

## SYSTEM REQUIREMENTS

**P02:BAECHDAY.COM**

**<TEAM MEMBER NAMES & IDS>**

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## 1. Introduction

Pakistan is a huge country with a population numbering in the millions, yet the GDP of Pakistan remains rather low as compared to its massive population. We aim to facilitate the people of Pakistan by presenting our auction system. Our software will allow people to auction off their belongings to interested parties. Currently there exists no such platform that supports auctioning as a mechanism. In the status quo, people must spend valuable time and effort searching for customers to purchase their goods at a decent price. We aim to bridge this divide and bring value to the economy of Pakistan by solving this problem.

This software will target both businesses and individuals in the Pakistani context. Small scale businesses currently do not have a platform to bid for resources, and shipments. A small scale mobile phone retailer finds it very inconvenient to currently bid for a shipment of mobile phones and similarly, repair shops face the same issue with car spare parts. Our auction system will allow wholesalers to enter their products for retail vendors to bid on. This has the potential to facilitate both wholesalers and the retail industry of Pakistan. Likewise, on a more individual scale, people with valuable assets are unable to put up their goods for the best price and must sell at the highest customer they manage to find. Our model will allow these users to list their belongings and allow bidding on it for the user to find the best price they can get from their belongings.

Our software will function similar to an ecommerce marketplace but with the added functionalities of timed biddings, scheduling of bids and other functionalities that will make the auction system a good and worthwhile experience for the users we target.

## 2. System Actors

Actor Name	Description
Admin	Admin is the auction marketplace owner, a middleman entity ensuring smooth auction process and verification of products. Admin will provide customer support and track the progress of profits, bids and transactions.
Seller	The seller will be able to upload products on this platform and wait for people to bid on them.
Bidder	The bidder will be able to search for products that are auctioned and bid on them.

### 3. Functional Requirements

Requirements	
Sr#	Requirement
1	As a bidder, I want to sign up/create an account on the platform.
2	As a bidder, I want to login to the platform.
3	As a bidder, I want to search for the products present on the platform.
4	As a bidder, I want to bid on the products.
5	As a bidder, I want to view the information (bidding status, minimum bid, highest bid, image) of a product.
6	As a bidder, I want to view products that I have currently bid on.
7	As a bidder, I want to view all products that I have bid on.
8	As a bidder, I want to view all hot bids (having large number of bids) products.
9	As a bidder, I want to contact customer support.
10	As a bidder, I want to rate the seller after the successful transaction.
11	As a bidder, I want to view my own rating.
12	As a bidder, I want to change my name.
13	As a bidder, I want to change my email address.
14	As a bidder, I want to change my password.
15	As a bidder, I want to change my contact info.
16	As a bidder, I want to change my profile image.
17	As a bidder, I want to delete/deactivate my account.
18	As a bidder, I want to logout of my account.
19	As an admin, I want to login to the platform.
20	As an admin, I want to verify products that are to be sold.
21	As an admin, I want to track the profit made.
22	As an admin, I want to view bids on a product.
23	As an admin, I want to add products to featured items.
24	As an admin, I want to view ratings of users.
25	As an admin, I want to ban malicious users.
26	As an admin, I want to logout of my account.
27	As a seller, I want to signup/create an account on the platform.
28	As a seller, I want to login to the platform.
29	As a seller, I want to add a product to the platform to be sold.
30	As a seller, I want to add a minimum bid for my product.
31	As a seller, I want to view the bids on my product.
32	As a seller, I want to view the products I have sold.

33	As a seller, I want to view the bidder's rating.
34	As a seller, I want to view other products on the platform.
35	As a seller, I want to view my own rating.
36	As a seller, I want to rate the bidder after a successful transaction.
37	As a seller, I want to change my name.
38	As a seller, I want to change my email address.
39	As a seller, I want to change my password.
40	As a seller, I want to change my contact info.
41	As a seller, I want to change my profile image.
42	As a seller, I want to delete/deactivate my account.
43	As a seller, i want to logout of my account.

## 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 three times every 24 hours. In case of a failure, the system should restore to normal operations within 5 minutes of failure.
3	The system should be secure and should support payment gateways. All passwords need to be encrypted and stored in a database.
4	The webpages should have a minimum delay and load within 2-3 seconds.
5	Auction process should be fast and simple. Customers should be informed of the latest status of their bid, such as "Your bid has been placed," "Your item is up for auction," etc.
6	The website will conduct checks to ensure that all data entered into the system is correct. This information includes user phone numbers, email addresses, and a backup phone number if they have one. Furthermore, if an item is already auctioned, the system will ensure that no further bids are placed on it.
7	MongoDB database should not timeout and should be updated within 2-3 seconds.
8	Website should be highly responsive and behave in accordance with user actions. The website should be able to easily modify the items to whatever the admin wishes them to be.
9	Website should be consistent across all web pages.
10	The website should have a simple layout to make it easy for the user to navigate without training. This will be accomplished by including toolbars, a home page, and other widgets that will direct the user
11	The back-end and front-end of the website shall be synchronized at all times and provide the users with real-time information.
12	The website shall be SEO compliant to catch traffic online.
13	The server will be up and running at all times, allowing customers to access all website functions within 3 seconds of submitting a request.
14	Any device with a web browser and a reliable internet connection should be able to operate the system.
15	Maintenance of the system should be cost-effective, and any faults that appear should be easily repairable. We'll check the website to make sure that it is up and running correctly on commonly used web browsers

16	Daily backups of the entire website, including the databases, will be made so that if the site collapses, we'll have a backup.
17	Selenium will be used to test the website because the majority of our use cases are highly testable, we will use component testing before launching. Our Selenium script will automatically test all functionalities with acceptable and unacceptable cases. Moreover, we will conduct our own separate tests to get user input.



## 5. Security Requirements

Sr#	Security Risks	Potential Losses	Controls
1	Injection / XSS attack	Data theft, financial loss, litigation	use a safe API, Use positive server-side input validation
2	Broken Access Control	Financial loss, total business loss, litigation	Implementing and reusing access control mechanisms throughout the application
3	Cryptographic Failures	Data theft, financial loss, litigation	Don't store sensitive data unnecessarily, encrypt all sensitive data at rest,

Sr#	Security Tool Name	Brief description (why the tool is suitable for your project)
1	Checkmarx SAST	<ol style="list-style-type: none"> <li>1. Combines advanced features with web based user interfaces</li> <li>2. Enables those who are new to security concerns to work efficiently</li> </ol>
2	Acunetix DAST	<ol style="list-style-type: none"> <li>1. searches for over 7,000 vulnerabilities in completed code, website designs, applications etc</li> <li>2. starts its scans while a program is actively running, potentially uncovering more vulnerabilities</li> </ol>

## 6. Who Did What?

Name of the Team Member	Tasks done
Moiz Nafey	1- System Actors. 2- Functional Requirements.
Mahad Mubashir Beg	1- Non-functional Requirements
Nashit Iftikhar	1- Security requirements
Muhammad Arslan Ullah Tarar	1-Functional Requirements
Silal Anwar	1- Introduction

## 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	Muhammad Arslan Ullah Tarar
Actors	Mahad Mubashir Beg
Functional Requirements	Silal Anwar
Non-functional requirements	Nashit Iftikhar
Security Requirements	Moiz Nafey