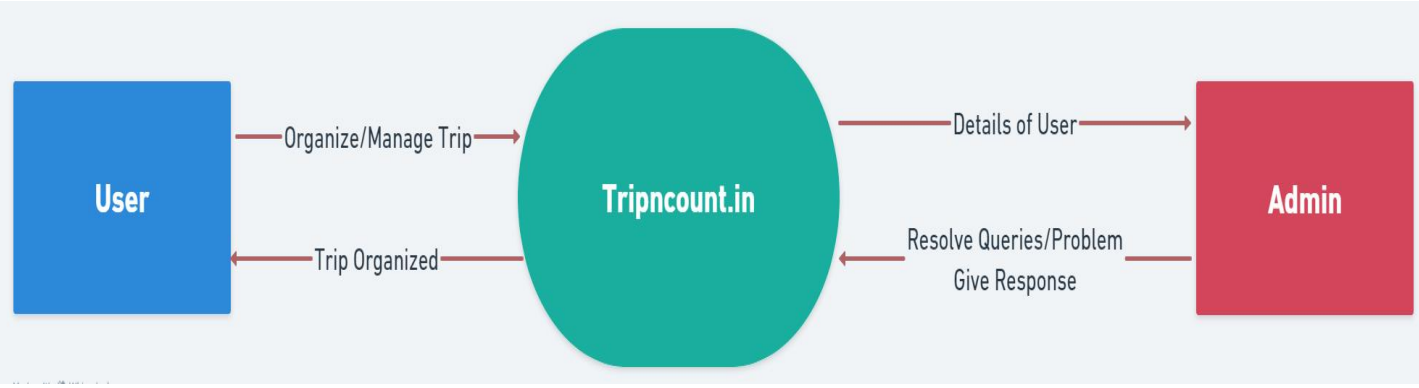


Fig 3.2: 0 Level DFD

1 level DFD

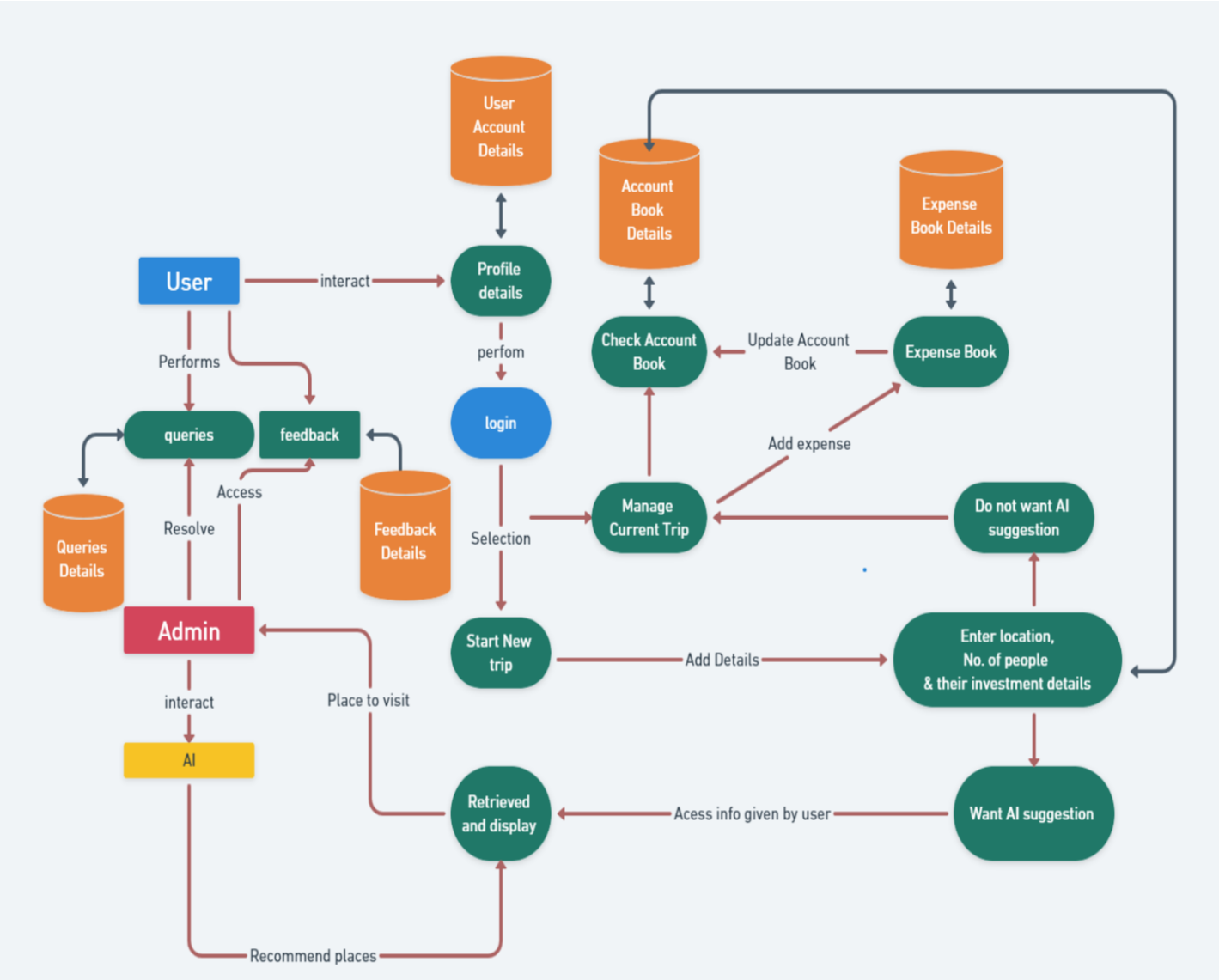


Fig 3.3: 1 Level DFD

2 level DFD

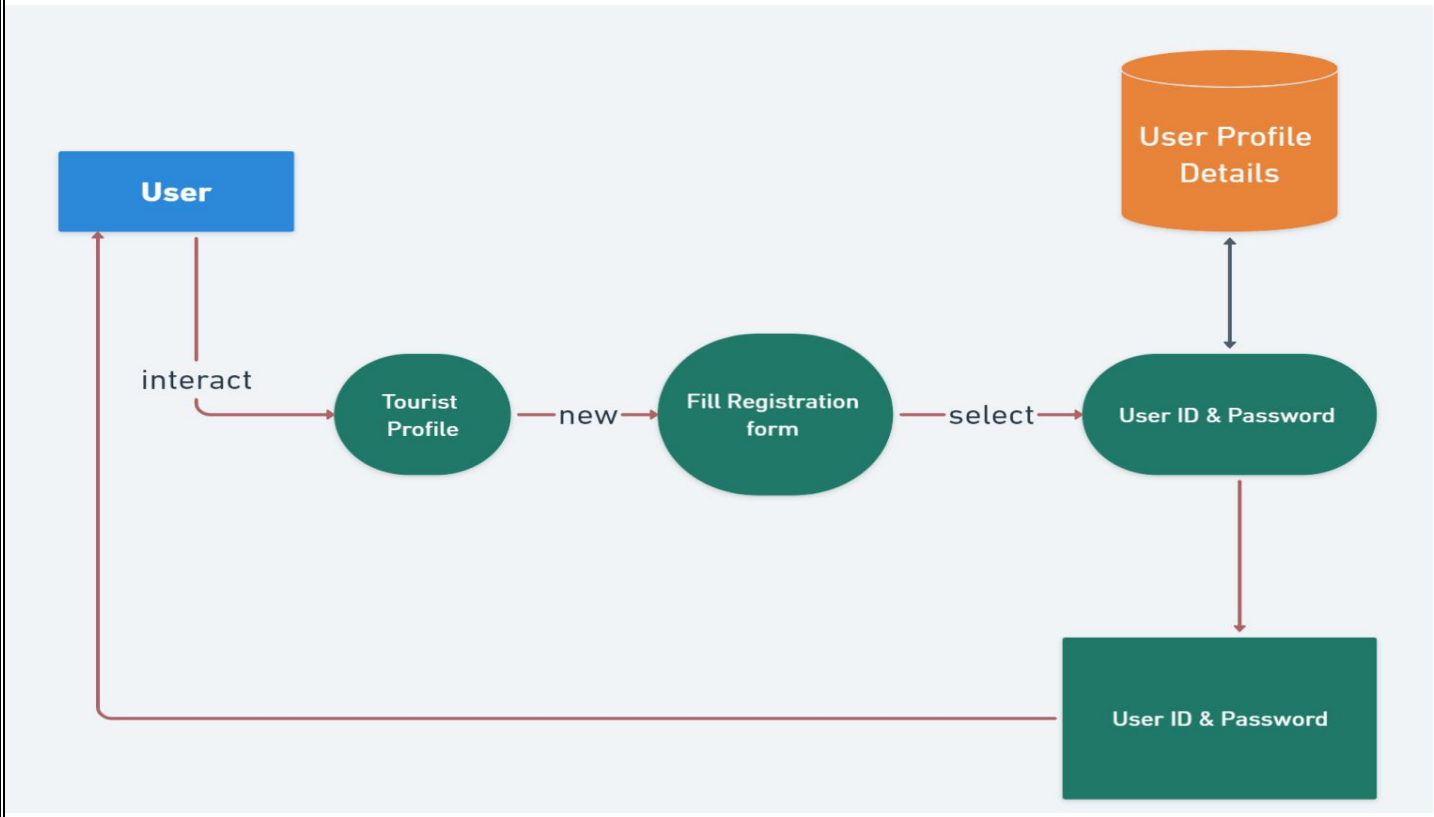


Fig 3.4: For User Profile

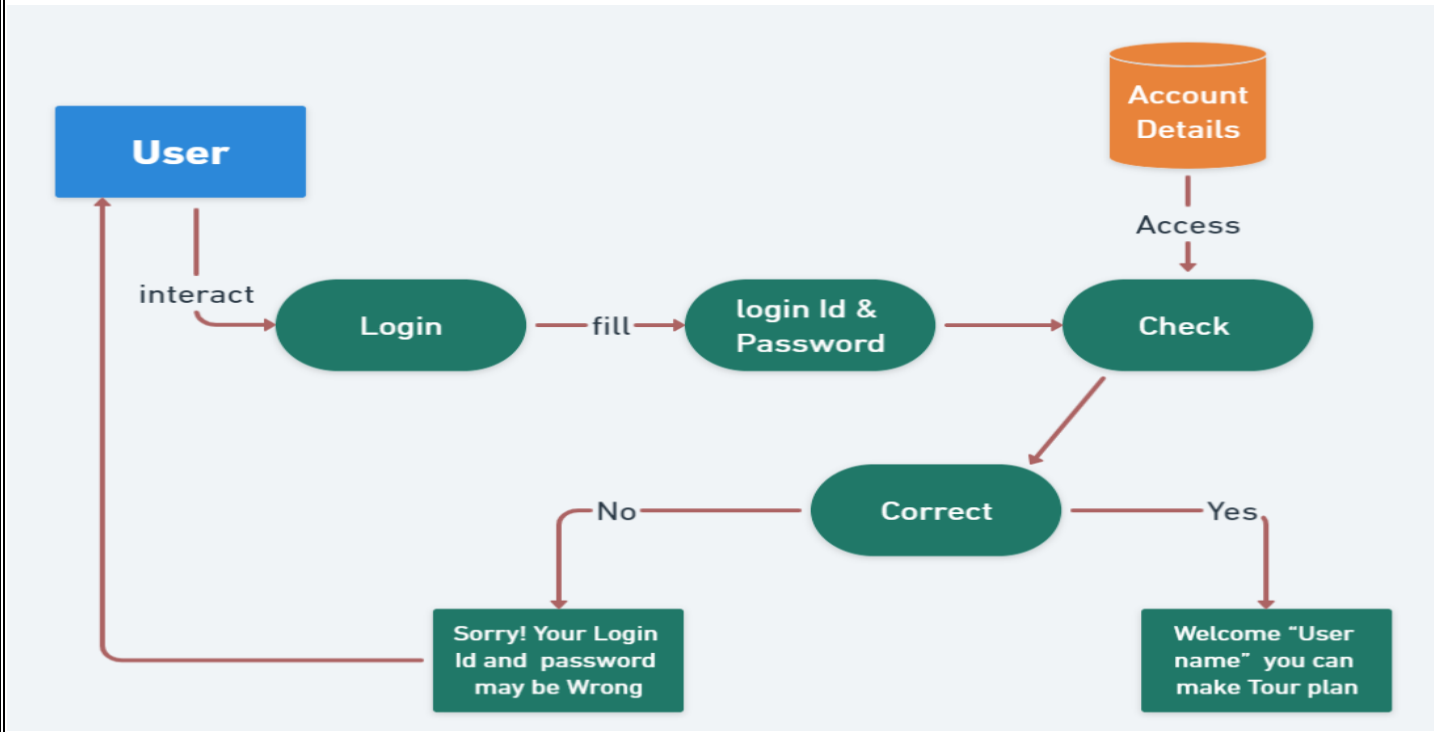


Fig 3.5: For Login

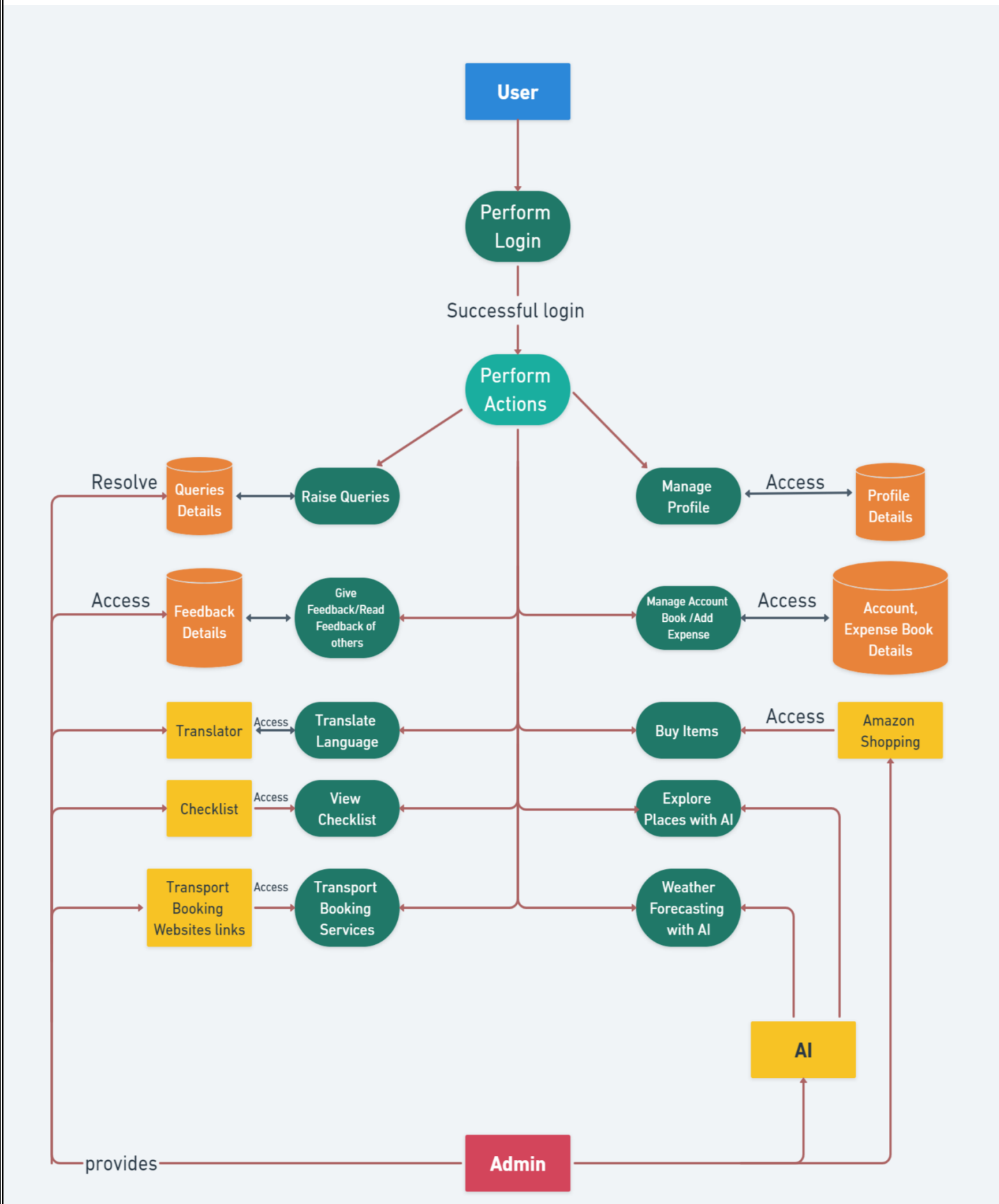


Fig 3.6: For User

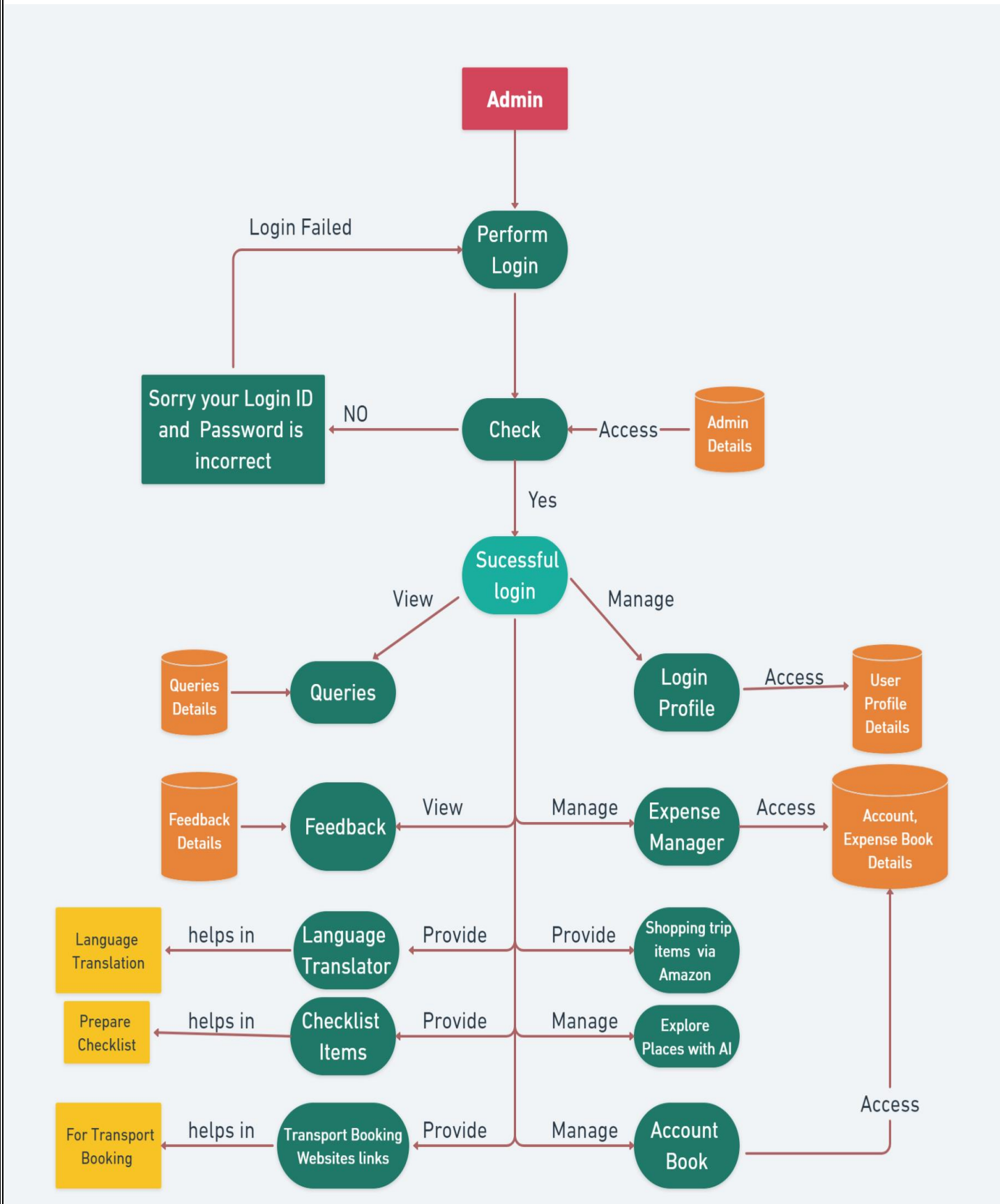


Fig 3.7: For Admin

3.2.3 Entity Relationship Diagram (ERD)

An Entity Relationship Diagram (ERD) is a model that visually represents the concepts or entities and their relationships within a system. It provides a clear depiction of how different entities are connected to one another in a database.

The ER diagram consists of entity boxes, which represent database tables, and relationship lines, which depict the connections between these tables. The relationship lines indicate the keys in one table that point to specific entries in linked tables.

an Entity Relationship Diagram is an invaluable tool for designing relational databases as it promotes faster development cycles, increases productivity among developers while reducing errors during implementation, and simplifies ongoing maintenance efforts by visualizing complex data connections.

Benefits of an ER diagram

- Faster and more professional development.
- An increase in productivity.
- Less Developmental Errors.
- Maintenance is simplified.

3.2.4 Tables

Sr. No	Column Name	Datatype	Constraints
1.	tm_name	varchar(50)	Not null
2.	tm_email	nvarchar(25)	Primary key
3.	tm_mobile	varchar(10)	Not null
4.	tm_pswd	varchar(10)	Not null
5.	tm_state	varchar(30)	Not null
6.	tm_area	nvarchar(30)	Not null
7.	tm_uid	nvarchar(30)	Not null
8.	tm_date	date	Not null
9.	tm_usrtype	varchar(5)	Not null

Table 3.1: User_Account (To store the Customer Details)

Sr. No	Column Name	Datatype	Constraints
1.	t_email	nvarchar(25)	Not null
2.	t_date	date	Not null
3.	t_text	nvarchar(200)	Not null

Table 3.2: Translate (Translation text and language mapping)

Sr. No	Column Name	Datatype	Constraints
1.	tm_usermail	nvarchar(25)	Not null
2.	tm_member	nvarchar(25)	Not null
3.	tm_money	decimal(16,2)	Not null
4.	tm_loc	nvarchar(25)	Not null
5.	tm_state	nvarchar(25)	Not null
6.	tm_wallet	decimal(16,2)	Not null
7.	tm_totalamt	decimal(16,2)	Not null
8.	tm_totalmember	int	Not null
9	tm_remaingamt	decimal(16,2)	Not null
10.	tm_exp	decimal(16,2)	Not null
11.	tm_count	int	Not null

Table 3.3: Journey_Calc (To store Journey Calculation and Expense Tracking)

Sr. No	Column Name	Datatype	Constraints
1.	ex_type	nvarchar(25)	Not null
2.	ex_details	nvarchar(50)	Not null
3.	ex_shop	nvarchar(50)	Not null
4.	ex_date	date	Not null
5.	ex_amt	decimal(16,2)	Not null
6.	ex_code	int	Not null

Table 3.4: Expense_book (Expense Tracking and Recording Details)

Sr. No	Column Name	Datatype	Constraints
1.	t_product	varchar(100)	Not null
2.	t_status	varchar(10)	Not null
3.	t_date	date	Not null
4.	t_email	varchar(25)	Not null

Table 3.5: Checklist (Customer Checklist and Status Tracking)

ERD Diagram

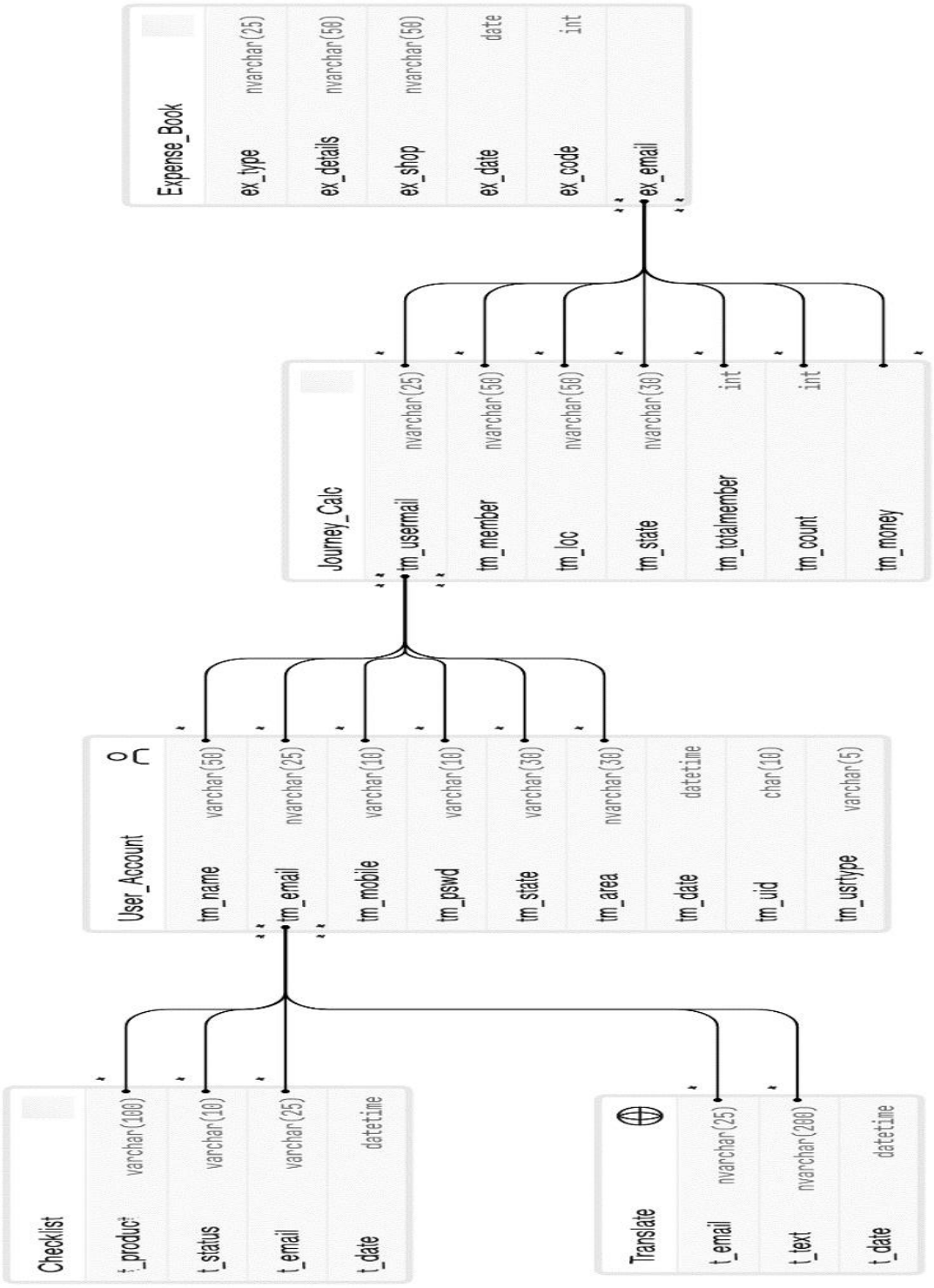


Fig 3.8: ERD Diagram

3.2.4 Screenshots

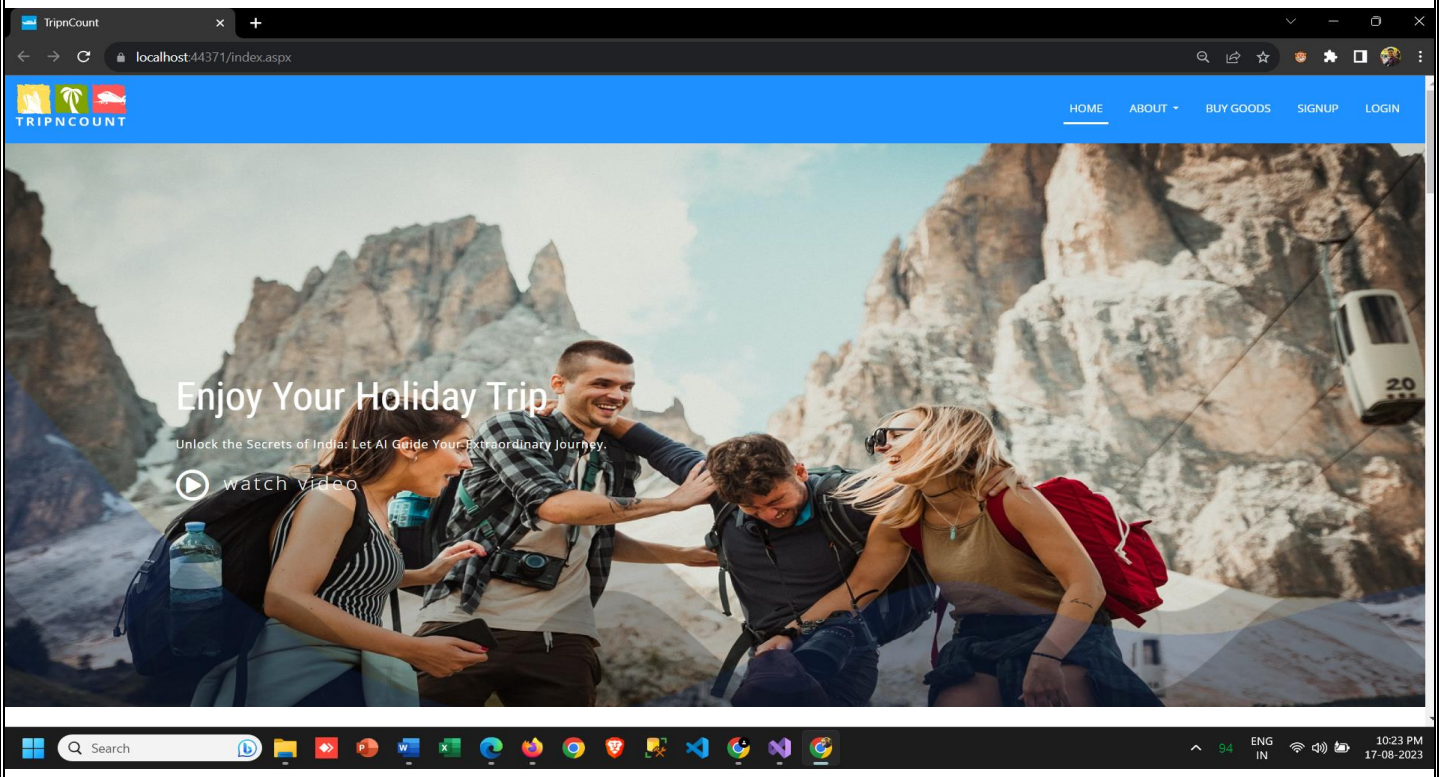


Fig 3.9: Home Page

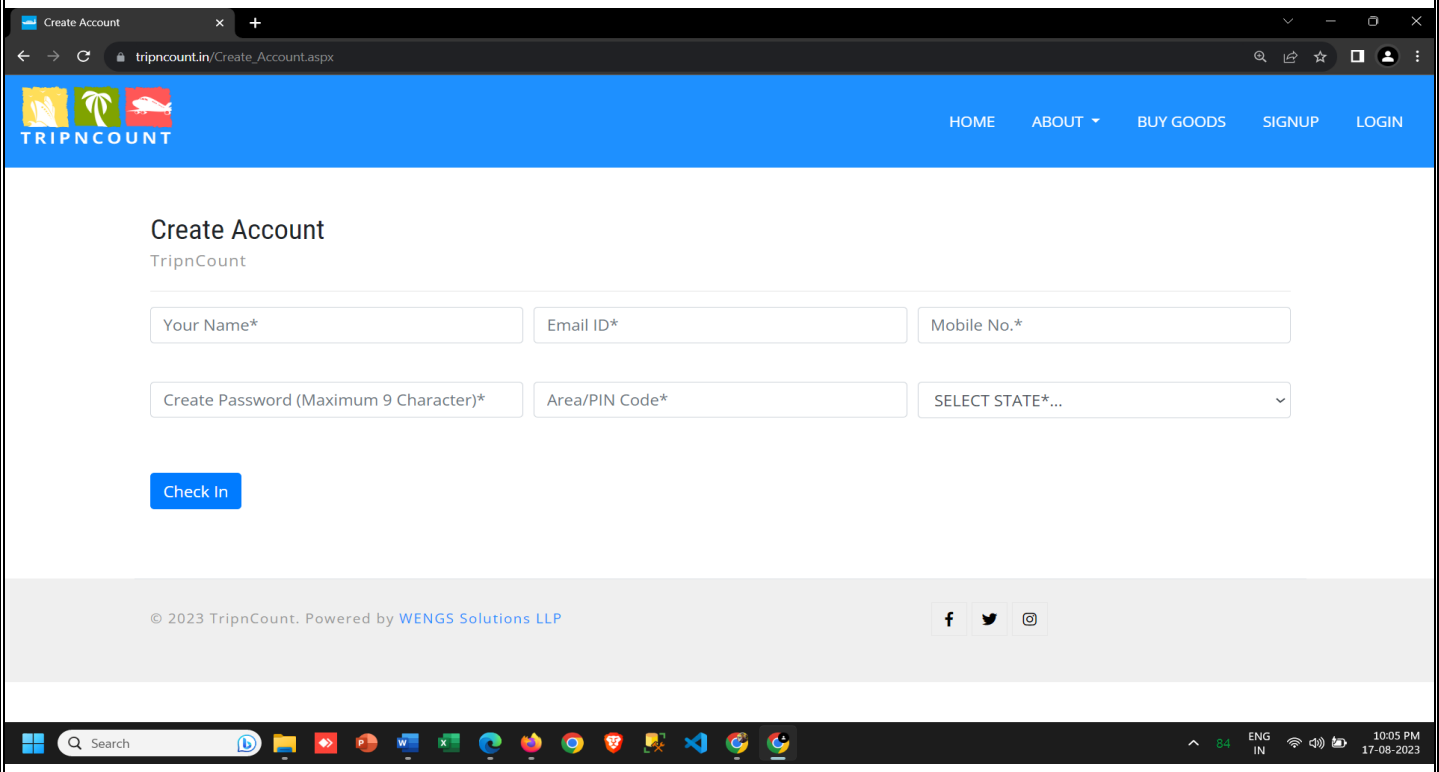


Fig 3.10: SignUp Page

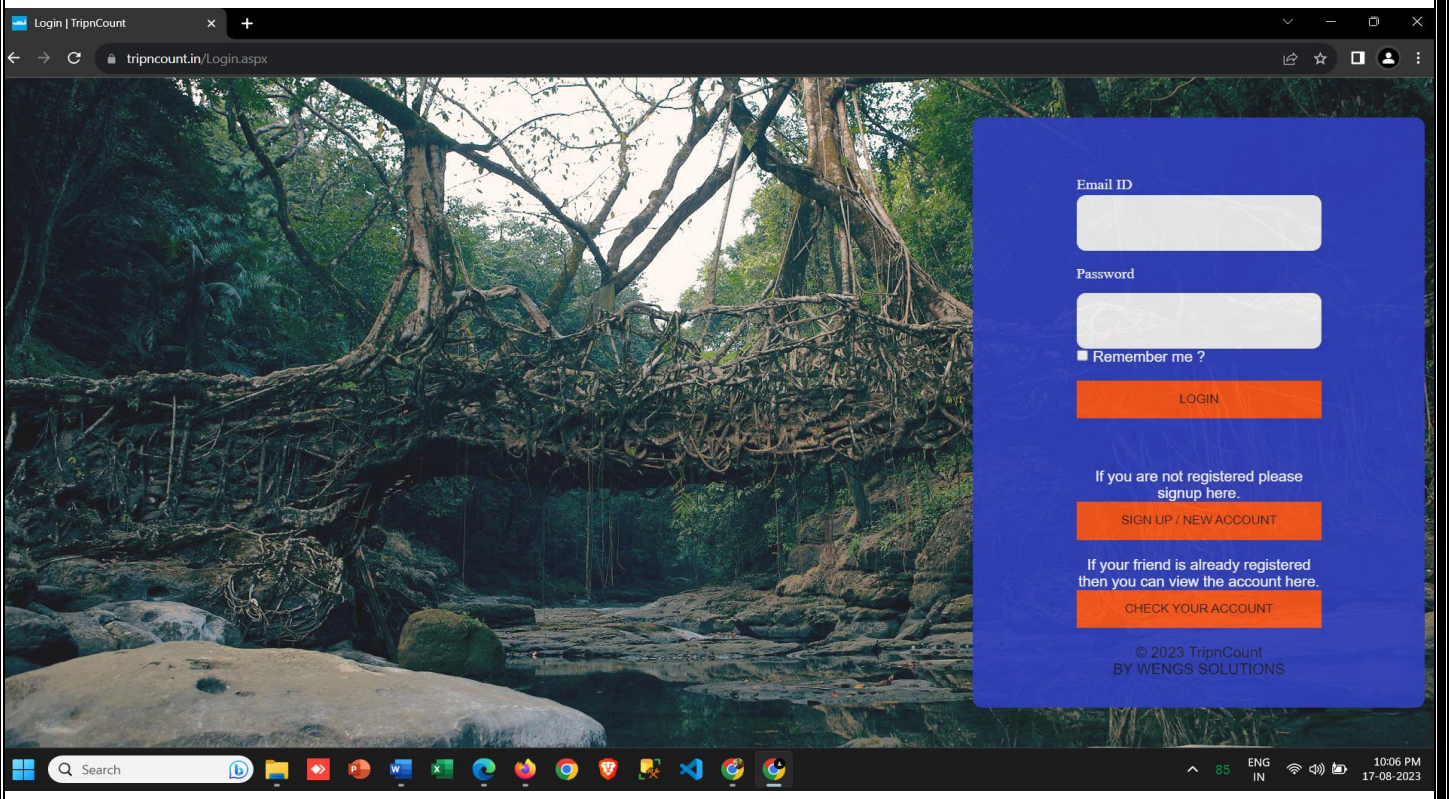


Fig 3.11: Login Page for both (User and Admin)

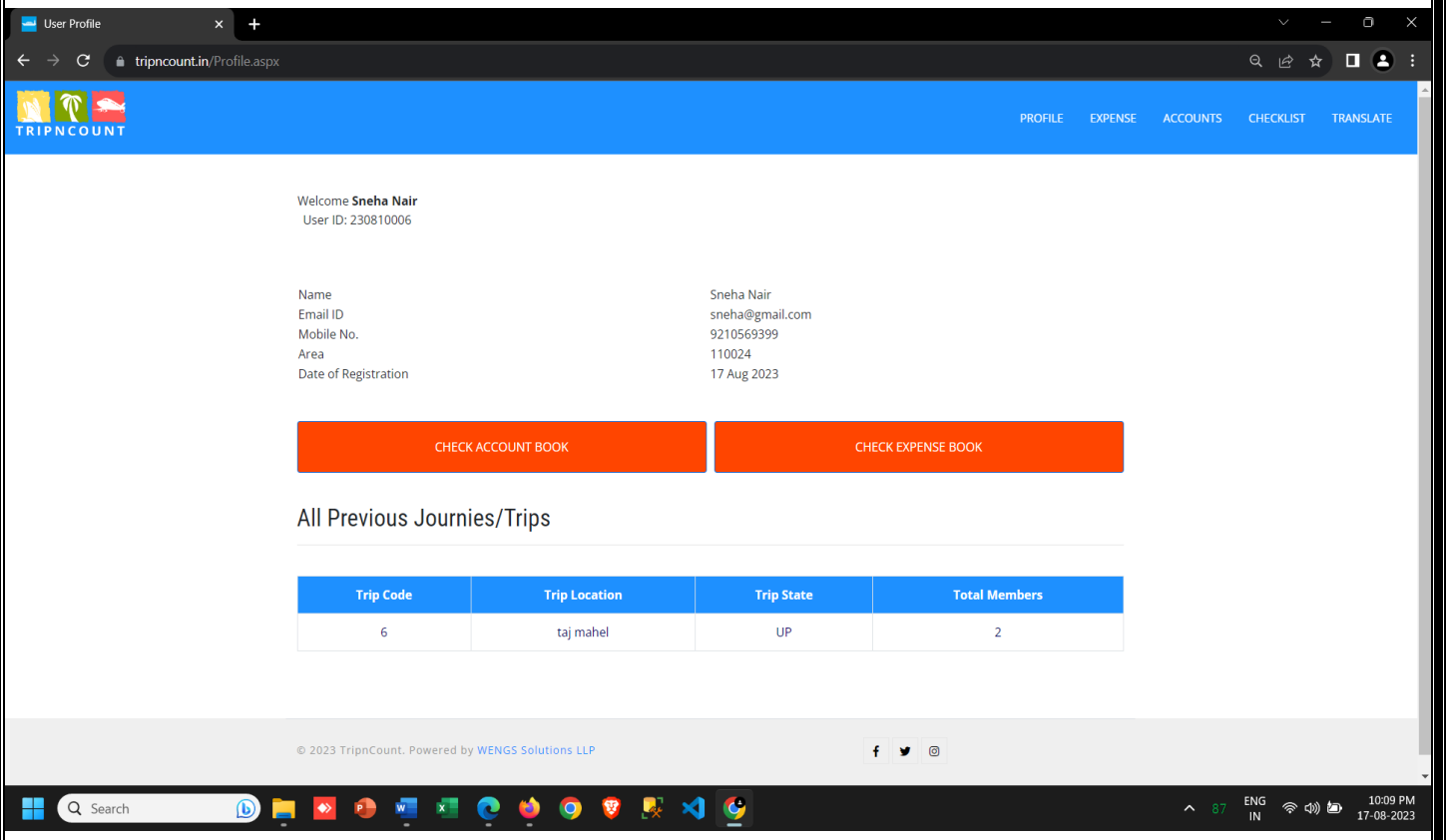


Fig 3.12: User Profile

AI Recommendation on WhatsApp

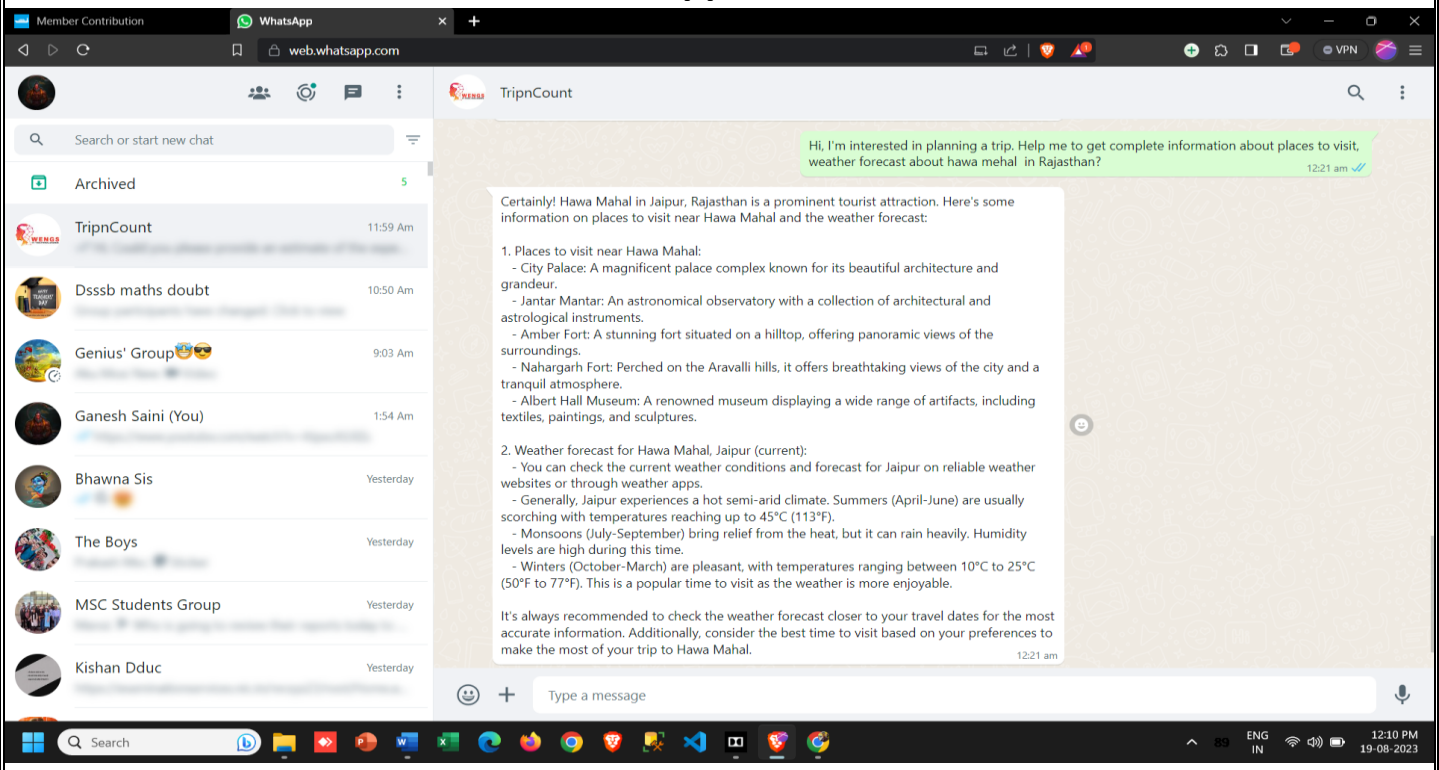


Fig 3.13: Place Recommendation

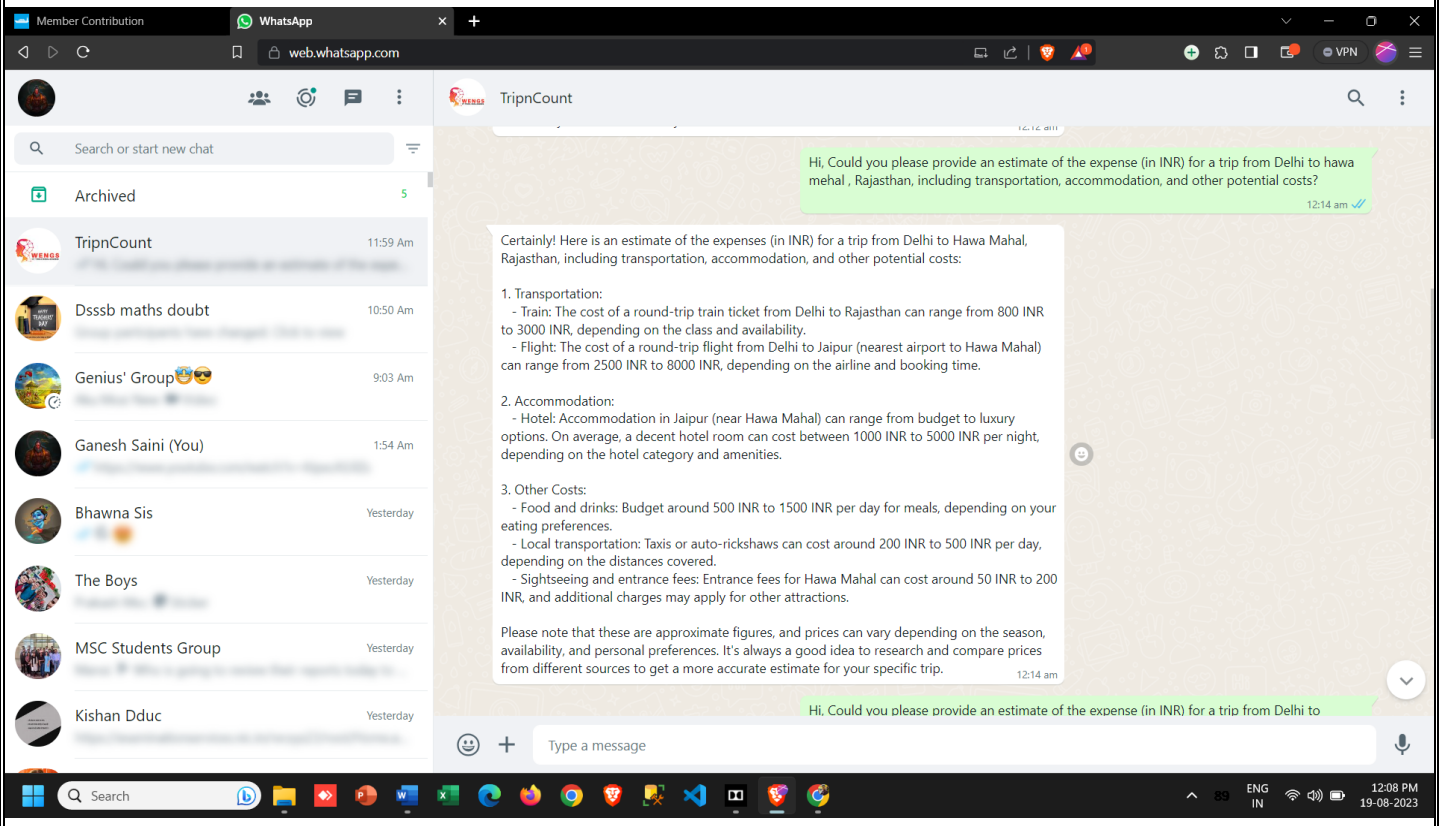


Fig 3.14: Price Estimation

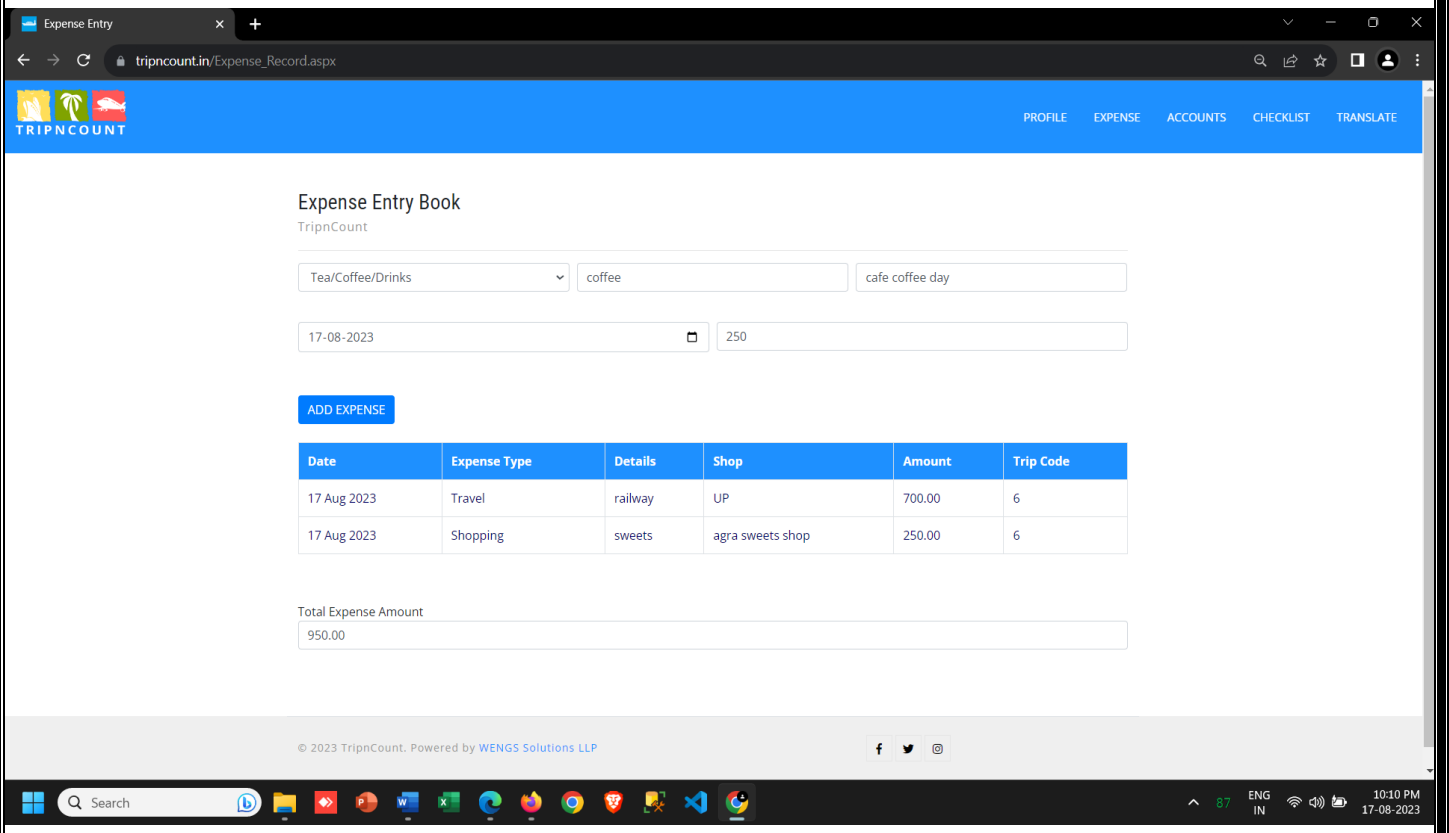


Fig 3.15: Expense Entry Book

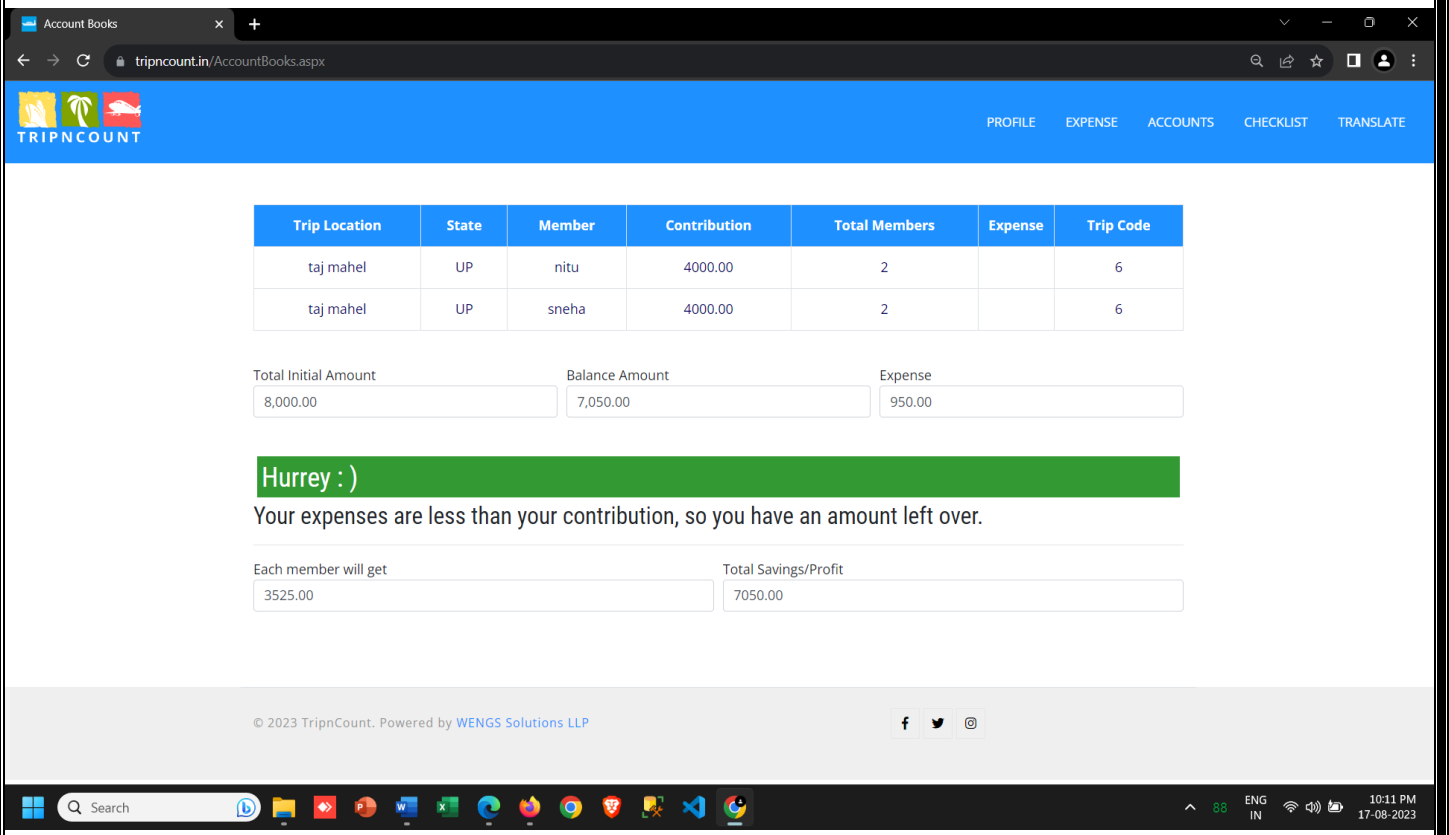


Fig 3.16: User Account Book

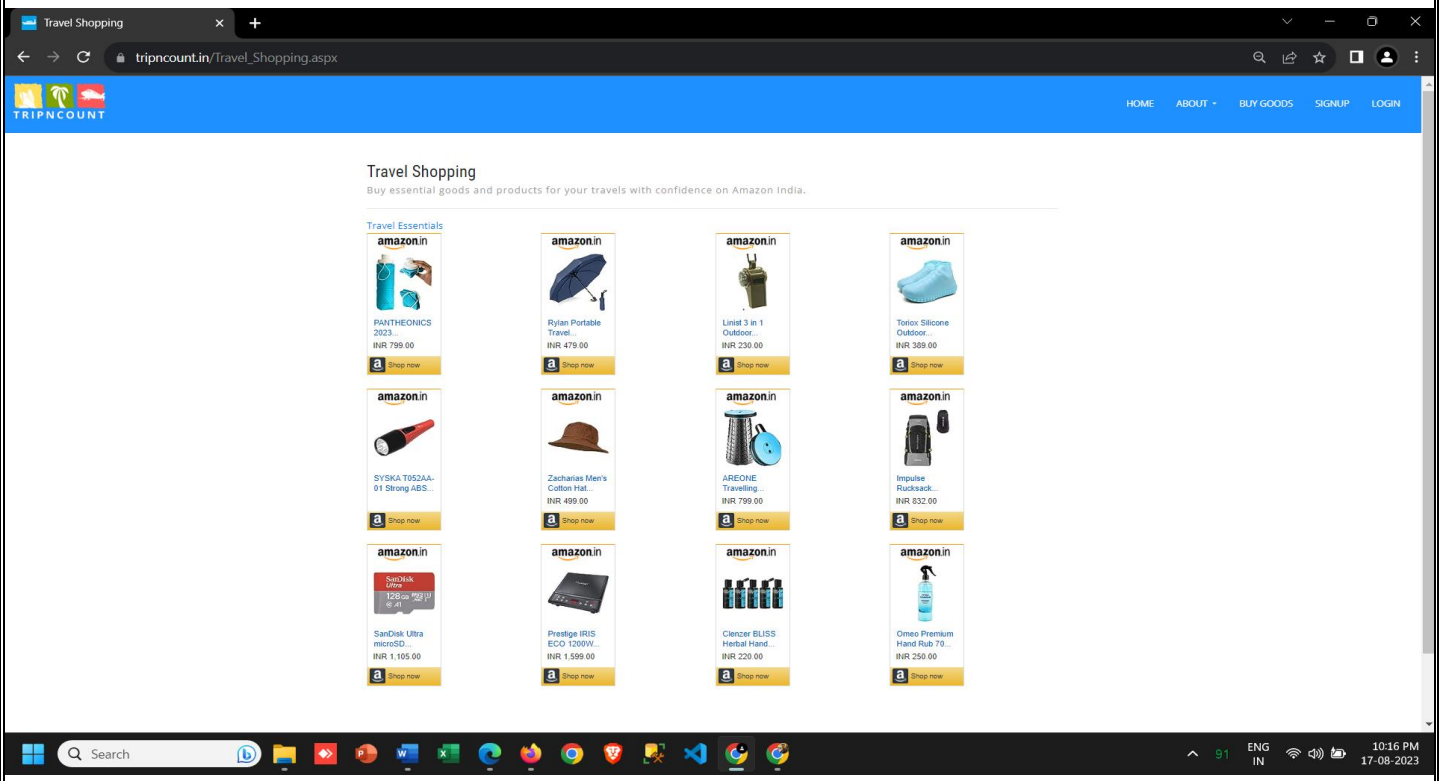


Fig 3.17: Shopping Goods Item Page

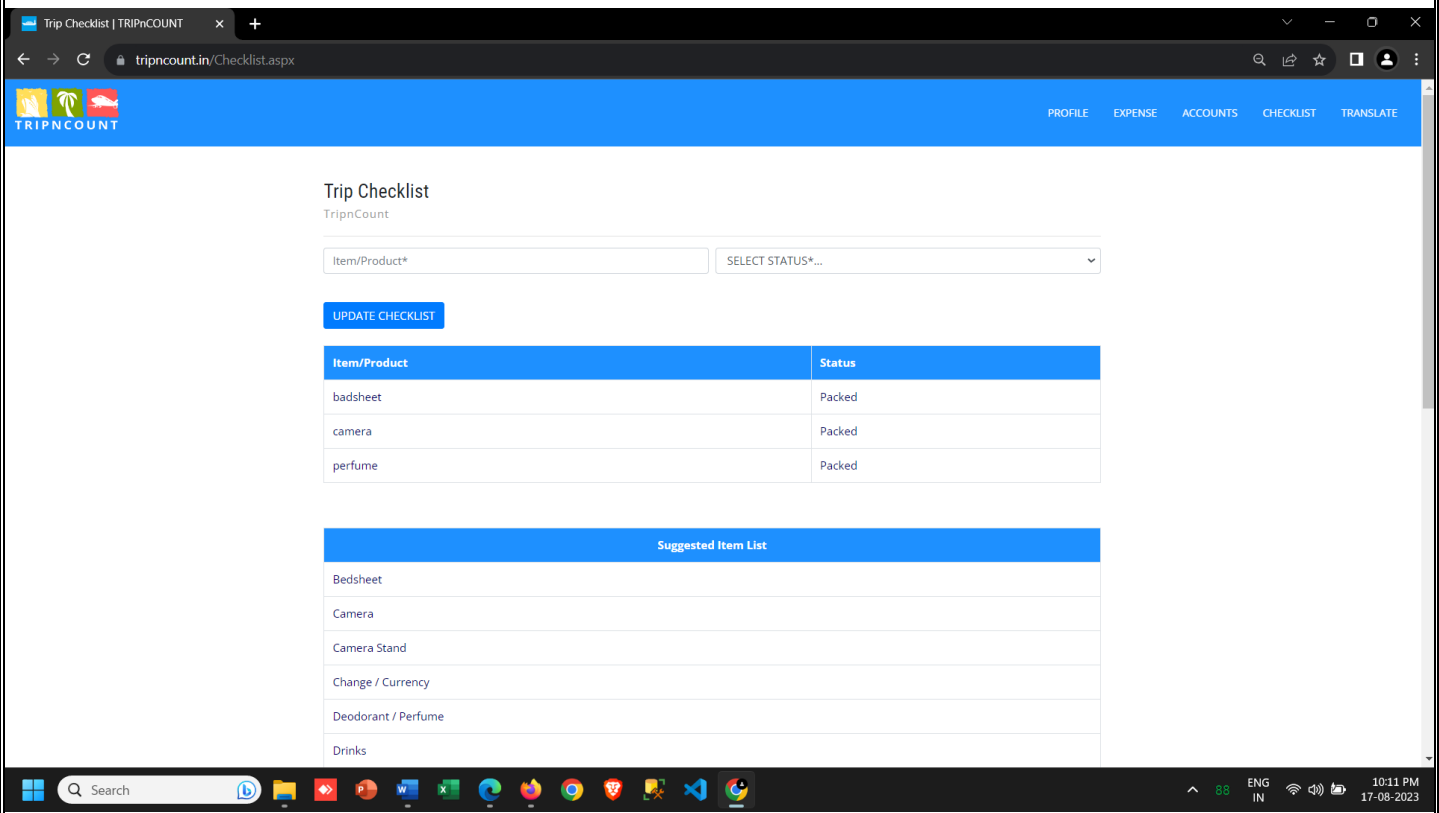


Fig 3.18: Checklist Page

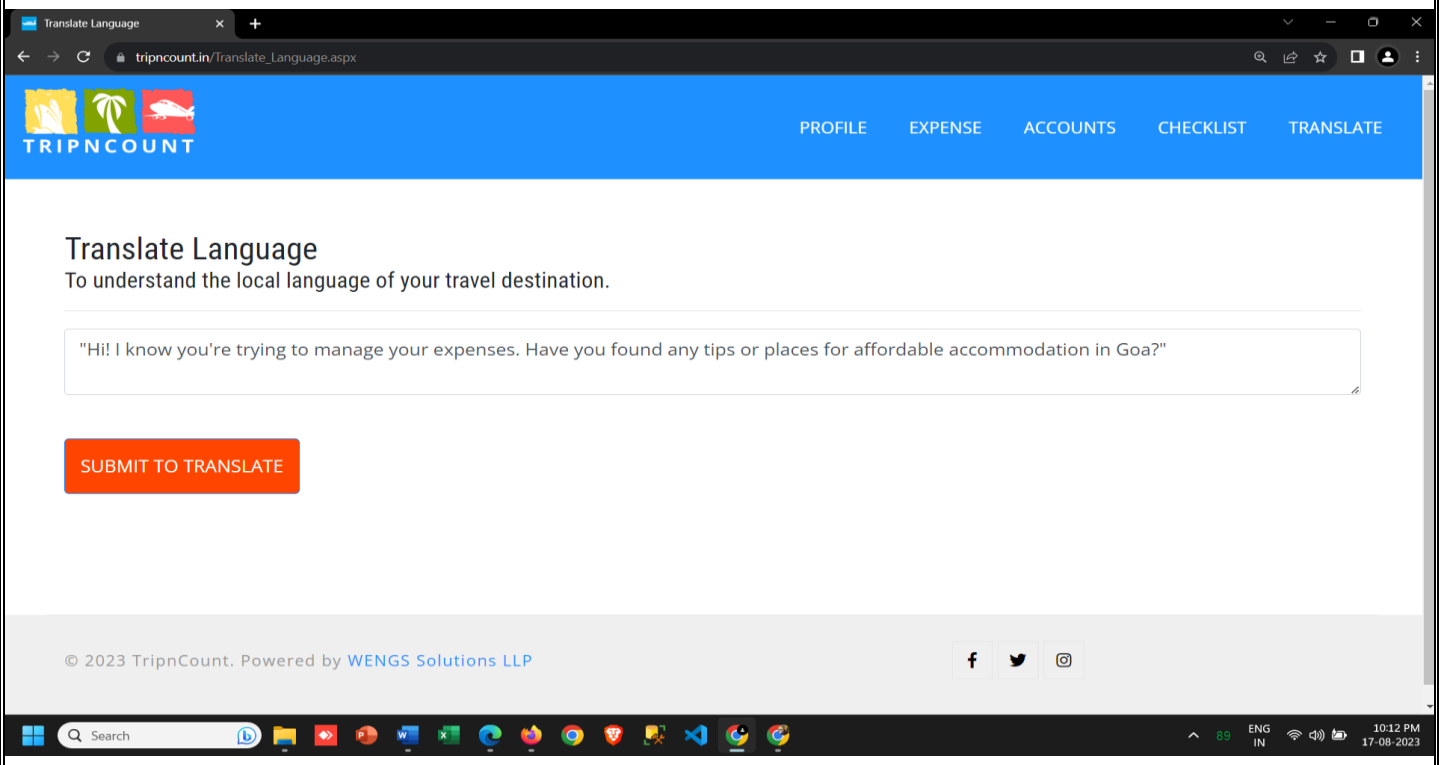


Fig 3.19: Language Translation Page

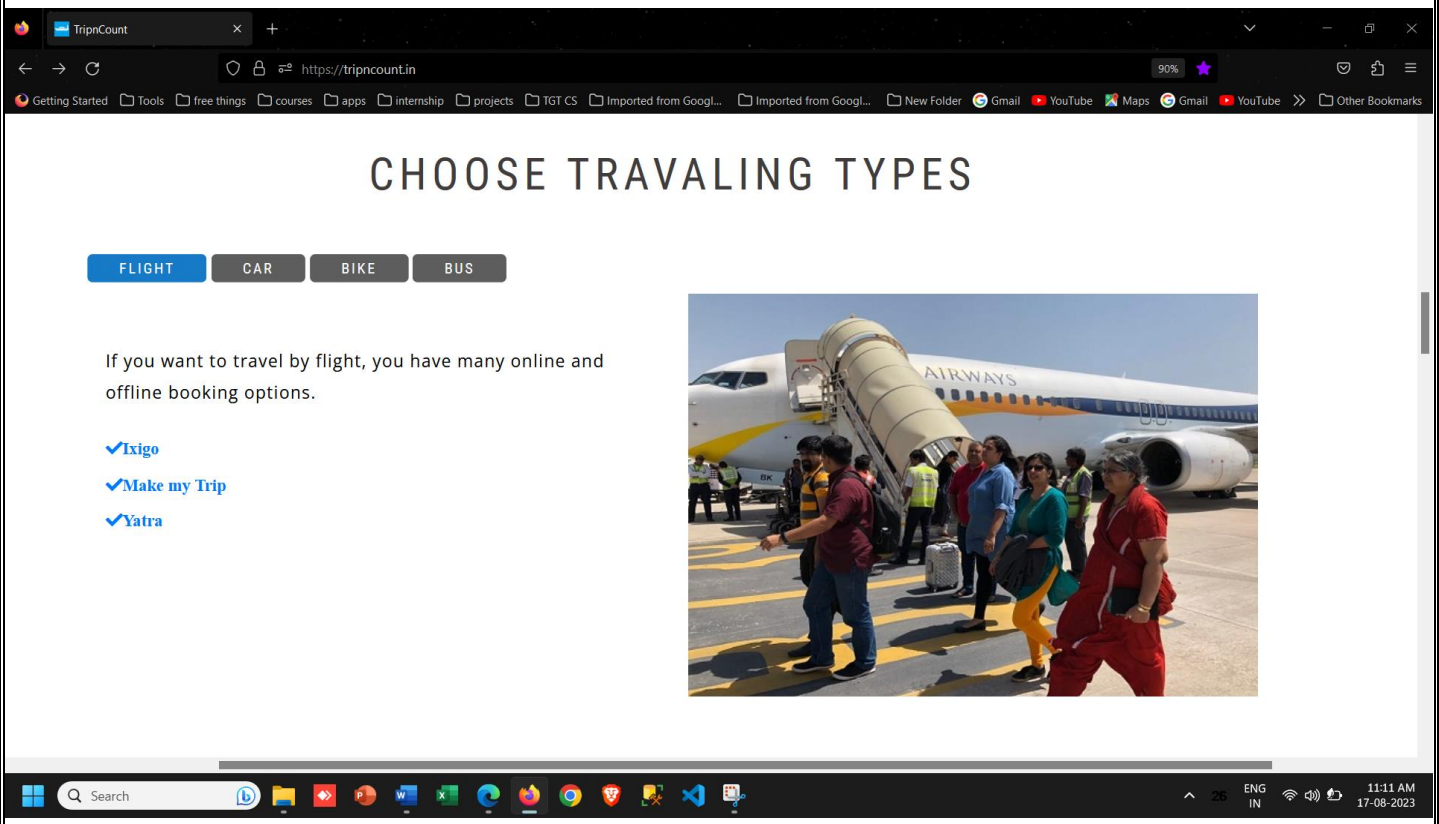
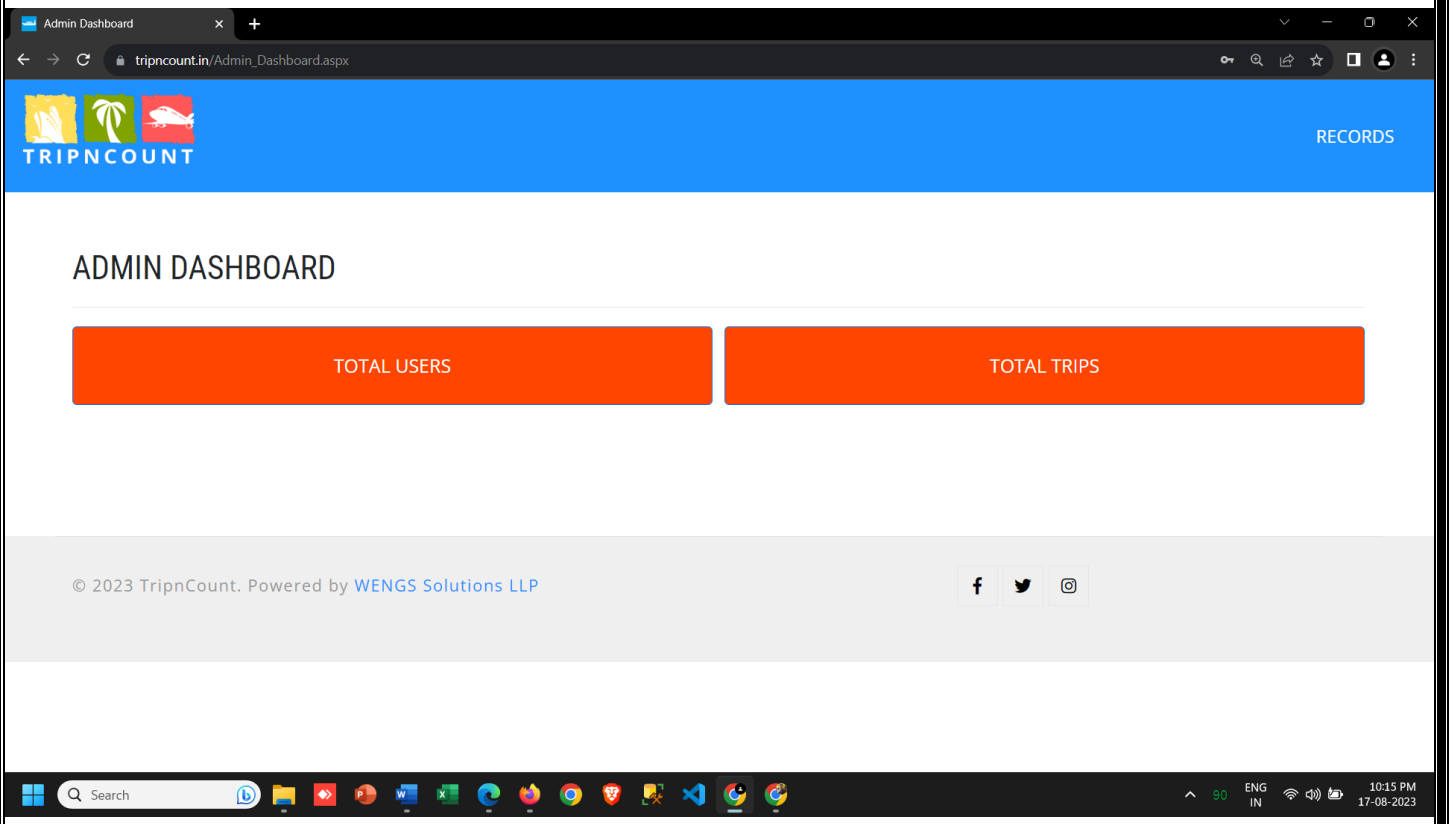


Fig 3.20: Travelling Options Page



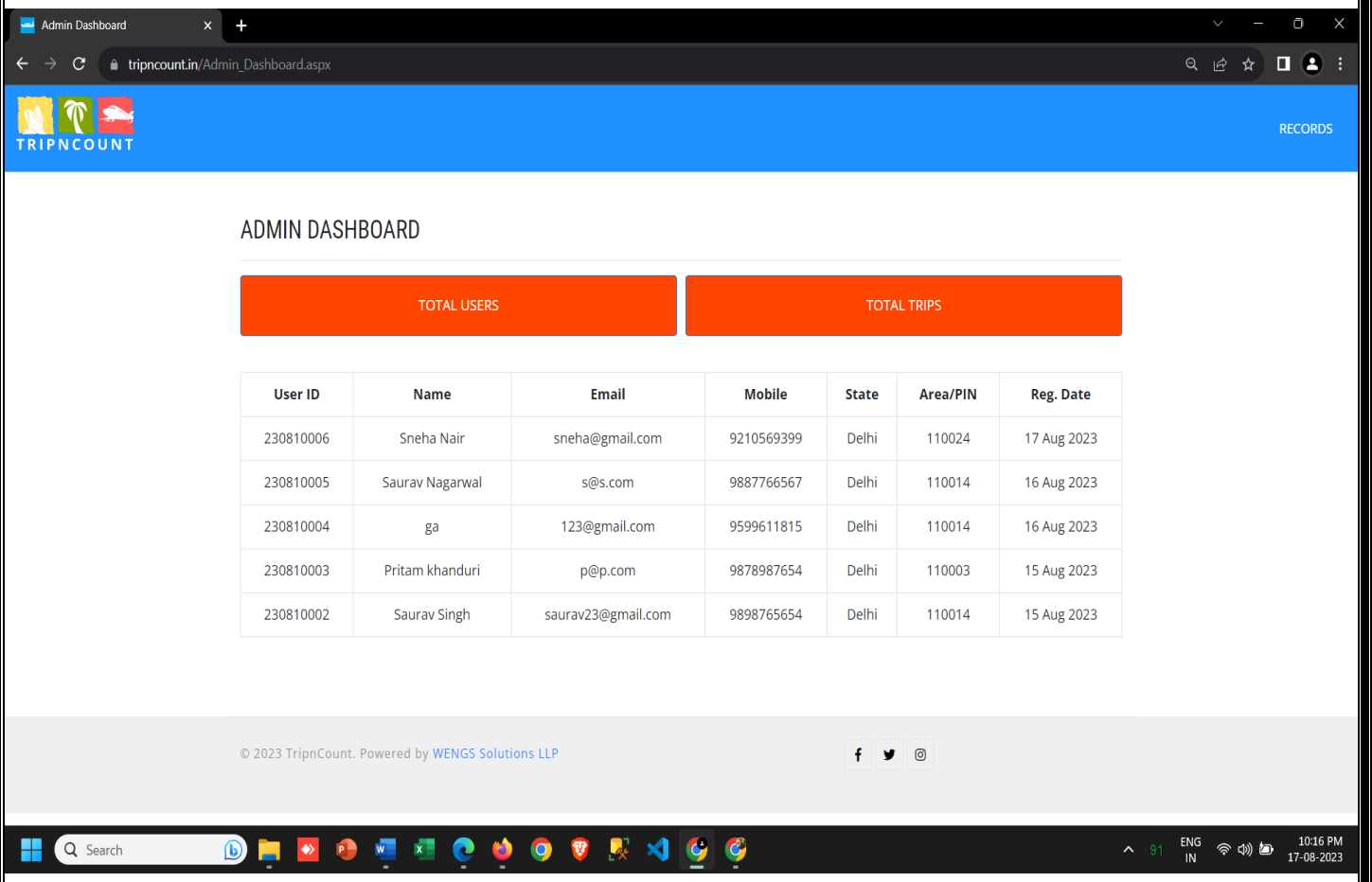


Fig 3.21: Admin Dashboard Page

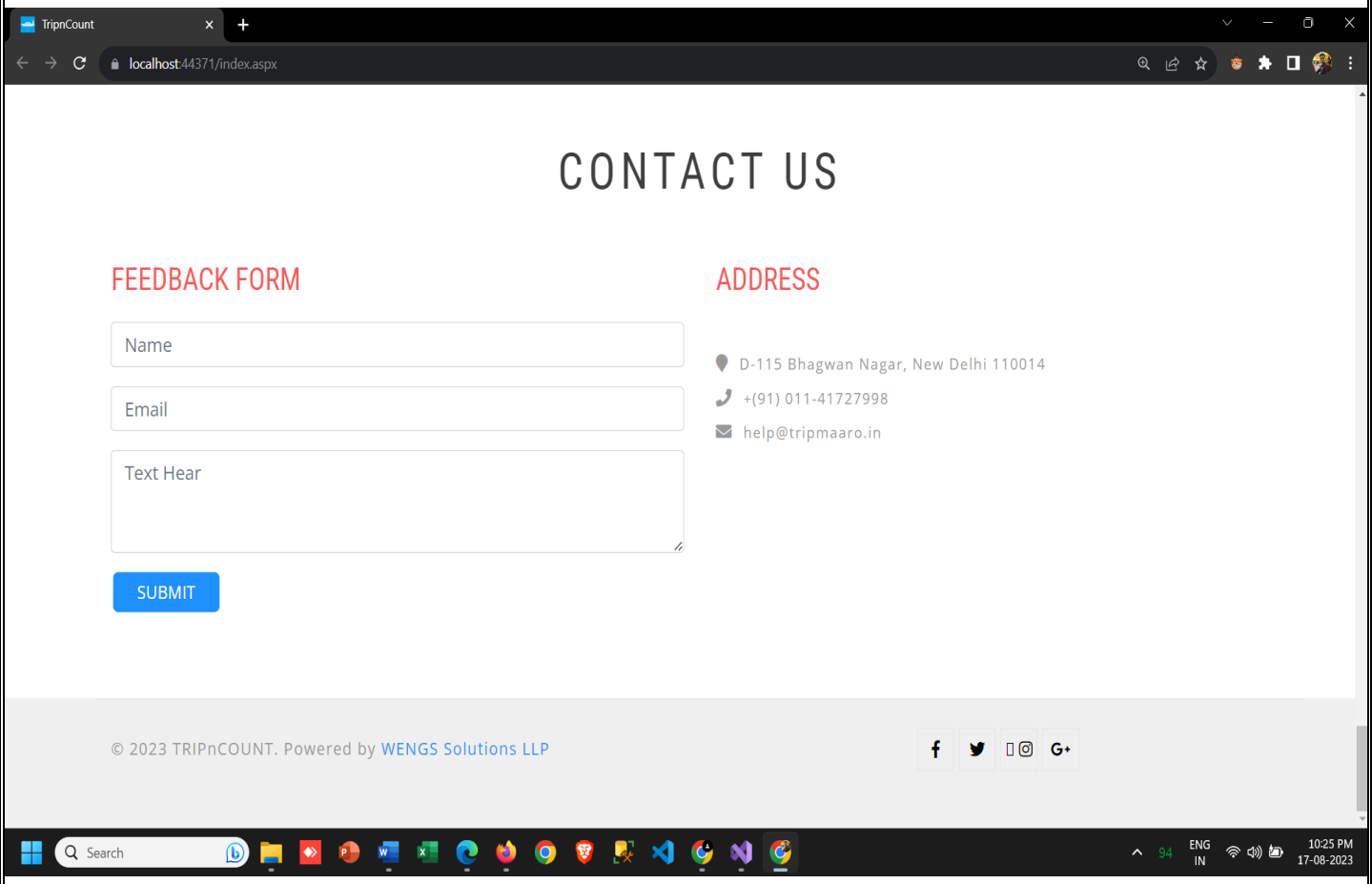


Fig 3.22: Feedback Form

3.4 Testing Process

The section on the testing process details the many kinds of testing done while TripnCount was being developed. Testing is a crucial stage in software development that makes sure the system works well, complies with specifications, and delivers the intended results.

3.4.1 Unit testing

Unit testing focuses on evaluating individual code fragments or components to ensure that they are correct and work properly when run separately. Each module or function inside TripnCount is individually checked during unit testing to make sure it generates the required result for a certain input. Early in the development phase, this kind of testing aids in finding any problems with certain code parts.

3.4.2 Integration Testing

Integration testing involves merging various TripnCount modules or components to examine how the system functions as a whole. It confirms that these integrated units communicate effectively, exchange data in an appropriate manner, and efficiently share resources. Integrity testing allows us to identify any discrepancies between TripnCount's various components and fix them before continuing.

3.4.3 System testing

System testing verifies that the TripnCount system functions as intended across the board. It evaluates whether all features function in unison, if data moves freely throughout the system, and whether user interactions provide the desired results. System tests may involve creating hypothetical situations, entering test data into forms, and checking whether output matches predetermined expectations.

3.4.4 User Acceptability Testing (UAT)

Through the participation of actual users or stakeholders who represent target audiences, user acceptability testing evaluates TripnCount from the viewpoint of the end user. They evaluate TripnCount directly to see if it effectively and intuitively satisfies their requirements using real-world use cases relevant to their roles. Prior to deployment, UAT identifies usability problems, collects insightful feedback, and confirms that the product meets user expectations.

Chapter 4

Results / Outputs

This report provides an assessment of the performance and user satisfaction levels for various features implemented on TripnCount's website. The analysis focuses on key functionalities such as user registration and engagement, personalized travel recommendations, expense tracking and management, integration with Amazon Shopping App, checklist feature usage, booking service integration usage, weather forecasting feature usage, and language translation feature usage. Metrics collected from user feedback surveys and platform analytics will be utilized to measure success rates and identify areas for improvement.

4.1 Achievements

TripnCount has successfully addressed the needs and requirements identified during the analysis phase. It could include:

- **Meeting user expectations:** TripnCount has effectively provided personalized travel recommendations based on user preferences, helping travellers discover new destinations aligned with their interests.
- **Streamlining expense management**: The automated expense tracking system within TripnCount has simplified the process for users to record and categorize their expenses while traveling.
- **Seamless booking integration:** By integrating popular booking services into its platform, TripnCount has enabled users to make all necessary arrangements conveniently within one application.

4.2 Limitations and Challenges

This part acknowledges any limitations or challenges encountered during development that might affect certain aspects of TripnCount's functionality or performance. Examples may include:

- **Limited language support:** While offering real-time translation features, there may be some limitations in terms of languages supported initially.
- **Data accuracy:** Recommendations generated by AI algorithms are subject to data availability and quality, which can impact the accuracy and relevance of suggestions made by TripnCount.

Chapter 5

Conclusion

The performance and customer satisfaction ratings for the various features used on the TripnCount website are evaluated in this study. The analysis is concentrated on key features like user registration and engagement, personalized travel suggestions, expense tracking and management, integration with Amazon Shopping App, checklist feature usage, booking service integration usage, weather forecast feature usage, and language translation feature usage. The success rates and areas for improvement will be determined using metrics from platform analytics and user feedback surveys.

The implementation of TripnCount's conclusions section enumerates the successes in achieving goals and resolving issues with travellers. It also covers any restrictions or difficulties encountered during development, giving a thorough picture of the system.

5.1 Future Work

The section on future work describes potential areas for advancement or growth that could enhance TripnCount's capabilities as it develops. The following are some prospective future research areas:

1. **Development of a Mobile App:**
   Creating a dedicated mobile app version will enhance user convenience and accessibility, allowing travellers to access all features on-the-go from their smartphones.

2. **Implementation of a Forum Feature:**
   Introducing a forum feature within TripnCount would enable users to communicate easily with each other, share travel experiences, and exchange tips/recommendations. This community-driven aspect enhances engagement among users.

3. **Continuous Improvement in Security Measures:**
   To ensure the protection of user data, continuous efforts should be made to enhance security measures. This includes regular vulnerability assessments, implementing robust authentication mechanisms, and staying updated with industry best practices.

4. **Growth into New Markets, Regions, and Countries:**
   To cater to a broader audience and offer tailored travel recommendations worldwide, expanding TripnCount coverage beyond initial markets or regions could be considered. This involves integrating local travel information, accommodation options, and activities specific to different countries or regions.

By outlining these future work areas, TripnCount demonstrates its commitment to ongoing improvement and the potential for expanding its capabilities to better serve travellers needs in the future. It also sets a roadmap for further development and growth based on user feedback and emerging trends within the travel industry.

Chapter 6

References

During the research and development phases of TripnCount's documentation, various external sources were consulted to gather insightful information.

Stack Overflow: This website served as a valuable resource for resolving project-related issues. It provided solutions to specific programming problems encountered during the development process.

ChatGPT: Utilized for troubleshooting minor problems, ChatGPT is an AI-powered chatbot that offers assistance in addressing various technical challenges faced during the project.

Whimsical.com: This online platform was used for creating Data Flow Diagrams (DFD) and Entity Relationship Diagrams (ERD). These diagrams helped visualize and understand the flow of data within the system.

W3Schools: When facing language-related challenges, W3Schools proved helpful by providing guidance on web development technologies such as HTML, CSS, JavaScript, etc., ensuring effective implementation of these languages in our project.

Mozilla Developer Network (MDN): The Mozilla Developer Network (MDN) was a valuable online resource for gathering information about HTML. It provided comprehensive documentation, tutorials, and examples to ensure accurate implementation of HTML elements and structures.

CSS-Tricks.com: served as an excellent resource for learning about Cascading Style Sheets (CSS). This website offered in-depth articles, guides, and code snippets to enhance the styling and layout aspects of our project.

These references played an integral role in gathering relevant information and overcoming obstacles throughout the implementation of our project.

PLAGIARISM REPORT

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ORIGINALITY REPORT

5%	3%	0%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to University of Wales Institute, Cardiff Student Paper	1%
2	Submitted to University of Greenwich Student Paper	1%
3	Submitted to Swinburne University of Technology Student Paper	<1%
4	Submitted to Southern New Hampshire University - Continuing Education Student Paper	<1%
5	ebin.pub Internet Source	<1%
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7	Submitted to Victoria University Student Paper	<1%
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