SYSTEM REQUIREMENTS

P02: ZAROORAT.COM

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1. Introduction

In the rapidly evolving world of e-commerce, the relationship between buyers and sellers is continuously being redefined. Traditional online marketplaces tend to operate in a seller-centric manner, where sellers list their products, and buyers browse through these listings to make their purchases. While this model has proven effective in many scenarios, it often leaves buyers with limited options when they have specific needs that don't align perfectly with the available listings. As consumers increasingly demand personalization and convenience, there is a growing need for a marketplace that addresses this limitation and fosters a more collaborative relationship between buyers and sellers.

Our project introduces an innovative approach to online marketplaces by creating a platform that not only allows sellers to list their products but also gives buyers the power to post their specific requirements. This dual functionality transforms the marketplace into a more dynamic and interactive ecosystem where buyers actively express their needs, and sellers can respond by offering products that meet those exact requirements. This model reduces the gap between supply and demand, enabling sellers to more effectively target interested buyers and ensuring buyers find the products that truly fit their preferences.

The core objective of this project is to design and implement a marketplace that enhances the traditional e-commerce experience. Buyers will no longer be confined to searching through predefined listings but can instead list the products or services they are looking for. Sellers, in turn, will have visibility into these buyer requests and can engage directly with potential customers by offering relevant products or negotiating terms that meet the buyer's expectations. This two-way interaction fosters a marketplace that is more responsive, transparent, and efficient.

A key focus of our project is to simplify and streamline communication between buyers and sellers. The platform will feature an intuitive user interface that allows both parties to post, search, and communicate with ease. Buyers will be able to track the offers they receive in response to their requests, compare different sellers, and make informed purchasing decisions based on personalized recommendations. Sellers will benefit from real-time notifications of buyer requests that match their inventory, allowing them to act quickly to meet demand. This buyer-driven interaction introduces a new level of personalization and convenience, benefiting both parties involved in the transaction.

Our target audience for this platform includes individual consumers, small businesses, and larger enterprises. Individual consumers will appreciate the ability to request highly specific products, while businesses can leverage the platform to source bulk orders or specialized items. Additionally, the platform can serve niche markets where product availability may be limited, empowering buyers with greater choice and sellers with direct access to a motivated customer base.

Furthermore, our marketplace is designed with scalability and flexibility in mind. As the platform grows, we plan to incorporate advanced features such as AI-driven product matching, where

algorithms analyze buyer requests and suggest potential matches from a seller's inventory. This feature will streamline the offer-making process for sellers and make it easier for buyers to receive relevant product suggestions. The system will also allow for future integrations with payment gateways, shipment tracking, and customer review systems to create a comprehensive and seamless e-commerce experience.

Ultimately, this project aims to revolutionize the traditional marketplace model by making it more buyer-driven, interactive, and efficient. By bridging the gap between buyer needs and seller offerings, our platform will create a more engaging and fulfilling experience for all users. This approach will not only improve transaction success rates but also foster stronger relationships between buyers and sellers, setting a new standard for online commerce in the modern digital era.

2. System Actors

Actor Name	Description
Seller (Services)	This user is one of the two types of sellers on this platform. This user will sell his/her services at a per-hour rate. This user can also consider a better offer, either on the lower or higher ends.
Seller (Products)	This is the second type of seller. This user will sell something tangible (i.e., a product) for a fixed price. This user can also consider some flexibility on the price.
Customer (Services)	This user is one of the two types of customers on this platform. In addition to buying the services from the seller, this user can also list the services needed independently. This type of user

	will provide a range of their budget, i.e., a low and a high-end. The sellers can approach these customers directly with a better offer.
Customer (Goods)	This is the second type of customer. This type of user can either buy from the listings posted by sellers or list for specifications and a budget for the product they are looking for. This type of user can provide a budget range or a fixed amount. Sellers can approach these customers if they wish to sell at the customer's price.
System Administrator	The System Administrator will maintain the system, which includes managing user accounts and ensuring smooth operational running of the website. Moreover, the system administrator will also work as a moderator, overlooking all the listings being posted and will verify the authenticity of the listing. Look out for any glitches or unexpected errors, and update the website.

3. Functional Requirements

Requirements	
Sr#	**Requirement**
1	As a new user (seller or buyer), I want to sign up for an account by providing my email, password, and basic information so that I can access personalized features of the travel planner.
2	As a registered user (seller or buyer), I want to sign in to my account using my email and password so that I can access my saved preferences and booking history.

3	As a user (seller or buyer) I want to reset my password in case I want to change it or forget it.
4	As a buyer, I want to search for the products by typing the keywords in the search bar.
6	As a buyer, I want to list the product that I need with the requirements such as price of the product.
7	As a buyer, I want to send the price offer to the seller who is selling the product whose price can be negotiated.
8	As a buyer, I want to chat with sellers to know more about the product.
9	As a business buyer, I want to give a rating to share my experience about the product and the seller.
10	As a seller, I want to list the product with some description and the price of that product.
11	As a seller, I want to list the intangible product or a service on the platform.
12	As a seller, I want to decide if the price of the product is negotiable or not.
13	As a seller, I want to send an offer to the buyer who has listed a product which they want.
14	As a seller, I want to chat with the buyer to know more about their requirements or to put an offer to them on which conditions can be met.
15	As a seller, I want to give a rating to share my experience with the buyer.
16	As a system administrator, I want to monitor system performance and uptime so that I can ensure a smooth user experience and address any issues promptly.

17	As a <mark>system administrator</mark>, I want to update or change the design of the website.
18	As a <mark>system administrator</mark>, I want to monitor the ads and decide whether to approve the ad to be up on the website or to decline the ad.

4. Non-functional Requirements / Quality Attributes

Sr#	Requirements
1	The system should not utilize more than 1 GB of memory at any time during its execution.
2	The system should not fail more than 3 times every 24 hours. In case of a failure, the system should restore to normal operations within 5 minutes of a failure.

3	The response time for search queries should be less than 2 seconds for 95% of the requests.
4	The user interface should be responsive and provide a consistent experience across different devices, including desktops, tablets, and smartphones.
5	The system should be accessible 24/7 with an uptime of 99.9% over any given month.
6	The system should ensure data integrity and consistency, particularly when handling concurrent updates to booking information.
7	The system should provide user authentication and authorization mechanisms to ensure that users can only access their own data and features.
8	The system should be compatible with the latest versions of major web browsers, including Chrome, Firefox, Safari, and Edge.
9	The system should be designed to handle up to 1 million records in the database without significant performance degradation.

5. Security Requirements

Sr#	Security Risks	Potential Losses	Controls
1	DDoS (Distributed Denial of Service)	- System downtime - Loss of business revenue due to service unavailability - Reputational damage	- Use DDoS protection services (e.g., Cloudflare, AWS Shield) - Limit the number of posts published by users. - Load balancing and traffic filtering - Network traffic monitoring
2	Injection (SQL, NoSQL, Command Injection)	- Database corruption - Data breaches - Business loss due to loss of user trust	- Input validation and sanitization - Parameterized queries or prepared statements - Web Application Firewall (WAF)
3	Broken Access Control	- Financial loss due to unauthorized transactions - Reputation damage - Legal consequences	- Implement Role-Based Access Control (RBAC) - Regular access reviews - Multi-Factor Authentication (MFA) systems. Regularly

			monitor network traffic for unusual patterns.

6. Who Did What?

Name of the Team Member	Tasks done
Aniqa Aqeel	Security requirements
Hasan Malik	Introduction, Security Requirements
M. Umer Jamil	Functional Requirements
Abdul Ahad	System Actors
Saad Ilyas	Non Functional Requirements

7. Review checklist

Before submission of this deliverable, the team must perform an internal review. Each team member will review one or more sections of the deliverable.

Section Title	Reviewer Name(s)
Introduction	Aniqa Aqeel
Actors	Saad Ilyas

Functional Requirements	Abdul Ahad Bin Ali
Non-functional requirements	M. Umer Jamil
Security Requirements	Hasan Malik