UNIVERSITY OF HAIFA
אוניברסיטת חיפה جامعة حيفا

Final Project

Faculty of Social Sciences, Information Systems Department - University of Haifa

Software Requirements Specification

A Trip's Story
"Qest Meshwar"

An organization that plans trips around the country, which the owner of the program "Qest Meshwar", Balkes Wishahe aka Our Client, organizes and publishes so that people can join.
The idea of the program started from the owner's love and passion for visiting ancient and archaeological places, and walking in walking-paths in nature, which she had been doing with her family.

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Introduction

❖ Purpose

- The purpose of this report is to define and characterize the requirements for the development of the website intended for the "Qest Meshwar – A Trip's Story" organization and present a detailed description of the system.
- The primary focus of this report is to outline the detailed requirements for the website's successful implementation.
- In addition, it will explain the purpose and features of the system, the interfaces of the system, what it will do the constraints under which it must operate and how the system will react.
- The document is intended for both the stakeholders and the developers of the system and will be proposed to the Client for her approval.

❖ Scope

- The scope of this project is to create a tailored technical solution that enhances the operational efficiency of the "Qest Meshwar – A Trip's Story" organization.
- By streamlining processes and leveraging modern technology, the solution aims to simplify various aspects of the organization's activities.
- This system will be designed to maximize the Owner's productivity by providing an organized way to manage all the trips, their bookings and all relevant activities such as enhancing by the reviews and feedback receiving from the customers. By maximizing the Owner's work efficiency and production the system will meet the Owner's needs while remaining easy to understand and use.

❖ Definitions

Term	Definition
PHP	PHP is a general-purpose scripting language primarily employed for web development purposes.
JavaScript	JavaScript is a dynamic scripting language based on a straightforward object-based paradigm, often used for enriching web interactions.
CascadingStyleSheets	CSS is a language utilized to stylize HTML documents, enhancing their visual presentation.
HyperTextMarkupLanguage	HTML is the standard markup language for Web pages.

❖ Overview of the Continuation of the Report

- This report is structured to provide a comprehensive understanding of the requirements, design, development, and implementation phases of the website. It will cover various aspects crucial to achieving the project's objectives.
- The next section, Overall Description, gives an overview of the functional of the product and description of the informal requirements and is used to establish a context for the technical requirements specification in the next section.
- The third section, Specific Requirements, is written primarily for the developers and describes using technical terms the details of the functionality of the product.

Overall Description

❖ Product Perspective

The "A Trip's Story – Qest Meshwar" website serves as an innovative platform for seamlessly organizing both upcoming and past trips meticulously organized by the "Qest Meshwar – A Trip's Story" organization. The application will present a wealth of information about each trip, including precise geographical locations, meticulously scheduled dates, participant limits, participation costs, and captivating location imagery. Customers will benefit from an intuitive user interface that empowers them to effortlessly select desired trips.

Furthermore, the website will offer customers the convenience of user registration, simplifying the booking process and granting access to a personalized record of past trips. The application is designed to foster a seamless experience for both customers and Owner alike, enhancing the overall efficiency and convenience of trip planning and participation.

• System Interface

The system handles all the planned trips and their rules.
It connects to a database that keeps all the trip information, such as the trip's details, participations, and all relevant data.

• User Interface

- **Customers:** the interface for customers presents an array of upcoming trips, allowing users to select and book their preferred trips effortlessly, add to Wishlist for later check, or even add to Waiting list when the trip gets to the maximum limit of participants

number. Furthermore, users can access detailed information about their past trips and receive notifications about newly added trips.

- **Managers:** managers are equipped with a versatile interface enabling them to add future planned trips, oversee trip bookings, export reports, and send notifications to past participants.

- ## Hardware Interface

  To operate the system optimally, a robust server is required to accommodate the organization's comprehensive database. This server facilities real-time data modification and management.

- ## Software Interface

  - The application will be developed using a blend of JavaScript, CSS, HTML and PHP, within the Visual Studio development environment.
  - The Database functionality will be implemented utilizing the phpMyAdmin database management system.

- ## Communication Interface

  The application necessitates constant connectivity to the network to enable seamless information exchange between users. Additionally, the application communicates with the database server to ensure real-time data synchronization, updates, and secure login validation.

- ## Operations

  The application encompasses a multitude of user operations, including:

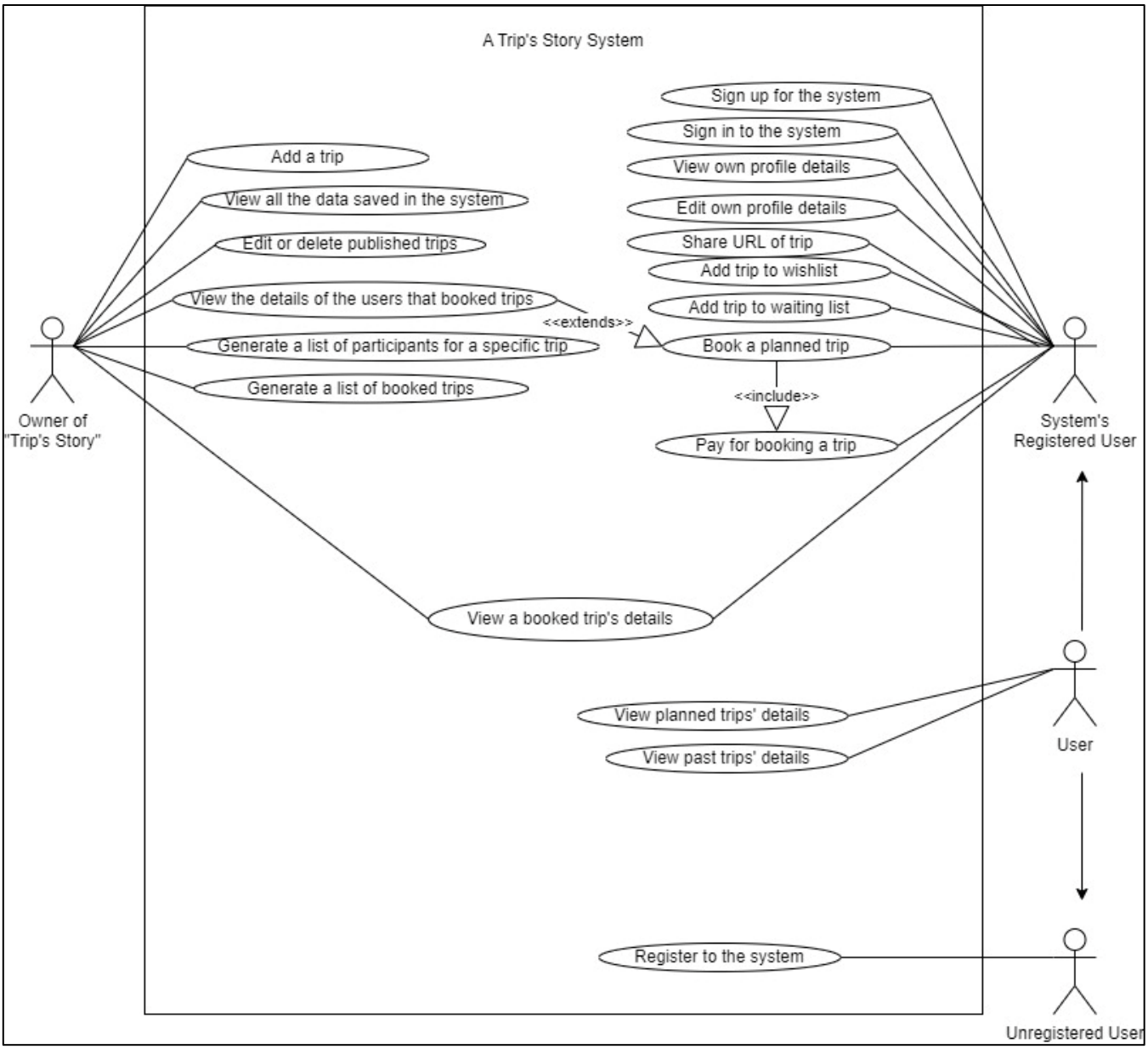
  - Adding, deleting, and updating trips within the database.
  - Displaying detailed information about upcoming and past trips.
  - Facilitating user registration and login procedures.
  - Sending timely notifications regarding newly added trips.
  - Sending timely notifications regarding reset password, payment confirmation, and declining booking.
  - Enabling users to view and book trips easily using various digital methods.
  - Implementing a writing list mechanism for trips with limited availability.
  - Granting participants, the ability to contribute selected trip photos.

- **Site Specific Requirements**

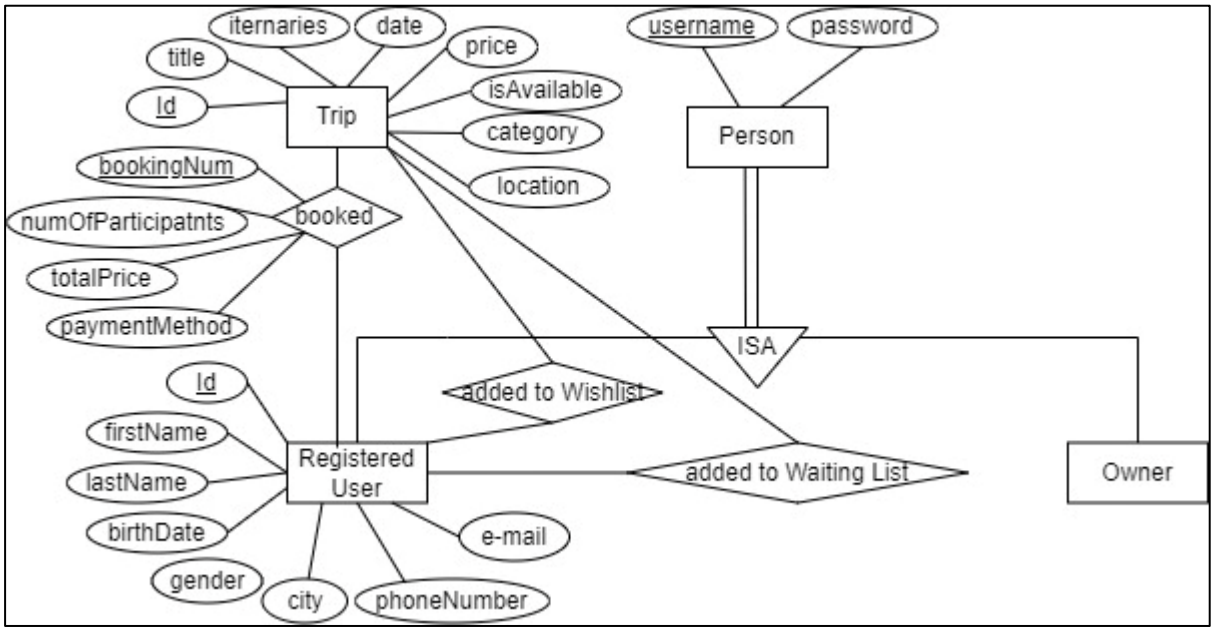
  The application boasts responsive design capabilities, ensuring optimal viewing and interaction experiences across a variety of devices, including desktops, tablets, and smartphones.

❖ Product Functional Requirements Specification – System Diagrams

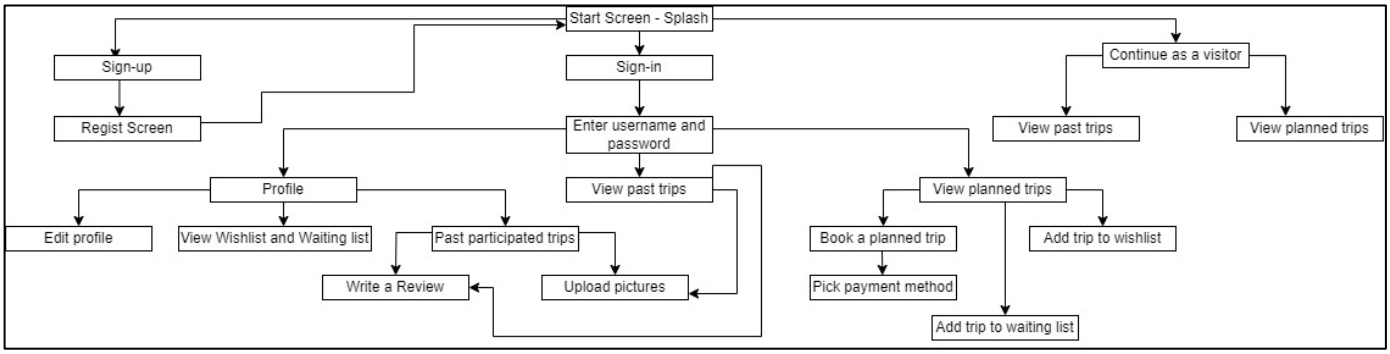
- **Use Case Diagram**



- **ERD Diagram**



- **Conceptual Model**



❖ User Characteristics

- The System is intended for the Owner of "Qest Meshwar – A Trip's Story" and the customers of the organization.
- The System is intended for all the users with basic background in using website.

❖ Constraints – Non-Functional Requirements

- **Hardware and Software Limitation**
  No Constraints is known.

- **Interface to other Software**
  The system interacts seamlessly with various software components to ensure a smooth user experience.

- **Parallel Activity**
  The system efficiently handles multiple users engaging in activities simultaneously, ensuring smooth operations even during peak usage periods.

- **Reliability Requirements**
  The system is designed to maintain high reliability. It ensures that trip data remains accurate and accessible at all times.

- **Security and Safety**
  The system places a string emphasis on security. User data is encrypted, ensuring privacy. Secure Login Mechanisms prevent unauthorized access, while regular data backups ensure safety against potential data loss.

- **The Criticality of the Website**
  The system plays a critical role in simplifying trip planning, publishing and participation processes. Its availability and functionality significantly impact the efficiency of the "Qest Meshwar – A Trip's Story" organization.

- **Procedures and Policies**
  The system adheres to established procedures and policies governing data usage, user privacy, and ethical considerations. It aligns with industry best practices to provide a secure and transparent platform for both customers and the organization.

❖ Assumptions and Dependencies

- The system is assumed to seamlessly handle both data sending and uploading simultaneously for various users, ensuring smooth synchronization of operations.
- The system is expected to consistently display up-to-date information to users, ensuring the accuracy and currency of the data presented.
- The system is designed to accommodate concurrent users' connections, allowing multiple users to interact with the system simultaneously and perform their intended operations.

Specific Requirements

❖ External Interface Requirements

- **User Interface**
  - The main page will provide options for user regression or login.
  - Users can create new accounts for registration.
  - The registration screen will include relevant customer fields for input and system storage.
  - Users can sign in.
  - The sign-in screen will require a username and password.
  - The interface will feature logically organized buttons.
  - In the trips' details screen, a "Book the Trip" button will be displayed.
  - After choosing to continue in the booking screen, users will be directed to choose the payment method, either by Bit or will have the option to contact Owner for cash payment.
  - Users can write reviews, rate, and upload pictures from their past trips.
  - Users can add to their Wishlist trips that they are interested in.
  - Users can add to their Waiting list trips that they are interested in, but is not available because it is booked by maximum number of participants, so when someone decline his booking, he gets a notification.
  - Users can view upcoming planned trips.
  - Users can access past trips, complete with participants-uploaded written reviews.
  - Users can select the number of participants they want to book for.

- **Hardware Interface**
  - The system can be accessed using a computer with a keyboard and mouse, tablet, or smartphone.

- **Software Interface**
  - Development will take place in the Visual Studio environment.
  - The operating system should support programming languages such as CSS, JavaScript, PHP, and HTML.

- **Communication Interface**
  - An active internet connection is required to access the website.

❖ Requirements Analysis

- **Functional Requirements**
  - **Types:**
    - **O –** Operational Requirements
    - **D –** Data Requirements
    - **I –** Interface Requirements.

- **Detailed Non-Functional Requirements**
  - **Types:**
    - **M –** Management Constraints
    - **P –** Performance Requirements
    - **Q –** Quality Attributes
    - **H –** Hardware Requirements.

	Wording of the Requirement	**Type of the Functional Requirement (O,D,I)**	**Type of the Non-Functional Requirement (M,P,Q,H)**
1.	The system will allow identification of a user in front of the system by logging in with a username and password.	O, D	Q
2.	The system will save the registered user's username, first name, last name, birthdate, gender, e-mail, city, and phone number.	D	
3.	The system will ask the user to press on its various buttons to perform actions.	O	
4.	The system will allow the Owner printing reports.	O, D	H
5.	In order not to overload the system, data backup and update will only be performed at night.		Q
6.	The time to generate a report through the system should not exceed 15 seconds.		P
7.	The system will work in an environment of different Operating Systems.		H
8.	The system is required to be typed for the visually impaired (large print, color blind, etc.).		M
9.	The system will save details about the past trips and the upcoming planned trips that the Owner added.	D	

10.	The system will support the following languages: English, Hebrew, and Arabic.		M
11.	The form for booking a trip through the system will be available 24/7 until the getting to the limit of the maximum participants number for a specific trip.		M
12.	The system must be reliable (without failures and crashes) and fast (process execution times up to 15 seconds).		P, Q
13.	The system must limit the authorized actions for each user according to the type of the user (Owner, Registered User, or Unregistered User as a visitor).		Q
14.	The system will send an email to the user that has booked a trip with the crane trip data and booking confirmation.	D, O	
15.	The system will allow the Owner to view the list of the registered users which are the customers.	O	
16.	For each trip that needs to be added, the system will allow the Owner to enter the trip's details: trip title, location, date, time, price, max participants, itineraries, pictures of the place, and category.	O	
17.	The system will calculate the cost of the booking for each booking trip according to the details it has about the price of the trip and the number of participants that the user is booking the trip for.	O, D	M
18.	The system will allow the Owner to view the users that have booked a specific trip.	O	
19.	All the users will connect to the system via the Internet.	I	H
20.	User details are stored on a main server.	D	M, H
21.	The time of sending emails to the users should not exceed 30 seconds.		P
22.	The system will display the details of the user, his past participated in trips, booked trips, Wishlist, and waiting list on his profile after identification.	O	
23.	The system will allow the user to log out.	O	
24.	Page loading time less than 10 seconds.	I	P
25.	The system sends an email to the users to reset password.	O, I	
26.	The system sends an email to the user that has added a trip to his waiting list because of the maximum number of participants limitation, when someone declines his booking to that trip.	O, I	
27.	Whenever a newly trip is added by the Owner, the system sends emails to all the users that has booked and participated in past trips.	O, I	
28.	The system will require an internet connection.		H
29.	The system will support all browsers.	I	
30.	The system will allow the users to view past trips that has been done by the organization.	O	

31.	The system will allow the users to view the reviews that other users have written about a past trip that they have participated in.	O, D	
32.	The system will allow the users to view planned trips that are upcoming and organized by the organization.	O	
33.	The system will display the data of trips that are relevant to the user.	O, D	
34.	The system will keep data on users' past participated in, trips.	D	
35.	The system will allow registration that includes entering details: username, password, password confirmation, first name, last name, birthdate, gender, e-mail, city, and phone number.	O, D	
36.	The system will show the users the trips by category.	O, D	
37.	The system will show the users the trips by date.	O, D	
38.	The system will allow users to enter reviews on the trips that they have participated in, including feedback, rating, and uploading pictures.	O, D	
39.	The system will save the reviews on the trips.	D	
40.	The system will allow the user to choose a trip.	O, D	
41.	The system will create a payment method confirmation.	O, D	
42.	The system will send a payment method confirmation to the user who has booked a trip in email.	O	
43.	The system will receive the user's actions (pressing buttons).	O	
44.	The system will inform all the users about updates.	O, I	
45.	Information about the system status will be saved on the central computer.	D	M
46.	The server will interface and pass commands to end computers.	I	H
47.	The system will allow the Owner printing of all the relevant data by clicking on the print button.	I, O	H
48.	The system will send data to the main server after the user logs out.	O, D	M
49.	The time to send data to the server should not exceed 15 seconds.		P
50.	The system will save for the user the trips that he has added to his Wishlist.	D	
51.	The system will save for the user the trips that he has booked.	D	
52.	The system will save for the user the trips that he has added to his waiting list.	D	

❖ Performance Requirements

- The system is expected to maintain stability and uninterrupted availability, ensuring continuous operation 24/7, regardless of time or location.
- The response speed of the system when a user clicks a button should be swift, providing seamless and efficient user experience.

❖ Design Constraints

- The application will feature a simple yet appealing design.
- The design will prioritize user convenience, clarity, and utility.
- Additionally, it will incorporate visually attractive elements to engage and captivate the user.

❖ Software System Characteristics

- **Reliability**
  The system is required to consistently display accurate and complete data from the database, ensuring the integrity of the information.

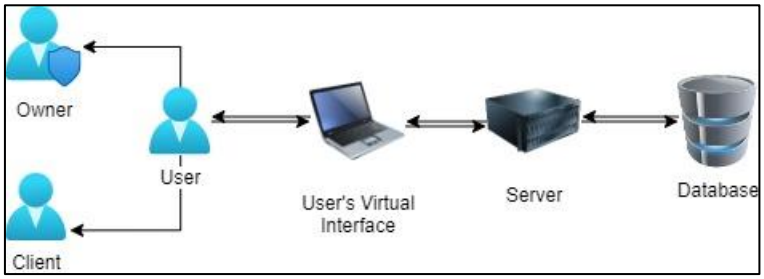
- **Availability**
  The system will maintain round-the-clock availability, ensuring users can access it anytime, day or night.

- **Securing**
  - Administrative privileges to add, delete, and update trips will be limited to the Owner.
  - Personal Information of the users will be limited to the Owner usage.

- **Maintenance**
  The developer team will provide ongoing support and updates to the website as needed. This ensures the system remains up-to-date and maintains the accuracy of its information.

- **Mobility**
  The system is designed to function simultaneously across multiple devices, enhancing user flexibility and convenience.

System Architecture



Development Technologies

❖ Workspaces

- **Visual Studio:** an integrated development environment used to efficiently create, debug, and deploy software applications.
- **phpMyAdmin:** a web-based tool that simplifies the management of MySQL databases, allowing developers to interact with databases through an intuitive interface.

❖ Development Languages

- **HTML – HyperTextMarkupLanguage:** the standard language for structuring content on the web, defining the elements that make up web pages.
- **CSS – CascadingStyleSheet:** used to style HTML elements, controlling their appearance and layout.
- **JS – JavaScript:** a programming language that adds interactivity and dynamic behavior to websites.
- **PHP:** a server-side scripting language used for creating dynamic web content and interacting with databases.

❖ Management Tools

- **GitLab:** a platform that facilitates collaborative software development by providing version control, issue tracking, and continuous integration tools.
- **XAMPP:** a local development environment that bundles essential tools like web server, database, and scripting languages for testing and building web applications on a personal computer.

❖ Development Tools

- **Google APIs:** provide access to various Google services, allowing developers to integrate features maps, location, translator, or authentication into their applications.

Interface Documentation

❖ Potential Users

1. **The Owner of "Qest Meshwar – A Trip's Story" organization –** who is responsible for planning and publishing the trips. Also, for adding, deleting, and editing the trips' details.

- **Persona of the Owner**

2. **The Customers of "Qest Meshwar – A Trip's Story" organization –** who can view past and planned trips, add them to Wishlist or to their waiting list, and book them.

- **Persona of a Customer**

❖ User Stories

- **Story of Balkes Wishahe – the Owner:**

  On a busy Monday morning, Balkes Wishahe, the founder of "Qest Meshwar – A Trip's Story", started her day with energy and purpose. She wakes up at 7:00AM, ready to tackle the day's responsibilities. Her first task is to prepare her children for school, ensuring she's ready and off to a good start.

  After ensuring her daughter is taken care of, Balkes turns her attention to her work. Knowing the importance of keeping the website up to date, she logs into the website's admin interface using her username and password. With a few clicks, she begins entering the exciting details of the upcoming group trips she's planning for. She adds all the necessary information, including trip title, location, date, time, price, maximum participants, itineraries, pictures and category, eager to offer unique experiences to adventure enthusiasts.

  One of the things that excites Balkes the most is the thought of people joining and participating in the trips she's planning. With a sense of purpose, she arranges the trips meticulously and organizes them to appeal to her audience. She knows that the right presentation can make all the difference. Using the user-friendly interface, she publishes the trips in an organized and attractive manner, showcasing the essence of each adventure she's designed.

  Among the tasks she values most is tracking the status of trip bookings. Through the interface, she quickly accesses the information she needs, seeing how many participants have signed up and how many spots remain. This knowledge empowers her to make informed decisions and adjustments to ensure the trip's success.

  Another important aspect of her role is generating reports about the bookings for the trips. She exports and prints these reports to keep herself organized and prepared for the upcoming adventures. This attention to detail allows her to ensure a smooth an enjoyable experience for all participants.

  Balkes Wishahe, driven by her passion for adventure and exploration, feels fulfilled as she accomplishes these tasks. With her dedication to crafting exceptional experiences and her efficient use of the interface, she's confident in her ability to continue planning, organizing, and sharing unforgettable group trips for all to enjoy.

- **Story of Camilla Cabello – the Customer:**

  Camilla Cabello, a 24-year-old adventure enthusiast, starts her day with excitement and curiosity. She wakes up ready to explore and experience new things. One of her first tasks is to get ready for university, and after doing that she logs-in to the website of "Qest Meshwar – A Trip's Story" that offers thrilling group trips.

  After logging in using her chosen username and password, she navigates the interface with ease, exploring the published trips' details. With each click, she immerses herself in the potential journeys she could embark upon.

  Camilla's spirit of adventure leads her to select a trip that resonates with her. With a few swift actions, she books her spot on the trip, excited about the upcoming experience.

  In her free time, Camilla takes the opportunity to curate her personal adventure Wishlist. She thoughtfully adds, edits, or removes trips from her Wishlist, ensuring it reflects her dreams and aspirations. She also manages her waiting list, knowing that sometimes the best opportunities come when you least expect them.

  Camilla is an influencer in her own right. She values the importance of sharing experiences and inspiring her friends. With the simple click of a button, she shares the details of her chosen trips with her friends on social media, planting the seeds of adventure in their minds.

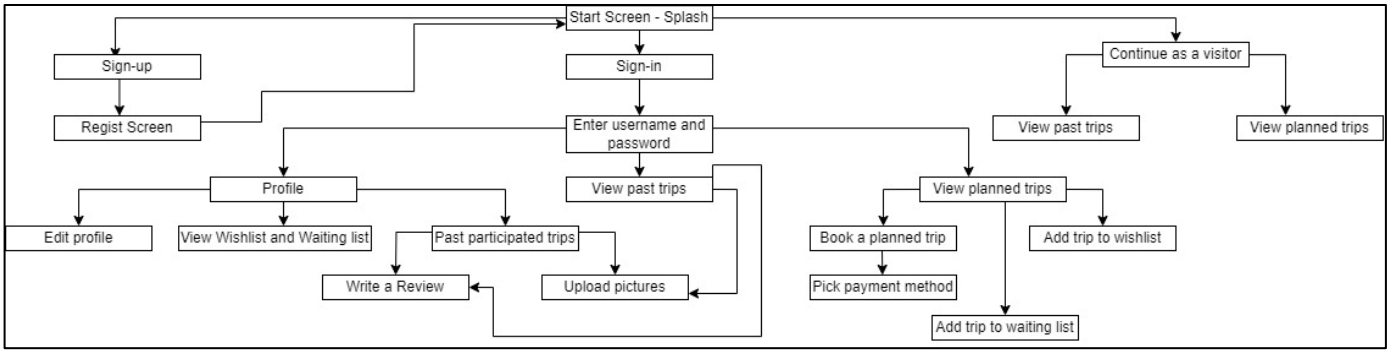
  One of Camilla's passions is leaving her mark through reviews and ratings. She participates in trips with enthusiasm and care, and afterwards, she takes the time to add a review and a rating to share her experience. She knows that her words can encourage others to embark on the journey.

  By engaging in these activities, Camilla aims to create unforgettable experiences. She wants to meet new people who share her love for adventure. With a heart open to exploration and connection, Camilla looks forward to friendships she will make and the memories she will create.

  As Camilla continues to engage with the website, she feels a sense of fulfillment, knowing that each task brings her closer to realizing her dreams of exploration, connection, and growth. With every adventure she joins, shares, and reviews, she leaves her mark on the world and continues to inspire both herself and others around her.

❖ The Interface

- **Conceptual Model**



- **Link to Prototype on Figma**

  https://www.figma.com/file/DR63YjXrmH0AfOBf5Sw5No/Final-Prototype-for-A-Trips-Story?type=design&node-id=0%3A1&mode=design&t=R0HOnsMCBAzUNokf-1

- **Link to the Prototype Flow (interactive)**

  https://www.figma.com/proto/DR63YjXrmH0AfOBf5Sw5No/Final-Prototype-for-A-Trips-Story?type=design&node-id=1-140&t=Yzuxhdm8ffPllmkT-1&scaling=scale-down&page-id=0%3A1&starting-point-node-id=1%3A140&mode=design