

1. ER: Requirements Specification

ER: Requirements Specification Component

A1: WeBid

Developed by a small group of developers from LBAW 22/23, WeBid is a product that markets to the individual user who wishes to bid on items online.

The aim of this project is to develop a web application capable of supporting an online auction service. It allows its users not only to bid on existing items but also to be able to place their own items up for auction. The use of technology is increasing day by day, therefore people are relying more and more on it to accomplish specific tasks in their lives. It would be ideal to have an application that would ease users' lives when trying to either purchase a product or sell one.

The platform will have an adaptive & intuitive design, independent of the system or capabilities of the user, having products organized throughout different categories, improving the users experience when searching for a more specific product at auction. Also, it will automatically manage the bidding deadline and determine the winning bid. Each product will have assigned its current bid and time left until the auction expires.

With the purpose of maintaining a trustworthy service, bidders will be able to rate the sellers of the auction they took part in, ensuring reliability for future users. They will also have the possibility to view the bidding history for each auction.

There will be an instant notification system, keeping track of the auctions so that users don't miss anything out, such as when there is a new bid or if the action is about to end or actually ended already.

Users are separated into groups with different permissions: the system managers, the authenticated users and the non authenticated users. Anything a group can do, the previous also can.

The system managers will be the ones moderating the application, ensuring there are no conflicts. They will have the permissions to manage the auctions, block user accounts and delete inappropriate content.

The authenticated users can either be bidders or auction owners, having the privileges to bid on auctions as well as create & manage the status of their own ones. By allowing them to manage their auctions, they're able to set a bid floor, a minimum bid increase, a bid time, and even cancel the auction, which may issue them a penalty. They're allowed the freedom to edit their personal information in their profile, such as username, email, password, profile picture and, if they wish to, delete the account, with only the bidding registry, list of bought items and past reviews being left in the system.

The non-authenticated users, on the other hand, won't have those permissions, only being able to search and browse the different products and auctions either by text input or filters and see bidding users profiles. User registration and login are also available.

A2: Actors and User stories

This artifact expands upon the actors and their user stories with the intent of breaking down the project's requirements and explaining the interactions between the users and the application.

1. Actors

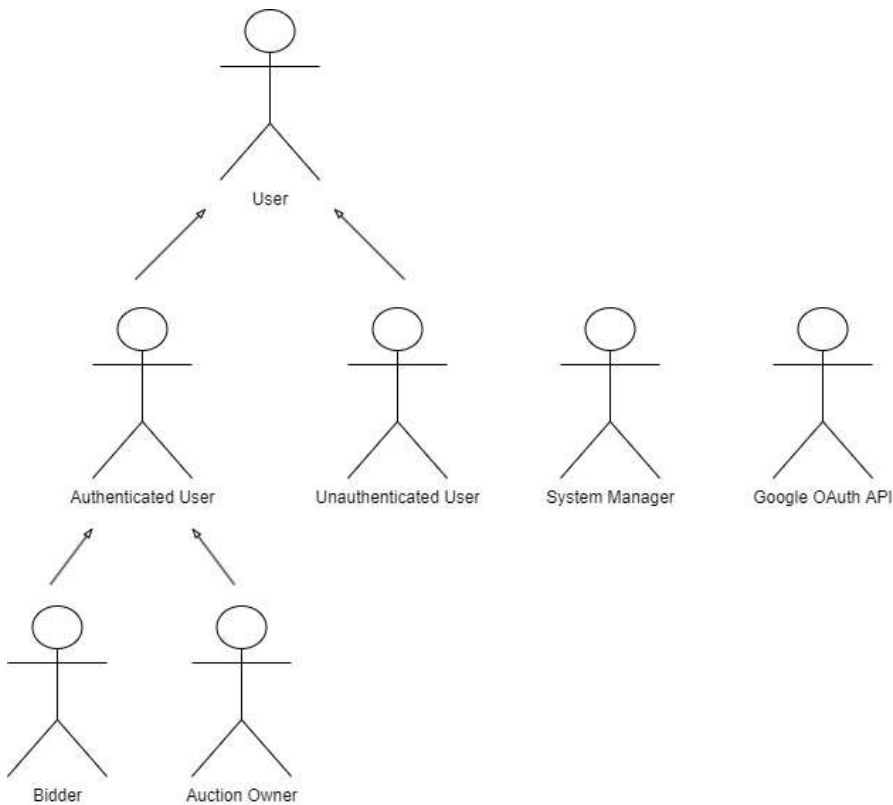


Fig1: WeBid Actors

Identifier	Description
User	Generic user that has access to public information, such as the current products at auctions.

Identifier	Description
Authenticated User	User that can bid on live auctions, put his own items up for auction and rate other sellers based on his experience.
Unauthenticated User	User that can either sign in or register himself. Acts as a visitor.
Bidder	An authenticated user that bid on a product at least once.
Auction Owner	An authenticated user that put a product up for auction.
System Manager	Responsible not only for moderating the application, but also for managing the auctions, blocking user accounts and deleting inappropriate content.
Google OAuth API	External OAuth API for Google accounts, that can be used on both sign up and sign in.

Table1: WeBid actors description

2. User Stories

For the WeBid app, consider the following user stories presented, bundled and organized by actor.

2.1. User

Identifier	Name	Priority	Description
US01	View Users Profile	High	As a User, I want to view the other users profile, so that I can see who I am interacting with.
US02	Search Auctions	High	As a User, I want to search auctions, so that I can find the products I'm looking for.
US03	View Active Auctions	High	As a User, I want to view the active auctions, so that I can see if any product interests me.
US04	View Own Profile	High	As a User, I want to view my own profile, so that I know what personal information is being publicly displayed.
US05	View Home Page	High	As a User, I want to access the home page, so that I can see a short exhibition of the website.
US06	View Auction Info	High	As a User, I want to view an auction, so that I can know more information about it.
US07	Browse Auctions by Category	Medium	As a User, I want to browse auctions by category, so that I can find what I am searching for with ease.
US08	Contextual Errors	Medium	As a User, I want to get contextual error messages, so that I can know what I'm doing wrong at a specific moment
US09	Contextual Help	Medium	As a User, I want to get contextual help messages (aka tooltips), so that I can get the information I'm missing to complete a certain task.
US010	View About Us	Medium	As a User, I want to access the about page, so that I can have more information on the website and its developers.
US011	View Contacts	Medium	As a User, I want to access the contact page, so that I can get in touch with the creators.
US012	View FAQ	Medium	As a User, I want to access the FAQ page, so that I can easily find answers for my questions.
US013	Filtered Search	Medium	As a User, I want to add filters to my searches, so that I can pinpoint the exact items I want quicker.
US014	Multiple Attribute Search	Medium	As a User, I want to search for multiple words, so that I can narrow the results of a search.
US015	Input Placeholders	Medium	As a User, I want to see input placeholders, so that I understand what's expected of me when filling in forms.
US016	View Seller Rating	Medium	As a User, I want to view the rating of the seller, so that I can know if he is reliable.
US017	Ordering Results	Low	As a User, I want to order search results, so that I can best attend to my priorities.

Table2.1: User user stories

2.2. Unauthenticated User

Identifier	Name	Priority	Description
US11	Sign In	High	As an Unauthenticated User, I want to sign in, so that I can access privileged information.
US12	Sign Up	High	As an Unauthenticated User, I want to sign up, so that I can authenticate myself into the system.
US13	Password Recovery	Medium	As an Unauthenticated User, I want to recover my password, so that I can regain access to my account.
US14	Google OAuth API Sign In	Low	As an Unauthenticated User, I want to sign in with my Google account, so that I can login with ease.
US15	Google OAuth API Sign Up	Low	As an Unauthenticated User, I want to sign up with my Google account, so that I don't have to do the entire registry process.

Table2.2: Unauthenticated User user stories

2.3. Authenticated User

Identifier	Name	Priority	Description
US21	Sign Out	High	As an Authenticated User, I want to sign out, so that I can close my session.
US22	Edit Profile	High	As an Authenticated User, I want to edit my account, so that I can update my information.
US23	Bid on Auction	High	As an Authenticated User, I want to bid on an auction, so that I acquire the product I desire.
US24	Create Auction	High	As an Authenticated User, I want to create an auction, so that I can sell my product.
US25	View Notifications	Medium	As an Authenticated User, I want to view my notifications, so that I don't miss anything.
US26	Support Profile Picture	Medium	As an Authenticated User, I want to have support for profile pictures, so that I can show others my appearance.
US27	Follow Auction	Medium	As an Authenticated User, I want to follow an auction, so that I can keep track of the products I want.
US28	View Followed Auctions	Medium	As an Authenticated User, I want to view the actions I followed, so that I can keep track of the progress of the auctions.
US29	View Bidding History	Medium	As an Authenticated User, I want to view my bidding history, so that I can keep track of the money I'm possibly spending.
US210	Add Credit to Account	Medium	As an Authenticated User, I want to add credit to my account, so that I have to balance to bid on the auctions.
US211	Delete Account	Medium	As an Authenticated User, I want to delete my account, so that I no longer have my personal info stored on the servers.
US212	Put a New Bid on Auction	Medium	As an Authenticated User, I want to put a new bid on an auction, so that I have a chance at winning a product I desire.
US213	Confirm Bid Popup	Medium	As an Authenticated User, I want to see a confirmation popup when I try to place a bid, so that I don't make any mistakes.
US214	Report Auction	Low	As an Authenticated User, I want to report an auction, so that it can get removed from the application.
US215	Appeal for Unblock	Low	As an Authenticated User, I want to appeal for an account unblock, so that I can regain access to my account.
US216	Instant Messaging Chat with Auction Owner	Low	As an Authenticated User, I want to have an instant messaging chat service, so that I can ask questions about an item to its owner.

Table2.3: Authenticated User user stories

2.4. Bidder

Identifier	Name	Priority	Description
US31	View Auction Bidding History	High	As a Bidder, I want to view an auction's bidding history, so that I can keep track of the demand of the product.

Identifier	Name	Priority	Description
US32	Rate Seller	Medium	As a Bidder, I want to rate a seller, so that I can give him and other users my feedback.
US33	Partaking Auction Won Notification	Medium	As a Bidder, I want to get a "Partaking Auction Won" notification, so that I know I won an auction.
US34	Partaking Auction Ending Notification	Medium	As a Bidder, I want to get a "Partaking Auction Ending" notification, so that I know an auction I'm partaking is ending.
US35	Partaking Auction Ended Notification	Medium	As a Bidder, I want to get a "Partaking Auction Ended" notification, so that I know an auction I was partaking has ended.
US36	Partaking Auction Canceled Notification	Medium	As a Bidder, I want to get a "Partaking Auction Canceled" notification, so that I know an auction I was partaking was canceled.

Table2.4: Bidder user stories

2.5. Auction Owner

Identifier	Name	Priority	Description
US41	View My Auctions	High	As an Auction Owner, I want to view my auctions, so that I know which products I sold and which ones I'm selling.
US42	Edit Auction	High	As an Auction Owner, I want to edit an auction, so that I can update its information and status.
US43	Cancel Auction	High	As an Auction Owner, I want to cancel my auction, so that I don't have to sell the product anymore.
US44	Manage Auction Status	Medium	As an Auction Owner, I want to manage my auctions status, so that the bidders know when an item has been sold.
US45	Owned Auction Ending Notification	Medium	As an Auction Owner, I want to get a "Owned Auction Ending" Notification, so that I know an auction I own is ending.
US46	Owned Auction Ended Notification	Medium	As an Auction Owner, I want to get a "Owned Auction Ended" Notification, so that I know an item I was selling was sold.
US47	Owned Auction Canceled Notification	Medium	As an Auction Owner, I want to get a "Owned Auction Canceled" Notification, so that I know an auction I owned was canceled.

Table2.5: Auction Owner user stories

2.6. System Manager

Identifier	Name	Priority	Description
US51	Manage Accounts	High	As a System Manager, I want to manage the various user accounts, so that I can search, view, edit, create, etc, them.
US52	Block and Unblock Accounts	Medium	As a System Manager, I want to block / unblock the accounts, so that I can keep a good environment on the app.
US53	Delete User Accounts	Medium	As a System Manager, I want to delete a user account, so that they no longer have access to the website's authenticated features.
US54	Manage Auctions	Medium	As a System Manager, I want to manage an auction, so that I make sure everything is working properly.
US55	Cancel Auctions	Medium	As a System Manager, I want to cancel an auction, so that I can get rid of rule breaking items.
US56	Manage Auction Reports	Low	As a System Manager, I want to manage auction reports, so that I can investigate the complaints users have.
US57	Manage Auction Categories	Low	As a System Manager, I want to manage auction categories, so that I can give users a better search experience.
US58	User Search	Low	As a System Manager, I want to search for users, so that I can quickly find them.
US59	See Blocked User List	Low	As a System Manager, I want to see the list of blocked users, so that I can easily manage them.

Identifier	Name	Priority	Description
US510	See Deleted Auction List	Low	As a System Manager, I want to see the list of auctions , so that I can keep track of them.
US511	See Active Reports	Low	As a System Manager, I want to see the active reports, so that I can attend to them.
US512	See Closed Reports	Low	As a System Manager, I want to see the closed reports, so that I can know which issues were solved.
US513	Change Report Status	Low	As a System Manager, I want to change a report's status, so that I know if it's been dealt with or needs further solving.

Table2.6: System Manager user stories

3. Supplementary Requirements

The following section will lay out the business rules, technical requirements, and restrictions of the WeBid product

3.1. Business rules

Identifier	Name	Description
BR01	Owner Bidding	The Owner of a certain item cannot place a bid on that item.
BR02	Deleted Account Info	After an account is deleted, only the user id, username, bidding history and auction history can be stored. All other information regarding a user must be deleted.
BR03	User Bidding	A Bidder should not be allowed to cancel a bid he made.
BR04	End of Auction	After the end of an auction, both parties should close the deal. If it doesn't happen the users are liable and can be suspended.
BR05	Self Review	A User can't make a review on himself.
BR06	Valid Auction Dates	The date of the end of an auction can't be prior to the date of the start of it.

Table3.1: WeBid Business rules

3.2. Technical requirements

Identifier	Name	Description
TR01	Availability	The system must be up and running 24/7
TR02	Accessibility	The system must guarantee that everyone is capable of navigating throughout the whole website, despite their capabilities.
TR03	Usability	The system should be simple and intuitive, so that everyone can take advantage of all the features of the website with easy
TR04	Performance	<p>The system's response time should be less than 2s to ensure a good user experience.</p> <p>With a delay greater than 2 seconds, user experience starts to degrade, specially in a website like WeBid, were some operations are time critical, like placing bids and closing auctions. For that reason, we ought to ensure minimal response times between the users and the server.</p>
TR05	Web application	<p>The system is to be implemented as a web application with dynamic pages, using standard HTML, CSS, Javascript and PHP.</p> <p>Access to the website should be possible from a standard web browser, since we have multiple users, who, more than certainly, don't use the same device or browser.</p>
TR06	Portability	The system should be working correctly despite the different Operating Systems.
TR07	Database	The database of the web application must be running a PostgreSQL DBS of version 11 and above.
TR08	Security	<p>The system must protect all the sensitive user information from unauthorized access through the use of an authentication system and attack prevention and protection methods.</p> <p>User privacy and security are two big concerns in this day and age. Data breaches are always bound to happen, since no system is bullet proof, but our objective is to mitigate them as much as possible.</p>
TR09	Robustness	The system must be able to deal with any complication or error that might happen.

Identifier	Name	Description
TR10	Scalability	The system must be able to deal with the growth of users and their actions.
TR11	Ethics	The system must respect all the ethical principles regarding data sharing and collection.

Table3.2: WeBid Technical requirements

3.3. Restrictions

Identifier	Name	Description
C01	Deadline	The WeBid Web App must be ready to use up until the end of the semester.

Table3.3: WeBid Restrictions

A3: Information Architecture

The goal of this artifact is to give a brief insight on the way information is presented on the system. This will be achieved through the use of a Sitemap and a couple Wireframes of the main pages.

1. Sitemap

Diagram representation of the flow and hierarchy between pages. It's divided into five different areas, which are:

- **Info Pages:** Pages with general information relevant to the users.
- **Admin Pages:** Pages for website management.
- **Authentication Pages:** Pages for account authentication and recovery.
- **User Pages:** Pages that display users information.
- **Auction Pages:** Pages dedicated to searching for auctions, displaying their information and bidding.

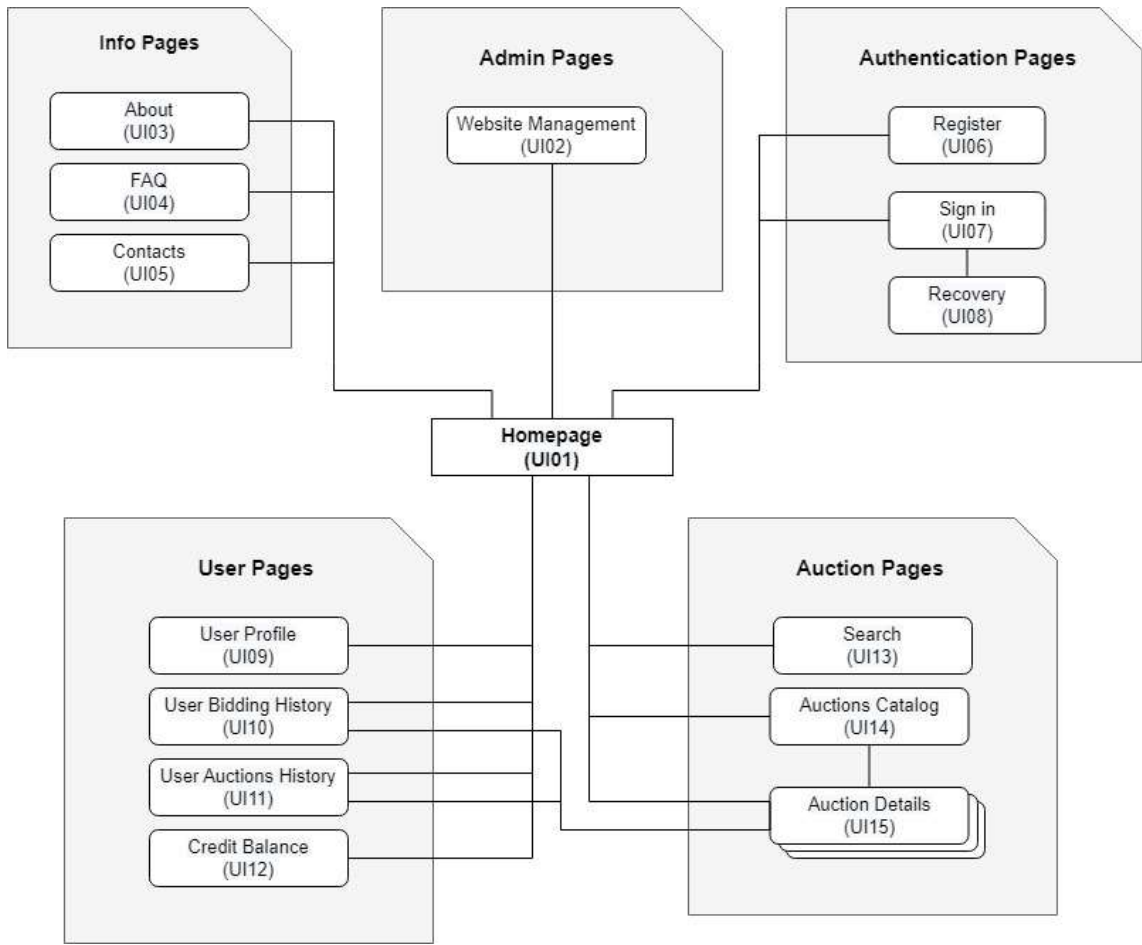


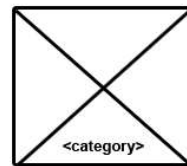
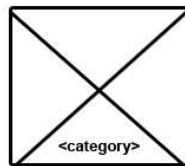
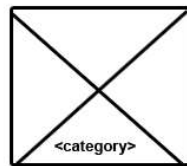
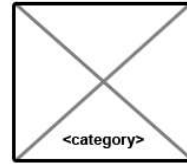
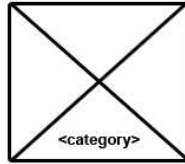
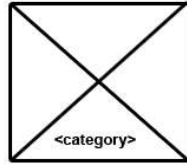
Fig2: WeBid Sitemap

2. Wireframes

The following wireframes are an attempt at demonstrating what two of the main pages will look like: the home page and a generic auction page.

UI01: Homepage

BANNER



AUCTIONS ABOUT TO END:

SEE ALL

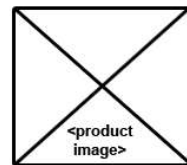
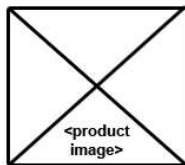
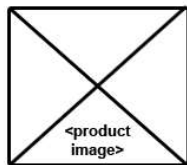


Fig3: WeBid Homepage

1. The different categories the user can use to find the right type of products he is looking for.
2. The search bar, that helps the user find a more specific product

UI15: Auction Details

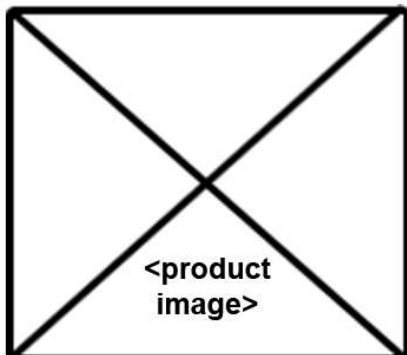
HOME - TECHNOLOGY - NVIDIA RTX 4080 ⁴

NVIDIA RTX 4080

Auction ends on the 29th
September at 13h



JOHN DOE
999 999 999
johndoe@gmail.com
★★★★★



The GeForce RTX™ 4080 Ti and RTX 4080 graphics cards deliver the ultra performance that gamers crave, powered by Ampere—NVIDIA's 2nd gen RTX architecture. They are built with enhanced RT Cores and Tensor Cores, new streaming multiprocessors, and superfast G6X memory for an amazing gaming experience.

1 | **2** | **2** | **2**
DAYS HOURS MINS SECS

 **FOLLOW AUCTION**

1210€ or more

 **PLACE BID**

CURRENT BID:

1200€

BID HISTORY:

Bidder 4 - 28th September	1200€
Bidder 3 - 28th September	420€
Bidder 2 - 28th September	410€
Bidder 1 - 28th September	400€

VIEW ALL BIDS ³

Fig4: WeBid Auction Details

- The bidding history for a specific auction
- Breadcrumbs navigation allows the user to quickly navigate and know which pages he's been on

Revision history

Changes made to the first submission:

- Added editor tag
- Minor spelling fix
- Fixed a tiny mistake in the Autcion Owner user stories id

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