

# **DESIGN AND ARCHITECTURE DOCUMENT:** **APARTMENT RENT BIDDING SYSTEM**

## **PROJECT INFORMATION**

Project Name: Apartment Rent Bidding System

Submission Date: November 3, 2022

DAD Version: 1.0

Client: Damen Tomassi

## **PROJECT TEAM**

<b><u>Team Member</u></b>	<b><u>Role</u></b>	<b><u>Document Responsibilities</u></b>
Gregory Zacharko	Product Owner	Common Terms and Definitions Within Project Scope and Definition Section; Proofread DAD
Lucas Adams	Scrum Master	Use Case Diagram View
Sara Torres	Dev Team	Behavioral View: Sequence Diagrams
Alizsa Johnson	Dev Team	Project Scope and Definition; Visual Model; Design and Structural View: Class Diagram
Emma Dougherty	Dev Team	Architectural and Environmental Requirements; Use Case Diagram View

## **PROJECT SCOPE AND DEFINITION**

The Apartment Rent Bidding System is a Web application that allows apartment administrators to auction off apartment units to potential renters.

The administrators create apartment buildings, populate those buildings with apartment units, and set the minimum going price and bid rate. The apartment administrator gives the bidders the apartment unit ID. Then the bidders start placing bids and continue bidding until the auction ends. At the end of the auction, a winner is selected and both the winning bidder and the apartment administrator are notified.

The scope of the Apartment Rent Bidding System is to create a Web application where apartment administrators can hold auctions for apartment units and invite bidders to bid on the rent.

#### For Administrators

- Allow administrators to sign up for a special user account that allows them to create apartment buildings and display available units.
  - Once an administrator creates an apartment unit, it is assigned a unique identifier that is visible to the administrator. This identifier allows approved bidders to access the auction.
- Allow administrators to set the minimum bid and minimum bidding increment.
- Allow administrators to add apartment details such as lease length and amenities.

#### For Bidders

- Allow bidders to sign up for an account that lets them participate in auctions.
- Allow bidders to bid on apartment units.
- Allow bidders to use an auto bidding feature, where they set the max amount they'd like to spend and the bidding system will bid on the users behalf until no other competing bids are placed or until the bidders max price is reached.
- Allow bidders to be notified when they've been outbid and when they've won the auction.

#### Deliverables

This project will yield a fully functional Web application that allows apartment administrators to auction off apartment units and allows bidders to access and participate in the auctions.

#### Milestones

- Sprint 0:
  - Decide what kind of pages need to be present on the web application and create the GUI wireframes in Figma.
  - Research the features of Bubble.io.

- Sprint 1:
  - Recreate the Figma diagrams in Bubble.io and begin adding functionality to the web pages.
  - Set up the database for the apartment listing details so that it stores admin input and displays it on the web page.
  - Verify that administrators can create listings.
- Sprint 2:
  - Set up additional databases that will hold the account information for the bidders and administrators and verify that both user types are able to sign up and log in.
  - Create the bidding feature that will allow bidders to participate in the auction.
- Sprint 3:
  - Create the auto-bidding feature and decide how both bidders and the administrator will be notified of significant events related to the auction.
  - Look into using a plugin to send out email updates to the auction participants.
- Sprint 4:
  - Begin bug testing the web application. All of the key features will be implemented so the next step is to verify that the application is working as intended.
  - Begin implementing stretch goals.
- Sprint 5:
  - Test any added features and confirm that they are working properly.

### **COMMON TERMS AND DEFINITIONS:**

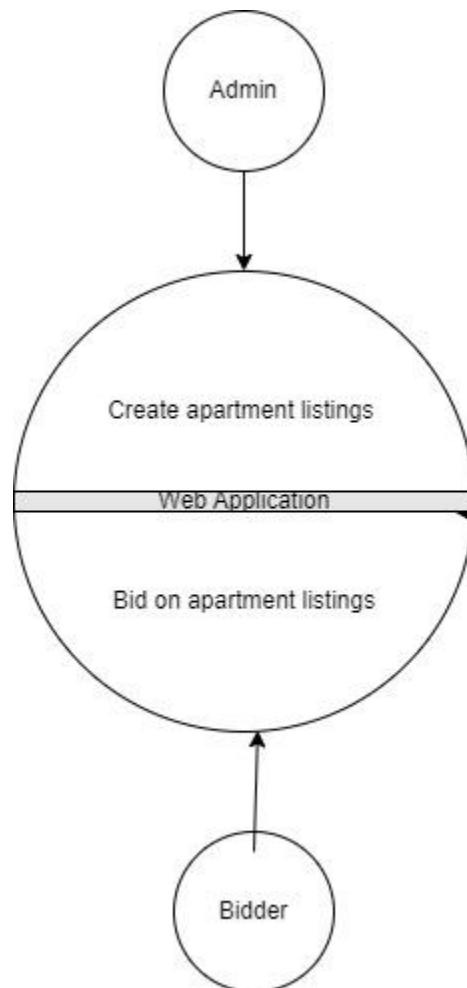
1. SPONSOR: The owner/stakeholder of the product.
2. PROFESSOR: Third-party overseer of the project and the team developing it.
3. ADMINISTRATOR: A person that creates a listing for an apartment unit using the product.
4. BIDDER: A person that uses the product to bid on an open and available apartment unit.
5. APARTMENT UNIT ID: A randomized, unique sequence of letters and numbers that bidders use to access the specific apartment listing they want to bid on.
6. BUBBLE.IO: A software engineering platform that allows developers to quickly build high-quality, fully functioning, powerful desktop/Web and mobile applications without having to type out thousands of lines of code.

7. ELEMENT: A component on the website/Web application that the user can interact with (e.g. buttons, links, text input boxes) or that displays information to the user (e.g. dynamic text displays).
8. ELEMENT PALETTE: The place where a developer can pick an element to drag-and-drop onto the page. It is where all possible elements are listed.
9. WORKFLOW: The different user interactions that can occur between the administrators and bidders, and the website/Web application. It is the sequence/flow of events and interactions when an administrator and/or bidder uses the product.
10. FIGMA: A software platform that allows developers to create a wireframe for their project/product's GUI.

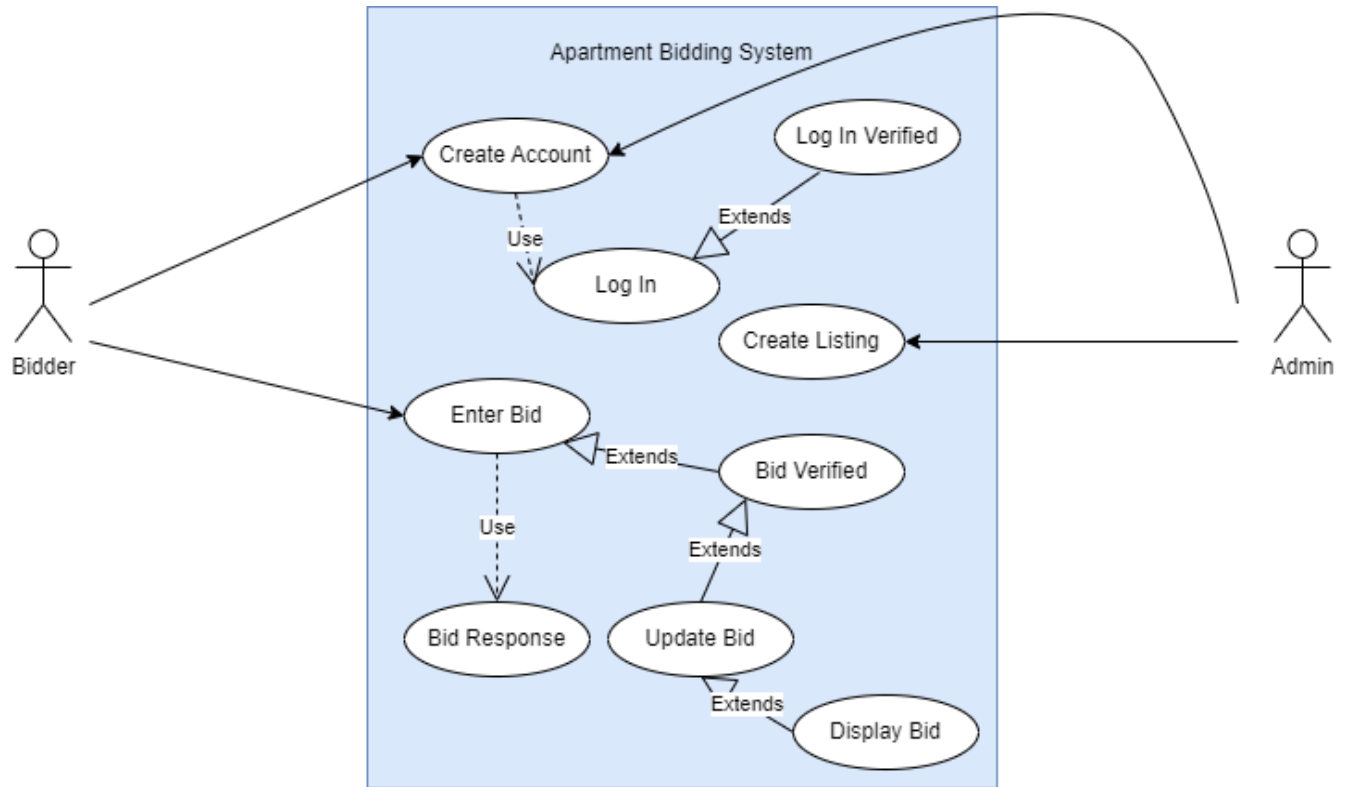
## **ARCHITECTURAL AND ENVIRONMENTAL REQUIREMENTS**

The architectural and environmental constraints will all be completed through Bubble.io. Hosting, product development, interfaces, hardware inventory, and locations are all fulfilled through Bubble.io's capabilities. Utilizing workflows built within Bubble.io allows a user to interact with the Apartment Bidding System. Along with this, the standard database within Bubble.io allows efficient storage and retrieval of user information. These built-in hardware constraints are all accomplished through Bubble.io's software development environment.

## VISUAL MODEL



## USE CASE DIAGRAM VIEW

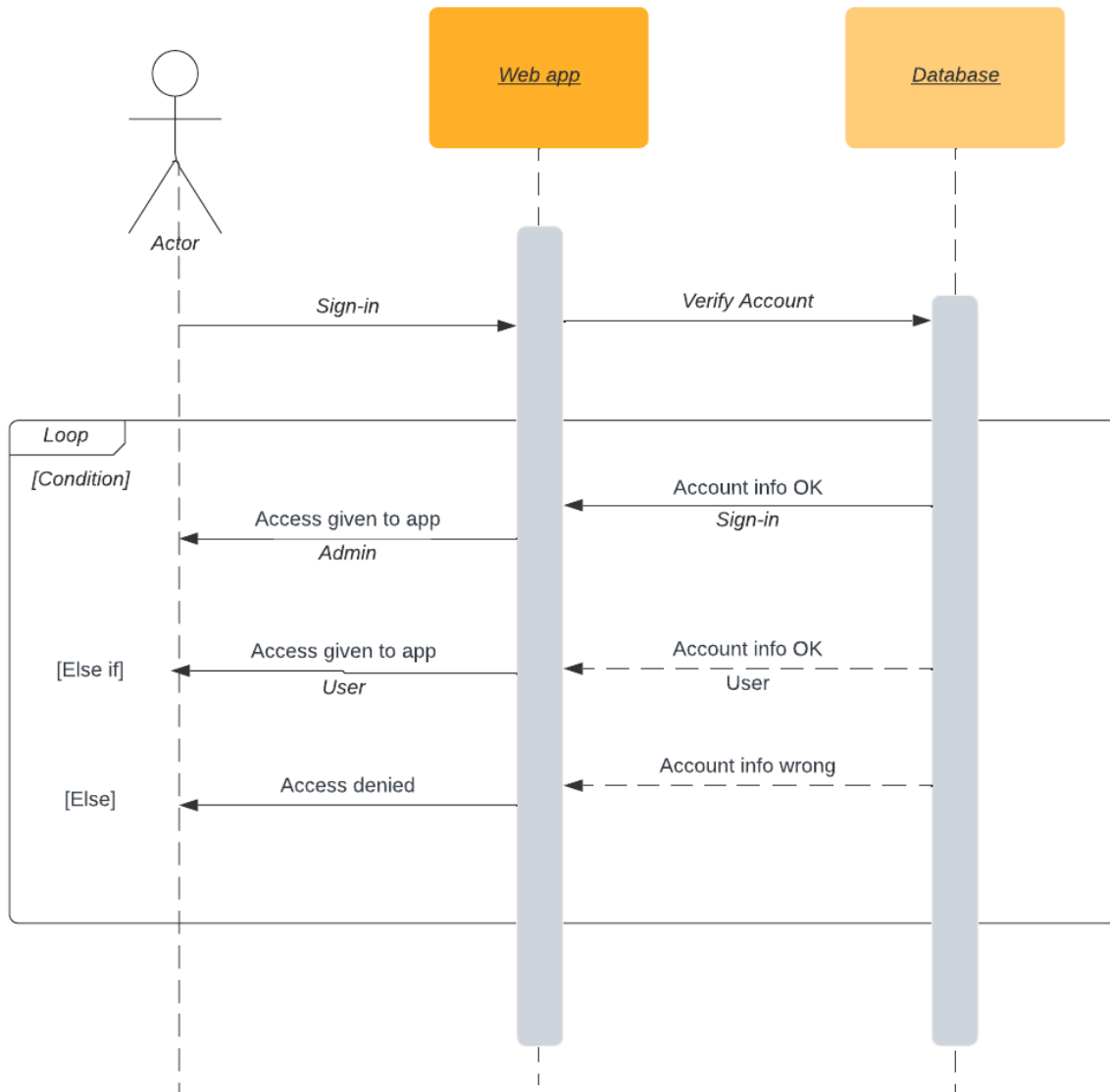


In this use case diagram, there are two users utilizing the Apartment Bidding System: a bidder and an administrator. Both users must create an account, log in, and have their log in verified. Administrators have the ability to create a listing. Bidders may enter a bid, receive a bid response, and have their bid verified. The bid is also updated based on their specific bid amount and displayed on their dashboard/page.

# BEHAVIORAL VIEW: SEQUENCE DIAGRAMS

## Sequence diagram

Apartment Bidding | November 2, 2022



## DESIGN AND STRUCTURAL VIEW: CLASS DIAGRAM

