

Software Requirements Specification (SRS) Template



Software Requirements Specification Document (CS360)

GoBid





Group Number: 08

Saad Akbar
Syed Taimoor
Taimur Salman
Salman Masood

Course: Software Engineering CS360

Instructor: Suleman Shahid

University: Lahore University of Management Sciences (LUMS)

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1 Introduction

Bidding apps such as eBay and Manheim provide hassle free auctions. They allow sellers to put their items up for auction, and provide features that allow potential buyers to find their product. Buyers can easily look up products to suit their needs using the search functionality, tags, and filters. Such apps do not exist in Pakistan, and substitutes such as OLX leave room for improvement. Thus we propose **GoBid**, the first bidding website for Pakistan.

The introduction section provides a brief overview of **GoBid** and the document. Included in the introduction section are: the document purpose, product scope, the intended audience of the document, all definitions, acronyms and abbreviations used in the document, and references to any sources used.

1.1 Document Purpose

The SRS serves as a collection of all the features of **GoBid**, a brief description of their implementation, and how they are to be used by end users. In addition, it describes the target users for **GoBid**, the functional and non-functional requirements and provides a plan of how we hope to implement the functionalities and hope to achieve user satisfaction. The SRS serves as a source for anyone looking to understand our strategy and implementation methodology.

1.2 Product Scope

GoBid is a bidding website which hopes to provide hassle free auctioning in Pakistan, with an easy to use interface. Current options such as OLX are not made with auctioning in mind. They function more as advertisements for people who wish to buy used products. We wish to introduce a website specifically designed for auctioning. Other websites often have auctions of niche, discontinued, and old items which may be used as parts for other products or as collector items. The market for online bidding websites in Pakistan is in its infancy. We hope that our app can drive this market forward and introduce this to the average person, which may then open other avenues for business.

1.3 Intended Audience and Document Overview

This document is intended for a course project, as such the intended audience is our client, the teaching assistants and the instructor grading us. The SRS contains the following sections:

- **Introduction:** An overview of **GoBid** and the SRS itself, along with a list of definitions, acronyms, abbreviations and all references used.
- **Overall Description:** A detailed description of **GoBid**, the functionality, the users and any assumptions that may affect the project at any point.
- **Specific Requirements:** The functional requirements, external interface requirements, and use cases.
- **Other Non-functional requirements:** Any non-functional requirements, performance, safety and quality. Includes user stories, and the group log.

The suggested sequence to read this document is to read in order. For the client, the most useful sections would be the overall description and the functional requirements to gain an overall understanding of **GoBid**.

1.4 Definitions, Acronyms and Abbreviations

- Auction: A system of buying where the item is sold to whoever is offering the best price.
- Bids: A name for offering a price for an item in an auction.
- trolls: People online who seek to disrupt the flow of things for fun.

1.5 References and Acknowledgments

- [eBay User Roles](#)

2 Overall Description

2.1 Product Perspective

GoBid is intended to be used in Pakistan. Auction websites dedicated for the Pakistani populace do not exist, and others such as eBay may not offer their full range of services in Pakistan. As such, we hope to introduce bidding websites and mobile apps to Pakistan.

2.2 Product Functionality

- Users will be able to sign in with, and make an account
- Users will be able to post auctions
- Users will be able to bid on existing auctions
- Users will be able to communicate with their respective sellers and buyers after the auction is sold

2.3 Users and Characteristics

- **Users:** Users of the **GoBid** website. They are split into two groups: sellers and buyers. Satisfaction of both sellers and buyers are the utmost priority.
 - **Sellers:** A seller is a user that can put up items for sale. To do so the user must be authorized to sell. A seller may be revoked of their privilege to sell items if there are numerous reports against them. For messaging the seller also acts as the moderator of the chat.
 - **Bidders:** Bidders can bid on various auctions in the system. If the Seller chooses to sell an auction, the bidder with the highest bid will be given the item on auction. The bidder can take part in the messaging feature with a seller when the seller chooses to sell the item.

2.4 Assumptions and Dependencies

- It is assumed the the user of the application knows the English language
- The users are expected to have some technological knowledge
- The users will have access to the internet
- The website will remain online 24/7
- The maximum number of active accounts for a phone-number is one

3 Specific Requirements

3.1 Functional Requirements

Category: Account (Login/Signup/profile)

- **RQ1: Signup**
 - **Description:** The user will be able to create an account on **GoBid**.
 - **Input:** A valid email address, username, phone number, and a valid password. Phone number has to be unique.
 - **Processing:** The information entered is processed, checks are performed to ensure that the username is unique and the password is valid.
 - **Output:** A new account is created and the user is redirected to the dashboard. The user is shown an appropriate error message in case of invalid information.
- **RQ2: Login**
 - **Description:** A user will be able to login to **GoBid** if they enter the correct information.
 - **Input:** Username, password
 - **Processing:** The entered information is verified. If correct, the user is successfully logged in, otherwise an error message pops up.
 - **Output:** The user is logged into their account and redirected to the dashboard.
- **RQ3: View my profile**
 - **Description:** There is a tab on the dashboard which redirects the user to their profile page, allowing them to view their account, ongoing and completed auctions, bids they've made etc.
 - **Input:** Mouse click
 - **Processing:** Redirects to the page and fetches information.
 - **Output:** The user is redirected to the profile page.
- **RQ4: View dashboard**
 - **Description:** The dashboard is the homepage of the **GoBid** website. The users may view various items and categories offered.
 - **Input:** Mouse click.
 - **Processing:** Redirects to the page.
 - **Output:** The user is redirected to the dashboard.
- **RQ6: Inbox**

- **Description:** The user will be able to use an inbox feature that will have all the notifications for their completed bids, auctions, seller/buyer contact info and any other system messages.
- **Input:** Button Click.
- **Processing:** Fetches information.
- **Output:** The user will be shown a list of their notifications.

Category: Auctioning (Selling and buying)

- **RQ7: Post an auction**

- **Description:** The user is able to post an auction for an item that they wish to sell.
- **Input:** A title, a picture of the item, description, price, tags(optional), category, how long would the auction last, and the condition of the item, and a minimum bid.
- **Processing:** Checks are performed to ensure that the user fills in all relevant fields.
- **Output:** The item is now available for auction, and interested bidders may bid on it.

- **RQ8: Cancel an existing auction**

- **Description:** The user can cancel one of their auctions, at a cost
- **Input:** Click on the “Cancel auction” button in the “View my auctions” interface
- **Processing:** All existing bids on the auction are cancelled and the auction is deleted from the database. The “auctions cancelled” count for the user who cancelled the auction increases by 1
- **Output:** The user who deletes the auction is given a notification that their auction has been cancelled successfully.

- **RQ9: Sell an item in an auction to the highest bidder**

- **Description:** The user is able to sell their auction to the highest bidder
- **Input:** Clicking on the “Sell to the highest bidder” option in the “View my auctions interface”
- **Processing:** Confirm that the user is the owner of the auction
- **Output:** The status of the auction is changed to “completed” and the seller and bidder are connected through the inbox feature for communication

- **RQ10: Bid on an existing auction**

- **Description:** The user is able to bid on an existing auction with a certain amount of money
- **Input:** The amount of money the user wants to bid
- **Processing:** Checks whether the amount bid is larger than the currently largest bid on the item
- **Output:** The bidder’s bid is recorded, and their name is recorded as the highest bidder on the item. The bidder is also given a popup notification that their bid has been recorded

- **RQ11: Cancel a bid on an existing bid**

- **Description:** The user can cancel their bid on an auction
- **Input:** Click on the “Cancel Bid” button in the “View my Bids” interface
- **Processing:** The bid on the auction is cancelled and the highest bid is restored to the previous highest bid. The “bids cancelled” count for the user who cancelled the auction increases by 1. A user cannot make a bid on an auction he has cancelled his bid twice on.
- **Output:** The user who deletes the Bid is given a notification that their bid has been cancelled successfully.

Category: User Interface

- **RQ12: Search for existing auctions**
 - **Description:** The user is able to search for auctions based on the text they enter
 - **Input:** Text from the user
 - **Processing:** The program fetches a list of auctions whose names match the given text
 - **Output:** A list of auctions whose name matches the text entered by the user
- **RQ13: Filter**
 - **Description:** The user is able to filter a list of auctions based on their category and other criteria
 - **Input:** A list of tags which need to be filtered from the search
 - **Processing:** The list of auctions is filtered based on the tags provided by the user
 - **Output:** A new list of auctions is returned, with tags only matching the tags the user entered
- **RQ14: Categories**
 - **Description:** The user is able to view different categories of auctions
 - **Input:** The user clicks on the “View categories” on the dashboard and chooses a category
 - **Processing:** None.
 - **Output:** Displays the list of auctions that fall into the category that the user selected

-> potential requirement: complain against a particular user. if someone sells an auction and the buyer backs out after the seller clicks on “sell to the highest bidder”

3.2 External Interface Requirements

3.2.1 User Interfaces

The user interface would be compatible with all the browsers such as Google Chrome, Mozilla etc. which will allow the user to utilise all the software’s functionalities easily. The software would interact with the users to ensure that the interface is visually affordable and convenient keeping all the GUI standards in mind (for instance not overwhelming the main page such that the actual contents are affected) which will thus reduce the gulf of execution and evaluation making the software and its design more interactive.

3.2.2 Hardware Interfaces

One of the major hardware interface requirements is the ability of the system to connect to the internet as our bidding website would only be accessed provided the internet connectivity. The hardware and software both should be compatible with each other for optimum efficiency.

3.3 Use Case View

3.3.1 Use Case Table

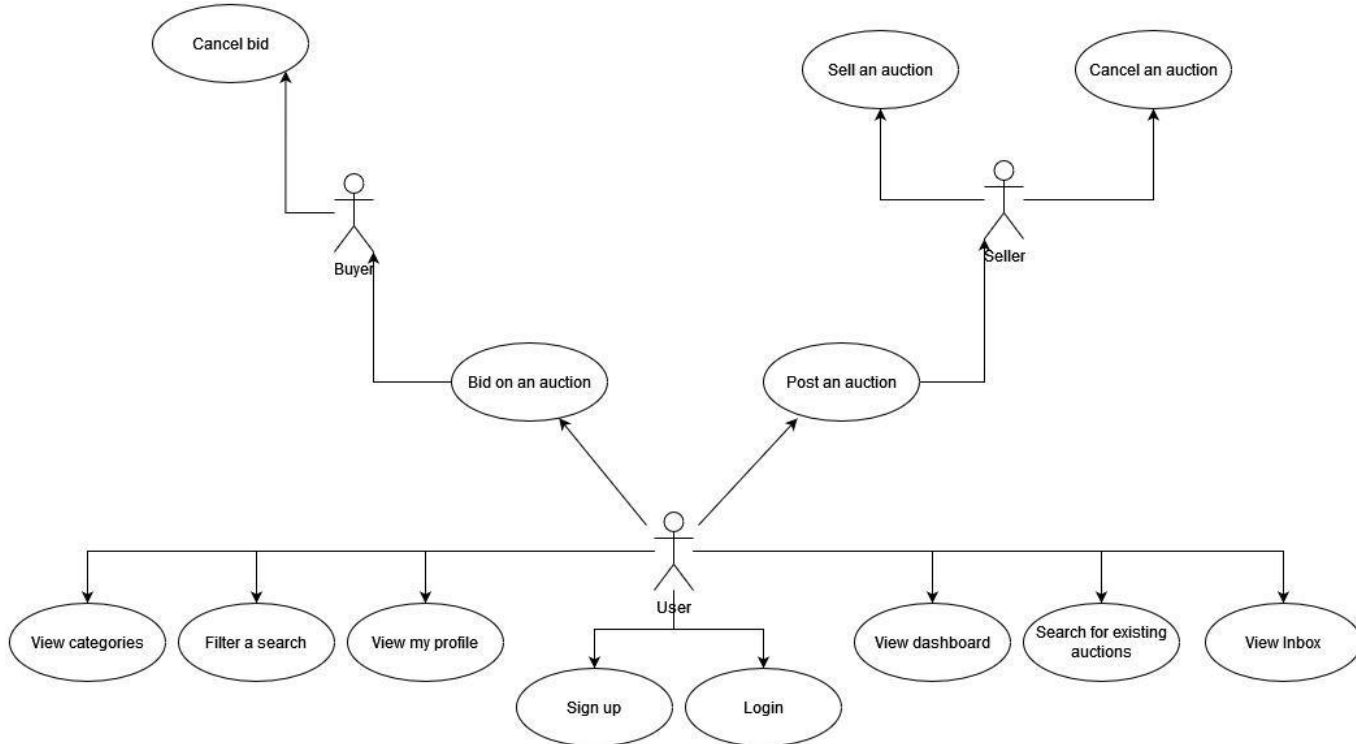
Actors: There will be three actors here: the user, buyer and seller. a user can access features of a website that do not require being a seller or a buyer. When a user posts an auction, they become a seller in relation to that auction. They can then cancel that auction or conclude that auction by selling the item to the highest bidder. Similarly if the User bids on an auction, they become a seller with respect to that auction.

1. Use Case table

Primary Actor	Associated Use cases	
User	Make an account	
User	Login to an account	
User	Check User profile	
User	Check user's auctions	
User	Check user's bids	
User	Forgot password	
User	Change username	
User	Check inbox for messages for concluded/cancelled auctions or other system notifications.	
User	Will be able to Search for an auction.	
User	Will be able to view different auction categories	
User	Post an auction	
Seller	Check an auction for highest bid	
Seller	Conclude an auction by "selling" the item	
Seller	Cancel their auction	
Bidder	Post a bid to an ongoing auction	
Bidder	Cancel their bid	
Bidder	Buy from an auction in case of highest bid	

3.3.2 Use Case Diagram

(Refer to the “actors” under the 3.3.1 heading)



3.3.3 Use Case Description

Use Case 1:

Use Case ID	1		
Use Case Name	Post an auction		
Created By:	Saad Akbar	Last Updated By:	Saad Akbar
Date Created	15-02-2022	Date Last Updated:	15-02-2022

Actors	User
Description	<p>The User will post an auction for their items. The User must enter the following things:</p> <ul style="list-style-type: none"> ● item name ● item description ● category ● a picture of the item ● price ● tags(optional) ● maximum time for the auction to be up ● minimum bid ● will have to select a condition from “New with box”, “New without box”, “Slightly used”, “Used with defects”.
Trigger	Clicking the “Sell” button on the system’s homepage/dashboard.
Preconditions	Users must be logged in.
Postconditions	User becomes a seller with respect to that auction.
Normal Flow	<ol style="list-style-type: none"> 1. User accesses the homepage by logging in 2. User clicks “Sell” on the homepage 3. User enters the required information and clicks “Post” 4. Once successfully verified from the database, the user’s auctions will be posted and sellers will be able to view the auction, and make bids on it.
Alternative Flows	<ol style="list-style-type: none"> 1. User Enters wrong information, or leaves out a required field in the input. 2. The appropriate error message is shown to the user on screen, and the auction is not posted.
Exceptions	None
Includes	None
Priority	High
Frequency of Use	Frequent: whenever a user has to sell something
Business Rules	None

Use Case 2:

Use Case ID	2
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Use Case Name	Post a bid		
Created By:	Salman Masood	Last Updated By:	Salman Masood
Date Created	15-02-2022	Date Last Updated:	15-02-2022

Actors	User
Description	The User will post a bid on an auction in the bidding interface.
Trigger	Clicking the “bid” button on an auction
Preconditions	<ul style="list-style-type: none"> • Users must be logged in. • The auction must be ongoing • The user must not have cancelled their bids 2 times on that auction.
Postconditions	User becomes a buyer with respect to that auction.
Normal Flow	<ol style="list-style-type: none"> 1. User accesses the auction by selecting it from the search interface. 2. The user is prompted to enter the amount they want to bid. 3. User clicks “bid” on the auction interface. 4. The user’s bid is recorded on the auction. 5. The user is sent a message in their inbox of successfully bidding.
Alternative Flows	<p>The user has cancelled their bid twice:</p> <ul style="list-style-type: none"> • the user is not shown the bid button, instead they are shown a message telling them they cannot place a bid because of their previous cancellations. <p>The User enters a bid that is lower than the highest bid:</p> <ul style="list-style-type: none"> • The user is shown a message telling them their bid is lower than the highest bid and the bid does not go through.
Exceptions	None
Includes	None
Priority	High
Frequency of Use	Frequent: whenever a user has to buy something
Business Rules	None

Use Case 3:

Use Case ID	3		
Use Case Name	Cancel a bid		
Created By:	Saad Akbar	Last Updated By:	Saad Akbar
Date Created	15-02-2022	Date Last Updated:	15-02-2022

Actors	Buyer
Description	The User will cancel their bid on an auction in the bidding interface.
Trigger	Clicking the “cancel bid” button on an auction
Preconditions	<ul style="list-style-type: none"> • Users must be logged in. • The auction must be ongoing • The user must not have cancelled their bids 2 times on that auction. • The user must have placed a bid on that auction that is still the highest bid on that auction.
Postconditions	User’s bid is removed from that auction and the previous highest bid is restored.
Normal Flow	<ol style="list-style-type: none"> 1. The User’s is notified of their removal of the bid in their inbox. 2. The User can again place a bid on that auction if they have not cancelled twice on that auction.
Alternative Flows	None
Exceptions	None
Includes	None
Priority	High
Frequency of Use	less frequent: whenever a user has to buy something
Business Rules	None

Use Case 4:

Use Case ID	4
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Use Case Name	Search for an auction		
Created By:	Taimur Salman	Last Updated By:	Taimur Salman
Date Created	15-02-2022	Date Last Updated:	15-02-2022

Actors	Bidder
Description	The Bidder search for the required product in the search bar.
Trigger	Clicking the “Search” button will result in list of categories and filter options to appear for the bidder to narrow their search
Preconditions	Bidders must have a valid GoBid account.
Postconditions	The bidder would be directed towards their searched item or product
Normal Flow	<ol style="list-style-type: none"> 1. Bidder log in to the GoBid account 2. Bidder clicks on the Search button 3. This would result in a list of items to appear along with the filters to further narrow down the search(based on price,popularity, time, alphabetically and condition of the item) 4. Once the filters are passed the search results will be updated accordingly.
Alternative Flows	If the search does not yield any result a message would appear displaying no items found.
Exceptions	If the bidder does not fill the filters completely the search would not proceed.
Includes	None
Priority	High
Frequency of Use	Everytime the bidder logs in for an auction
Business Rules	None

Use Case 5:

Use Case ID	5		
Use Case Name	Conclude an auction		
Created By:	Syed Ahmed Taimoor	Last Updated By:	Syed Ahmed Taimoor
Date Created	15-02-2022	Date Last Updated:	15-02-2022

Actors	Seller
Description	Once the seller decides to sell an item, or the time for auction ends, the contact information of the seller and buyer are sent to each other's inbox.
Trigger	When the seller sells the item or when the time period completes.
Preconditions	Seller must have a valid GoBid account. Seller must be the one who posted the auction
Postconditions	The item would be sold to the bidder with the highest bid value.
Normal Flow	<ol style="list-style-type: none"> 1. When the seller ends the bid, the item would be sold to the bidder with the highest bid value. 2. A notification would be sent to the seller informing of the items sold to the specific bidder. 3. A notification would be sent to the buyer informing them of their bid and the seller's contact details.
Alternative Flows	If the time for the auctions ends, the auction is already concluded.
Exceptions	None
Includes	None
Priority	High
Frequency of Use	Everytime a auction is held.
Business Rules	None

4 Other Non-functional Requirements

4.1 Performance Requirements

- the software should be robust enough to prevent crashing due to security breach.
- should have ease of navigation.
- interface consistency throughout the system.
- response to certain actions should not take very long time to process.
- should be compatible with both mobile and web.
- it should ensure maintainability and scalability without compromising usability.
- it should be able to handle multiple user requests
- if the website gets crashed, it should ensure that it is recoverable with minimum loss of data.

4.2 Safety and Security Requirements

- The software should safely store the passwords and user data as it will have emails, and contact information of its users.
- The software should have measures against people trying to abuse the system or “trolls”, like people cancelling their bids again and again to disrupt the process for buyers and sellers.
- The software should have the base protection against cyber attacks.
- The software should have measures against grossly underselling or overselling products.

4.3 Software Quality Attributes

Adaptability:

The software should be adaptable and ensure that it provides the users products of their interests based on their searches and it should also adjust advertisement of products in accordance with the user's location. This could be achieved by analyzing the user's search preferences and interest and from frequent bidding activities from a particular location. When the user searches for a certain bit their searches would be stored in cookies which would help the software to customise and adapt based on user need.

Robustness:

The software should be robust enough to deal with security breaches and system crashes and this would be achieved with continuous and rigorous testing of the software and ensure that all the corner cases have been properly dealt with. The software would be passed from component testing every time a new component has been developed and then would be integrated to the software and then a complete test would be performed on the entire software to ensure that every component and module is aligned with each other.

Usability:

The software would be designed in such a way that it is easy to navigate, have minimum gulfs and would be intuitive so that it could be used by anyone who accesses the website without any mistake or hurdle. It can be used without any need of training for the software. It would have visual affordance and to ensure its usability it would follow all the norman's principles of usability such as the principle of affordance, mapping, feedback etc..

Portability:

The software would be able to run on any machine that has access to the internet and would be compatible with all the web browsers and to ensure portability we would make the software light with minimum hardware limitation and would develop the website on a platform that is compatible with all the requirements of a machine. Since it would be a website, there is no need for the installation of this software as it would be readily available once the user enters the URL of the website.

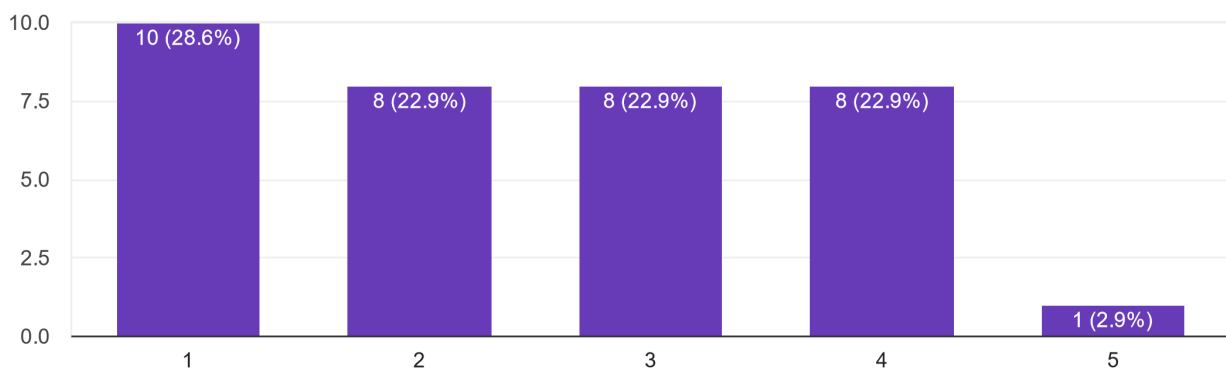
Appendix A – Top 10 User Stories

- Validation should be done using phone numbers instead of CNIC or social media, as it might be a deterrent for some people.
- Let's say the winning bidder of a product that I also bid for, backs out. In that case I should get a notification or something.
- Some way should be implemented to make sure that the seller does not inflate the price by planted bids.
- Max and Min time limit on bidding so that buyers neither make a rushed decision nor do they have to wait for an eternity to get a result.
- There should be steps to prevent selling something illegal.
- Add an option to have a timer after which the auction expires and the user with max bid gets the item.
- The app should have a system of setting a minimum bidding system, so that my things that I am selling are not undervalued. Also there should be measures against selling illegal stuff.
- There should be a third party wallet system that could store some form of security fee, so that the sellers can be charged a penalty if they fail to deliver. similar system for buyers.
- There should be some form of rating system of users or measure of their history on the app so that we can judge how serious the user is about the deal.
- There are privacy issues with this, as it requires contact information to make an account. The app should have measures to ensure data security.

Statistics from the data we collected from our surveys is presented here:

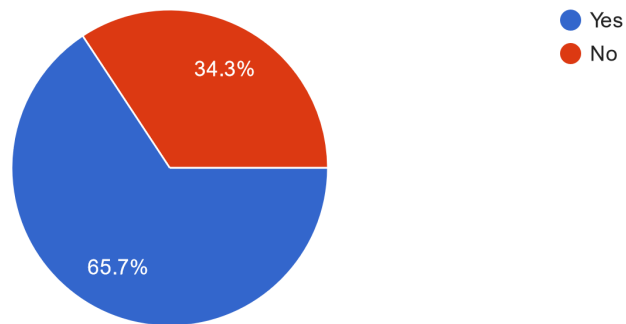
Have you used OLX (or any other popular online market in Pakistan) to buy or sell any items?

35 responses



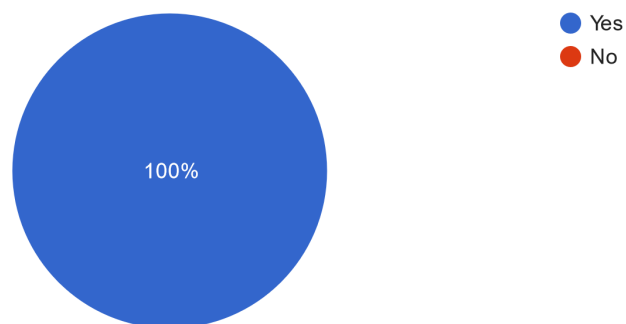
If your answer to the previous question was yes, did you have to talk to multiple people in order to get the best value when buying or selling something?

35 responses



Would you be interested in a website that lets you avoid this hassle by using an auctioning system for buying and selling things?

35 responses



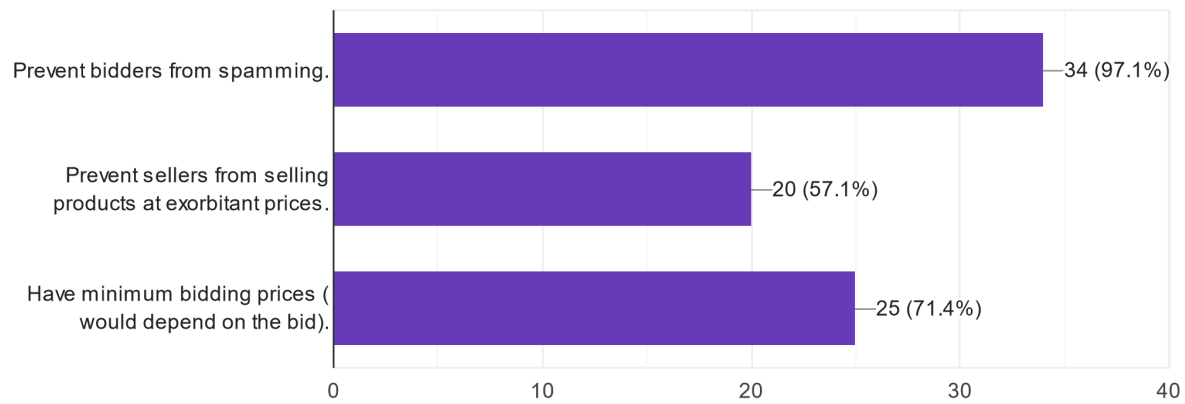
Question 3: What features would you like to see implemented in a bidding website? Select any and all that you would wish to see implement

35 responses



What sort of accountability for users would you like to see implemented? Select all that apply.

35 responses



Appendix B – Architectural Spike (One Story)

Lack of Experience: The team does not have experience with web development in node JS and is short staffed as well. This might lead to delays in development as difficulty implementing some features and not enough attention to the UI.

Security Concerns: A recurring theme in interviews was the concerns with privacy and security of user data since we will be dealing with contact information, as well as dealing with prevention of sale of illegal things. While the basic security features like encryption of data will be implemented, there is no cyber-security expert in the team so the security will not be up to the mark it should be. Also implementing checks for preventing illegal stuff will require crafting policies according to the laws of Pakistan. Presently there is no one in the team that can do this.

Appendix C - Group Log

- Meeting 1: looked at the document and decided how we will collect data, and divide the work
- Meeting 2: met in sse lawn and made a tentative design for the webapp. Narrowed down the functionality of the web app.
- Meeting 3: discussed use cases and listed tentative use cases, as well as get started on the document.
- Meeting 4: 2 group members worked on the document. The other 2 made a form that was circulated on facebook to collect data.
- Meeting 5: 2 group members worked on the document and 2 conducted interviews from random people in SSe. Some functional requirements were changed and added to the document according to the data from the form and the interview. this lasted more than 3 hours.
- Meeting 6: Use cases were finalized and the document has been completed and sent for plagiarism check.

Appendix D – Contribution Statement

<i>Name</i>	<i>Contributions in this phase</i>	<i>Approx. Number of hours</i>	<i>Remarks</i>
<i>Syed Taimoor</i>	<i>Introduction, Overall Description Functional Requirements</i>	<i>5</i>	
<i>Saad Akbar Sheikh</i>	<i>Use Cases, User Stories, Non-functional requirements</i>	<i>5</i>	
<i>Taimur Salman</i>	<i>Functional Requirements, Overall Description, Use cases diagram</i>	<i>5.5</i>	
<i>Salman Masood</i>	<i>Use Cases, Architectural Spike, Non-functional Requirements</i>	<i>4</i>	