E-bidding System
Software Requirements Specification

Version <1.0>

Ali Abdelsater
Ramon Moises
Aboubacar S Diakite
Alexandr Voronovich

E-bidding Mini System	Version: <1.0>
Software Requirements Specification	Date: <14/Oct/24>
<document identifier>	

Revision History

Date	Version	Description	Author
<14/Oct/24>	<1.0>	<Wrote draft 1 for the project report>	<Team L>

Table of Contents

Software Requirements Specification

1.   Introduction

The **E-bidding system** is a web-based platform that we are working on to provide a marketplace where individuals can bid on items and services. We've added many different kinds of 'users' on the platform: Visitors without accounts, registered users, VIPs and Super-users, each able to interact with the site in a different way depending on the needs of the individual using it. Our main goal is to make an efficient platform that is easily usable by everyone and anyone.

Key features that will be included are user registration, login page, item/service listings, bidding on items/services, account management, transaction processing, rating systems, comment systems, and money deposit/withdrawal systems. We've managed to do all this while using languages such as **React.jsx** for the frontend, **Node.js** and **Express.js** for the backend**,** and **SQL Workbench** for the database.

1.1   Purpose
       The purpose of this SRS is to describe the methods used to create a mini E-bidding website. This website will be capable of several features, including the following:
   1. Create three types of users, all with various roles when it comes to interacting with the website and its various features.
   2. Manage a system for reviews between users of the site and sellers.
   3. Manage a system in which users can purchase/bid on items sold by the sellers on the site; as well as a system that upgrades normal users to the VIP status, depending on various criteria.
   4. Create a GUI that allows users to see and use the software in an easy to understand/ easy to use environment.

1.2   Scope

       3 types of users: Visitor, User, and Super-user. Visitors can interact with the site in the following ways: browse listings, comment on listings, apply to become a user. Users can interact with the site in the following ways: Deposit and withdraw money from their account, list items/services that they offer/ need, bid on and check on the bids on their own listings, rate the other member of the transaction, complain to Super-users about other users, delete their accounts, apply for VIP. Super-users act as admins, they can do the things users can, as well as allow visitors to become users, mediate between user disputes, suspend users. The rating system would act to let users know of how a user behaved in the past, as well as to suspend users that are both too mean or too generous.

1.3   Definitions, Acronyms, and Abbreviations

   1. VIP - Very Important Person: someone given a higher level of privilege. A user can gain this status by having more than a certain threshold within their account, conducting above a certain amount of transactions, or having only positive reviews. They are given a discount on items listed on the site.

2. GUI - Graphical User Interface: The displayed program that the user can interact with. It contains images, text, buttons, menus, etc… to facilitate the user's navigation on the site and make it easy for them to use.

1.4 References

Use Case Model Diagram: Located below.
Ebay Website: https://www.ebay.com/
Bidding Owl: https://www.biddingowl.com/

1.5 Overview

The Software Requirements Specification contains different sections explaining what each part of the E-bidding system does. Included a formal background description of all the factors in the development process of the system. Section 2 highlights the essential specific requirements for all the factors in the development process which are software related; an in-depth look at all the use cases between all the different roles. And the supplementary requirements that may not be necessary software related such as accessibility issues. And finally a visual section of a use case diagram to enlighten the structure of the e-bidding system, the actors' roles and their interactions through the features of the system.

2.   Overall Description

2.1   Use-Case Model Survey

The mini e-bidding system is a web-based application that allows users to conduct business track actions through bidding and purchasing items over the Internet. The system has three distinct users (Visitor, User, and a Super User) each with unique interactions and privileges.

The visitor can browse items that are listed by users and is able to apply to become a registered user and also must solve a human verified question.

A user deposits and withdraws money from their account and can list items for sale and then other users are allowed to bid on the item if they have enough funds in their account and thus when the sale ends that user now becomes the new owner of the featured item. There is also a way for them to use it to become a VIP based on if they meet a certain criterion.

2.2   Assumptions and Dependencies

They're all subtle assumptions and dependencies that affect the systems design such as we assume that the user will be able to use the e-bidding website without any bugs that would impede several features. It's also assumed that users will not do any malicious activities and that the items that would be on sale are an accurate reflection of themselves.

We also have our core features which include user registration, browsing, bidding and listing items, managing their account and handling transactions. You also have our option channel features which VIP system human verification for registration and controls for super users for managing disputes.

3.   Specific Requirements
In our mini e-bidding system, using the diagram at the bottom is meant to capture the interactions that happen between the different roles and the application.

3.1   Use-Case Reports
Use Case 1: Registration. Actors involved are Visitors and Super-users. It involves a visitor entering the registration page and filling out the form, as well as answering the provided arithmetic question. A Super-user then has to accept or deny the application.

Use Case 2: Browsing and commenting on items/services. Actors involved are Visitors. This allows the visitors to browse the details of listings on the site, as well as to leave comments on them.

Use Case 3: Listing items/services for sale/rent. Actors involved are Users and VIPs. This allows the Users/ VIPs to place their items/services up for bidding. To do so, they must log-in to their account, access the create listing page, submit all the relevant details (title, price, description, images, etc...), and finally submit the listing which is then published automatically for Users and Visitors to see.

Use Case 4: Bidding on an item. Actors involved are Visitors and VIPs. The Users/ VIPs browse the various listings, find an item/service they require. They can then decide to place a bid on it. In doing so, the funds get removed from their account temporarily on hold. If they win and the User/ VIP that posted it accepts their bid, their money is transferred from the purchaser to the seller, and the item/ service would be given to the User/VIP.

Use Case 5: Completing a transaction. Actors involved are Users and VIPs. Involves completing the transactions between 2 Users, one being a buyer and the other a seller. The seller would accept the highest bid and thus complete the transaction and transfer the item to the buyer. The funds are then removed from the User who bought the item/service account, and transferred to the User who sold it.

Use Case 6: Rating a Transaction. Actors involved are Users. Involves a user rating of transactions between another user that he recently bought an item from. After the transaction is completed both the buyer and seller rate each other one through five and the ratings are anonymous and saved to the application.

Use case 7: Suspensions. Actors involved are Users and Super-users. A Super-user can suspend a user based on the complaints or his poor ratings. A User gets suspended in a few ways. If they get three ratings below a two, if they have an average rating that is less than a two, or if they have an average rating greater than a four, they are suspended by the Super-user. Anyone suspended more than three times is kicked out of the system.

Use Case 8: Become VIP. Actors involved are Users and Super-users. A User can become a VIP if they meet the following criteria: they must have more than $5,000 in their account, they must have conducted more than 5 transactions on the site, and they must not have any complaints against them. A VIP enjoys a 10% discount on all transactions,

as well as all of the powers a normal user has. If A VIP fails the previous conditions OR get suspended, they get put back to an ordinary User.

Use Case 9: Reactivate Account. Actors involved are Users and Super-users. If a User is suspended, they can become active in one of two ways: They must either pay a $50 fine, or a Super-user must re-activate their account.

Use Case 10: Complain. Actors involved are Users and Super-users. Following a purchase, a User can complain to a Super-user regarding another User. Any user that gets any complaints cannot become a VIP and too many complaints will suspend the account.

Use Case 11: Quit. Actors involved are Users and Super-users. A User may choose to quit the system at any time, they must apply to a Super-user to do so. Once that is done, the Super-user can remove them from the system.

3.2   Supplementary Requirements

Outside of the cases that we put up, we do have some additional features we want to add to our e-bidding system. We first want to make sure that we can handle the maximum number of users, while keeping the system's performance great for the users. With many users on the site, we don't want it to run out of resources and become slow, or worse crash. Another thing to worry about is security, as we are dealing with money and having security problems is not acceptable on a website like this. As the system grows and gains more users, we have to make sure our solutions can grow with it. Finally, we want to attempt to make it accessible to everyone, including those with disabilities. This might include adding an audio button, or increasing font for those that are hard of vision.

4.   Supporting Information
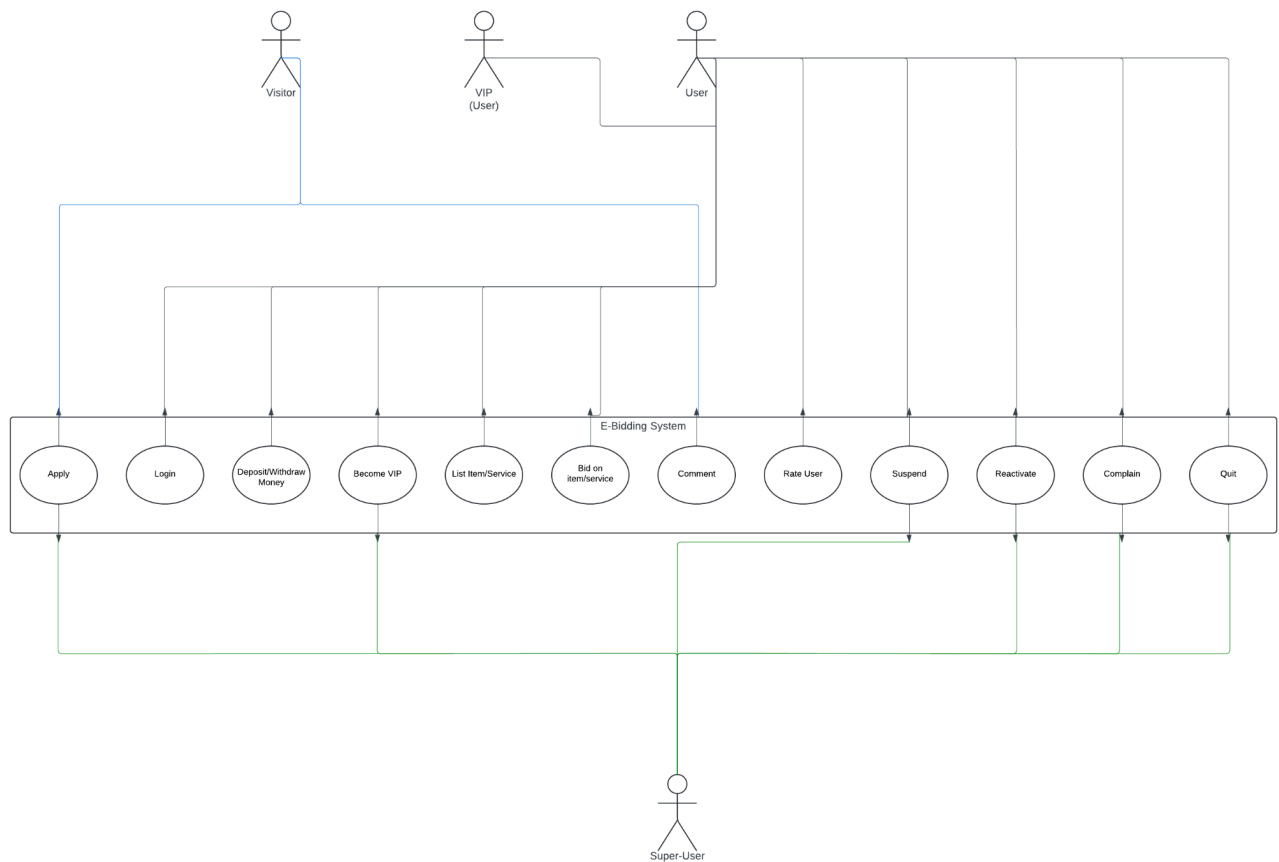
Use Case Diagram

This is a use case model for the e-bidding system. The blue lines represent what a Visitor can interact with. The black line represents what a User can do within the system. The green line represents what the Super User can do.