<Team R>

<E-Bidding>
Software Requirements Specification
For <Subsystem or Feature>

Version <1.0>

Revision History

Date	Version	Description	Author
11/10/2024>	<1.0>	<We created an initial Report on how our project will look like with descriptions so that anyone who wants information about the site can understand what the purpose is >	Alexis Juarez, Kenneth Romero, Sahaf Khan, Christopher, Giorgio Wirawan

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Software Requirements Specification

1.   Introduction

In this course we are learning what it means to be a Software Engineering and how to communicate and think as a software Engineer. One of the best way to experience this is through hands on project where we are asked to form a team and make a fully functional website or application that shows off our coding skills.

1.1   Purpose

The purpose of this document is to outline the external behavior of the application. In later modules the features and user interactions will be described in greater detail. The way the website will work is it will be similar to e-Bay. There will be 3 roles(actors) with different features depending on the role. There will also be a paywall and ways for user to change from a regular role(visitor/user) to a premium role(Super Users). The application will have live biding and a rating system for users and items being bid off.

1.2   Scope

We are planning many features to go into this project. We may implement more in the future which will later on be updated in this document. To start off we plan on making lisiting and pages that direct user to the lisitng. We will also provide user to make accounts. With these account they will be able to withdraw and deposit money that they can use for bidding. Super users will be allowed to make their own lisitng of items they want to put up for auction. The way the bidding will work is there will be a posting of the object, the day it will be live, the time it will go live, and the options to bid. This way the visitors, users, and super users all have a fair chance of getting the item and keep users active within the site. Since I discussed 3 variation of users(actors) I will also discuss on the Use-case models. We will have 2 separate models that you can refer too in 2.1 We will have 3 roles, visitors, users, and super users. Each role was described in 2.1 but to recap the way it works is visitors are allowed to view items that are being auctions and search for items as well. In order to participate for bids they will need to sign up to become a user. As a user they can leave reviews on items and rate other users. They can deposit and withdraw money to participate in bids. Super users have the same functionality as users but with exclusive features. Super users are allowed too host auctions, promote users to super users, and get discounts on items.

1.3   Definitions, Acronyms, and Abbreviations

In order to make things more simple and clean the use of abbreviations will be used. This section of the report will be a referral for readers to use to better understand when it comes to reading this report. In the 2.1 model, V=Visitor, U=User, S=Super User, D=Deposit, W=Withdraw

1.4   References

Rare TCG Cards for Sale | Vintage Trading Card Games Auction | Pokemon MTG Yu-Gi-Oh. (2017). Heritage Auctions. https://comics.ha.com/trading-card-games/

Ebay. (2019). Electronics, Cars, Fashion, Collectibles, Coupons and More | eBay. EBay. https://www.ebay.com/

1.5 Overview

This document is split into 4 sections. Section 1 introduces the system, its purpose, and its scope. It provides definitions, acronyms, and references that are important to understand the document. Section 2 provides an overall description of the system, including assumptions and dependencies, the actors involved, and the high-level features and requirements that will guide the design and implementation of the system. Section 3 details the specific requirements of the system, and Section 4 provides additional supporting information. Section 2 will provide a detailed description of all features we are going to implement to this projects. The rules a user must follow and the role they play. It will explain why we chose a certain feature or why the website acts a certain way. Section 3 provides a more in depth look in the design and how we are going to approach this design. And finally section 4 will provide the resources used for this document or what we are planning to use for the website.

2. Overall Description

In this project, the site we will build will be used to facilitate buying and selling between registered consumers on the site. It will be more of a middleman with a certain level of consumers such as visitor, User and, Super User. The site will contain features for item discovery, bidding and payment and user account management. We will implement this using programing that will help us do exactly what is needed for the site as well as making the site look visually appealing so that the consumers can stay engaged to the site. The product will be designed so that it has the capacity to interact with other systems live. This will be needed in the live auction section where users can interact with other users live. There are some rules so that the site complies with laws as well as making the user satisified with the product. Firstly all users must be above the age of 18, Secondly our rating system has it so that any user with too low ratings gets suspended and with 3 suspensions that user will be banned from the site. Then to sign up to be a user a person must pass the verifcation test which is an arethmetic question to make sure that they are real. This will all be done via the use of programing languages and all the information will be stored in a database.

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2.1   Use-Case Model Survey

The following people will be able the actors:

1. Visitor

2. User

3. Super User

The use cases for the Visitor will be that they will be able search for items and view the description of them. Users will have the same features as visitors + they will be able to Rate other users, bid on items, deposit/withdraw, and buy/sell items. Lastly super users will be able to host Auctions, Approve users and have discount codes.

Here is a visual diagram of how these relationships work, refer to 1.3 if there is any confusion:
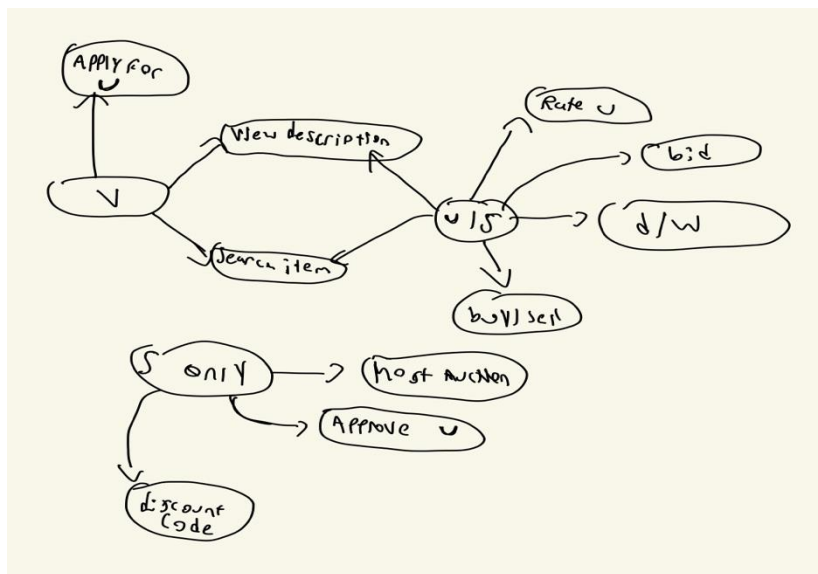
2.2   Assumptions and Dependencies

Assumptions:

For our project we will have various technical assumptions that the consumer should be aware of. Firstly The user should have a technical device that they will be able to access the site from. Such examples but not limited to are iPhone, MacBook, Android, Windows Devices, Linux, Pixel phones, Chrome Books etc. The consumer must have internet access for the site to work since the bidding and selling would all be done online.

Dependencies:

This project will depend on third party applications for secure payment methods like Stripe or PayPal or direct bank transfers so that consumers can bid and sell items. Our service will comply with the privacy laws so that all of the data we have on such consumer is private.

3. Specific Requirements
3.1 Use-Case Reports

Apply for User Status
> **Actors**: Visitor (V)
> **Description**: Visitors can apply to become registered Users (U), gaining additional privileges if approved by a Super User.
> **Flow**:
>> V initiates an application to become a User.
>> S reviews the application and approves or denies it.
> **Postconditions**: Upon approval, V gains U privileges; if denied, V remains with Visitor privileges.

View Description
> **Actors**: Visitor (V)
> **Description**: Visitors can view detailed descriptions of items or services listed by Users.
> **Flow**:
>> V browses through listings.
>> V selects an item to view its detailed description.
> **Postconditions**: V gains more information on items/services, enabling informed decision-making or interest in applying for User status.

Search Items
> **Actors**: Visitor (V)
> **Description**: Visitors can search for items or services listed by Users.
> **Flow**:
>> V enters search criteria or keywords in the search bar.
>> System displays items or services matching the search criteria.
> **Postconditions**: V can view a list of items/services relevant to the search, and may choose to view descriptions or apply for User status.

User Bidding on Items
> **Actors**: User (U)
> **Description**: Users can place bids on items or services listed by other Users.
> **Flow**:
>> U searches for items and selects an item to bid on.
>> U places a bid for the item.
> **Postconditions**: The bid is recorded, and the item owner can decide to accept or reject the bid.

User Account Management (Deposit/Withdraw)
> **Actors**: User (U)
> **Description**: Users can deposit or withdraw money from their accounts as needed to participate in transactions.
> **Flow**:
>> U navigates to the account management page.
>> U selects to deposit or withdraw funds.
> **Postconditions**: U's account balance is updated accordingly.

User Item Management (Buy/Sell)
> **Actors**: User (U)
> **Description**: Users can list items or services for sale or purchase.
> **Flow**:
>> U lists an item or service for sale/rent, specifying details and pricing.
> **Postconditions**: The item or service is available for browsing by other Users and Visitors.

User Rating Other Users
> **Actors**: User (U)
> **Description**: After a transaction, Users can rate each other to provide feedback on the transaction experience.
> **Flow**:
>> U completes a transaction with another U.
>> U provides a rating for the other User, from 1 (worst) to 5 (best).
> **Postconditions**: The rating is recorded anonymously, influencing the rated User's reputation.

Super User Approving User Applications

    Actors: Super User (S)

    Description: Super Users can review and approve Visitor applications to become registered Users.

    Flow:

        S reviews the application submitted by a Visitor.

        S approves or denies the application based on eligibility criteria.

    Postconditions: Approved Visitors gain U status; denied applications do not result in a status change.

Super User Hosting Auctions

    Actors: Super User (S)

    Description: Super Users can organize and host auctions for items.

    Flow:

        S sets up an auction for specific items or services.

        Users (U) participate in the auction by placing bids.

    Postconditions: Auctioned items are sold to the highest bidder upon completion.

Super User Issuing Discount Codes

    Actors: Super User (S)

    Description: Super Users can issue discount codes to Users for transactions.

    Flow:

        S generates and distributes discount codes to eligible Users.

    Postconditions: Users can apply these discount codes to reduce transaction costs.

3.2   Supplementary Requirements

1. Performance Requirements:
- The system must handle a minimum of 1,000 users.
- The response time for all user actions should be under 2 seconds.
2. Security Requirements:
- The system must comply with privacy regulations.
- Users must authenticate via two-factor authentication before accessing their accounts.
3. Usability Requirements:
- The system should follow WCAG 2.1 Level AA guidelines.
- The user interface must be intuitive, with navigation menus clearly labeled and consistent.
4. Reliability Requirements:
- The system should have 99.9% uptime, excluding scheduled maintenance.
- In case of server failure, data should be recoverable within 30 minutes.
5. Data Integrity:
- All user transactions must be logged with an audit trail to ensure accuracy.
- Bids and sales data must be verified before being finalized.
6. Scalability:
- The system should be able to scale horizontally by adding more servers as needed, especially during peak bidding times.
7. Compliance:
- Payment transactions must comply with PCI DSS standards for secure payments.

4.   Supporting Information

  For our own reference, we looked at other bidding websites to gain a better understanding and image of our task. The main bidding websites we looked at were ebay and copart to analyze how the bidding site would work which included the user interactions for the UI as well as payment methods and auction timing.For UI implementation we referred to these auction sites to see what we could use as well as what we could improve on. We plan on using Databases for important features like bid tracking and showing and updating the results of the live bidding feature.