



Final Report Software Development Project

Software Development Methodology (Singapore Institute of Management University)



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• **CSIT314 Software Development Project**

Final Report

GROUP MEMBERS	
Student Name	UOW ID

Project Website: <https://csit314-23b53825de27.herokuapp.com/>

Members Contribution

Name	Work Done	Contribution	Signatures
	<p>Website Development</p> <ul style="list-style-type: none">• Developer for website. <p>Documentation</p> <ul style="list-style-type: none">• Created use case description, BCE diagram and sequence diagram.	100%	
	<p>Website Development</p> <ul style="list-style-type: none">• Developer for website. <p>Documentation</p> <ul style="list-style-type: none">• BCE diagram, user stories, sequence diagram, use cases, use cases diagram and test cases, CI/CD.	100%	
	<p>Documentation</p> <ul style="list-style-type: none">• data driven development• Test cases• user stories <p>Taiga documentation</p>	100%	
	<p>Documentation</p> <ul style="list-style-type: none">• Test cases• Created the use case story <p>Taiga Documentation</p> <ul style="list-style-type: none">• Sprint• Tasking	100%	
	<p>Documentation</p> <ul style="list-style-type: none">• Involved in document preparation(User Stories, Use Case Diagrams, Use Case	100%	

	<p>descriptions,BCE Diagrams, Sequence Diagrams.</p> <p>BCE diagram and sequence fixes</p>		
	<p>Website Development</p> <ul style="list-style-type: none"> • Developer for website. <p>Documentation</p> <ul style="list-style-type: none"> • Involved in document preparation(User Stories, Use Case Diagrams, Use Case descriptions,BCE Diagrams, Sequence Diagrams. <p>Video</p> <ul style="list-style-type: none"> • Prepared live demo video of website. 	100%	
	<p>Database Design</p> <p>Documentation</p> <ul style="list-style-type: none"> • User Story • BCE diagram • Sequence diagram • Use cases <p>Taiga Documentation</p> <ul style="list-style-type: none"> • Sprint 	100%	

Table of Contents

Table of Contents

Database Design

User Stories and Tasks

Buyer

System Administrator

Real Estate Agent

Seller

Use Case Diagram

Buyer

Real Estate Agent

Seller

System Administrator

Use Case Description , BCE Class Diagram and BCE Class Diagram

Buyer

Real Estate Agent

Seller

Continuous Integration and Continuous Delivery (CI/CD)

Continuous Integration (CI)

Continuous Deployment (CD)

Ethical Considerations

Buyer

System Administrator

Real Estate Agent

Seller

Data-Driven Development

Model Requirements

Home Buyer:

Real Estate Agent:

Home Seller:

Data Collection

Data Cleaning

Feature Engineering

Model Training

Model Evaluation

Model Deployment

Model Monitoring

Test case

General

Buyer

System Administrator

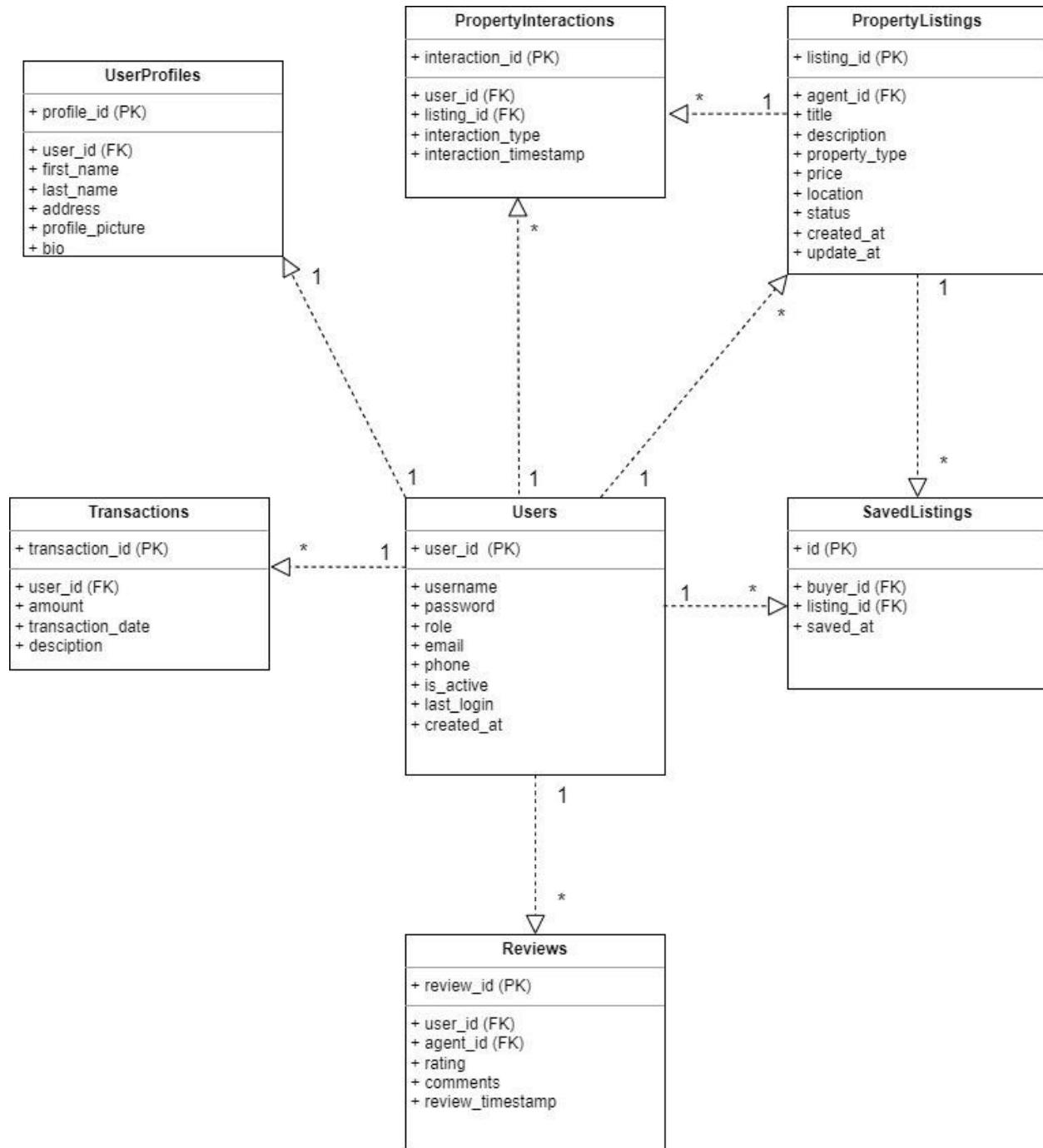
Real Estate Agent

Seller

Group Meeting Records

Taiga Screenshots

Database Design



User Stories and Tasks

Buyer

Taiga Story ID	User Story
1.	As a buyer, I want to input the loan term into the mortgage calculator so that it can calculate the duration of my payments.
2.	As a buyer, I want to input the interest rate into the mortgage calculator so that it can calculate the cost of the loan.
3.	As a buyer, I want to input the property loan details into the mortgage calculator so that I can determine the amount of my loan.
4.	As a buyer, I want to save my mortgage calculations for different properties so that I can compare and make the best decision.
5.	As a buyer, I want to adjust the inputs to the mortgage calculator to see how different scenarios affect my monthly payments and the total cost of the loan.
6.	As a buyer, I want to input my down payment into the mortgage calculator so that it can calculate the actual loan amount.
7.	As a buyer, I want the mortgage calculator to calculate my monthly payments so that I can determine if the property is within my budget.
8.	As a buyer, I want to receive notifications about new properties matching my saved search criteria so that I can stay updated on available listings.
9.	As a buyer, I want access to legal resources related to property transactions so that I know the legal obligations.
10.	As a buyer, I want to share property listings on social media platforms so that I can share with friends and family the listing.
11.	As a buyer, I want to view neighborhood details near a listed property so that I will know the general amenities around the property.
12.	As a buyer, I want to browse through property listings so that I can explore available options in the market.
13.	As a buyer, I want to search for properties based on criteria so that I can find listings that match my preferences.
14.	As a buyer, I want to view detailed information about each property listing including photos, descriptions, amenities, and contact information.

15.	As a buyer, I want to save properties that I'm interested in to a favorite list so that I can access them later and compare them with other options.
16.	As a buyer, I want to filter search results so that I can exclude properties that have already been sold and focus on available listings only.
17.	As a buyer, I want to be able to update my account so that I can change to my newer personal details if any.
18.	As a buyer, I want access to legal resources and guidance related to property transactions so that I can clarify on uncertainty rules.
19.	As a buyer, I want to find a property agent so that I have assistance to look for my dream home.
20.	As a buyer, I want to review and rate the real estate agent so that I can announce my experience working with him.
21.	As a real estate agent, I want to be able to report any user so that I can mark them as uncooperative.
22.	As a buyer, I want to be able to report the listing so that I can list out potential scams.

System Administrator

Taiga Story ID	User Story
23.	As a System Administrator, I want to modify user accounts to update user information as needed.
24.	As a System Administrator, I want to display user account information to review account statuses.
25.	As a System Administrator, I want to remove the inactive user accounts so that I can create space in the database.
26.	As a System Administrator, I want to be able to create user accounts to enable new users to access the system.
27.	As a System Administrator, I want to monitor and moderate user-generated contents, such as property listings and reviews, to ensure they meet quality standards and adhere to community guidelines.
28.	As a System Administrator, I want to have a simple response AI so that buyers or sellers can ask basic questions which can be answered through the system.

Real Estate Agent

Taiga Story ID	User Story
29.	As a real estate agent, I want access to historical data on property listings so that I know the background of the location.
30.	As a Real estate agent, I want to upload documents related to my property so that I can show the property details.
31.	As a real estate agent, I want to be able to create new property listings with detailed information including property type, location and price so that potential buyers have more information.
32.	As a real estate agent, I want to be able to update the status of the listing so that buyers and sellers know the current state of the listing
33.	As a real estate agent, I want to generate activity reports so that I can see the number of activities that occurred.
34.	As a real estate agent, I want to receive offers from potential buyers so that I know the number of buyers there will be.
35.	As a real estate agent, I want to generate sales reports so that I can know the number of sales made.
36.	As a real estate agent, I want to be able to update my professional profile and credentials on the platform so that I can manage my own profile.
37.	As a real estate agent, I want to see metrics on how many people have favorited my listings so that I can know the number of interested parties there is.
38.	As a real estate agent, I want to be able to add images into property listings so that potential buyers can have a glimpse of the properties.
39.	As a real estate agent, I want to communicate efficiently with buyers and sellers through the platform so that I can answer any questions between them.
40.	As a real estate agent, I want to manage my reviews so that I can know the number of reviews I receive.
41.	As a real estate agent, I want to display my ratings so that seller and buyers will look for me for assistance.
42.	As a real estate agent, I want to be able to remove my listing so that it does

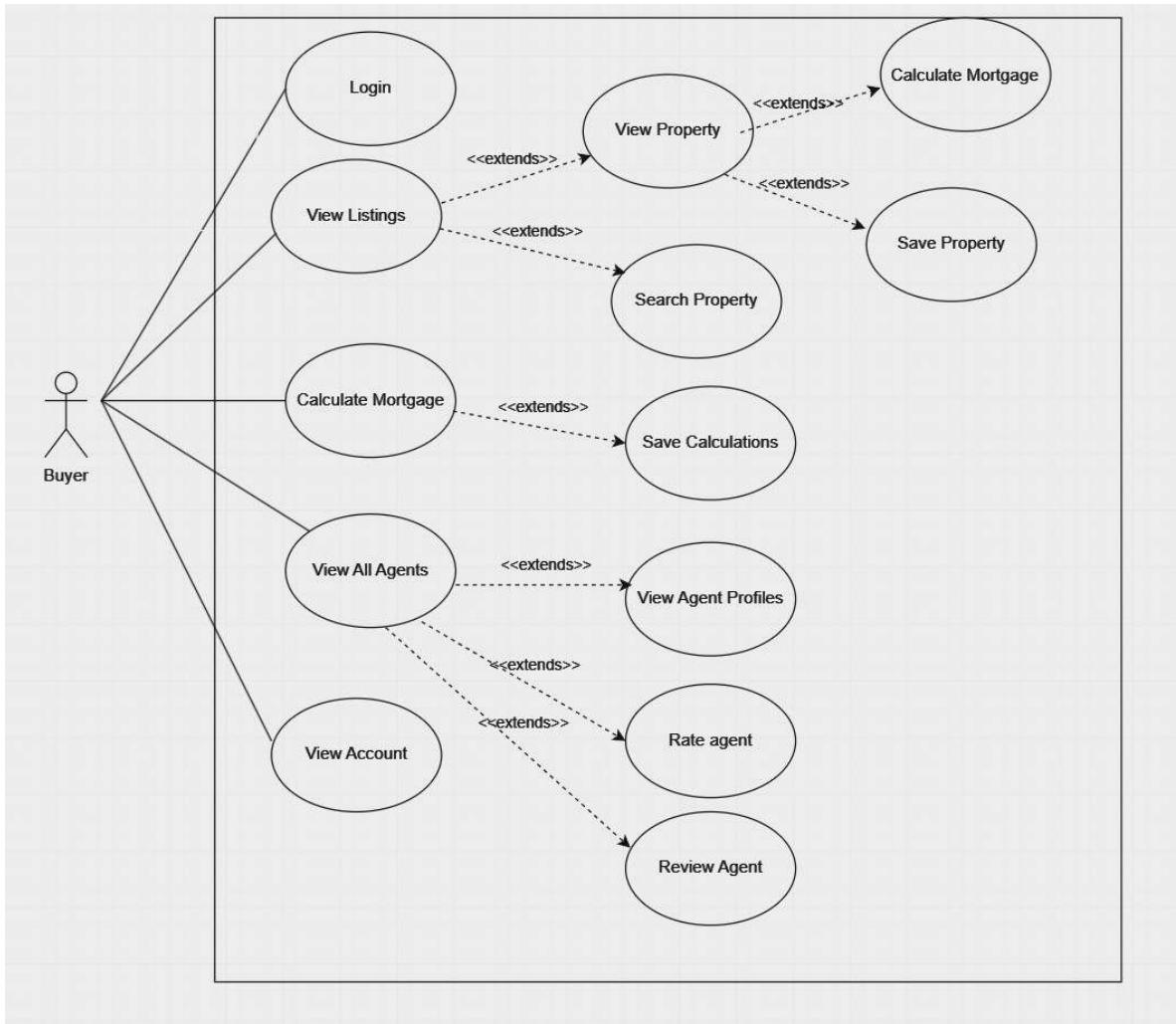
	not show in the list anymore.
43.	As a real estate agent, I want to manage property viewings so that I can make the necessary arrangements for the buyer to view the property.
44.	As a real estate agent, I want to manage offers from potential buyers so that I can control the number of offers being made.
45.	As a real estate agent, I want to be able to manage my property listing so that I can make changes to the listing when necessary.
46.	As a real estate agent , I want to schedule property viewings so that I can show the property to the user themselves.

Seller

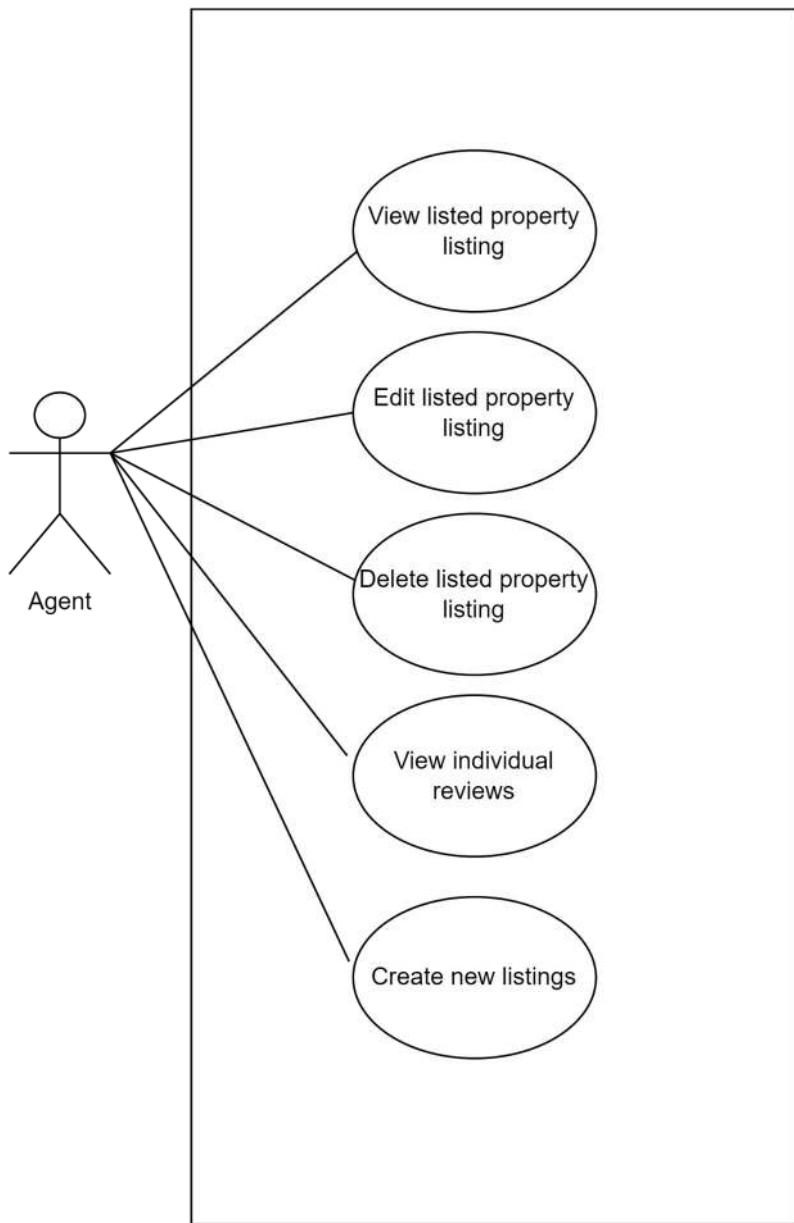
Taiga Story ID	User Story
47.	As a seller, I want to know how many times my properties have been shortlisted by potential buyers, so that I can know the number of potential buyers.
48.	As a seller, I want access to legal resources and guidance related to property transactions so that I can clarify on uncertainty rules.
49.	As a seller, I want to be able to calculate my selling price so that I know how much I will be getting.
50.	As a seller, he is able to bump the listing to the top so that viewers see the listing
51.	As a Seller, I want to select and write review on the performance and quality of service of the agent served my requests so that I can others will know the experience of working with them.
52.	As a Seller, I want to find a property agent so that he can assist me to sell my home.
53.	As a seller, I want to share property listings on social media platforms so that I can bring awareness to my property
54.	As a seller, I am able to see the number of favorites that the listing got so that I know how many people are following it.
55.	As a seller, I want to arrange a property visit so that property agent have a better understanding of the house conditions.
56.	As a seller, I want to see the number of views on each of my property listings, so that i can understand how much interest there is in my properties

Use Case Diagram

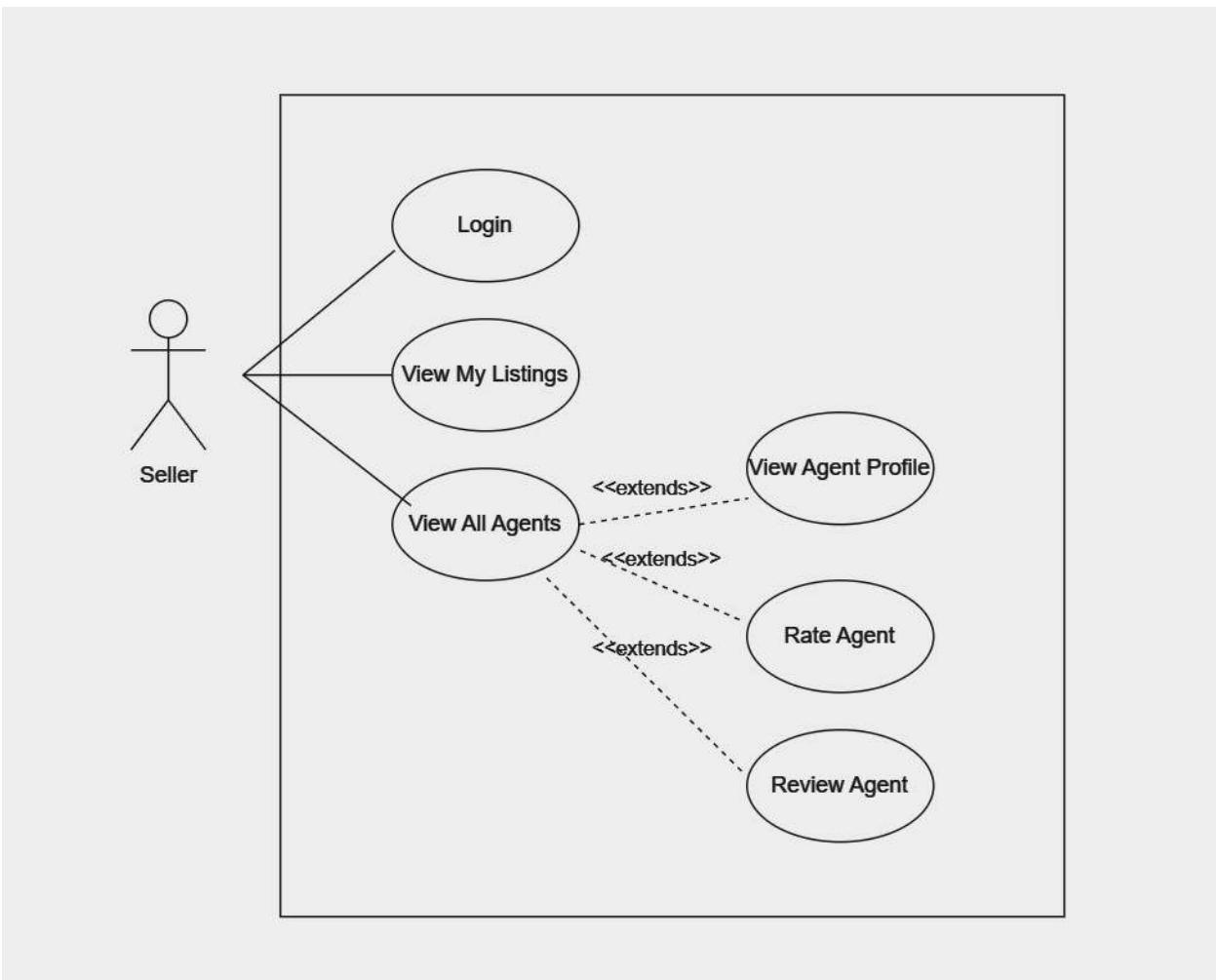
Buyer



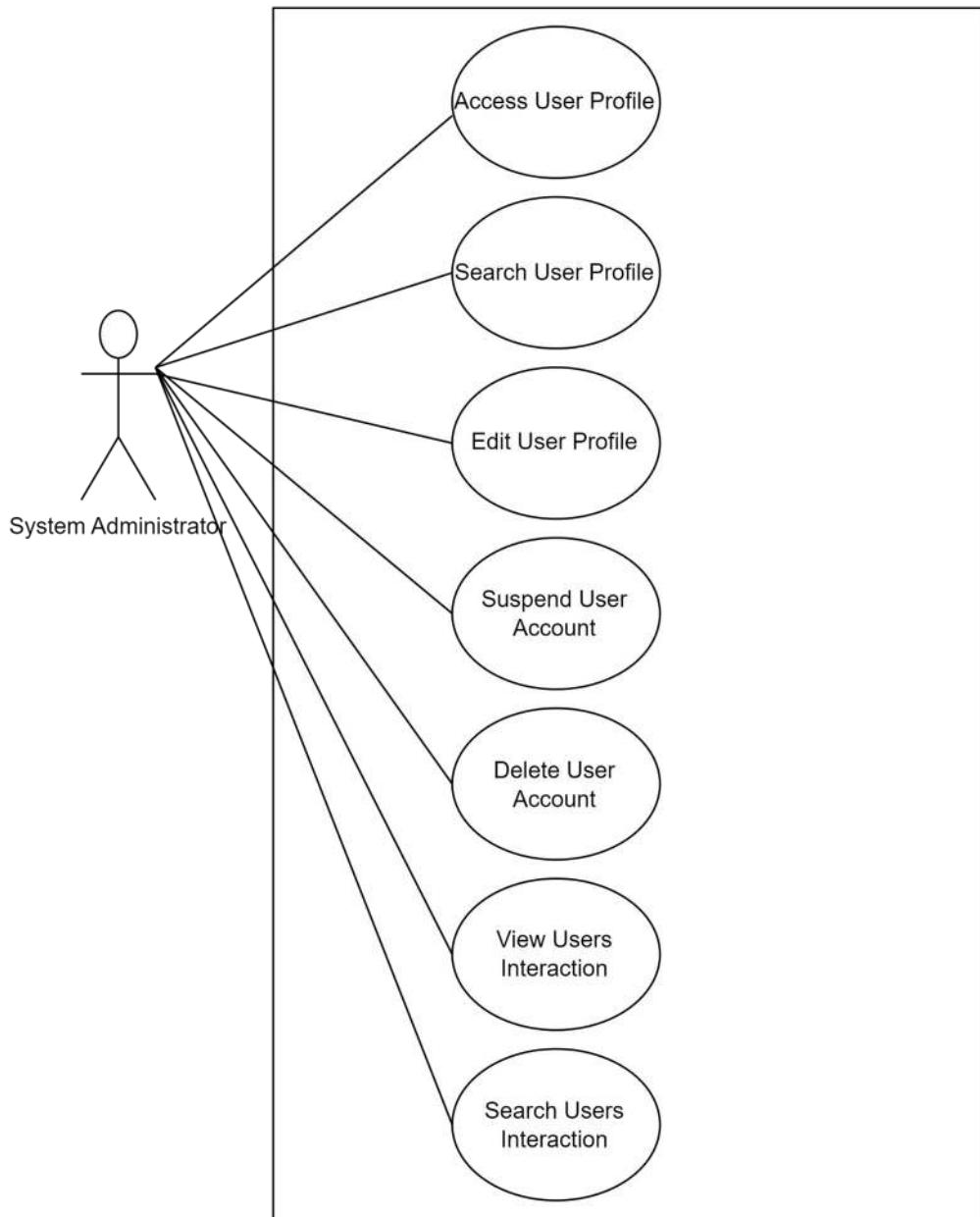
Real Estate Agent



Seller



System Administrator



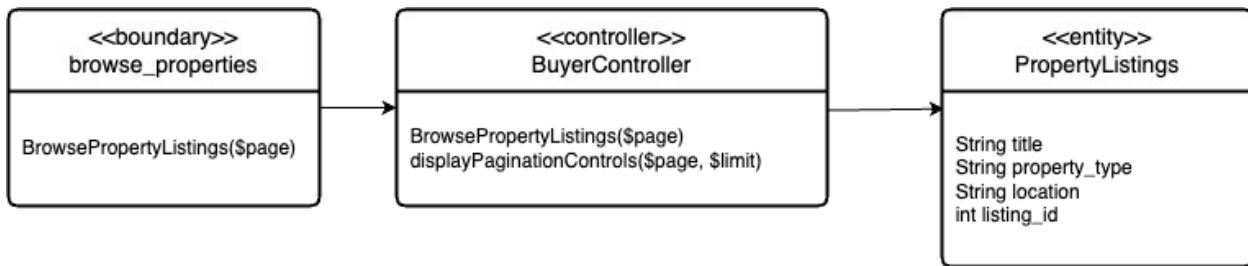
Use Case Description , BCE Class Diagram and BCE Class Diagram

Buyer

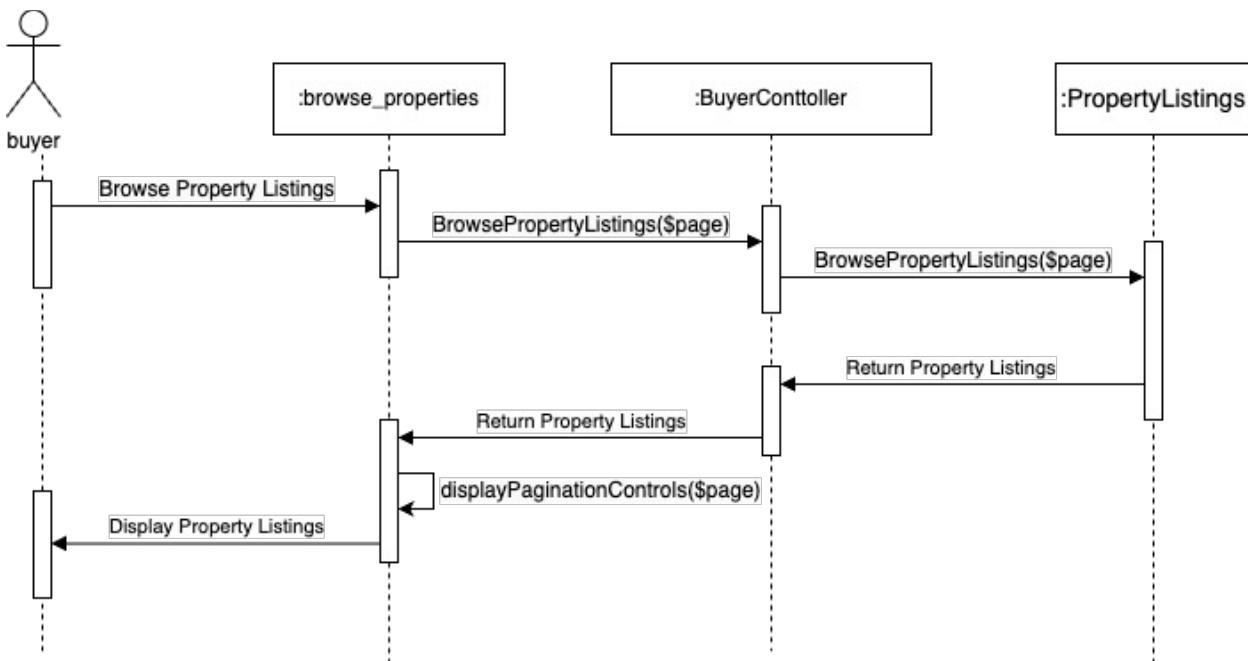
Use Case Description

13. As a buyer, I want to browse through property listings so that I can explore available options in the market.	
Use Case ID	B1
Name	Browse Property Listings
Stakeholders and Goals	Buyer - browse property listings
Description	Buyer wants to browse property listings
Actor	Buyer
Trigger	Property listings display at buyer dashboard
Normal flow	<ol style="list-style-type: none">1. The buyer navigates to the 'Browse Properties' page.2. Property listings will be displayed by 10 per page.3. The buyer browses through pages to explore available options in the market.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



```

buyer > browse_properties.php
32     <html lang="en">
41     <body>
56         <main>
75             &nbsp;     } else {
76                 &nbsp;         echo "<section>";
77                 &nbsp;         echo "<h2>Property Listings</h2>";
78                 &nbsp;         $buyerController->BrowsePropertyListings($page);
79                 &nbsp;         echo "</section>";
80             } ?>
81         </main>

```

```

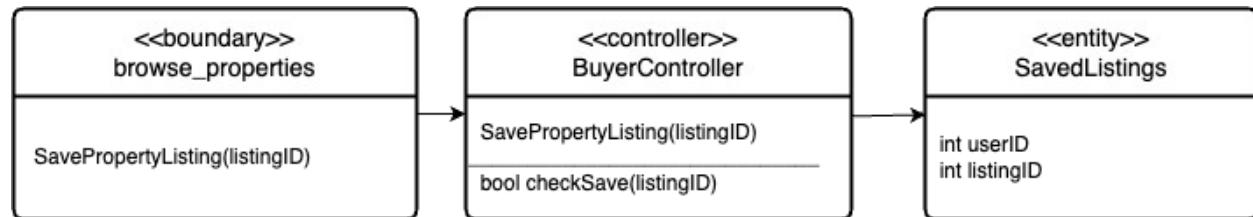
1 public function BrowsePropertyListings($page = 1, $limit = 10)
2 {
3     echo "<table>";
4     echo "<thead>";
5     echo "<tr>";
6     echo "<th>Title</th>";
7     echo "<th>Property Type</th>";
8     echo "<th>Location</th>";
9     echo "<th>Action</th>";
10    echo "</tr>";
11    echo "</thead>";
12    echo "<tbody>";
13    $offset = ($page - 1) * $limit;
14    $listingsQuery = "SELECT * FROM PropertyListings WHERE status = 'Active' LIMIT $limit OFFSET $offset";
15    $listingsResult = $this->conn->query($listingsQuery);
16
17    if ($listingsResult->num_rows > 0) {
18        while ($row = $listingsResult->fetch_assoc()) {
19            echo "<tr>";
20            echo "<td>{$row['title']}

```

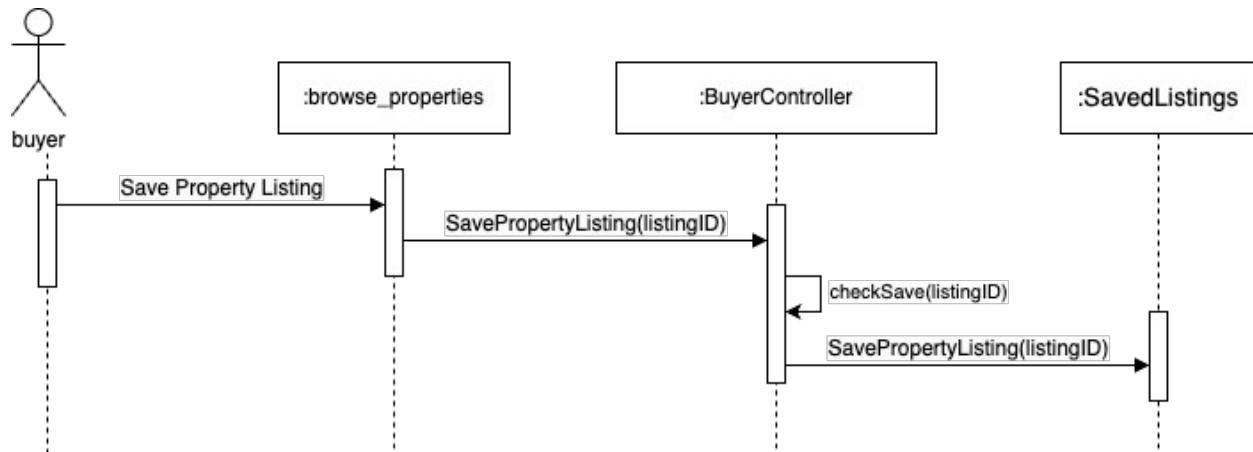
Use Case Description

16. As a buyer, I want to save properties that I'm interested in to a favorite list so that I can access them later and compare them with other options.	
Use Case ID	B2
Name	Save Property Listing
Stakeholders and Goals	Buyer - save property listing
Description	Buyer wants to save property listing
Actor	Buyer
Trigger	Buyer clicks the “Save Listing” button to save the respective property listing to a saved list.
Normal flow	<ol style="list-style-type: none"> 1. The buyer browses property listings. 2. The buyer selects the property listing they want to view and save. 3. The buyer clicks the “Save Listing” button. 4. The system adds the property listing to the buyer’s saved list.
Sub-flows	None

BCE Class Diagram



BCE Sequence Diagram



buyer > 🐘 browse_properties.php

```

8
9     if ($_SERVER["REQUEST_METHOD"] == "POST") {
10         $current_url = $_POST['current_url'];
11
12         if (isset($_POST['save_listing_id'])) {
13             $listingID = $_POST['save_listing_id'];
14             $buyerController->SavePropertyListing($listingID);
15             header("Location: $current_url");
16             exit();
17         }

```

class BuyerController

```

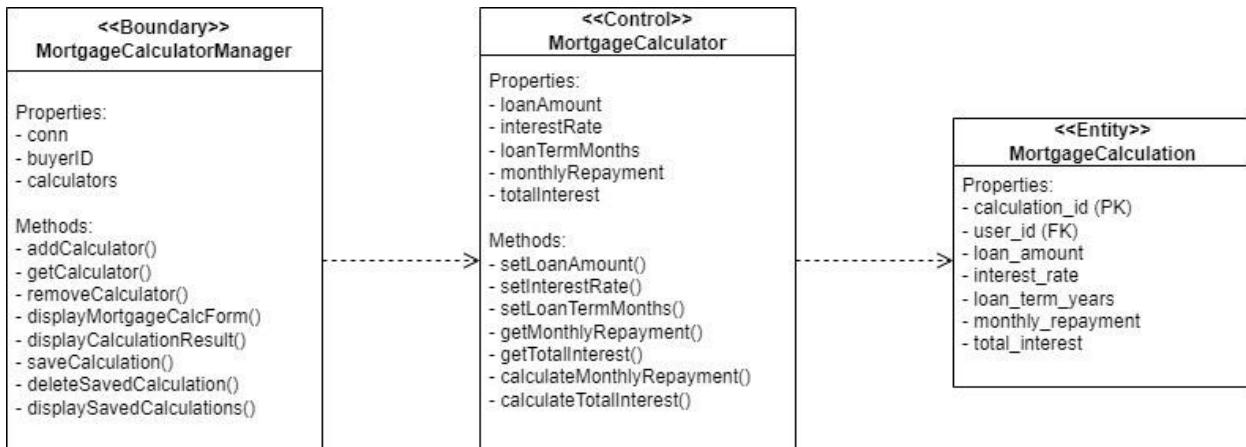
1 reference | 0 overrides
public function SavePropertyListing($listingID)
{
    $save_query = "INSERT INTO SavedListings (buyer_id, listing_id) VALUES ($this->userID, $listingID)";
    if ($this->conn->query($save_query) === TRUE) {
        $update_query = "INSERT INTO PropertyInteractions (user_id, listing_id, interaction_type) VALUES ($this->userID, $listingID,
        'Save')";
        $this->conn->query($update_query);
    } else {
        echo "Error: Listing cannot be saved." . $this->conn->error;
    }
}

```

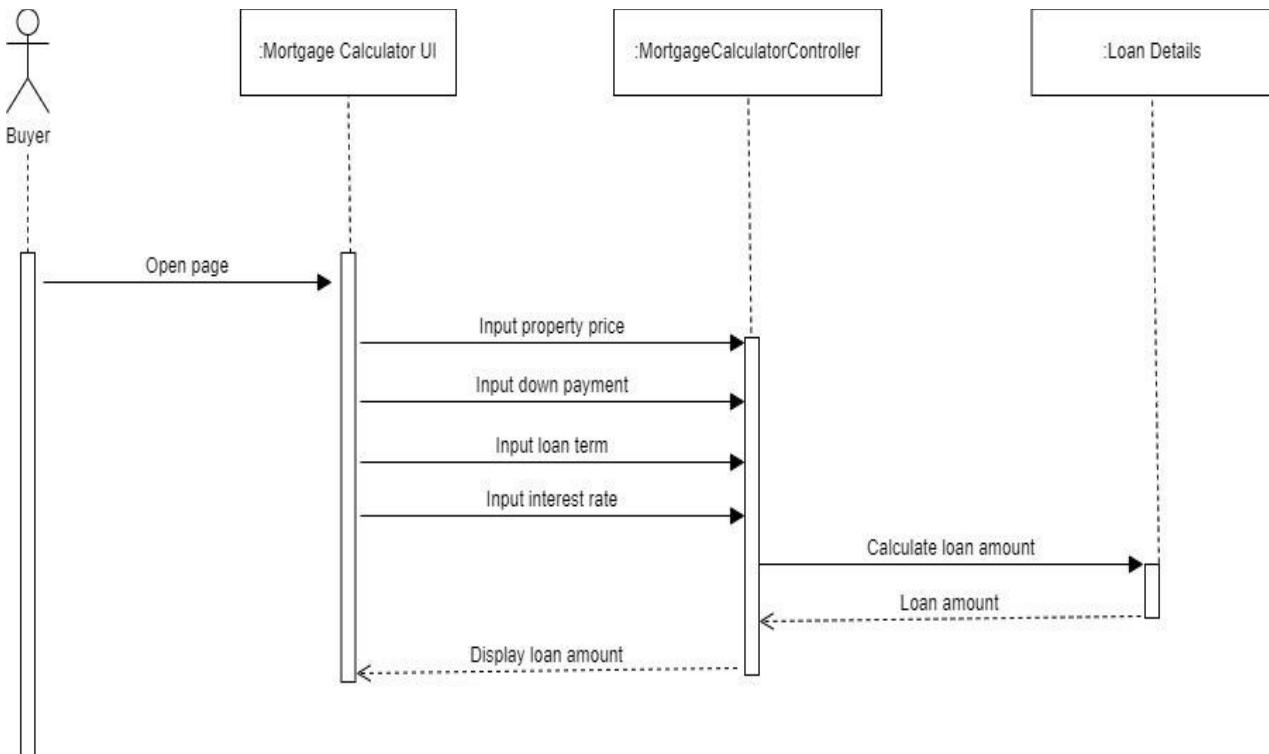
Use Case Description

As a buyer, I want to input the property loan details into the mortgage calculator so that I can determine the amount of my loan.	
Use Case ID	B3
Name	Browse Loan Details
Stakeholders and Goals	Buyer - To determine the amount of the loan.
Description	This use case allows the buyer to input property loan details into the mortgage calculator.
Actor	Buyer
Trigger	Buyer accesses the mortgage calculator.
Normal flow	<ol style="list-style-type: none"> 1. Buyer opens the mortgage calculator page. 2. Buyer inputs the property price. 3. Buyer inputs the down payment amount. 4. Buyer inputs the loan term. 5. Buyer inputs the interest rate. 6. System calculates and displays the loan amount.
Sub-flows	N/A
Alternatives / Exception Flows	If the input values are invalid, the system prompts the buyer to correct them.

BCE Class Diagram



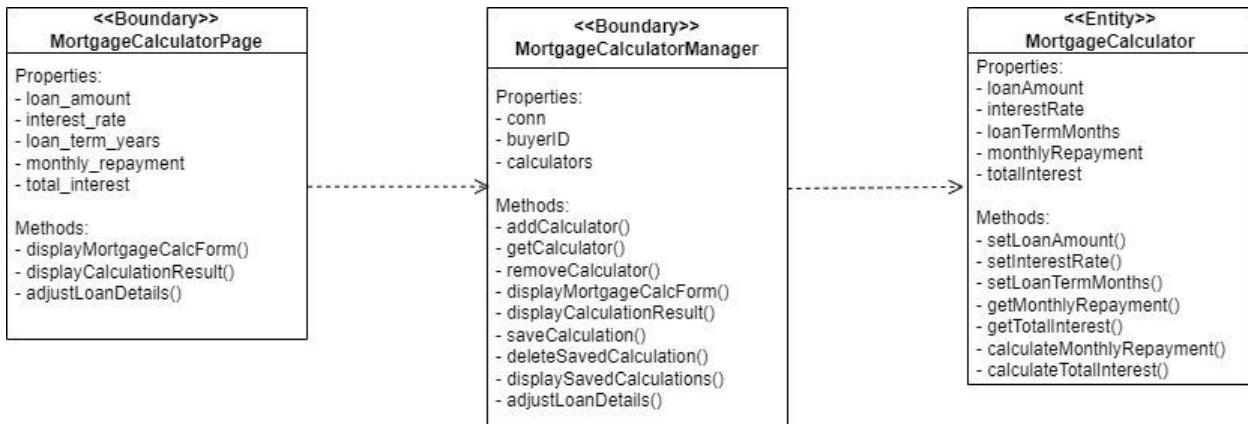
BCE Sequence Diagram



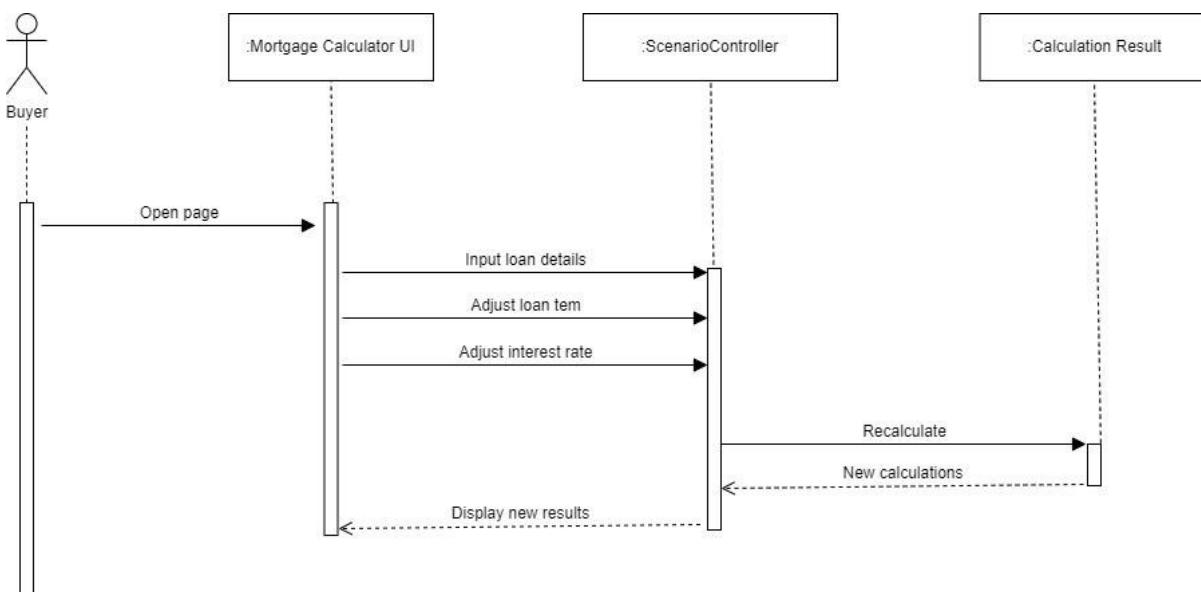
Use Case Description

As a buyer, I want to adjust the inputs to the mortgage calculator to see how different scenarios affect my monthly payments and the total cost of the loan.	
Use Case ID	B4
Name	Adjust Inputs to See Different Scenarios
Stakeholders and Goals	Buyer - To see how different scenarios affect monthly payments and total loan cost.
Description	This use case allows the buyer to adjust inputs to see the impact on monthly payments and total loan cost.
Actor	Buyer
Trigger	Buyer wants to explore different loan scenarios.
Normal flow	<ol style="list-style-type: none"> 1. Buyer accesses the mortgage calculator. 2. Buyer inputs the property loan details. 3. Buyer adjusts the loan term and/or interest rate. 4. System recalculates and displays the new monthly payments and total loan cost.
Sub-flows	N/A
Alternatives / Exception Flows	If the adjusted values are invalid, the system prompts the buyer to correct them.

BCE Class Diagram



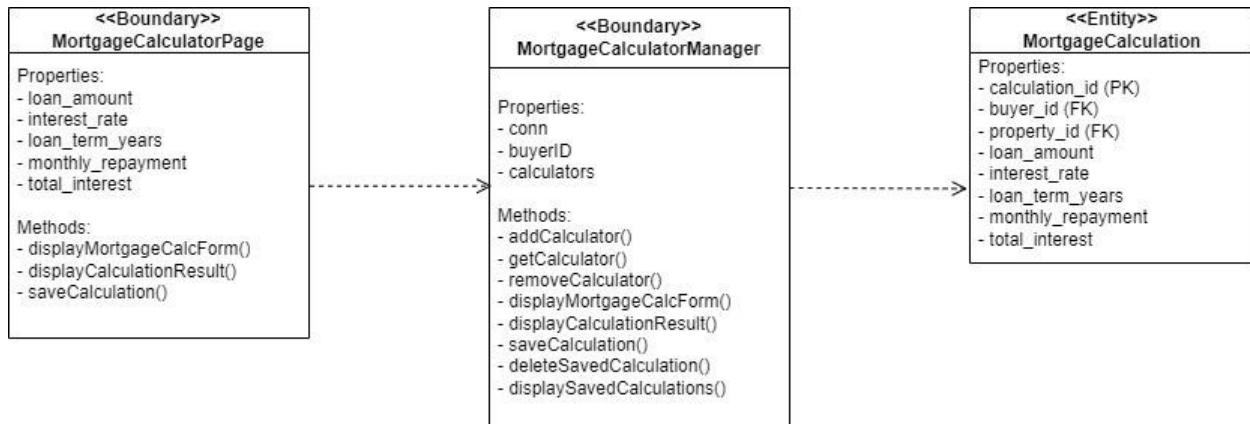
BCE Sequence Diagram



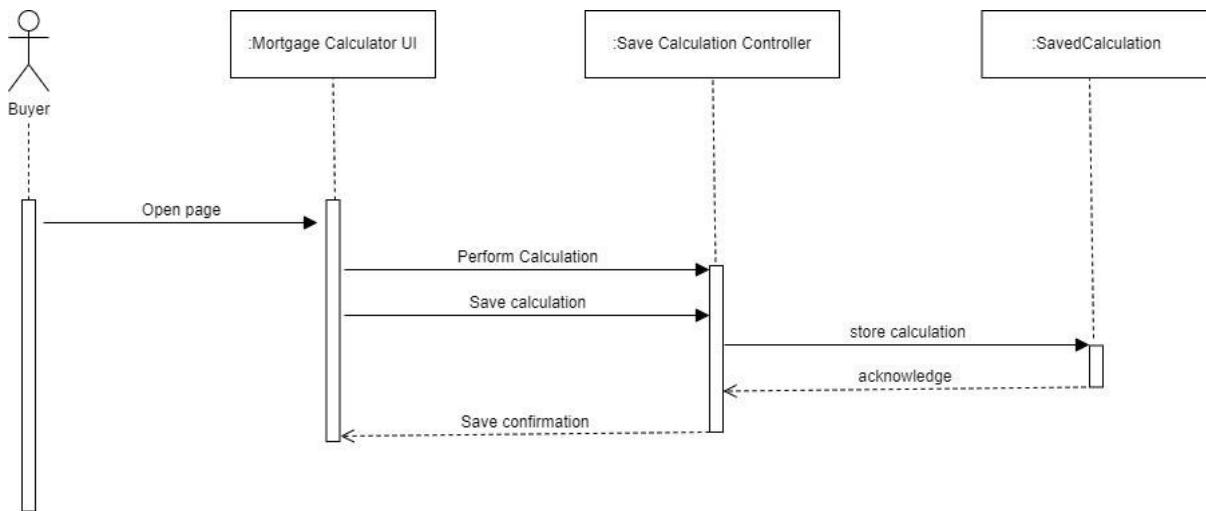
Use Case Description

As a buyer, I want to save my mortgage calculations for different properties so that I can compare and make the best decision.	
Use Case ID	B5
Name	Save Mortgage Calculations
Stakeholders and Goals	Buyer - To compare different properties and make the best decision.
Description	This use case allows the buyer to adjust inputs to see the impact on monthly payments and total loan cost.
Actor	Buyer
Trigger	To compare different properties and make the best decision.
Normal flow	<ol style="list-style-type: none"> 1. Buyer performs a mortgage calculation. 2. Buyer saves the calculation. 3. System stores the calculation for future reference.
Sub-flows	N/A
Alternatives / Exception Flows	If there is an issue saving the calculation, the system notifies the buyer.

BCE Class Diagram



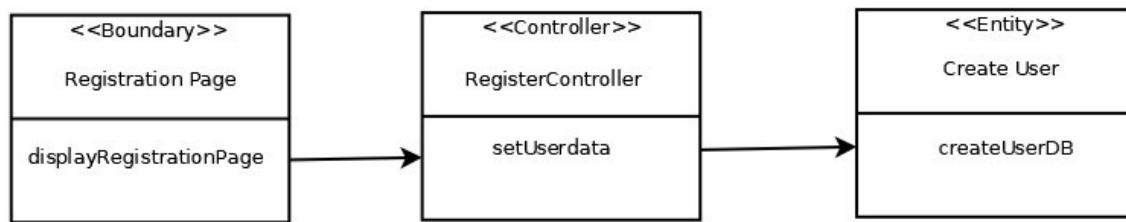
BCE Sequence Diagram



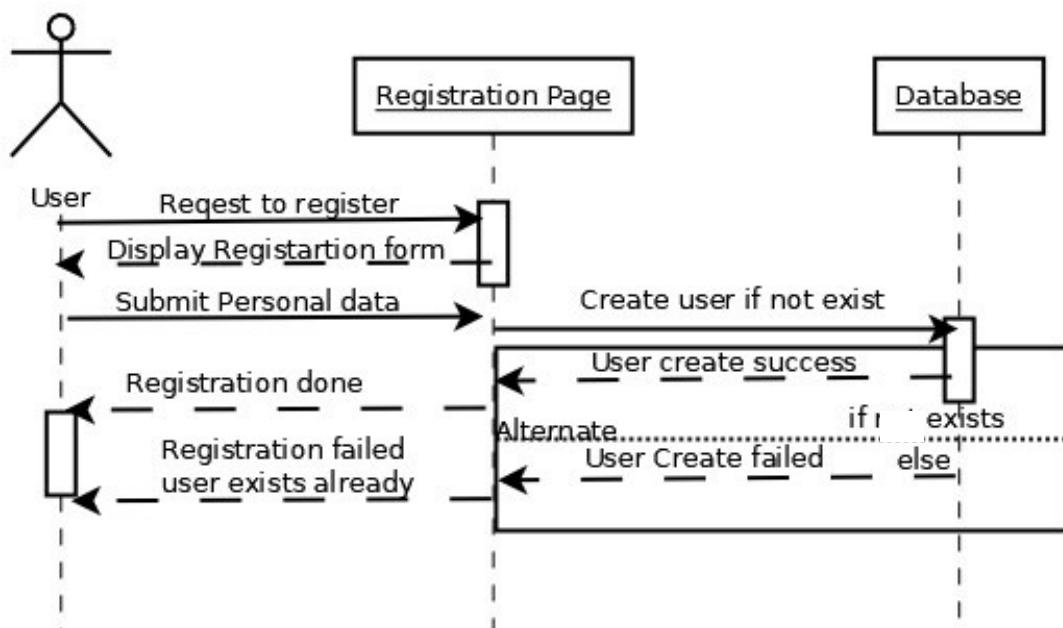
Use Case Description

As a buyer, I want to be able to register a ‘buyer’ account with my personal details so I can access the necessary features needed for buying properties.	
Use Case ID	B6
Name	Register for new account
Stakeholders and Goals	Buyer– Create new account to use the platform
Description	Buyers will be able to register and create new account to use the portal to perform their respective functions.
Actor	Buyer
Trigger	“Register” link provided in login page.
Normal flow	<ol style="list-style-type: none"> 1. The buyer click ‘Register’ link 2. Key-in all mandatory fields needed in the registration form 3. Submit form 4. On successful registration use User name and password to login
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



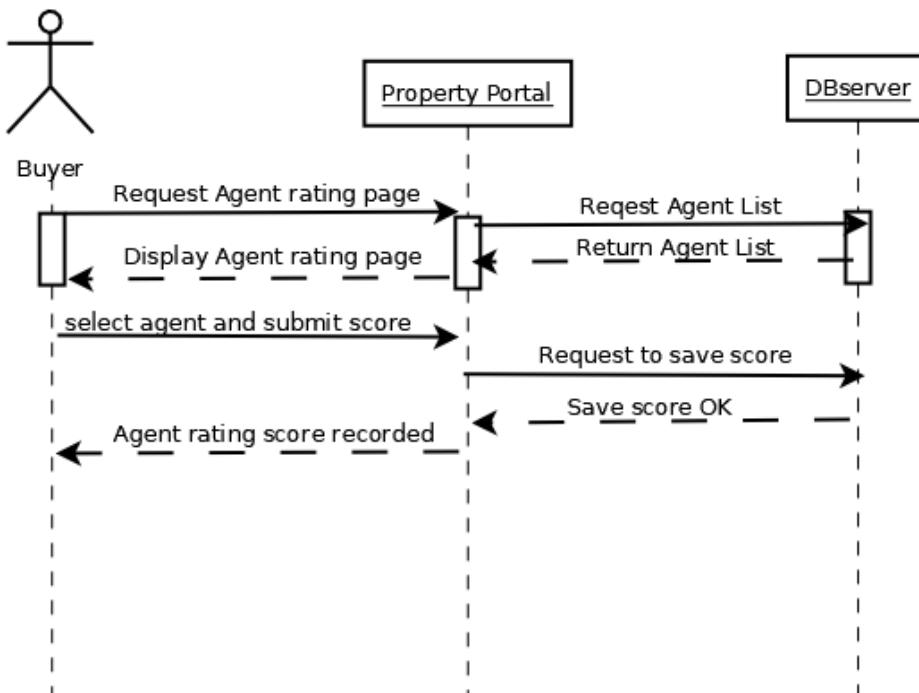
Use Case Description

As a buyer, I want to rate the services of an agent serving me.	
Use Case ID	B7
Name	Rate the agent
Stakeholders and Goals	Buyer, Agents – To evaluate agent performance
Description	Buyer select the agent and give appropriate score for the services rendered.
Actor	Buyer
Trigger	Rate agent page link provided in the buyer dashboard.
Normal flow	<ol style="list-style-type: none"> 1. The buyer accesses the buyer dashboard. 2. Navigates to 'Agent Rating' page 3. Enter appropriate score and submit the entry
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram

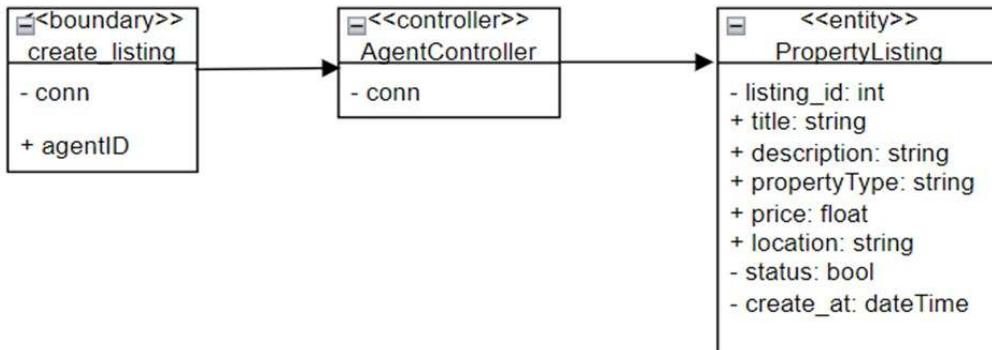


Real Estate Agent

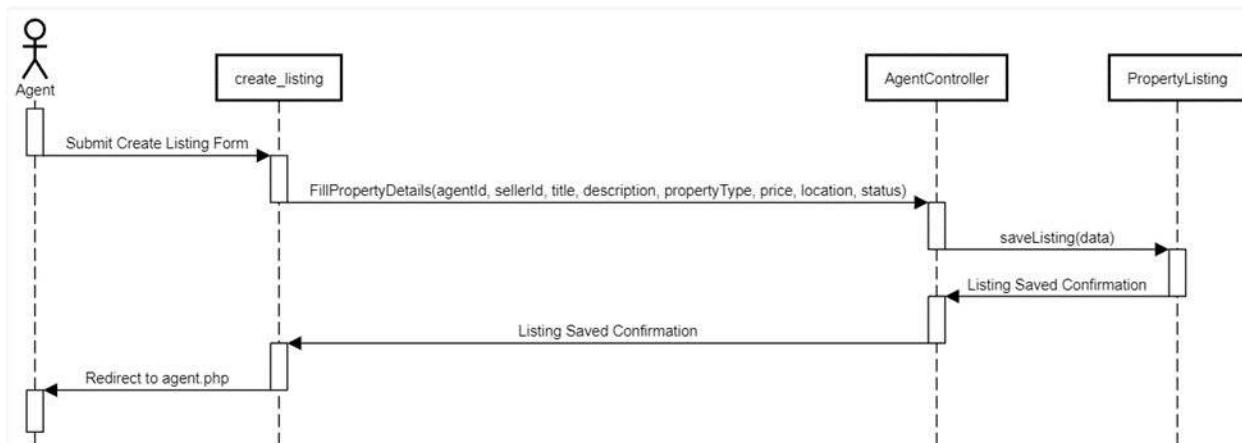
Use Case Description

As a real estate agent, I want to be able to create new property listings with detailed information including property type, location and price so that potential buyers have more information.	
Use Case ID	A1
Name	List New Property
Stakeholders and Goals	Real Estate Agent - list new properties. Admin - Reviews and approves new listings. Potential Buyers/Renters - Browse listed properties.
Description	Real estate agent wants to list new properties on the platform.
Actor	Real estate agent
Trigger	Real Estate agent submits new property details.
Normal flow	<ol style="list-style-type: none">1. The agent accesses the property listing form.2. The agent fills in the property details.3. The agent submits the property listing.4. The system saves the property details and notifies the admin for approval.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



Coding

```

if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $title = $_POST['title'];
    $description = $_POST['description'];
    $propertyType = $_POST['property_type'];
    $price = $_POST['price'];
    $location = $_POST['location'];
    $agentId = $_SESSION['user_id'];
    $sellerId = $_POST['seller_id'];
    $status = 'Active';

    if ($agentController->FillPropertyDetails($agentId, $sellerId, $title, $description, $propertyType, $price, $location, $status)) {
        header("Location: agent.php");
        exit();
    } else {
        echo "Error: Unable to add new listing.";
    }
}

```

```
<label for="title">Title:</label>
<input type="text" id="title" name="title" required><br><br>

<label for="description">Description:</label>
<textarea id="description" name="description" rows="4" required></textarea><br><br>

<label for="property_type">Property Type:</label>
<input type="text" id="property_type" name="property_type" required><br><br>

<label for="price">Price:</label>
<input type="number" id="price" name="price" step="0.01" required><br><br>

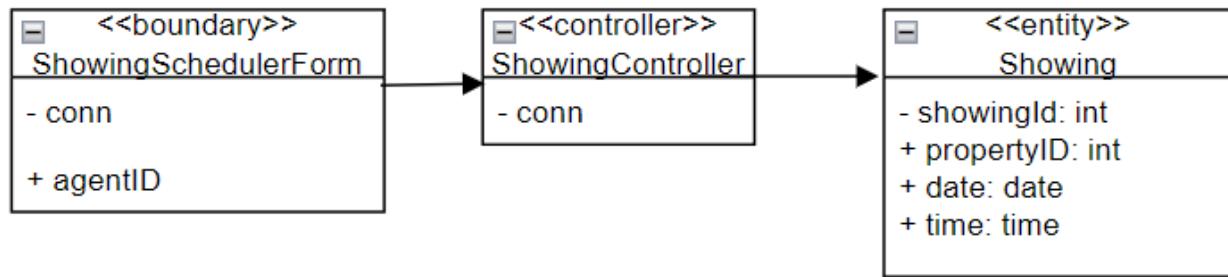
<label for="location">Location:</label>
<input type="text" id="location" name="location" required><br><br>

<input type="submit" value="Create Listing">
```

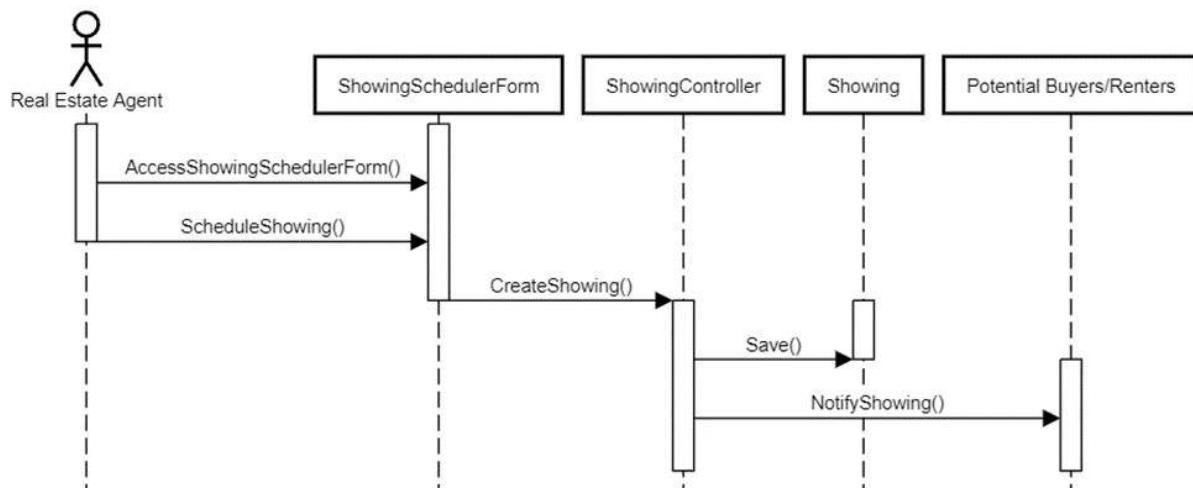
Use Case Description

As a real estate agent , I want to schedule property viewings so that I can show the property to the user themselves.	
Use Case ID	A2
Name	Schedule Showings for Listed Properties
Stakeholders and Goals	Real Estate Agent – schedule property showing. Buyers/Renters – view properties in person.
Description	Real estate agent wants to schedule showings for their listed properties.
Actor	Real estate agent
Trigger	Real estate agent schedules a property showing.
Normal flow	<ol style="list-style-type: none"> 1. The agent accesses the showing scheduler form. 2. The agent selects a property and schedules a showing. 3. The system saves the showing details. 4. The system notifies potential buyers/renters about the showing.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



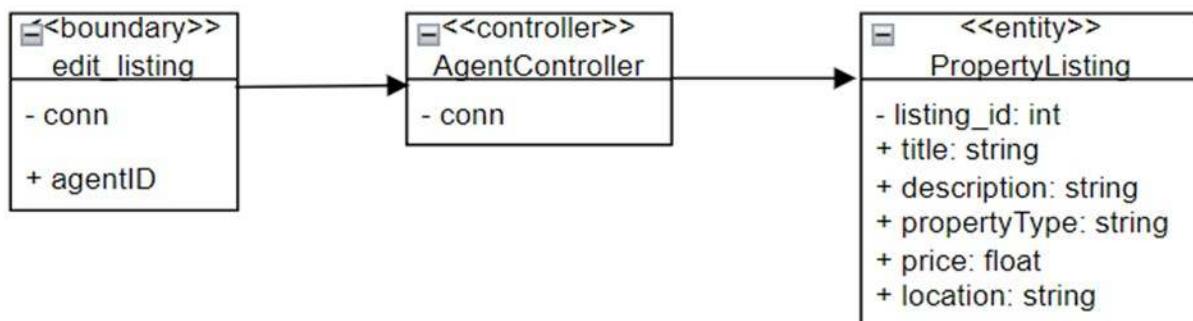
BCE Sequence Diagram



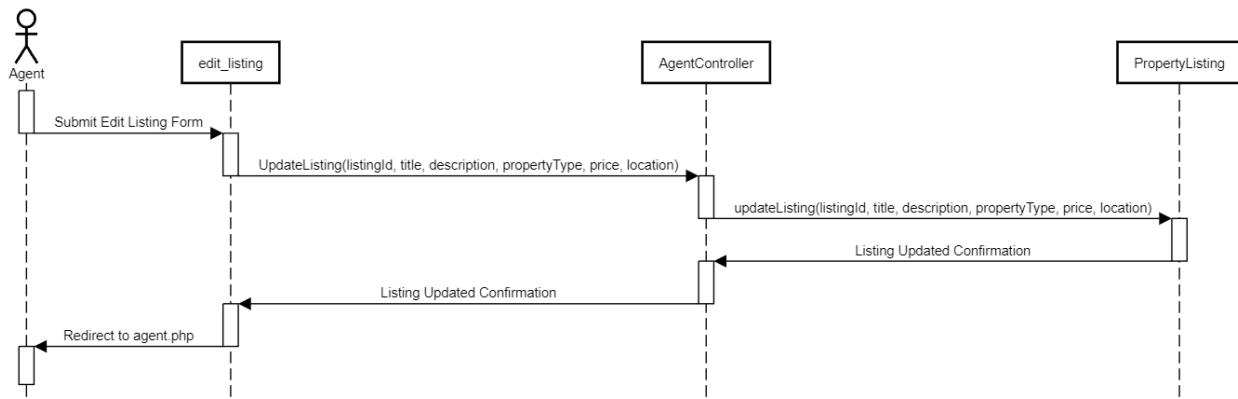
Use Case Description

As a real estate agent, I want to be able to manage my property listing so that I can make changes to the listing when necessary.	
Use Case ID	A3
Name	Edit Listings on the Platform
Stakeholders and Goals	Real Estate Agent - edit existing property listings.
Description	Real estate agents want to edit their property listings on the platform.
Actor	Real estate agent
Trigger	Real estate agent initiates edit of a property listing.
Normal flow	<ol style="list-style-type: none"> 1. The agent accesses the property listing form. 2. The agent edits the property details. 3. The agent submits the updated property listing. 4. The system saves the updated property details.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



```

if ($_SERVER["REQUEST_METHOD"] == "POST" && isset($_POST['update_listing'])) {
    $listingId = $_POST['listing_id'];
    $title = $_POST['title'];
    $description = $_POST['description'];
    $property_type = $_POST['property_type'];
    $price = $_POST['price'];
    $location = $_POST['location'];

    if ($agentController->UpdateListing($listingId, $title, $description, $property_type, $price, $location)) {
        header("Location: agent.php");
        exit();
    } else {
        echo "Error updating listing: " . $conn->error;
    }
}
  
```

```

<main>
  <form method="post" action=<?php echo htmlspecialchars($_SERVER["PHP_SELF"]); ?>>
    <input type="hidden" name="listing_id" value=<?php echo $listing['listing_id']; ?>>
    <label for="title">Title:</label>
    <input type="text" id="title" name="title" value=<?php echo $listing['title']; ?>" required><br><br>

    <label for="description">Description:</label>
    <textarea id="description" name="description" required><?php echo $listing['description']; ?></textarea><br><br>

    <label for="property_type">Property Type:</label>
    <input type="text" id="property_type" name="property_type" value=<?php echo $listing['property_type']; ?>" required><br><br>

    <label for="price">Price:</label>
    <input type="number" id="price" name="price" value=<?php echo $listing['price']; ?>" required><br><br>

    <label for="location">Location:</label>
    <input type="text" id="location" name="location" value=<?php echo $listing['location']; ?>" required><br><br>

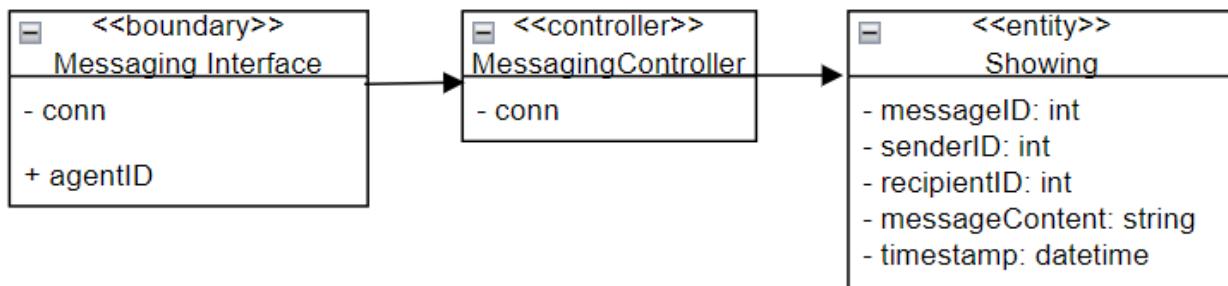
    <input type="submit" name="update_listing" value="Update Listing">
  </form>
</main>
  
```

Use Case Description

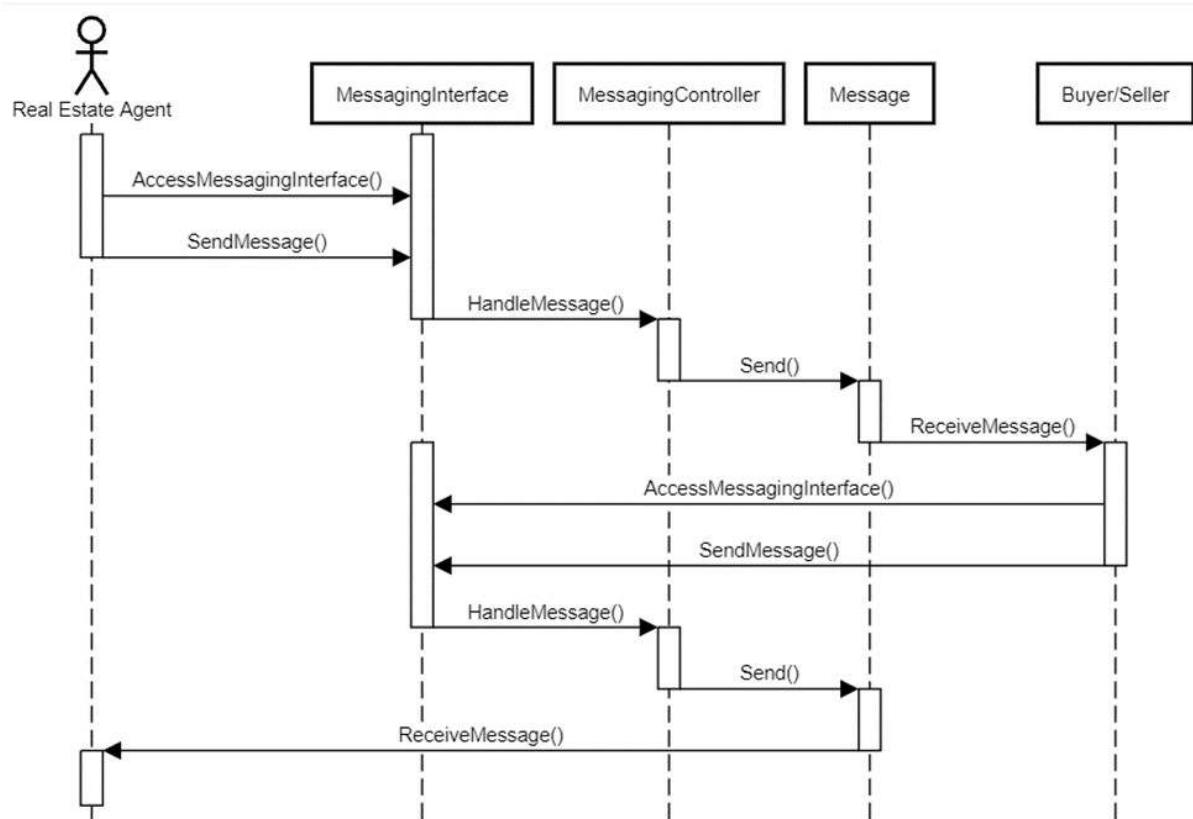
39. As a real estate agent, I want to communicate efficiently with buyers and sellers through the platform so that I can answer any questions between them.

Use Case ID	A4
Name	Communicate with Buyers and Sellers
Stakeholders and Goals	Real Estate Agent - communicate efficiently with buyers and sellers through the platform.
Description	Real estate agent wants to communicate efficiently with buyers and sellers.
Actor	Real estate agent
Trigger	Real estate agent sends or receives a message.
Normal flow	<ol style="list-style-type: none"> 1. The agent accesses the messaging interface. 2. The agent composes and sends a message. 3. The system delivers the message to the recipient. 4. The recipient views and responds to the message.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



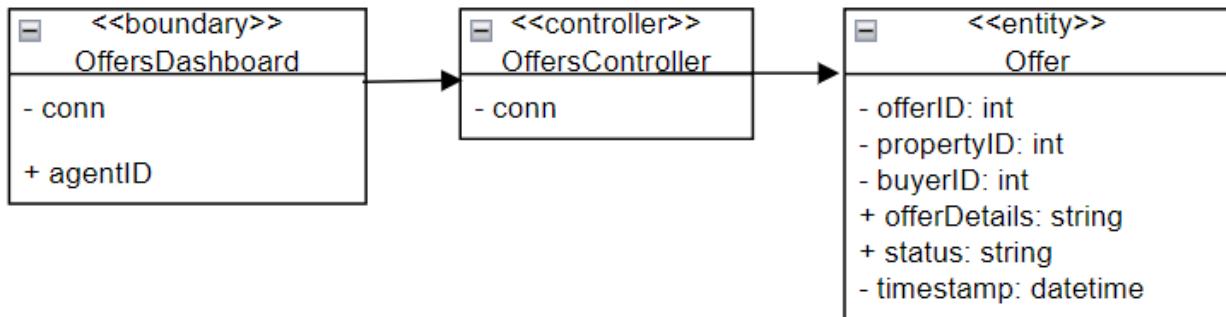
BCE Sequence Diagram



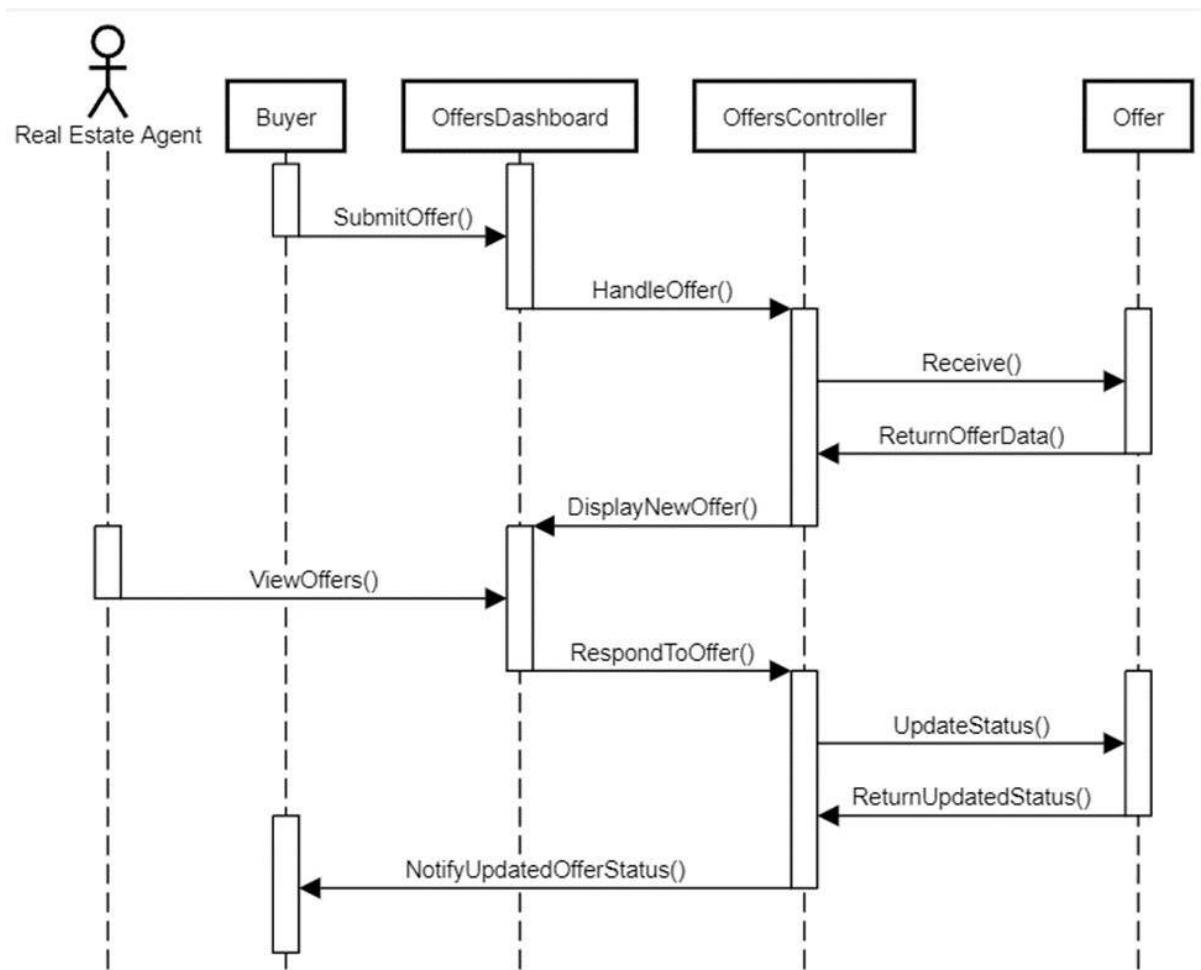
Use Case Description

44. As a real estate agent, I want to manage offers from potential buyers so that I can control the number of offers being made.	
Use Case ID	A5
Name	Receive and Manage Offers from Buyers
Stakeholders and Goals	Real Estate Agent - receive and manage offers from buyers
Description	Real estate agent wants to receive and manage offers from buyers.
Actor	Real estate agent
Trigger	A buyer submits an offer.
Normal flow	<ol style="list-style-type: none"> 1. The system notifies the agent of a new offer. 2. The agent reviews the offer. 3. The agent accepts, rejects, or counteroffers. 4. The system updates the offer status and notifies the buyer.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



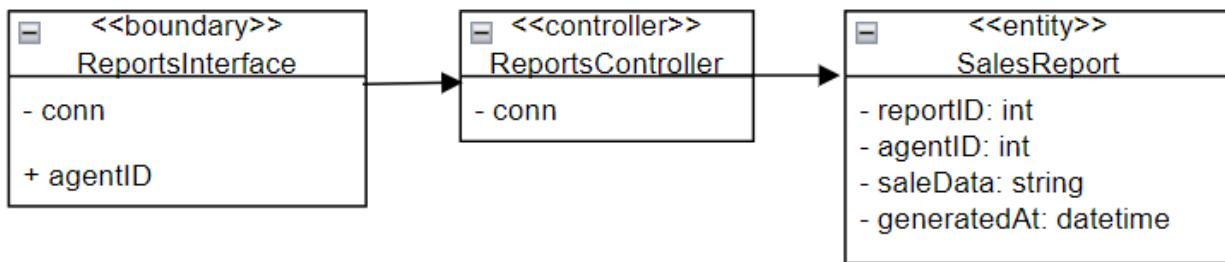
BCE Sequence Diagram



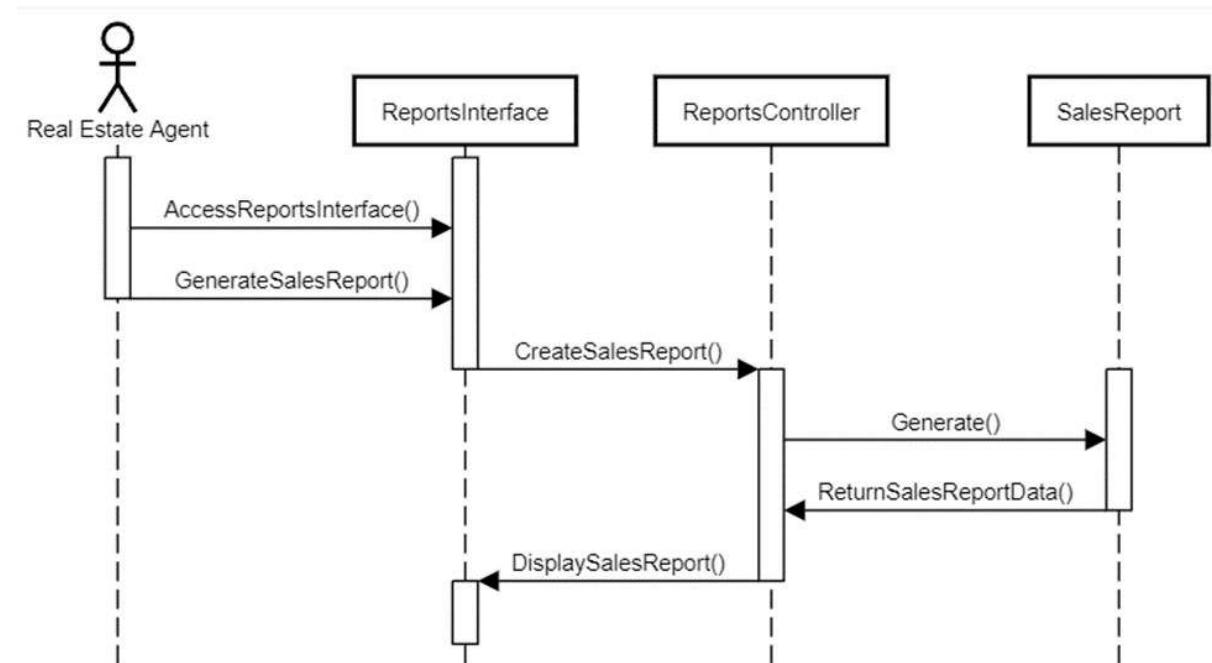
Use Case Description

35. As a real estate agent, I want to generate sales reports so that I can know the number of sales made	
Use Case ID	A6
Name	Generate Sales Reports
Stakeholders and Goals	Real Estate Agent - generate reports on property sales.
Description	Real estate agent wants to generate sales reports.
Actor	Real estate agent
Trigger	Real estate agent requests a sales report.
Normal flow	<ol style="list-style-type: none">1. The agent accesses the reports interface.2. The agent specifies the criteria for the sales report.3. The system generates the sales report.4. The agent views or downloads the sales report.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



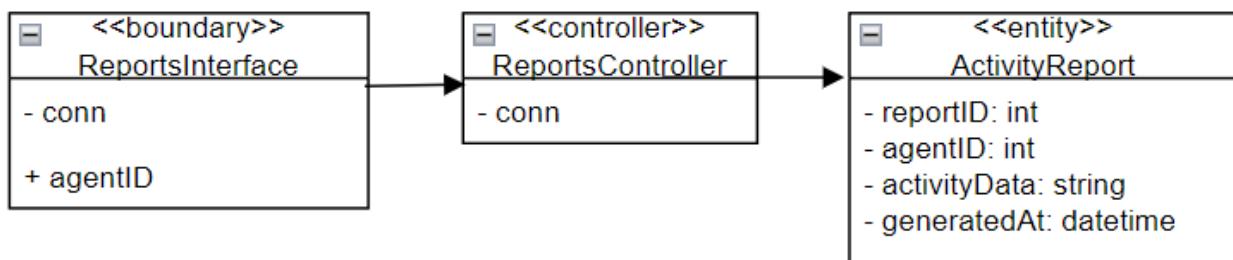
BCE Sequence Diagram



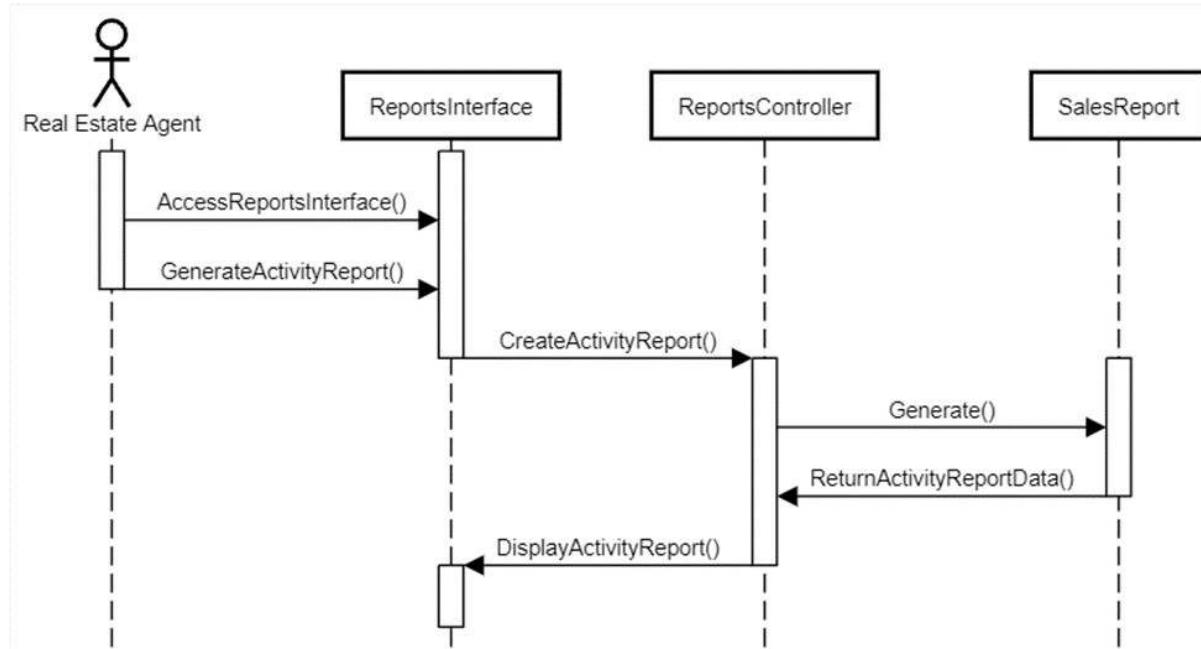
Use Case Description

33. As a real estate agent, I want to generate activity reports so that I can see the number of activities that occurred.	
Use Case ID	A7
Name	Generate Activity Reports
Stakeholders and Goals	Real Estate Agent - generate reports on their activity on the platform.
Description	Real estate agent wants to generate activity reports.
Actor	Real estate agent
Trigger	Real estate agent requests an activity report.
Normal flow	<ol style="list-style-type: none"> 1. The agent accesses the reports interface. 2. The agent specifies the criteria for the activity report. 3. The system generates the activity report. 4. The agent views or downloads the activity report.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



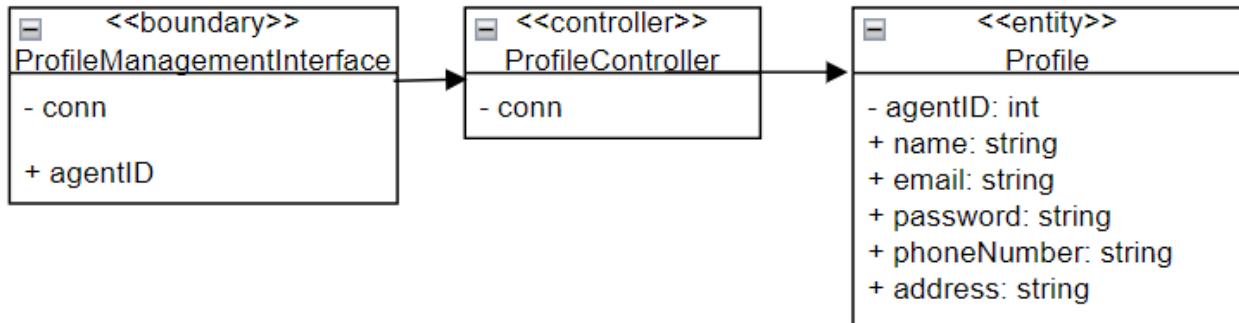
BCE Sequence Diagram



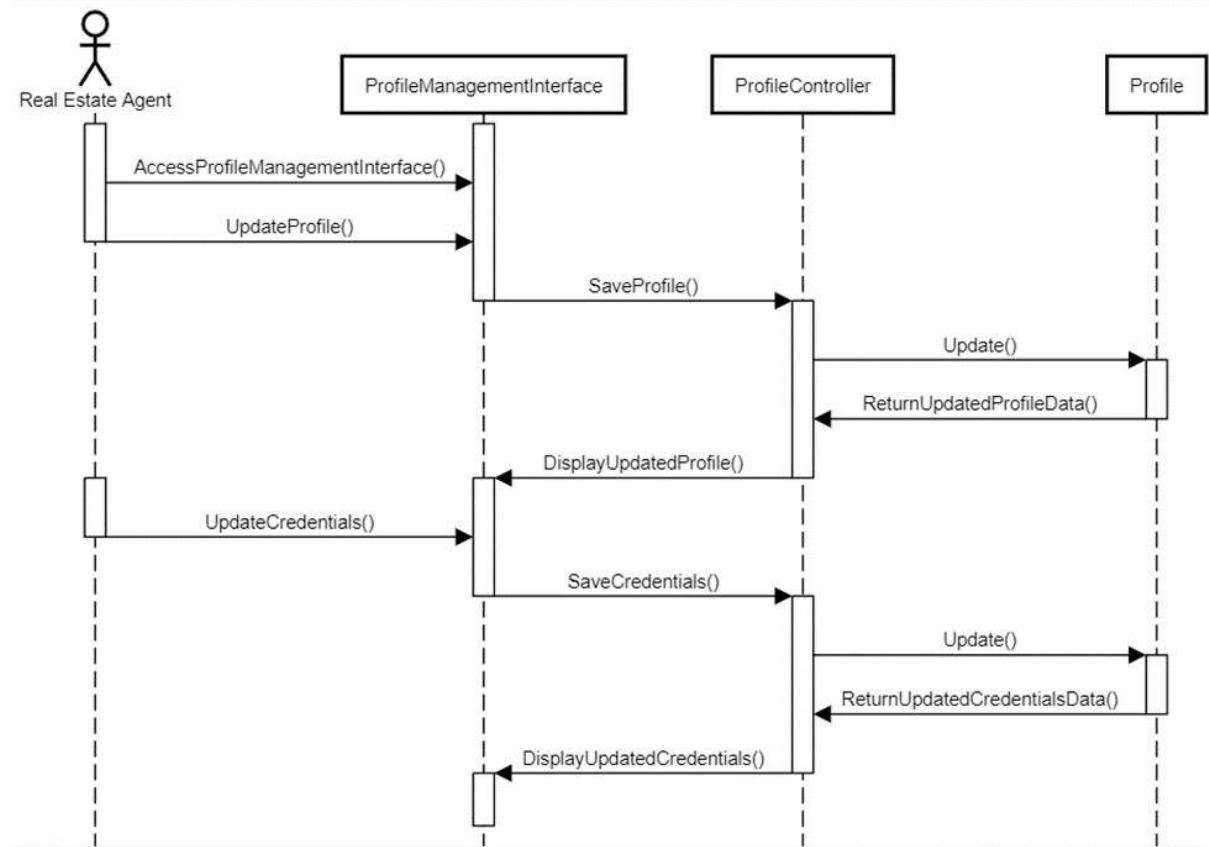
Use Case Description

As a real estate agent, I want to be able to update my professional profile and credentials on the platform so that I can manage my own profile.	
Use Case ID	A8
Name	Update Professional Profile and Credentials
Stakeholders and Goals	Real Estate Agent - update their professional profile and credentials
Description	Real estate agent wants to update their professional profile and credentials.
Actor	Real estate agent
Trigger	Real estate agent initiates profile update.
Normal flow	<ol style="list-style-type: none">1. The agent accesses the profile management interface.2. The agent updates their profile and credentials.3. The agent submits the updated profile.4. The system saves the updated profile details.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram

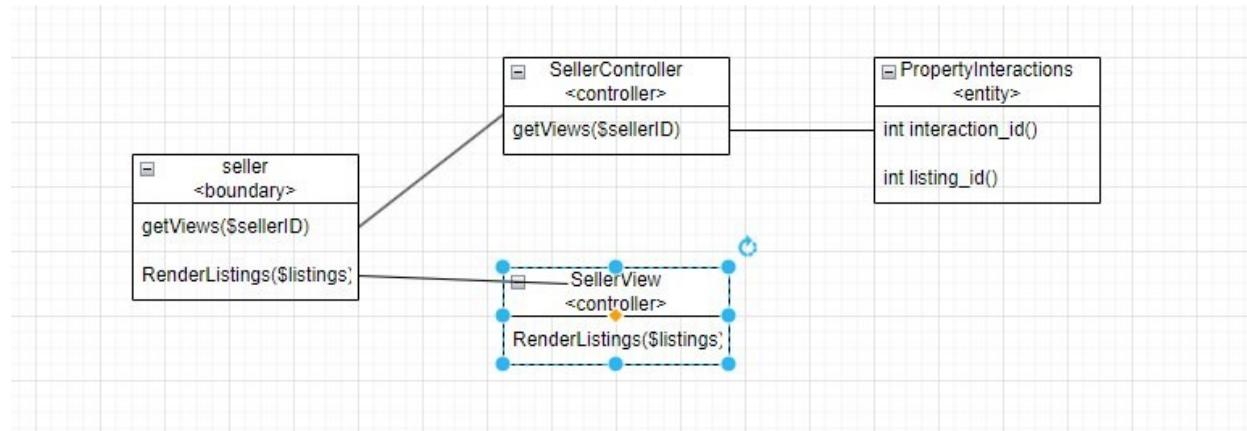


Seller

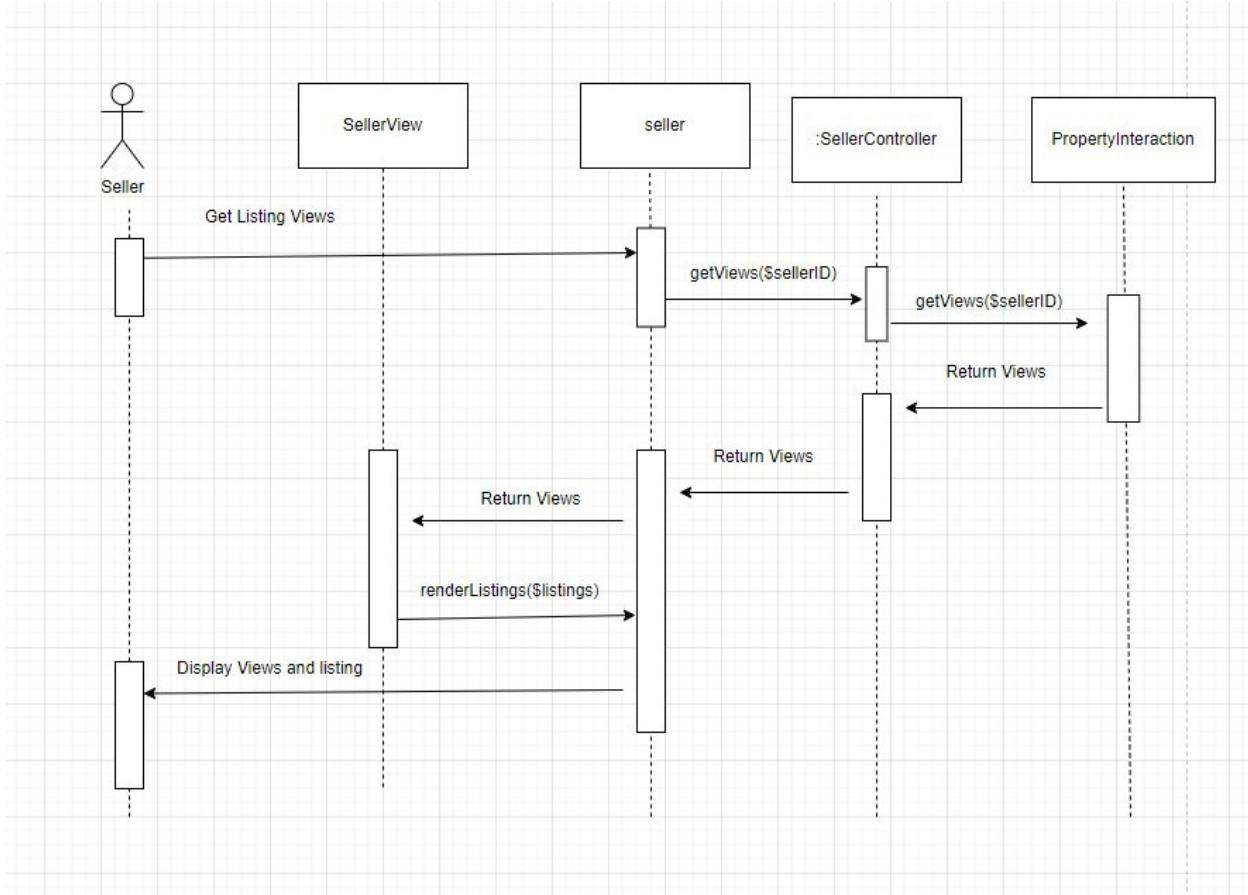
Use Case Description

As a seller, I want to see the number of views on each of my property listings, so that I can understand how much interest there is in my properties.	
Use Case ID	S1
Name	Number of Views in Property Listing
Stakeholders and Goals	Seller - Number of Views in Listing
Description	To view the number of times each property listing has been viewed.
Actor	Seller
Trigger	The seller must be logged into the system. The seller must have property listings available.
Normal flow	<ol style="list-style-type: none">1. The seller navigates to the property listings page.2. The system retrieves the number of views for each listing.3. The seller sees the number of views for each listing on the page.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



Coding

```

public function getViews($sellerId) {
    $listingsQuery = "SELECT pl.*,
        COUNT(DISTINCT pi.interaction_id) AS views,
        COUNT(DISTINCT sl.listing_id) AS shortlisted
        FROM PropertyListings pl
        LEFT JOIN PropertyInteractions pi ON pl.listing_id = pi.listing_id AND pi.interaction_type = 'View'
        LEFT JOIN SavedListings sl ON pl.listing_id = sl.listing_id
        WHERE pl.seller_id = ?
        GROUP BY pl.listing_id";

    $stmt = $this->conn->prepare($listingsQuery);
    $stmt->bind_param("i", $sellerId);
    $stmt->execute();
    $result = $stmt->get_result();
    $listings = $result->fetch_all(MYSQLI_ASSOC);
    $stmt->close();

    return $listings;
}
  
```

```

class SellerView {
    public static function renderListings($listings) {
        if (empty($listings)) {
            echo "<tr><td colspan='8'>No listings found.</td></tr>";
            return;
        }

        foreach ($listings as $listing) {
            echo "<tr>";
            echo "<td>" . htmlspecialchars($listing['title']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['description']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['property_type']) . "</td>";
            echo "<td>$" . number_format($listing['price'], 2) . "</td>";
            echo "<td>" . htmlspecialchars($listing['location']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['status']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['views']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['shortlisted']) . "</td>";
            echo "</tr>";
        }
    }
}

```

```

$sellerController = new SellerController($conn);
$sellerId = isset($_SESSION['user_id']) ? $_SESSION['user_id'] : null;
$listings = [];

if ($sellerId !== null) {
    $listings = $sellerController->getViews($sellerId);
}
?>

```

```

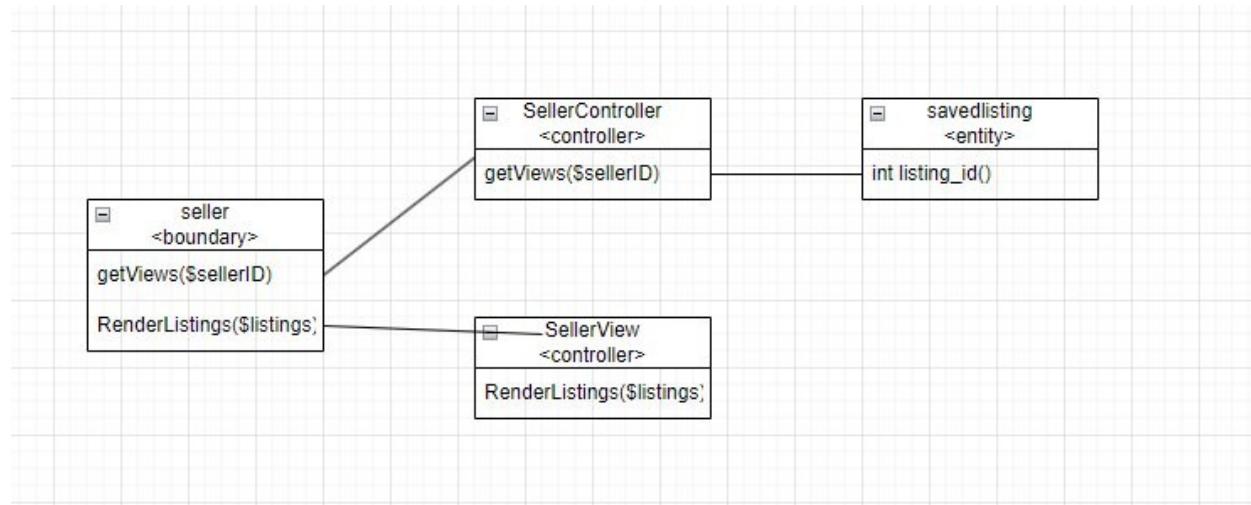
        </tr>
    </thead>
    <tbody>
        <?php SellerView::renderListings($listings); ?>
    </tbody>
</table>

```

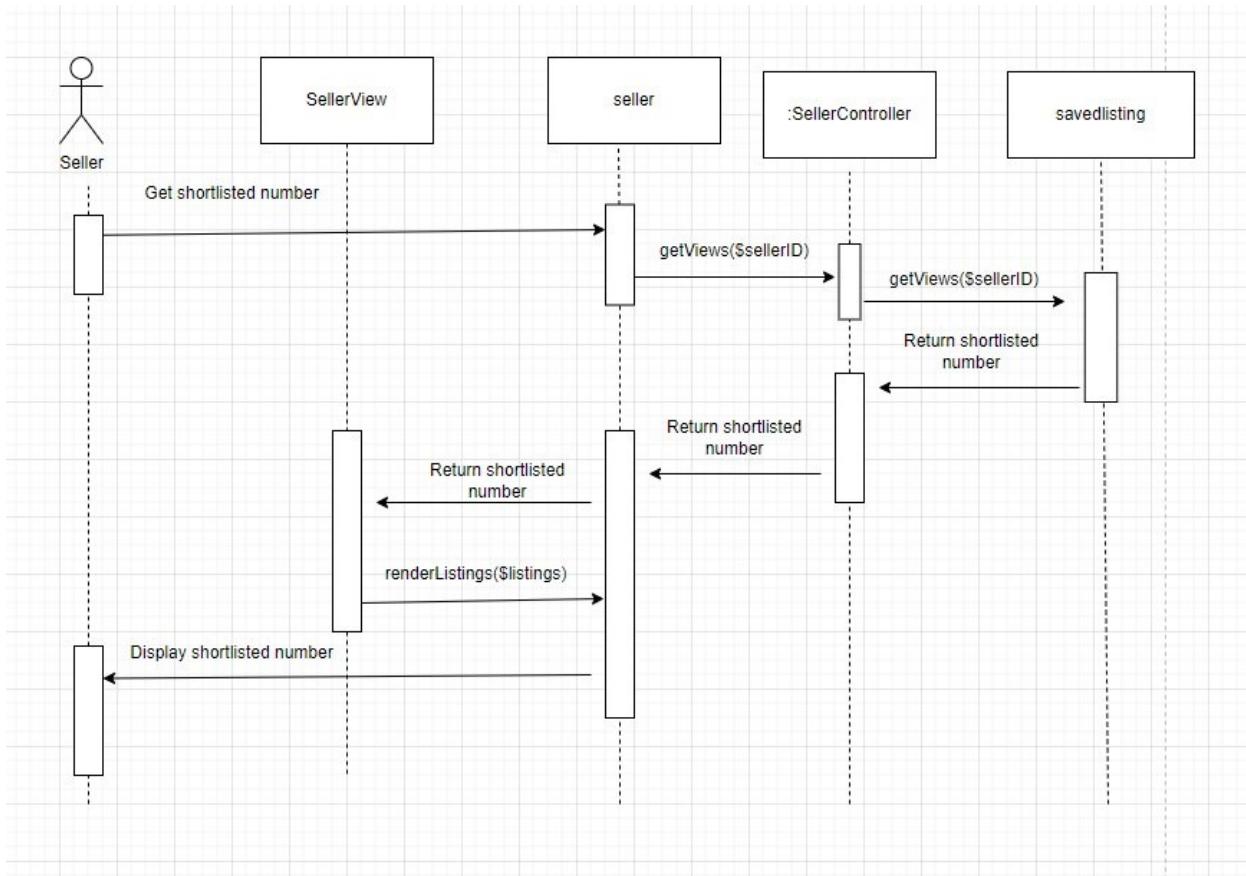
Use Case Description

As a seller, i want to know how many times my properties have been shortlisted by potential buyers, so that I can know the number of potential buyers.	
Use Case ID	S2
Name	Property Shortlist Count
Stakeholders and Goals	Seller - Shortlist Count
Description	To view the number of times each property listing has been viewed.
Actor	Seller
Trigger	The seller must be logged into the system. The seller must have property listings available.
Normal flow	<ol style="list-style-type: none"> 1. The seller navigates to the property listing page. 2. The system retrieves the shortlist count for each listing. 3. The seller sees the shortlist count for each listing on the page.
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



Coding

```

public function getViews($sellerId) {
    $listingsQuery = "SELECT pl.*,
        COUNT(DISTINCT pi.interaction_id) AS views,
        COUNT(DISTINCT sl.listing_id) AS shortlisted
        FROM PropertyListings pl
        LEFT JOIN PropertyInteractions pi ON pl.listing_id = pi.listing_id AND pi.interaction_type = 'View'
        LEFT JOIN SavedListings sl ON pl.listing_id = sl.listing_id
        WHERE pl.seller_id = ?
        GROUP BY pl.listing_id";

    $stmt = $this->conn->prepare($listingsQuery);
    $stmt->bind_param("i", $sellerId);
    $stmt->execute();
    $result = $stmt->get_result();
    $listings = $result->fetch_all(MYSQLI_ASSOC);
    $stmt->close();

    return $listings;
}
  
```

```

class SellerView {
    public static function renderListings($listings) {
        if (empty($listings)) {
            echo "<tr><td colspan='8'>No listings found.</td></tr>";
            return;
        }

        foreach ($listings as $listing) {
            echo "<tr>";
            echo "<td>" . htmlspecialchars($listing['title']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['description']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['property_type']) . "</td>";
            echo "<td>$" . number_format($listing['price'], 2) . "</td>";
            echo "<td>" . htmlspecialchars($listing['location']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['status']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['views']) . "</td>";
            echo "<td>" . htmlspecialchars($listing['shortlisted']) . "</td>";
            echo "</tr>";
        }
    }
}

```

```

$sellerController = new SellerController($conn);
$sellerId = isset($_SESSION['user_id']) ? $_SESSION['user_id'] : null;
$listings = [];

if ($sellerId !== null) {
    $listings = $sellerController->getViews($sellerId);
}

?>

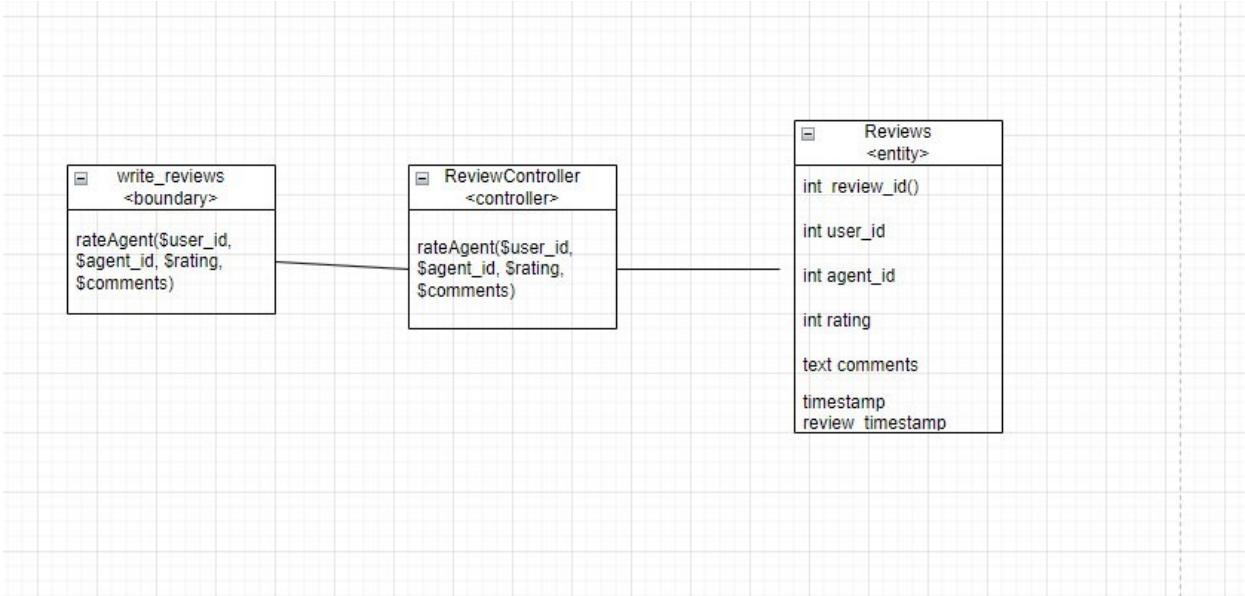
</tr>
</thead>
<tbody>
    <?php SellerView::renderListings($listings); ?>
</tbody>


```

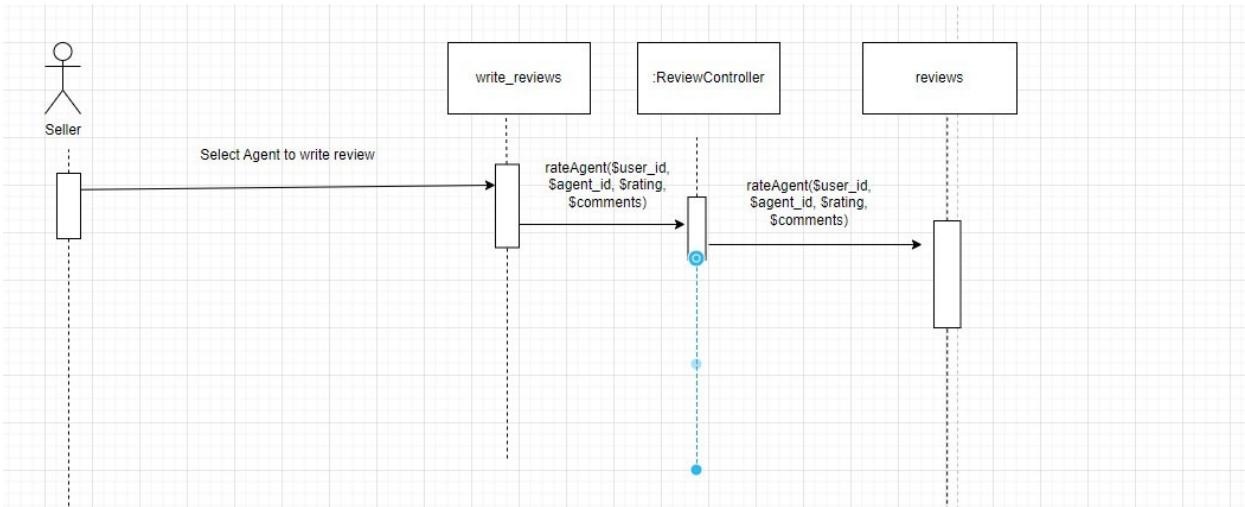
Use Case Description

51. As a Seller, I want to select and write review on the performance and quality of service of the agent served my requests so that I can let others will know the experience of working with them.	
Use Case ID	S3
Name	Write review of the service rendered by specific agents.
Stakeholders and Goals	Seller and agents. Evaluate service level by agents.
Description	Seller selects the agent serving and write review about the service quality.
Actor	Seller
Trigger	'Agent Review' link provided in the seller dashboard
Normal flow	<ol style="list-style-type: none">1. The seller accesses the seller dashboard.2. Navigates to 'Agent Review' page3. Select agent and type in the remarks about the quality of service by the agent
Sub-flows	None
Alternatives / Exception Flows	None

BCE Class Diagram



BCE Sequence Diagram



Coding

```
public function rateAgent($user_id, $agent_id, $rating, $comments)
{
    $insert_review = "INSERT INTO Reviews (user_id, agent_id, rating, comments) VALUES (?, ?, ?, ?)";
    $stmt = $this->conn->prepare($insert_review);
    $stmt->bind_param("iiis", $user_id, $agent_id, $rating, $comments);

    if ($stmt->execute()) {
        $interaction_query = "INSERT INTO PropertyInteractions (user_id, agent_id, interaction_type) VALUES (?, ?, 'Rate')";
        $stmt_interaction = $this->conn->prepare($interaction_query);
        $stmt_interaction->bind_param("ii", $user_id, $agent_id);

        if ($stmt_interaction->execute()) {
            header("Location: agent_ratings.php");
            exit();
        } else {
            echo "Error: " . $this->conn->error;
        }
    } else {
        echo "Error: " . $this->conn->error;
    }
}
```

```
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    if (isset($_POST['agent_id'], $_POST['rating'], $_POST['comments'])) {
        $user_id = $_SESSION['user_id'];
        $agent_id = $_POST['agent_id'];
        $rating = $_POST['rating'];
        $comments = $_POST['comments'];

        $ReviewController->rateAgent($user_id, $agent_id, $rating, $comments);

    } else {
        echo "Incomplete form data";
    }
}
```

Continuous Integration and Continuous Delivery (CI/CD)

Project Overview

Our project, a Real Estate System, aims to streamline the process of managing property listings, tracking buyer interactions, and facilitating agent reviews. The system is built using PHP and MySQL, adhering to the boundary-controller-entity (BCE) framework and object-oriented programming principles. The project repository is hosted on GitHub, and the application is deployed on Heroku.

GitHub Repository: [CSIT314-RES](#)

Live Application: [Heroku Deployment](#)

CI/CD Pipeline Overview

Version Control with GitHub

The project source code is maintained in a GitHub repository, enabling version control and collaboration among team members.

Branching strategy is used to manage feature development, bug fixes, and release cycles. The main branch contains the stable version of the code, while feature branches are used for ongoing development.

Continuous Integration (CI)

GitHub Actions: CI is implemented using GitHub Actions. Every push to the repository triggers automated workflows defined in YAML files within the .github/workflows directory.

Continuous Deployment (CD)

Heroku Deployment: The application is automatically deployed to Heroku whenever changes are pushed to the main branch. This ensures that the latest stable version of the application is always available to users.

Deployment Configuration: Deployment settings are managed using the Procfile and composer.json files, which specify the web server (Apache) and dependencies required by the application.

Environment Variables: Sensitive information such as database credentials and API keys are managed through Heroku environment variables to maintain security and flexibility.

Monitoring and Maintenance

Heroku Metrics: Heroku provides built-in monitoring tools that track application performance, response times, and resource usage. Alerts are configured to notify the team of any issues or performance degradation.

Log Management: Application logs are collected and analyzed using Heroku's logging services, allowing for quick identification and resolution of issues.

CI/CD Workflow

Code Commit and Push

Developers commit their changes to feature branches and push them to the GitHub repository.

Automated Testing and Code Quality Checks

GitHub Actions triggers automated workflows that run tests and perform code quality checks on the pushed code.

If tests pass and code quality checks are successful, the changes are merged into the main branch.

Automatic Deployment to Heroku

Upon merging to the main branch, the CI pipeline triggers an automatic deployment to Heroku. The application is built and deployed using the configuration specified in the repository, and the latest version goes live on the Heroku-hosted site.

Continuous Integration (CI)

Github Repository

The screenshot shows a GitHub repository page for 'CSIT314-RES'. The repository has 4 branches and 0 tags. The commit history lists 49 commits from 'Levaote' and others, primarily related to mortgageCalculation. The repository has 2 unwatchers, 1 fork, and 0 stars. It includes sections for About, Releases, Packages, Contributors, and Deployments.

Commits:

- Merge pull request #3 from Levaote/mortgageCalculation · ba2ee04 · 4 hours ago · 49 Commits
- create new folder "review" for rating-related · 3 days ago
- BCE B7, S1, S2, S3, A1, A3 · 17 hours ago
- Merge pull request #3 from Levaote/mortgageCalculation · 4 hours ago
- Resolved error for writing review · 14 hours ago
- BCE B7, S1, S2, S3, A1, A3 · 17 hours ago
- chore: Update footer styles for consistency · 3 days ago
- changing to oop · last week
- Rename logout.php to LogoutController.php · 5 days ago
- Update README.md · 3 days ago
- Add files via upload · last week
- chore: Update footer styles for consistency · 3 days ago
- Update RegistrationController.php · 3 days ago
- changing to oop · last week
- changing to oop · last week
- added dbconnect.php and include it in all the phps connecti... · last week
- changing to oop · last week
- chore: Update footer styles for consistency · 3 days ago

About: No description, website, or topics provided.

Readme: Readme

Activity: Activity

Stars: 0 stars

Watching: 2 watching

Fork: 1 fork

Report repository: Report repository

Releases: No releases published [Create a new release](#)

Packages: No packages published [Publish your first package](#)

Contributors: 3

- Levaote
- antczc Anthony Chen
- darylstephen

Deployments: 45

- csit314 4 hours ago
- + 44 deployments

README

CSIT314 Real Estate System (RES)

Project Overview

This repository contains the source code for the Real Estate System (RES) project for the CSIT314 Software Development Methodologies course at the University of Wollongong. The system is designed to manage real estate transactions, including functionalities for system admins, real estate agents, sellers, and buyers.

Features

- Admin Management: Manage system admins, real estate agents, sellers, and buyers.
- Property Listings: Add, view, and manage property listings.
- Buyer Features: Search, view, and shortlist properties.
- Seller Features: Track property views and shortlists.
- Mortgage Calculation: Calculate mortgage options for buyers.
- Agent Reviews: Review and rate real estate agents.

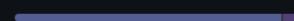
Tech Stack

Frontend: HTML, CSS
 Backend: PHP
 Database: MySQL

Project Structure

admin/: Contains files related to admin functionalities.
 agent/: Contains files related to real estate agent functionalities.
 buyer/: Contains files related to buyer functionalities.
 review/: Contains files related to review functionalities.
 seller/: Contains files related to seller functionalities.
 class_property.php: Defines the property class.
 class_user.php: Defines the user class.
 dbconnect.php: Database connection script.
 index.php: Main entry point of the application.
 LoginController.php: Handles login functionalities.
 RegistrationController.php: Handles user registration functionalities.
 RES.sql: SQL script to set up the database schema.

Languages



PHP 91.4% CSS 8.6%

Suggested workflows
 Based on your tech stack

PHP Build and test a PHP application using Composer

Laravel Test a Laravel project.

Symfony Test a Symfony project.

[More workflows](#) [Dismiss suggestions](#)

Installation

- 1)Clone the repository: git clone <https://github.com/Levaote/CSIT314-RES.git>
- 2)Navigate to the project directory: cd CSIT314-RES
- 3)Set up the database using the RES.sql script.
- 4)Configure the database connection in dbconnect.php.
- 5)Run the application on a local server (e.g., using XAMPP or WAMP).

Usage

Access the application via <http://localhost/CSIT314-RES/>. Login with admin, agent, buyer, or seller credentials to access respective functionalities.

Branches

The screenshot shows a user interface for managing branches. At the top right is a green button labeled "New branch". Below it is a navigation bar with tabs: "Overview" (selected), "Yours", "Active", "Stale", and "All". A search bar follows, with placeholder text "Search branches...".

Default

Branch	Updated	Check status	Behind	Ahead	Pull request
main	4 hours ago	Green circle	Default	0	...

Active branches

Branch	Updated	Check status	Behind	Ahead	Pull request
backup2	yesterday	Green circle	7	0	...
redesignPropView	2 days ago	Green circle	10	0	↑ #2
backup1	5 days ago	Green circle	28	0	...

Commits

Commits	
main	All users All time
-o- Commits on May 22, 2024	
Resolved fatal error for mortgage calculator	533829c ⌂ ↗
antczc committed 2 minutes ago	
Merge pull request #3 from Levaote/mortgageCalculation	ba2ee94 ⌂ ↗
Levaote committed 6 hours ago	Verified
Update mortgage calculator form handling and error reporting	ee30b02 ⌂ ↗
Levaote committed 6 hours ago	
Resolved error for writing review	bdc800f ⌂ ↗
antczc committed 16 hours ago	
-o- Commits on May 21, 2024	
BCE B7, S1, S2, S3, A1, A3	4fd9f7a ⌂ ↗
antczc committed 19 hours ago	
BCE B1 & B2	c67f439 ⌂ ↗
antczc committed 19 hours ago	
added search function	dd02a59 ⌂ ↗
Levaote committed yesterday	
Added function to view, save and delete calculation results	c10d504 ⌂ ↗
Levaote committed 2 days ago	
-o- Commits on May 20, 2024	
Update buyer controller to include additional links and functionality	68d53fd ⌂ ↗
Levaote committed 2 days ago	
Upadte link in nav	1a7ef9c ⌂ ↗
Levaote committed 2 days ago	
Merge pull request #2 from Levaote/redesignPropView	68bedaf ⌂ ↗
Levaote committed 2 days ago	Verified
Update on property viewing functionalities	cdac6e8 ⌂ ↗
Levaote committed 2 days ago	
Redesign functionality for browsing property listings	31aacf8 ⌂ ↗
Levaote committed 3 days ago	

Commits on May 19, 2024
Update RegistrationController.php <small>...</small>  darylstephen committed 3 days ago Verified c2d7b2a
Update README.md  Levaote committed 3 days ago Verified b1ee4c9
chore: Update footer styles for consistency  Levaote committed 3 days ago a8e5b80
create new folder "review" for rating-related  Levaote committed 3 days ago 0bedb18
Commits on May 18, 2024
rearrange seller to top of form  Levaote committed 5 days ago 404f77d
remove \$conn->close  Levaote committed 5 days ago 3ded4d2
Amend SQL query  Levaote committed 5 days ago 6cbc701
Amend SQL query  Levaote committed 5 days ago ff48b78
Amend SQL query for getSellers()  Levaote committed 5 days ago 08f2029
OOP for Admin, added option to seller in creating listing  Levaote committed 5 days ago 9b7f02e
Commits on May 17, 2024
Rename logout.php to LogoutController.php  Levaote committed 5 days ago 2ac7e4d
Update README.md  antczc committed 5 days ago Verified b821e62
Create README.md <small>...</small>  antczc committed 5 days ago Verified 28f73c7
Refactored entire agent section to OOP  antczc committed 5 days ago 2ddbac3
refactor agent.php to oop  antczc committed 5 days ago 20e86e2
update buyer  Levaote committed 5 days ago 59dafc0
update buyer  Levaote committed last week 1cd6492
fix link for admin analytics page logout  antczc committed last week c9c4397
Commits on May 16, 2024
Change to OOP <small>...</small>  antczc committed last week e202628
fix display property details for seller <small>...</small>  antczc committed last week 9c09047
fixed logout link for seller page  antczc committed last week 1590edc
Commits on May 15, 2024
change nav bar logout href  Levaote committed last week 0f3c95f

-o- Commits on May 15, 2024	
remove redundant code	d8bc110
Levaote committed last week	View Copy Compare
-o- Commits on May 14, 2024	
changing to oop	500408d
Levaote committed last week	View Copy Compare
-o- Commits on May 13, 2024	
Delete Database Design Diagram.drawio	30afdd8
Levaote committed last week	View Copy Compare
add "../" to "dbconnect.php"	3de8b90
Levaote committed last week	View Copy Compare
add "./" to location	0960d00
Levaote committed last week	View Copy Compare
add "./" to location	ddb3d88
Levaote committed last week	View Copy Compare
rename	ef972e4
Levaote committed last week	View Copy Compare
remove "admin/" from css ref	359cccd
Levaote committed last week	View Copy Compare
typo for Admin.css	9dfceee
Levaote committed last week	View Copy Compare
add "" to include	c235d9a
Levaote committed last week	View Copy Compare
Merge pull request #1 from Levaote/sub	22e3dbd
Levaote committed last week	Verified View Copy Compare
added dbconnect.php and include it in all the phps connecting to db	a0ffd50
Levaote committed last week	View Copy Compare
Added Database Design Diagram.drawio	28efe1f
Levaote committed last week	View Copy Compare
Update and rename login.php to index.php	bf66217
Levaote committed last week	Verified View Copy Compare
Add files via upload	f36590e
Levaote committed last week	Verified View Copy Compare

Deployment

46 deployments				
<input checked="" type="checkbox"/> Resolved fatal error for mortgage calculator <small>(Active)</small>	533829ce41fd69c31...	4 minutes ago		...
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Merge pull request #3 from Levaote/mortgageCalculation	ba2ee04dae6135042... (#3)	6 hours ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Resolved error for writing review	bdc800f6256224156...	16 hours ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> BCE B7, S1, S2, S3, A1, A3	4fd9f7ab83751d25a...	19 hours ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> BCE B1 & B2	c67ff439039d69f7bb...	19 hours ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> added search function	dd02a598923e8e973...	yesterday	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Update buyer controller to include additional links and functionality	68d53fdbf3b79093b...	2 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Upadte link in nav	1a7ef9cdf2e216b54...	2 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Merge pull request #2 from Levaote/redesignPropView	68bedaf0b158aa166... (#2)	2 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Update RegistrationController.php	c2d7b2a3e7d65d3f7...	3 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Update README.md	b1ee4c9e0e94f16be...	3 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> chore: Update footer styles for consistency	a8e5b80ca498e2261...	3 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> create new folder "review" for rating-related	0bedb18cea78f192e...	3 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> rearrange seller to top of form	404f77db43391d1d2...	5 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> remove \$conn->close	3ded4d29850a559cd...	5 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Amend SQL query	6cbc7013a3aa8e382...	5 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Amend SQL query	ff48b789e9d273e89...	5 days ago	...	
Deployed to cxit314 by Levaote				
<input checked="" type="checkbox"/> Amend SQL query for getSellers()	08f20294a9365273e...	5 days ago	...	
Deployed to cxit314 by Levaote				

Continuous Deployment (CD)

Heroku Overview

Post-Deployment Monitoring

The team monitors the application using Heroku's monitoring tools and logs to ensure smooth operation and promptly address any issues that arise.

By implementing this CI/CD pipeline, we ensure that our Real Estate System is consistently tested, integrated, and deployed, providing a reliable and up-to-date application for our users.

The screenshot shows the Heroku dashboard for the app 'csit314'. At the top, there are navigation links for 'Personal' (dropdown), 'GitHub' (dropdown), 'Levatoe/CSIT314-RES' (dropdown), and 'main' (button). To the right are 'Open app' and 'More' buttons. Below the header is a navigation bar with tabs: Overview, Resources, Deploy, Metrics, Activity, Access, and Settings. The 'Metrics' tab is selected, displaying three charts: Response Time (5ms), Throughput (< 1 rps), and Memory (3%). The 'Latest activity' section shows a list of deployment logs from 'albwon23@gmail.com' over the last 24 hours, including successful builds and deployments. The 'Installed add-ons' section lists 'JawsDB MySQL' (Kitefin Shared, jawsdb-parallel-49261) and 'Loadmill Automated Testing' (Free, loadmill-cubed-29350). The 'Dyno formation' section shows 'web' dynos using 'heroku-php-apache2' and being set to 'ON'. The 'Collaborator activity' section shows 'albwon23@gmail.com' has 44 deploys.

Continuous Deployment

The screenshot shows the Heroku app dashboard for the app 'csit314'. At the top, there's a navigation bar with 'Personal' (dropdown), 'csit314' (app dropdown), and 'csit314' (app name). To the right are 'Open app' and 'More' buttons. Below the navigation is a horizontal menu with 'Overview', 'Resources', 'Deploy', 'Metrics', 'Activity', 'Access', and 'Settings'. A secondary navigation bar below it includes 'Overview', 'Resources', 'Deploy', 'Metrics', 'Activity', 'Access', and 'Settings'. A message 'Connected to a pipeline' is displayed, along with a note 'Assigned to staging in csit314'. Below this are two links: 'Manage this pipeline and this app's stage on the pipeline overview' and 'Review apps are available on the pipeline overview'. Under 'Deployment method', there are three options: 'Heroku Git' (Use Heroku CLI), 'GitHub' (Connect to GitHub, highlighted with a border), and 'Container Registry' (Use Heroku CLI). A section titled 'App connected to GitHub' shows that the app is connected to 'Levaote/CSIT314-RES' via 'Levaote' (via csit314). It indicates that code diffs, manual and auto deploys are available. Below this, a note says 'Once you are authorized with GitHub, you'll also be able to connect any app to GitHub, and deploy it manually or automatically from a branch.' A large purple button labeled 'Authorize GitHub' is centered at the bottom of this section.

Connected to a pipeline

Assigned to `staging` in `csit314`

Manage this pipeline and this app's stage on the [pipeline overview](#)

Review apps are available on the [pipeline overview](#)

Deployment method

Heroku Git
Use Heroku CLI

GitHub
Connect to GitHub

Container Registry
Use Heroku CLI

App connected to GitHub

Code diffs, manual and auto deploys are available for this app.

Connected to `Levaote/CSIT314-RES` by `Levaote` via `csit314`

Releases in the [activity feed](#) link to GitHub to view commit diffs

Automatically deploys from `main`

Authorize GitHub

Ethical Considerations

Building software responsibly requires us to think about ethics. This is important because software can impact people's lives and society as a whole. Throughout the development process, we focused on these key principles:

- Privacy:
User data should be collected, used, and stored responsibly with clear consent and strong safeguards against breaches.
- Security:
Software systems should be built with robust security measures to protect user data and prevent unauthorized access.
- Fairness:
Algorithms and decision-making processes within the software should be free from bias and promote fair treatment for all users.
- Transparency:
Users should understand how the software works, what data it collects, and how it utilizes that data.
- Accountability:
Developers and organizations should be accountable for the software they create and its potential consequences.

Buyer

Fairness:

- Be aware of potential biases in automated valuation tools or search algorithms.
- Research fair housing laws to avoid discriminatory practices.

Transparency:

- Ask questions about the property's history, potential issues, and any renovations completed.
- Ensure disclosures are complete and accurate.

Privacy:

- Be cautious about sharing personal financial information online or with unverified sources.
- Understand how your data is used by real estate platforms and lenders.

System Administrator

Fairness:

- Mitigate bias in search algorithms to ensure fair presentation of properties to all buyers.
- Implement safeguards against discriminatory practices by real estate agents using the platform.

Security:

- Protect user data (financial information, personal details) with robust security measures.
- Prevent unauthorized access and data breaches.

Privacy:

- Clearly communicate data collection and usage practices to users.
- Offer users control over their data and privacy settings.

Real Estate Agent

Fairness:

- Represent all properties accurately and objectively, regardless of buyer or seller demographics.
- Disclose any potential conflicts of interest.

Client Loyalty:

- Act in the best interests of your client (buyer or seller) while following ethical and legal guidelines.
- Avoid pressuring clients into decisions that are not in their best interest.

Transparency:

- Provide accurate and complete information about properties, market conditions, and financial implications.
- Disclose any known issues with a property.

Seller

Accuracy:

- Disclose all material defects or issues with the property to potential buyers.
- Be truthful about the property's history and condition.

Fairness:

- Avoid discriminatory practices in pricing or marketing the property.
- Comply with fair housing laws.

Transparency:

- Be transparent about your motivations for selling and any upcoming renovations planned for the property.
- Disclose any outstanding liens or claims on the property.

Data-Driven Development

Model Requirements

Home Buyer:

Property Recommendation:

Recommend suitable properties based on user preferences like location, price range and amenities

Mortgage Affordability:

Estimate monthly payments and total loan cost based on property details and user financial information.

Real Estate Agent:

Market Analysis:

Analyze historical data to predict property value trends and suggest optimal listing prices.

Home Seller:

Buyer Interest Prediction:

Predict the likelihood of receiving offers based on property characteristics and market conditions.

Data Collection

Internal Data:

- Property listings with detailed descriptions, features, historical data (prices, sales history).
- User data on buyer/seller preferences, search history, past transactions (anonymized).
- Agent data on activity reports, sales reports, and performance metrics.

External Data:

- Market data on demographics, economic indicators, and property trends (from public datasets or partnerships).

Data Cleaning

- Ensure data accuracy of property listings, including pricing and features.
- Implement data cleaning techniques to address inconsistencies or missing values in user and agent data (e.g., missing search preferences, incomplete profiles).
- Address outliers in data points, especially for property values, that could skew results (consider domain knowledge when identifying outliers).

Data Labeling

Supervised Learning

- **Model 1:** User interaction data (clicks, saves) with property listings can be used to label properties as "relevant" or "not relevant" to a user's preferences.
- **Model 2:** Historical data on past property sales with final selling prices and corresponding loan details can be used to train a model for mortgage affordability.
- **Model 3:** Historical property data with sale prices and corresponding listing dates can be used to train a model for predicting future value trends.
- **Model 4:** May require manual labeling by real estate experts based on property characteristics and market conditions to identify listings with high or low buyer interest.

Unsupervised Learning:

- User search behavior data can be used for unsupervised learning models to recommend properties without explicit labeling (Model 1).

Feature Engineering

Property Features: Create new features from existing data like "price per square foot" or "distance to amenities."

- **Location Features:** Extract location-based features using geospatial data like neighborhood demographics or proximity to public transport.
- **User Features:** Generate user-specific features like "average search price range" or "preferred property types" based on user behavior.
- **Agent Features:** Generate agent-specific features like "average listing views" or "sales conversion rate" based on activity and sales reports.

Model Training

Model 1: Recommendation systems (collaborative filtering, content-based) or classification algorithms (logistic regression) could be suitable for property recommendations.

Model 2: Regression algorithms (linear regression, random forest) are common choices for mortgage affordability estimation.

Model 3: Time series forecasting algorithms or machine learning models trained on historical property value data can be used for market analysis.

Model 4: Classification algorithms trained on labeled data (if available) or anomaly detection algorithms to identify properties with high buyer interest based on historical data.

Training Process: Feed the prepared data into the chosen algorithms to train the models.

Hyperparameter Tuning: Optimize the model's hyperparameters to achieve the best performance on the validation set.

Model Evaluation

- Evaluate the model's performance on a separate validation set of data to assess its effectiveness for real-world scenarios.
- Use relevant metrics like accuracy, precision, recall, or root mean squared error (RMSE) depending on the model's purpose.
- Analyze errors and iterate on data cleaning, feature engineering, or model selection if needed.

Model Deployment

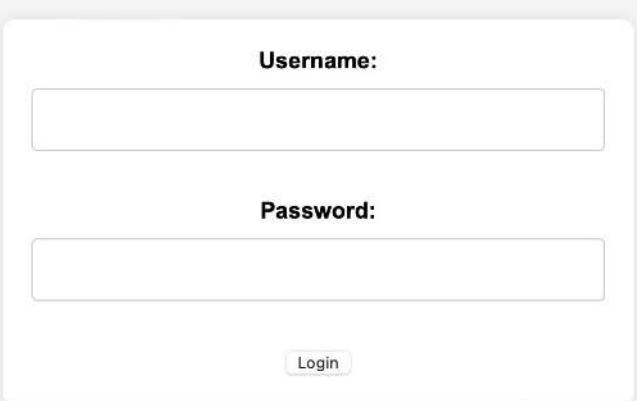
- Package the trained models for deployment within the real estate platform.
- Integrate the models with the platform's user interface and functionalities for seamless user experience.
- Monitor model performance in production to detect any degradation in accuracy or unexpected behavior.

Model Monitoring

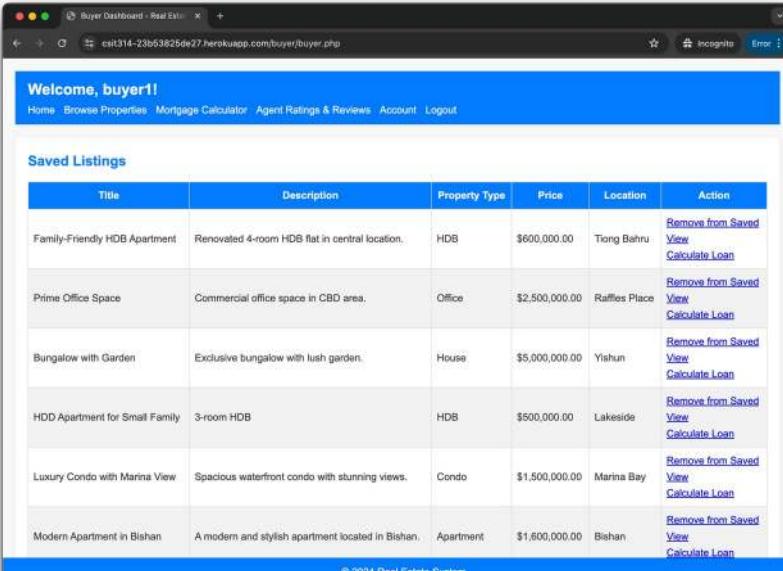
- Continuously monitor the model's performance in production to ensure it remains effective over time.
- Track changes in market trends or user behavior that might affect model performance.
- Retrain models periodically with new data to maintain accuracy and adapt to changing market conditions

Test case

General

Purpose of Test Case	Registration
Test Case ID	G1
Test case Description	As a new user, I want to register as a buyer, seller or real estate agent
Created By	Albert Woon
Reviewed By	
Expected result	A new account registered successfully
Tested result	Pass
Steps	<ol style="list-style-type: none">1) Click 'Register here'.2) Fill up the form.3) Click 'Register'.
Screenshot	<p>Account created successfully. Please login.</p>  <p>The screenshot shows a login interface with two input fields: 'Username:' and 'Password:', both represented by empty rectangular boxes. Below these fields is a small 'Login' button. At the bottom of the interface, there is a link 'Don't have an account? Register here'.</p>

Buyer

Purpose of Test Case	Home Buyer Login																																										
Test Case ID	B1																																										
Test case Description	As a home buyer, I should be able to access buyer pages.																																										
Created By	Albert Woon																																										
Reviewed By																																											
Expected result	The login page should redirect home buyer user to buyer page after submitting login credentials.																																										
Tested result	Pass																																										
Steps	<ol style="list-style-type: none"> 1) Login to the RES system. 2) "buyer1" as username. 3) "buyerpass" as password. 4) Click "Login" 																																										
Screenshot	 <p>The screenshot shows a web browser window titled 'Buyer Dashboard - Real Estate'. The URL is 'http://cxit314-23b53825de27.herokuapp.com/buyer/buyer.php'. The page has a blue header bar with the text 'Welcome, buyer1!' and navigation links: Home, Browse Properties, Mortgage Calculator, Agent Ratings & Reviews, Account, and Logout. Below the header is a section titled 'Saved Listings' with a table. The table has columns: Title, Description, Property Type, Price, Location, and Action. There are six rows of data:</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Description</th> <th>Property Type</th> <th>Price</th> <th>Location</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Family-Friendly HDB Apartment</td> <td>Renovated 4-room HDB flat in central location.</td> <td>HDB</td> <td>\$600,000.00</td> <td>Tiong Bahru</td> <td>Remove from Saved View Calculate Loan</td> </tr> <tr> <td>Prime Office Space</td> <td>Commercial office space in CBD area.</td> <td>Office</td> <td>\$2,500,000.00</td> <td>Raffles Place</td> <td>Remove from Saved View Calculate Loan</td> </tr> <tr> <td>Bungalow with Garden</td> <td>Exclusive bungalow with lush garden.</td> <td>House</td> <td>\$5,000,000.00</td> <td>Yishun</td> <td>Remove from Saved View Calculate Loan</td> </tr> <tr> <td>HDD Apartment for Small Family</td> <td>3-room HDB</td> <td>HDB</td> <td>\$500,000.00</td> <td>Lakeside</td> <td>Remove from Saved View Calculate Loan</td> </tr> <tr> <td>Luxury Condo with Marina View</td> <td>Spacious waterfront condo with stunning views.</td> <td>Condo</td> <td>\$1,500,000.00</td> <td>Marina Bay</td> <td>Remove from Saved View Calculate Loan</td> </tr> <tr> <td>Modern Apartment in Bishan</td> <td>A modern and stylish apartment located in Bishan.</td> <td>Apartment</td> <td>\$1,600,000.00</td> <td>Bishan</td> <td>Remove from Saved View Calculate Loan</td> </tr> </tbody> </table> <p>At the bottom of the page, there is a footer bar with the text '© 2024 Real Estate System'.</p>	Title	Description	Property Type	Price	Location	Action	Family-Friendly HDB Apartment	Renovated 4-room HDB flat in central location.	HDB	\$600,000.00	Tiong Bahru	Remove from Saved View Calculate Loan	Prime Office Space	Commercial office space in CBD area.	Office	\$2,500,000.00	Raffles Place	Remove from Saved View Calculate Loan	Bungalow with Garden	Exclusive bungalow with lush garden.	House	\$5,000,000.00	Yishun	Remove from Saved View Calculate Loan	HDD Apartment for Small Family	3-room HDB	HDB	\$500,000.00	Lakeside	Remove from Saved View Calculate Loan	Luxury Condo with Marina View	Spacious waterfront condo with stunning views.	Condo	\$1,500,000.00	Marina Bay	Remove from Saved View Calculate Loan	Modern Apartment in Bishan	A modern and stylish apartment located in Bishan.	Apartment	\$1,600,000.00	Bishan	Remove from Saved View Calculate Loan
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Family-Friendly HDB Apartment	Renovated 4-room HDB flat in central location.	HDB	\$600,000.00	Tiong Bahru	Remove from Saved View Calculate Loan																																						
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HDD Apartment for Small Family	3-room HDB	HDB	\$500,000.00	Lakeside	Remove from Saved View Calculate Loan																																						
Luxury Condo with Marina View	Spacious waterfront condo with stunning views.	Condo	\$1,500,000.00	Marina Bay	Remove from Saved View Calculate Loan																																						
Modern Apartment in Bishan	A modern and stylish apartment located in Bishan.	Apartment	\$1,600,000.00	Bishan	Remove from Saved View Calculate Loan																																						

Purpose of Test Case	Viewing of available properties for sale																																												
Test Case ID	B2																																												
Test case Description	As a home buyer, i should be able to view the available properties for sales in the website.																																												
Created By	Antony Chen																																												
Reviewed By																																													
Expected result	Home buyer will be able to view the properties with the properties details and price with agent details.																																												
Tested result	Pass																																												
Steps	<ol style="list-style-type: none"> 1) Login to the RES system as a 'Buyer' 2) Click on 'Browse Properties' on nav bar 3) Displayed all the available property listings available. 4) Click the 'View' on the action section 																																												
Screenshot	<p>The top screenshot displays a list of property listings:</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Property Type</th> <th>Location</th> <th>Action</th> </tr> </thead> <tbody> <tr><td>Luxury Condo with Marina View</td><td>Condo</td><td>Marina Bay</td><td>View</td></tr> <tr><td>Family-Friendly HDB Apartment</td><td>HDB</td><td>Tiong Bahru</td><td>View</td></tr> <tr><td>Prime Office Space</td><td>Office</td><td>Raffles Place</td><td>View</td></tr> <tr><td>Bungalow with Garden</td><td>House</td><td>Yishun</td><td>View</td></tr> <tr><td>HDB Apartment for Small Family</td><td>HDB</td><td>Lakeside</td><td>View</td></tr> <tr><td>High Floor in Luxury Condo</td><td>Condo</td><td>Orchard</td><td>View</td></tr> <tr><td>Luxurious Condo at Orchard</td><td>Condo</td><td>Orchard</td><td>View</td></tr> <tr><td>Cozy Apartment near Raffles Place</td><td>Apartment</td><td>Raffles Place</td><td>View</td></tr> <tr><td>Spacious HDB Flat in Tampines</td><td>HDB</td><td>Tampines</td><td>View</td></tr> <tr><td>Modern Studio at Tampines Pagar</td><td>Studio</td><td>Tampines Pagar</td><td>View</td></tr> </tbody> </table> <p>The bottom screenshot shows a detailed view of a property listing for a Luxury Condo with Marina View:</p> <p>Luxury Condo with Marina View Spacious waterfront condo with stunning views Property Type: Condo Location: Marina Bay Price: \$1,500,000.00 Calculate Loan Agent: Agent Smith Email: agent1@example.com Phone: 9876543210 Remove from Saved Views: 60 Back to Listings</p>	Title	Property Type	Location	Action	Luxury Condo with Marina View	Condo	Marina Bay	View	Family-Friendly HDB Apartment	HDB	Tiong Bahru	View	Prime Office Space	Office	Raffles Place	View	Bungalow with Garden	House	Yishun	View	HDB Apartment for Small Family	HDB	Lakeside	View	High Floor in Luxury Condo	Condo	Orchard	View	Luxurious Condo at Orchard	Condo	Orchard	View	Cozy Apartment near Raffles Place	Apartment	Raffles Place	View	Spacious HDB Flat in Tampines	HDB	Tampines	View	Modern Studio at Tampines Pagar	Studio	Tampines Pagar	View
Title	Property Type	Location	Action																																										
Luxury Condo with Marina View	Condo	Marina Bay	View																																										
Family-Friendly HDB Apartment	HDB	Tiong Bahru	View																																										
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Cozy Apartment near Raffles Place	Apartment	Raffles Place	View																																										
Spacious HDB Flat in Tampines	HDB	Tampines	View																																										
Modern Studio at Tampines Pagar	Studio	Tampines Pagar	View																																										

Welcome, buyer!

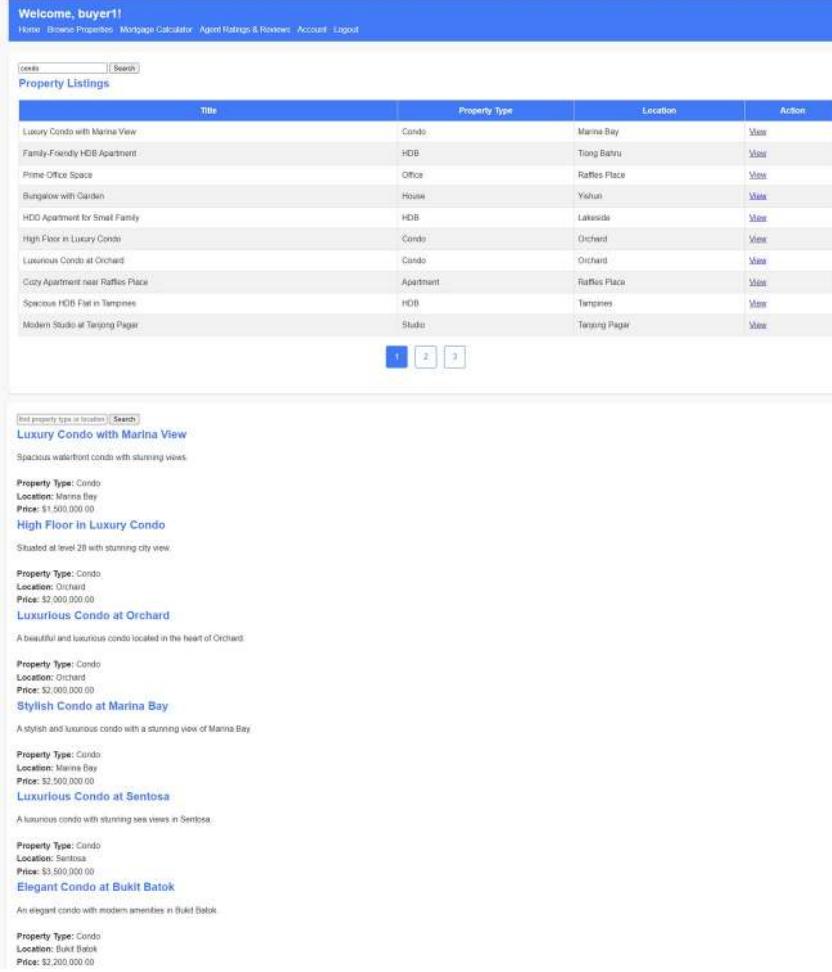
[Home](#) [Browse Properties](#) [Mortgage Calculator](#) [Agent Ratings & Reviews](#) [Account](#) [Logout](#)

Saved Listings

Title	Description	Property Type	Price	Location	Action
Family-Friendly HDB Apartment	Renovated 4-room HDB flat in central location	HDB	\$600,000.00	Tiong Bahru	Remove from Saved View Calculate Loan
Prime Office Space	Commercial office space in CBD area.	Office	\$2,500,000.00	Raffles Place	Remove from Saved View Calculate Loan
Bungalow with Garden	Exclusive bungalow with lush garden.	House	\$5,000,000.00	Yishun	Remove from Saved View Calculate Loan
HDB Apartment for Small Family	3-room HDB	HDB	\$500,000.00	Lakeside	Remove from Saved View Calculate Loan
Luxury Condo with Marina View	Spacious waterfront condo with stunning views.	Condo	\$1,500,000.00	Marina Bay	Remove from Saved View Calculate Loan
Modern Apartment in Boon Lay	A modern and stylish apartment located in Boon Lay.	Apartment	\$1,800,000.00	Boon Lay	Remove from Saved View Calculate Loan

Purpose of Test Case	Saving available properties in to a saved list
Test Case ID	B3
Test case Description	As a home buyer, i should be able to save the property listings that i am interested for future reference.
Created By	Antony Chen
Reviewed By	
Expected result	Property listings saved appears in saved listings.
Tested result	Pass
Steps	<p>1)Login to the RES system as a 'Buyer' 2)Click on 'Browse Properties' on the nav bar 3)Select a property that interests the buyer by clicking 'View' on the Action section. 4)Click the 'Save Listing' button 5)Click on 'Home' on the nav bar 6)Saved Listings is displayed on the buyer's account saved listing page.</p>
Screenshot	<p>The screenshot shows two parts of the RES system interface. The top part is a table titled 'Property Listings' with columns for Title, Property Type, Location, and Action. It lists various property types like Condo, HDB, Office, House, etc., across locations like Marina Bay, Tiong Bahru, Raffles Place, etc. The bottom part is a welcome message 'Welcome, buyer!' above a detailed view of a 'Luxury Condo with Marina View'. This view includes the property title, type, location, price (\$1,500,000.00), and agent information (Agent: Agent Smith, Email: agent@example.com, Phone: 9876543210). It also shows a 'Review & Save' button and a views count of 86. Navigation links at the bottom include Home, Browse Properties, Mortgage Calculator, Agent Ratings & Reviews, Account, and Logout.</p>

Purpose of Test Case	Search for a property based on 'Property Type or Location"
-----------------------------	--

Test Case ID	B4																																												
Test case Description	As a home buyer, I should be able to search for property type or location.																																												
Created By	Antony Chen																																												
Reviewed By																																													
Expected result	Website display search results based on home buyer search request																																												
Tested result	Pass																																												
Steps	<p>1)Login to the RES system as a ‘Buyer’ 2)Click on “Browse Properties” on the nav bar 3)Key in search query “property type or location” 4)Website display search results based on query</p>																																												
Screenshot	 <p>The screenshot shows a web application interface for property search. At the top, there is a blue header bar with the text "Welcome, buyer!" and navigation links: Home, Browse Properties, Mortgage Calculator, Agent Ratings & Reviews, Account, and Logout. Below the header is a search bar with the placeholder "Search" and a "Search" button. The main content area is titled "Property Listings". It features a table with columns: Title, Property Type, Location, and Action. The table lists several property entries:</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Property Type</th> <th>Location</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Luxury Condo with Marina View</td> <td>Condo</td> <td>Marina Bay</td> <td>View</td> </tr> <tr> <td>Family-Friendly HDB Apartment</td> <td>HDB</td> <td>Tiong Bahru</td> <td>View</td> </tr> <tr> <td>Prime Office Space</td> <td>Office</td> <td>Raffles Place</td> <td>View</td> </tr> <tr> <td>Bungalow with Garden</td> <td>House</td> <td>Yishun</td> <td>View</td> </tr> <tr> <td>HDB Apartment for Small Family</td> <td>HDB</td> <td>Lakeside</td> <td>View</td> </tr> <tr> <td>High Floor in Luxury Condo</td> <td>Condo</td> <td>Orchard</td> <td>View</td> </tr> <tr> <td>Luxurious Condo at Orchard</td> <td>Condo</td> <td>Orchard</td> <td>View</td> </tr> <tr> <td>Cozy Apartment near Raffles Place</td> <td>Apartment</td> <td>Raffles Place</td> <td>View</td> </tr> <tr> <td>Spacious HDB Flat in Tampines</td> <td>HDB</td> <td>Tampines</td> <td>View</td> </tr> <tr> <td>Modern Studio at Tanjong Pagar</td> <td>Studio</td> <td>Tanjong Pagar</td> <td>View</td> </tr> </tbody> </table> <p>Below the table, there are three small numbered boxes (1, 2, 3) indicating page navigation. The bottom section of the screenshot displays detailed descriptions for three specific properties: "Luxury Condo with Marina View", "High Floor in Luxury Condo", and "Luxurious Condo at Orchard". Each description includes the property type, location, and price.</p>	Title	Property Type	Location	Action	Luxury Condo with Marina View	Condo	Marina Bay	View	Family-Friendly HDB Apartment	HDB	Tiong Bahru	View	Prime Office Space	Office	Raffles Place	View	Bungalow with Garden	House	Yishun	View	HDB Apartment for Small Family	HDB	Lakeside	View	High Floor in Luxury Condo	Condo	Orchard	View	Luxurious Condo at Orchard	Condo	Orchard	View	Cozy Apartment near Raffles Place	Apartment	Raffles Place	View	Spacious HDB Flat in Tampines	HDB	Tampines	View	Modern Studio at Tanjong Pagar	Studio	Tanjong Pagar	View
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Spacious HDB Flat in Tampines	HDB	Tampines	View																																										
Modern Studio at Tanjong Pagar	Studio	Tanjong Pagar	View																																										

Purpose of Test Case	Mortgage Calculator for Buyer to calculate loan
Test Case ID	B5
Test case Description	As a buyer, i would want to calculate the mortgage for the property that i am interested in purchasing.
Created By	Antony Chen
Reviewed By	
Expected result	Mortgage Calculator shows the monthly repayment details.
Tested result	Pass
Steps	<ol style="list-style-type: none"> 1)Login to the RES system as a ‘Buyer’ 2)Click on ‘Mortgage Calculator’ on the nav bar 3)Enter loan amount, interest rate and loan term 4)Click “Calculate” 5)Calculator calculates and display loan details
Screenshot	

Purpose of Test Case	Saving Mortgage calculator loan amount details
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Test Case ID	B6																																																
Test case Description	As a buyer, i would want to save the calculation details so i can review them in the future.																																																
Created By	Antony Chen																																																
Reviewed By																																																	
Expected result	Saved Mortgage Calculator loan details																																																
Tested result	Pass																																																
Steps	<p>1)Fill in details for the mortgage calculator 2)Click “Calculate” 3)Results will be displayed and click save 4)Results will be saved on the saved calculations section.</p>																																																
Screenshot	 <table border="1"> <thead> <tr> <th colspan="6">Monthly Repayment Details</th> </tr> <tr> <th>Loan Amount</th> <th>Interest Rate</th> <th>Loan Term</th> <th>Monthly Repayment</th> <th>Total Interest</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>\$600,000.00</td> <td>3.5%</td> <td>20 Years</td> <td>\$2,899.80</td> <td>\$195,951.68</td> <td><input type="button" value="Save"/></td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="6">Saved Calculations</th> </tr> <tr> <th>Loan Amount</th> <th>Interest Rate</th> <th>Loan Term (Years)</th> <th>Monthly Repayment</th> <th>Total Interest</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>\$150,000.00</td> <td>4.00%</td> <td>20</td> <td>\$909.82</td> <td>\$60,176.85</td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td>\$200,000.00</td> <td>4.50%</td> <td>30</td> <td>\$1,013.37</td> <td>\$164,813.21</td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td>\$500,000.00</td> <td>3.50%</td> <td>20</td> <td>\$2,899.799.00</td> <td>\$195,951.052.00</td> <td><input type="button" value="Delete"/></td> </tr> </tbody> </table>	Monthly Repayment Details						Loan Amount	Interest Rate	Loan Term	Monthly Repayment	Total Interest	Action	\$600,000.00	3.5%	20 Years	\$2,899.80	\$195,951.68	<input type="button" value="Save"/>	Saved Calculations						Loan Amount	Interest Rate	Loan Term (Years)	Monthly Repayment	Total Interest	Action	\$150,000.00	4.00%	20	\$909.82	\$60,176.85	<input type="button" value="Delete"/>	\$200,000.00	4.50%	30	\$1,013.37	\$164,813.21	<input type="button" value="Delete"/>	\$500,000.00	3.50%	20	\$2,899.799.00	\$195,951.052.00	<input type="button" value="Delete"/>
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Purpose of Test Case	Providing reviews for agents and viewing of past agent reviews
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Test Case ID	B7
Test case Description	As a buyer, i would want to view past reviews of agents and also write reviews for agents that i have transacted.
Created By	Antony Chen
Reviewed By	
Expected result	View agent past reviews and write reviews for agent.
Tested result	Pass
Steps	<p>1)Login to the RES system as a 'buyer' 2)Click on 'Agent Ratings & Reviews' on the nav bar 3)Click on 'View Comments' for the specific agent 5)Fill in review details and click 'Submit Review' 4)Click on 'Write Review' for the specific agent</p>
Screenshot	

System Administrator

Purpose of Test Case	System Admin Login																																																																																										
Test Case ID	A1																																																																																										
Test case Description	As a system admin, I should be able to access admin pages.																																																																																										
Created By	Albert Woon																																																																																										
Reviewed By																																																																																											
Expected result	The login page should redirect the admin user to the admin page after submitting login credentials.																																																																																										
Tested result	Pass																																																																																										
Steps	<ol style="list-style-type: none"> 1) Login to the RES system. 2) “admin1” as username. 3) “adminpass” as password. 4) Click “Login” 																																																																																										
Screenshot	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="6">User Accounts</th> </tr> <tr> <th colspan="6"> Search by Username: <input type="text"/> Enter username <input type="button" value="Search"/> </th> </tr> <tr> <th>Username</th> <th>Email</th> <th>Status</th> <th>Password</th> <th colspan="2">Actions</th> </tr> </thead> <tbody> <tr> <td>admin1</td> <td>admin1@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent1</td> <td>agent1@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>buyer1</td> <td>buyer1@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>seller1</td> <td>seller1@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>admin</td> <td>admin@admin.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>Jack28</td> <td>jack99@mail.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>admin10</td> <td>myemail@domain.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent7</td> <td>agent7@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent8</td> <td>agent8@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent9</td> <td>agent9@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>buyer7</td> <td>buyer7@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>buyer6</td> <td>buyer8@example.com</td> <td>Active</td> <td>*****</td> <td><input type="checkbox"/> Show Password</td> <td>Edit Suspend Delete</td> </tr> </tbody> </table> <p style="text-align: center;">© 2024 Real Estate System</p>	User Accounts						Search by Username: <input type="text"/> Enter username <input type="button" value="Search"/>						Username	Email	Status	Password	Actions		admin1	admin1@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	agent1	agent1@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	buyer1	buyer1@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	seller1	seller1@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	admin	admin@admin.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	Jack28	jack99@mail.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	admin10	myemail@domain.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	agent7	agent7@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	agent8	agent8@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	agent9	agent9@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	buyer7	buyer7@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete	buyer6	buyer8@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete
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buyer6	buyer8@example.com	Active	*****	<input type="checkbox"/> Show Password	Edit Suspend Delete																																																																																						

Purpose of Test Case	System Admin Edit
Test Case ID	A2

Test case Description	As a system admin, I should be able to edit user accounts.																																													
Created By	Teo Bin Guang																																													
Reviewed By																																														
Expected result	The changes will be made to all the accounts																																													
Tested result	Pass																																													
Steps	<ol style="list-style-type: none"> 1) Login to the RES system. 2) Select the edit of a specific account 3) Make the necessary changes 4) Click update 5) The account would now have new details shown 																																													
Screenshot	<p>The screenshot shows a web application interface for managing user accounts. At the top, a navigation bar includes links for User Accounts, User Profiles, Analytics, and Logout. Below this is a header "Welcome, System Administrator!". The main area is titled "User Accounts" and contains a table of users:</p> <table border="1"> <thead> <tr> <th>Username</th> <th>Email</th> <th>Status</th> <th>Password</th> <th>Actions</th> </tr> </thead> <tbody> <tr><td>admin1</td><td>admin1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>agent1</td><td>agent1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>buyer1</td><td>buyer1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>seller1</td><td>seller1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>admin</td><td>admin@admin.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>Jack28</td><td>jack99@gmail.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>admin10</td><td>myemail@domain.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>agent7</td><td>agent7@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> </tbody> </table> <p>Below the table, a modal dialog is open for editing the user "admin". The dialog has a title "Edit User: admin" and contains fields for Username (admin23131124), Email (admin@admin.com), New Password (empty), and Role (System Administrator). There is also an "Update" button at the bottom left of the dialog.</p>	Username	Email	Status	Password	Actions	admin1	admin1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	agent1	agent1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	buyer1	buyer1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	seller1	seller1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	admin	admin@admin.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	Jack28	jack99@gmail.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	admin10	myemail@domain.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	agent7	agent7@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete
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agent7	agent7@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																										

Welcome, System Administrator!

User Accounts User Profiles Analytics Logout

User Accounts

Search by Username: Enter username

Username	Email	Status	Password	Actions
admin1	admin1@example.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
agent1	agent1@example.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
buyer1	buyer1@example.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
seller1	seller1@example.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
admin231311241	admin@admin.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
Jack28	jack99@hmail.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
admin10	myemail@domain.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete
agent7	agent7@example.com	Active	*****	<input type="checkbox"/> Show Password Edit Suspend Delete

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Purpose of Test Case	System Admin viewing the analytics																																																																																	
Test Case ID	A3																																																																																	
Test case Description	As a system admin, I want to be able to view analytics																																																																																	
Created By	Teo Bin Guang																																																																																	
Reviewed By																																																																																		
Expected result	Able to see all the events that have occurred																																																																																	
Tested result	Pass																																																																																	
Steps	<ol style="list-style-type: none"> 1) Login to the RES system. 2) Select analytics at the top bar of the website 3) See the activities that appeared 4) Search for a specific user or view 																																																																																	
Screenshot	<p>User Accounts</p> <table border="1"> <thead> <tr> <th>Username</th> <th>Email</th> <th>Status</th> <th>Password</th> <th>Actions</th> </tr> </thead> <tbody> <tr><td>admin1</td><td>admin1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>agent1</td><td>agent1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>buyer1</td><td>buyer1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>seller1</td><td>seller1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>admin231311241</td><td>admin@admin.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>Jack26</td><td>jack99@mail.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>admin10</td><td>myemail@domain.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>agent7</td><td>agent7@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> </tbody> </table> <p>Analytics - User Interactions & Transactions</p> <table border="1"> <thead> <tr> <th>User</th> <th>Interaction Type</th> <th>Listing</th> <th>Interaction Timestamp</th> </tr> </thead> <tbody> <tr><td>buyer1</td><td>View</td><td>Luxury Condo with Marina View</td><td>2024-05-24 09:00:55</td></tr> <tr><td>buyer1</td><td>View</td><td>Modern Studio at Tanjong Pagar</td><td>2024-05-24 03:27:07</td></tr> <tr><td>buyer1</td><td>Save</td><td>Modern Studio at Tanjong Pagar</td><td>2024-05-24 03:27:06</td></tr> <tr><td>buyer1</td><td>View</td><td>Modern Studio at Tanjong Pagar</td><td>2024-05-24 03:26:53</td></tr> <tr><td>buyer1</td><td>View</td><td>Modern Studio at Tanjong Pagar</td><td>2024-05-24 03:08:17</td></tr> <tr><td>buyer1</td><td>View</td><td>2 bedroom condo</td><td>2024-05-24 03:08:00</td></tr> <tr><td>buyer1</td><td>View</td><td>2 bedroom condo</td><td>2024-05-24 03:07:53</td></tr> <tr><td>buyer1</td><td>View</td><td>2 bedroom condo</td><td>2024-05-24 03:04:22</td></tr> </tbody> </table>	Username	Email	Status	Password	Actions	admin1	admin1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	agent1	agent1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	buyer1	buyer1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	seller1	seller1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	admin231311241	admin@admin.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	Jack26	jack99@mail.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	admin10	myemail@domain.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	agent7	agent7@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	User	Interaction Type	Listing	Interaction Timestamp	buyer1	View	Luxury Condo with Marina View	2024-05-24 09:00:55	buyer1	View	Modern Studio at Tanjong Pagar	2024-05-24 03:27:07	buyer1	Save	Modern Studio at Tanjong Pagar	2024-05-24 03:27:06	buyer1	View	Modern Studio at Tanjong Pagar	2024-05-24 03:26:53	buyer1	View	Modern Studio at Tanjong Pagar	2024-05-24 03:08:17	buyer1	View	2 bedroom condo	2024-05-24 03:08:00	buyer1	View	2 bedroom condo	2024-05-24 03:07:53	buyer1	View	2 bedroom condo	2024-05-24 03:04:22
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buyer1	buyer1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																														
seller1	seller1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																														
admin231311241	admin@admin.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																														
Jack26	jack99@mail.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																														
admin10	myemail@domain.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																														
agent7	agent7@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																														
User	Interaction Type	Listing	Interaction Timestamp																																																																															
buyer1	View	Luxury Condo with Marina View	2024-05-24 09:00:55																																																																															
buyer1	View	Modern Studio at Tanjong Pagar	2024-05-24 03:27:07																																																																															
buyer1	Save	Modern Studio at Tanjong Pagar	2024-05-24 03:27:06																																																																															
buyer1	View	Modern Studio at Tanjong Pagar	2024-05-24 03:26:53																																																																															
buyer1	View	Modern Studio at Tanjong Pagar	2024-05-24 03:08:17																																																																															
buyer1	View	2 bedroom condo	2024-05-24 03:08:00																																																																															
buyer1	View	2 bedroom condo	2024-05-24 03:07:53																																																																															
buyer1	View	2 bedroom condo	2024-05-24 03:04:22																																																																															

Analytics - User Interactions & Transactions

User Accounts | User Profiles | Analytics | Logout

Search by Username or Listing Title:

User	Interaction Type	Listing	Interaction Timestamp
seller1	View	Luxury Condo with Marina View	2024-05-12 16:58:26

© 2024 Real Estate System

Purpose of Test Case	System Admin viewing and editing the profile																																																																																																																					
Test Case ID	A4																																																																																																																					
Test case Description	As a system admin, I want to be able view and edit the user profile																																																																																																																					
Created By	Teo Bin Guang																																																																																																																					
Reviewed By																																																																																																																						
Expected result	Able to see all the see all the user profile as well as show the reflected changes																																																																																																																					
Tested result	Pass																																																																																																																					
Steps	<ol style="list-style-type: none"> 1) Login to the RES system. 2) Select analytics at the top bar of the website 3) See the activities that appeared 4) Search for a specific user or view 																																																																																																																					
Screenshot	<p>User Accounts</p> <table border="1"> <thead> <tr> <th>Username</th> <th>Email</th> <th>Status</th> <th>Password</th> <th>Actions</th> </tr> </thead> <tbody> <tr><td>admin1</td><td>admin1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>agent1</td><td>agent1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>buyer1</td><td>buyer1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>seller1</td><td>seller1@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>admin231311241</td><td>admin@admin.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>Jack28</td><td>jack99@mail.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>admin10</td><td>myemail@domain.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> <tr><td>agent7</td><td>agent7@example.com</td><td>Active</td><td>.....</td><td><input type="checkbox"/> Show Password Edit Suspend Delete</td></tr> </tbody> </table> <p>© 2024 Real Estate System</p> <p>User Profiles</p> <table border="1"> <thead> <tr> <th>Username</th> <th>First Name</th> <th>Last Name</th> <th>Address</th> <th>Profile Picture</th> <th>Bio</th> <th>Status</th> <th>Actions</th> </tr> </thead> <tbody> <tr><td>admin1</td><td>Admin</td><td>One</td><td>123 Admin St, Adminville</td><td>admin.jpg</td><td>I am the system administrator.</td><td>Active</td><td>Edit</td></tr> <tr><td>agent1</td><td>Agent</td><td>Smith</td><td>456 Agent Rd, Agent City</td><td>agent.jpg</td><td>Experienced real estate agent in Singapore.</td><td>Active</td><td>Edit</td></tr> <tr><td>buyer1</td><td>John</td><td>Doe</td><td>789 Buyer Ave, Buyer Town</td><td>buyer.jpg</td><td>Looking to buy a new home in Singapore.</td><td>Active</td><td>Edit</td></tr> <tr><td>seller1</td><td>Jane</td><td>Doe</td><td>321 Seller Blvd, Seller Springs</td><td>seller.jpg</td><td>Selling properties in Singapore.</td><td>Active</td><td>Edit</td></tr> <tr><td>admin231311241</td><td>Afirst</td><td>Alast</td><td>1122 ABC Street</td><td></td><td>A Bio</td><td>Active</td><td>Edit</td></tr> <tr><td>Jack28</td><td>jack</td><td>stack</td><td>221B Baker Street</td><td></td><td>test bio</td><td>Active</td><td>Edit</td></tr> <tr><td>admin10</td><td>ad</td><td>min</td><td>admin street admin colony</td><td></td><td>test bio</td><td>Active</td><td>Edit</td></tr> <tr><td>agent7</td><td>Agent</td><td>Seven</td><td>123 Agent St, Agentville</td><td>agent7.jpg</td><td>Experienced real estate agent.</td><td>Active</td><td>Edit</td></tr> </tbody> </table> <p>© 2024 Real Estate System</p>	Username	Email	Status	Password	Actions	admin1	admin1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	agent1	agent1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	buyer1	buyer1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	seller1	seller1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	admin231311241	admin@admin.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	Jack28	jack99@mail.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	admin10	myemail@domain.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	agent7	agent7@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete	Username	First Name	Last Name	Address	Profile Picture	Bio	Status	Actions	admin1	Admin	One	123 Admin St, Adminville	admin.jpg	I am the system administrator.	Active	Edit	agent1	Agent	Smith	456 Agent Rd, Agent City	agent.jpg	Experienced real estate agent in Singapore.	Active	Edit	buyer1	John	Doe	789 Buyer Ave, Buyer Town	buyer.jpg	Looking to buy a new home in Singapore.	Active	Edit	seller1	Jane	Doe	321 Seller Blvd, Seller Springs	seller.jpg	Selling properties in Singapore.	Active	Edit	admin231311241	Afirst	Alast	1122 ABC Street		A Bio	Active	Edit	Jack28	jack	stack	221B Baker Street		test bio	Active	Edit	admin10	ad	min	admin street admin colony		test bio	Active	Edit	agent7	Agent	Seven	123 Agent St, Agentville	agent7.jpg	Experienced real estate agent.	Active	Edit
Username	Email	Status	Password	Actions																																																																																																																		
admin1	admin1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																																																																		
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buyer1	buyer1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																																																																		
seller1	seller1@example.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																																																																		
admin231311241	admin@admin.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																																																																		
Jack28	jack99@mail.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																																																																		
admin10	myemail@domain.com	Active	<input type="checkbox"/> Show Password Edit Suspend Delete																																																																																																																		
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admin1	Admin	One	123 Admin St, Adminville	admin.jpg	I am the system administrator.	Active	Edit																																																																																																															
agent1	Agent	Smith	456 Agent Rd, Agent City	agent.jpg	Experienced real estate agent in Singapore.	Active	Edit																																																																																																															
buyer1	John	Doe	789 Buyer Ave, Buyer Town	buyer.jpg	Looking to buy a new home in Singapore.	Active	Edit																																																																																																															
seller1	Jane	Doe	321 Seller Blvd, Seller Springs	seller.jpg	Selling properties in Singapore.	Active	Edit																																																																																																															
admin231311241	Afirst	Alast	1122 ABC Street		A Bio	Active	Edit																																																																																																															
Jack28	jack	stack	221B Baker Street		test bio	Active	Edit																																																																																																															
admin10	ad	min	admin street admin colony		test bio	Active	Edit																																																																																																															
agent7	Agent	Seven	123 Agent St, Agentville	agent7.jpg	Experienced real estate agent.	Active	Edit																																																																																																															

The screenshot shows a web-based real estate management system. On the left, there is a large blue sidebar. The main content area has two distinct sections:

- Edit User Profile: Afirst Alast**: This section contains a form for updating a user's profile. The fields are labeled "Field" and "Value". The values entered are:

First Name:	Afirst
Last Name:	Alast
Address:	1122 ABC Street
Bio:	A Bio

 There is also a small "Update" button at the bottom.
- Welcome, System Administrator!**: This section displays a welcome message and navigation links: User Accounts, User Profiles, Analytics, and Logout. Below this, the "User Profiles" section is shown, featuring a table with columns: Username, First Name, Last Name, Address, Profile Picture, Bio, Status, and Actions. The table data is as follows:

Username	First Name	Last Name	Address	Profile Picture	Bio	Status	Actions
admin1	Admin	One	123 Admin St, Adminville	admin.jpg	I am the system administrator.	Active	Edit
agent1	Agent	Smith	456 Agent Rd, Agent City	agent.jpg	Experienced real estate agent in Singapore.	Active	Edit
buyer1	John	Doe	789 Buyer Ave, Buyer Town	buyer.jpg	Looking to buy a new home in Singapore.	Active	Edit
seller1	Jane	Doe	321 Seller Blvd, Seller Springs	seller.jpg	Selling properties in Singapore.	Active	Edit
admin231311241	Afrissaa	Alast	1122 ABC Street		A Bio	Suspended	Edit
Jack28	jack	stack	221B Baker Street		test bio	Active	Edit
admin10	ad	min	admin street admin colony		test bio	Active	Edit
agent7	Agent	Seven	123 Agent St, Agentville	agent7.jpg	Experienced real estate agent.	Active	Edit

Purpose of Test Case	System Admin suspending accounts
----------------------	----------------------------------

Test Case ID	A5																																																																																										
Test case Description	As a system admin, I want to be able suspend a user																																																																																										
Created By	Teo Bin Guang																																																																																										
Reviewed By																																																																																											
Expected result	Able to suspend user and prevent user from logging in																																																																																										
Tested result	Pass																																																																																										
Steps	<ol style="list-style-type: none"> 1) Login to the RES system. 2) Select suspension of user account. 3) The accounts profile will be suspended 4) The affected user is unable to login 5) Unsuspend the account 																																																																																										
Screenshot	<p>The screenshots show the 'User Accounts' section of a web application. Both screenshots have a header 'Welcome, System Administrator!' with links for User Accounts, User Profiles, Analytics, and Logout.</p> <p>Screenshot 1 (Top):</p> <ul style="list-style-type: none"> User Accounts table header: User Accounts, Search by Username: Enter username, Search. Table rows (partial): <table border="1"> <thead> <tr> <th>Username</th> <th>Email</th> <th>Status</th> <th>Password</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>admin1</td> <td>admin1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent1</td> <td>agent1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>buyer1</td> <td>buyer1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>seller1</td> <td>seller1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>admin231311241</td> <td>admin@admin.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>Jack28</td> <td>jack99@mail.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>admin10</td> <td>myemail@domain.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent7</td> <td>agent7@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> </tbody> </table> Bottom of the table: © 2024 Real Estate System <p>Screenshot 2 (Bottom):</p> <ul style="list-style-type: none"> User Accounts table header: User Accounts, Search by Username: Enter username, Search. Table rows (partial): <table border="1"> <thead> <tr> <th>Username</th> <th>Email</th> <th>Status</th> <th>Password</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>admin1</td> <td>admin1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent1</td> <td>agent1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>buyer1</td> <td>buyer1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>seller1</td> <td>seller1@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>admin231311241</td> <td>admin@admin.com</td> <td>Suspended</td> <td>.....</td> <td>Edit Unsuspend Delete</td> </tr> <tr> <td>Jack28</td> <td>jack99@mail.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>admin10</td> <td>myemail@domain.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> <tr> <td>agent7</td> <td>agent7@example.com</td> <td>Active</td> <td>.....</td> <td>Edit Suspend Delete</td> </tr> </tbody> </table> Bottom of the table: © 2024 Real Estate System 	Username	Email	Status	Password	Actions	admin1	admin1@example.com	Active	Edit Suspend Delete	agent1	agent1@example.com	Active	Edit Suspend Delete	buyer1	buyer1@example.com	Active	Edit Suspend Delete	seller1	seller1@example.com	Active	Edit Suspend Delete	admin231311241	admin@admin.com	Active	Edit Suspend Delete	Jack28	jack99@mail.com	Active	Edit Suspend Delete	admin10	myemail@domain.com	Active	Edit Suspend Delete	agent7	agent7@example.com	Active	Edit Suspend Delete	Username	Email	Status	Password	Actions	admin1	admin1@example.com	Active	Edit Suspend Delete	agent1	agent1@example.com	Active	Edit Suspend Delete	buyer1	buyer1@example.com	Active	Edit Suspend Delete	seller1	seller1@example.com	Active	Edit Suspend Delete	admin231311241	admin@admin.com	Suspended	Edit Unsuspend Delete	Jack28	jack99@mail.com	Active	Edit Suspend Delete	admin10	myemail@domain.com	Active	Edit Suspend Delete	agent7	agent7@example.com	Active	Edit Suspend Delete
Username	Email	Status	Password	Actions																																																																																							
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agent1	agent1@example.com	Active	Edit Suspend Delete																																																																																							
buyer1	buyer1@example.com	Active	Edit Suspend Delete																																																																																							
seller1	seller1@example.com	Active	Edit Suspend Delete																																																																																							
admin231311241	admin@admin.com	Suspended	Edit Unsuspend Delete																																																																																							
Jack28	jack99@mail.com	Active	Edit Suspend Delete																																																																																							
admin10	myemail@domain.com	Active	Edit Suspend Delete																																																																																							
agent7	agent7@example.com	Active	Edit Suspend Delete																																																																																							

The screenshot displays two views of a real estate management system. The top view shows the 'User Profiles' section with a table of users and their details. The bottom view shows the 'Login to Real Estate System' page.

User Profiles

Username	First Name	Last Name	Address	Profile Picture	Bio	Status	Actions
admin1	Admin	One	123 Admin St, Adminville	admin.jpg	I am the system administrator.	Active	Edit
agent1	Agent	Smith	456 Agent Rd, Agent City	agent.jpg	Experienced real estate agent in Singapore.	Active	Edit
buyer1	John	Doe	789 Buyer Ave, Buyer Town	buyer.jpg	Looking to buy a new home in Singapore.	Active	Edit
seller1	Jane	Doe	321 Seller Blvd, Seller Springs	seller.jpg	Selling properties in Singapore.	Active	Edit
admin231311241	Afirst	Alast	1122 ABC Street		A Bio	Suspended	Edit
Jack28	jack	stack	221B Baker Street		test bio	Active	Edit
admin10	ad	min	admin street admin colony		test bio	Active	Edit
agent7	Agent	Seven	123 Agent St, Agentville	agent7.jpg	Experienced real estate agent.	Active	Edit

Login to Real Estate System

© 2024 Real Estate System

Don't have an account? [Register here](#)

© 2024 Real Estate System

Login to Real Estate System

Your account is suspended. Please contact the administrator.

Username:

Password:

[Login](#)

Don't have an account? [Register here](#)

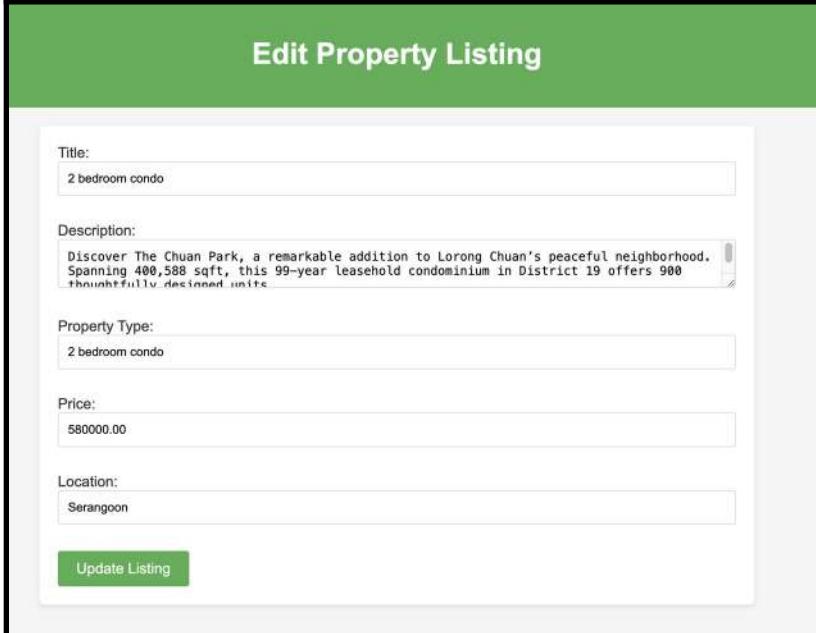
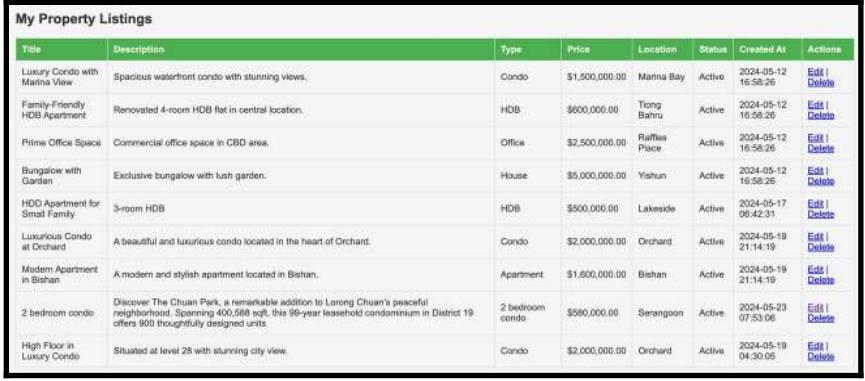
© 2024 Real Estate System

Real Estate Agent

Purpose of Test Case	To create new listing to sell to people
----------------------	---

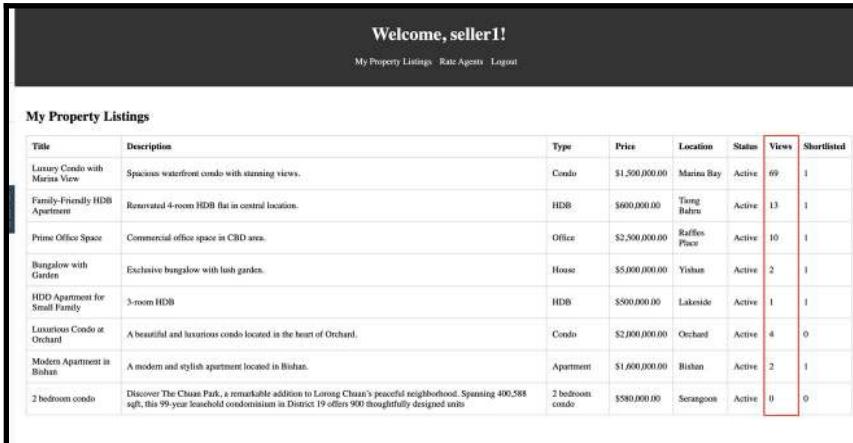
Test Case ID	A1																																																																																
Test case Description	As a real estate agent, I want to be able to create new property listings with detailed information including property type, location and price so that potential buyers have more information.																																																																																
Created By	Nursahira																																																																																
Reviewed By																																																																																	
Expected result	The new listing should be reflected in “My Property Listing” page																																																																																
Tested result	Pass																																																																																
Steps	<ol style="list-style-type: none"> 1) Create new listing 2) Input all the informations 3) Assign to seller 4) Publish listing 																																																																																
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Purpose of Test Case	To make changes to the listing after creation as agent
Test Case ID	A3
Test case Description	As a real estate agent, I want to be able to edit my listings on the

	platform.																																																																																
Created By	Nursahira																																																																																
Reviewed By																																																																																	
Expected result	The updated listing should be reflected in "My Property Listing" page																																																																																
Tested result	Pass																																																																																
Steps	<ol style="list-style-type: none"> 1) Login into the RES system as a 'Agent' 2) Select listing 3) update the required information - price change from \$480000 to \$580000 4) Publish updated listing 																																																																																
Screenshot	 <p>Edit Property Listing</p> <p>Title: 2 bedroom condo</p> <p>Description: Discover The Chuan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99-year leasehold condominium in District 19 offers 900 thoughtfully designed units.</p> <p>Property Type: 2 bedroom condo</p> <p>Price: 580000.00</p> <p>Location: Serangoon</p> <p>Update Listing</p>  <p>My Property Listings</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Description</th> <th>Type</th> <th>Price</th> <th>Location</th> <th>Status</th> <th>Created At</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>Luxury Condo with Marina View</td> <td>Spacious waterfront condo with stunning views.</td> <td>Condo</td> <td>\$1,500,000.00</td> <td>Marina Bay</td> <td>Active</td> <td>2024-05-12 16:58:26</td> <td>Edit Delete</td> </tr> <tr> <td>Family-Friendly HDB Apartment</td> <td>Renovated 4-room HDB flat in central location.</td> <td>HDB</td> <td>\$600,000.00</td> <td>Tiong Bahru</td> <td>Active</td> <td>2024-05-12 16:58:26</td> <td>Edit Delete</td> </tr> <tr> <td>Prime Office Space</td> <td>Commercial office space in CBD area.</td> <td>Office</td> <td>\$2,500,000.00</td> <td>Raffles Place</td> <td>Active</td> <td>2024-05-12 16:58:26</td> <td>Edit Delete</td> </tr> <tr> <td>Bungalow with Garden</td> <td>Exclusive bungalow with lush garden.</td> <td>House</td> <td>\$5,000,000.00</td> <td>Yishun</td> <td>Active</td> <td>2024-05-12 16:58:26</td> <td>Edit Delete</td> </tr> <tr> <td>HDB Apartment for Small Family</td> <td>3-room HDB</td> <td>HDB</td> <td>\$500,000.00</td> <td>Lakeside</td> <td>Active</td> <td>2024-05-17 06:42:31</td> <td>Edit Delete</td> </tr> <tr> <td>Luxurious Condo at Orchard</td> <td>A beautiful and luxurious condo located in the heart of Orchard.</td> <td>Condo</td> <td>\$2,000,000.00</td> <td>Orchard</td> <td>Active</td> <td>2024-05-19 21:14:19</td> <td>Edit Delete</td> </tr> <tr> <td>Modern Apartment in Bishan</td> <td>A modern and stylish apartment located in Bishan.</td> <td>Apartment</td> <td>\$1,600,000.00</td> <td>Bishan</td> <td>Active</td> <td>2024-05-19 21:14:19</td> <td>Edit Delete</td> </tr> <tr> <td>2 bedroom condo</td> <td>Discover The Chuan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99-year leasehold condominium in District 19 offers 900 thoughtfully designed units.</td> <td>2 bedroom condo</td> <td>\$580,000.00</td> <td>Serangoon</td> <td>Active</td> <td>2024-05-23 07:53:06</td> <td>Edit Delete</td> </tr> <tr> <td>High Floor in Luxury Condo</td> <td>Situated at level 28 with stunning city view.</td> <td>Condo</td> <td>\$2,000,000.00</td> <td>Orchard</td> <td>Active</td> <td>2024-05-19 04:30:05</td> <td>Edit Delete</td> </tr> </tbody> </table>	Title	Description	Type	Price	Location	Status	Created At	Actions	Luxury Condo with Marina View	Spacious waterfront condo with stunning views.	Condo	\$1,500,000.00	Marina Bay	Active	2024-05-12 16:58:26	Edit Delete	Family-Friendly HDB Apartment	Renovated 4-room HDB flat in central location.	HDB	\$600,000.00	Tiong Bahru	Active	2024-05-12 16:58:26	Edit Delete	Prime Office Space	Commercial office space in CBD area.	Office	\$2,500,000.00	Raffles Place	Active	2024-05-12 16:58:26	Edit Delete	Bungalow with Garden	Exclusive bungalow with lush garden.	House	\$5,000,000.00	Yishun	Active	2024-05-12 16:58:26	Edit Delete	HDB Apartment for Small Family	3-room HDB	HDB	\$500,000.00	Lakeside	Active	2024-05-17 06:42:31	Edit Delete	Luxurious Condo at Orchard	A beautiful and luxurious condo located in the heart of Orchard.	Condo	\$2,000,000.00	Orchard	Active	2024-05-19 21:14:19	Edit Delete	Modern Apartment in Bishan	A modern and stylish apartment located in Bishan.	Apartment	\$1,600,000.00	Bishan	Active	2024-05-19 21:14:19	Edit Delete	2 bedroom condo	Discover The Chuan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99-year leasehold condominium in District 19 offers 900 thoughtfully designed units.	2 bedroom condo	\$580,000.00	Serangoon	Active	2024-05-23 07:53:06	Edit Delete	High Floor in Luxury Condo	Situated at level 28 with stunning city view.	Condo	\$2,000,000.00	Orchard	Active	2024-05-19 04:30:05	Edit Delete
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Seller

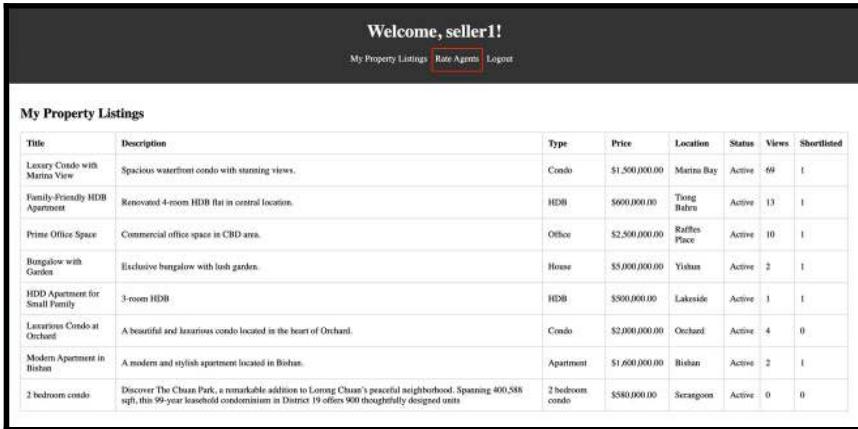
Purpose of Test Case	To see the number of times the listing was viewed.
Test Case ID	S1
Test case Description	As a seller, I want to be able to view the number of times each property listing has been viewed.
Created By	Nursahira
Reviewed By	
Expected result	The listing should be show the number of views under “My Property Listings” page
Tested result	Pass

Steps	1) Login into the RES system as a 'seller' 2) Go to Seller dashboard
Screenshot	

Purpose of Test Case	To see whether the number of shortlisted can be seen
Test Case ID	S2
Test case Description	As a seller, i want to know how many times my properties have been shortlisted by potential buyers, so that I can know the number of potential buyers.
Created By	Nursahira
Reviewed By	
Expected result	The listing should be show the number of shortlisted by potential buyer under "My Property Listings" page
Tested result	Pass
Steps	1) Login into the RES system as a 'seller'

	2) Go to Seller dashboard																																																																								
Screenshot	<p>Welcome, seller1!</p> <p>My Property Listings Rate Agent Logout</p> <p>My Property Listings</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Description</th> <th>Type</th> <th>Price</th> <th>Location</th> <th>Status</th> <th>Views</th> <th>Shortlisted</th> </tr> </thead> <tbody> <tr> <td>Luxury Condo with Marina View</td> <td>Spacious waterfront condo with stunning views.</td> <td>Condo</td> <td>\$1,500,000.00</td> <td>Marina Bay</td> <td>Active</td> <td>69</td> <td>1</td> </tr> <tr> <td>Family-Friendly HDB Apartment</td> <td>Renovated 4-room HDB flat in central location.</td> <td>HDB</td> <td>\$600,000.00</td> <td>Tanglin</td> <td>Active</td> <td>13</td> <td>1</td> </tr> <tr> <td>Prime Office Space</td> <td>Commercial office space in CBD area.</td> <td>Office</td> <td>\$2,500,000.00</td> <td>Raffles Place</td> <td>Active</td> <td>10</td> <td>1</td> </tr> <tr> <td>Bungalow with Garden</td> <td>Exclusive bungalow with lush garden.</td> <td>House</td> <td>\$5,000,000.00</td> <td>Yishun</td> <td>Active</td> <td>2</td> <td>1</td> </tr> <tr> <td>HDD Apartment for Small Family</td> <td>3-room HDB</td> <td>HDB</td> <td>\$500,000.00</td> <td>Lakeside</td> <td>Active</td> <td>1</td> <td>1</td> </tr> <tr> <td>Luxurious Condo at Orchard</td> <td>A beautiful and luxurious condo located in the heart of Orchard.</td> <td>Condo</td> <td>\$2,000,000.00</td> <td>Orchard</td> <td>Active</td> <td>4</td> <td>0</td> </tr> <tr> <td>Modern Apartment in Bishan</td> <td>A modern and stylish apartment located in Bishan.</td> <td>Apartment</td> <td>\$1,600,000.00</td> <td>Bishan</td> <td>Active</td> <td>2</td> <td>1</td> </tr> <tr> <td>2 bedroom condo</td> <td>Discover The Chuan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99 year leasehold condominium in District 19 offers 900 thoughtfully designed units.</td> <td>2 bedroom condo</td> <td>\$580,000.00</td> <td>Sengkang</td> <td>Active</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Title	Description	Type	Price	Location	Status	Views	Shortlisted	Luxury Condo with Marina View	Spacious waterfront condo with stunning views.	Condo	\$1,500,000.00	Marina Bay	Active	69	1	Family-Friendly HDB Apartment	Renovated 4-room HDB flat in central location.	HDB	\$600,000.00	Tanglin	Active	13	1	Prime Office Space	Commercial office space in CBD area.	Office	\$2,500,000.00	Raffles Place	Active	10	1	Bungalow with Garden	Exclusive bungalow with lush garden.	House	\$5,000,000.00	Yishun	Active	2	1	HDD Apartment for Small Family	3-room HDB	HDB	\$500,000.00	Lakeside	Active	1	1	Luxurious Condo at Orchard	A beautiful and luxurious condo located in the heart of Orchard.	Condo	\$2,000,000.00	Orchard	Active	4	0	Modern Apartment in Bishan	A modern and stylish apartment located in Bishan.	Apartment	\$1,600,000.00	Bishan	Active	2	1	2 bedroom condo	Discover The Chuan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99 year leasehold condominium in District 19 offers 900 thoughtfully designed units.	2 bedroom condo	\$580,000.00	Sengkang	Active	0	0
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Purpose of Test Case	To test feedback of agent as a seller
Test Case ID	S3
Test case Description	As a Seller, I want to select and write review on the performance and quality of service of the agent served my requests so that I can others will know the experience of working with them.
Created By	Nursahira
Reviewed By	
Expected result	Able write review on the performance and quality of service of the agent that served my requests
Tested result	Pass
Steps	<ol style="list-style-type: none"> 1) Login into the RES system as a 'seller' 2) Click on view agent in the above selected bar 3) Select the agent and click write

	<p>4) Write the review about the agent 5) Submit the review of the agent</p>																																																																								
Screenshot	 <p>Welcome, seller1!</p> <p>My Property Listings Rate Agents Logout</p> <p>My Property Listings</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Description</th> <th>Type</th> <th>Price</th> <th>Location</th> <th>Status</th> <th>Views</th> <th>Shortlisted</th> </tr> </thead> <tbody> <tr> <td>Luxury Condo with Marina View</td> <td>Spacious waterfront condo with stunning views.</td> <td>Condo</td> <td>\$1,500,000.00</td> <td>Marina Bay</td> <td>Active</td> <td>68</td> <td>1</td> </tr> <tr> <td>Family-Friendly HDB Apartment</td> <td>Renovated 4-room HDB flat in central location.</td> <td>HDB</td> <td>\$600,000.00</td> <td>Tiong Bahru</td> <td>Active</td> <td>13</td> <td>1</td> </tr> <tr> <td>Prime Office Space</td> <td>Commercial office space in CBD area.</td> <td>Office</td> <td>\$2,500,000.00</td> <td>Raffles Place</td> <td>Active</td> <td>10</td> <td>1</td> </tr> <tr> <td>Bungalow with Garden</td> <td>Exclusive bungalow with lush garden.</td> <td>House</td> <td>\$5,000,000.00</td> <td>Yishun</td> <td>Active</td> <td>2</td> <td>1</td> </tr> <tr> <td>HDD Apartment for Small Family</td> <td>3-room HDB</td> <td>HDB</td> <td>\$500,000.00</td> <td>Lakeside</td> <td>Active</td> <td>1</td> <td>1</td> </tr> <tr> <td>Luxurious Condo at Orchard</td> <td>A beautiful and luxurious condo located in the heart of Orchard.</td> <td>Condo</td> <td>\$2,000,000.00</td> <td>Orchard</td> <td>Active</td> <td>4</td> <td>0</td> </tr> <tr> <td>Modern Apartment in Bishan</td> <td>A modern and stylish apartment located in Bishan.</td> <td>Apartment</td> <td>\$1,600,000.00</td> <td>Bishan</td> <td>Active</td> <td>2</td> <td>1</td> </tr> <tr> <td>2 bedroom condo</td> <td>Discover The Chan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99-year leasehold condominium in District 19 offers 900 thoughtfully designed units</td> <td>2 bedroom condo</td> <td>\$580,000.00</td> <td>Sengkang</td> <td>Active</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Title	Description	Type	Price	Location	Status	Views	Shortlisted	Luxury Condo with Marina View	Spacious waterfront condo with stunning views.	Condo	\$1,500,000.00	Marina Bay	Active	68	1	Family-Friendly HDB Apartment	Renovated 4-room HDB flat in central location.	HDB	\$600,000.00	Tiong Bahru	Active	13	1	Prime Office Space	Commercial office space in CBD area.	Office	\$2,500,000.00	Raffles Place	Active	10	1	Bungalow with Garden	Exclusive bungalow with lush garden.	House	\$5,000,000.00	Yishun	Active	2	1	HDD Apartment for Small Family	3-room HDB	HDB	\$500,000.00	Lakeside	Active	1	1	Luxurious Condo at Orchard	A beautiful and luxurious condo located in the heart of Orchard.	Condo	\$2,000,000.00	Orchard	Active	4	0	Modern Apartment in Bishan	A modern and stylish apartment located in Bishan.	Apartment	\$1,600,000.00	Bishan	Active	2	1	2 bedroom condo	Discover The Chan Park, a remarkable addition to Lorong Chuan's peaceful neighborhood. Spanning 400,588 sqft, this 99-year leasehold condominium in District 19 offers 900 thoughtfully designed units	2 bedroom condo	\$580,000.00	Sengkang	Active	0	0
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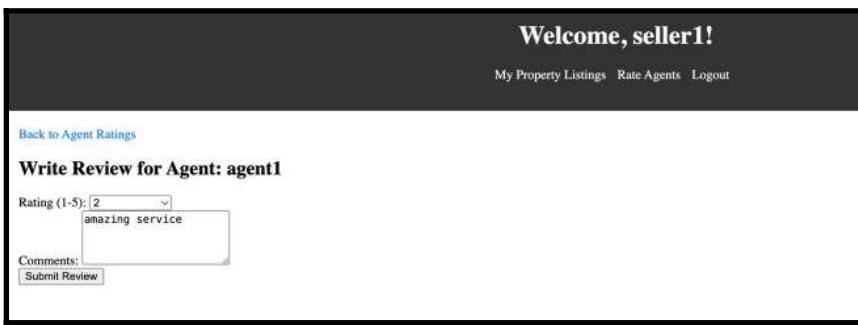


Welcome, seller1!

My Property Listings Rate Agents Logout

Agent Ratings & Reviews

Agent Name	Email	Average Rating	View Comments	Write Review
agent1	agent1@example.com	3.9	View	Write
agent7	agent7@example.com	4.2	View	Write
agent8	agent8@example.com	3.2	View	Write
agent9	agent9@example.com	2.8	View	Write



Welcome, seller1!

My Property Listings Rate Agents Logout

[Back to Agent Ratings](#)

Write Review for Agent: agent1

Rating (1-5):

amazing service

Comments:

Purpose of Test Case	Viewing of past agent reviews
Test Case ID	S4
Test case Description	As a seller, I would want to view past reviews of agents to better select an agent to assist me.
Created By	Teo Bin Guang
Reviewed By	
Expected result	View agent past reviews for agent.
Tested result	Pass
Steps	<ol style="list-style-type: none"> 1) Login to the RES system as a 'seller' 2) Click on view agent in the above selected bar 3) Select the agent and click view 4) See the agents reviews

Screenshot

The screenshot displays a user interface for a real estate platform. At the top, a dark header bar features the text "Welcome, seller1!" in white. Below the header, there are three small links: "My Property Listings", "View Agents", and "Logout".

The main content area is titled "All Agents" in bold black text. It contains a table with six rows, each representing an agent. The columns are labeled "Agent Name", "Email", "Average Rating", "View Profile", and "Write Review". The "View Profile" and "Write Review" columns are highlighted with a red border.

Agent Name	Email	Average Rating	View Profile	Write Review
agent1	agent1@example.com	3.9	View	Write
agent7	agent7@example.com	4.2	View	Write
agent8	agent8@example.com	3.2	View	Write
agent9	agent9@example.com	2.8	View	Write
test	test@mymail.com	4.0	View	Write

Below the agent list, another dark header bar displays "Welcome, seller1!" followed by the same three links: "My Property Listings", "View Agents", and "Logout".

The next section is titled "Agent Smith's Profile" in bold black text. It includes the following details:

- Username:** agent1
- Bio:** Experienced real estate agent in Singapore.
- Email:** agent1@example.com
- Phone Number:** 9876543210
- Address:** 456 Agent Rd, Agent City

The final section is titled "Comments" in bold black text. It shows a table with three rows of comments from users named "buyer1".

User	Rating	Comment
buyer1	4	Agent was very helpful and knowledgeable about properties in Singapore.
buyer1	5	Great experience working with the agent. Very professional.
buyer1	5	Outstanding service. The agent went above and beyond.

Group Meeting Records

103

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Meeting Date	Minutes
29/04/24	<p>we will be using github repository to combine the code and do the code together.</p> <p>The Coding infrastructure being used will be</p> <p>Front End Infrastructure - HTML</p> <p>Back end Infrastructure - PHP</p> <p>Database - MYSQL</p> <p>Decided on the roles and coder for each pointer #1 to #6, user stories will be written by each users.</p> <p>#1 and #6 done by Daryl.</p> <p>#2 done by Yint</p> <p>#3 done by Albert</p> <p>#4 done by Anthony</p> <p>#5 done by Jin Wan</p> <p>User stories will be sent to Bin Guang to compile.</p> <p>Bin Guang and Sahira will perform the documentation for all the user stories</p> <ul style="list-style-type: none"> ● Use case diagram ● class/BCE diagram ● sequence Diagram ● use case description <p>The next sprint will be held on 05 May Sunday.</p>
12/05/24	<ul style="list-style-type: none"> ● Decide on 56 user stories ● 14 BCE & user diagram ● Try to convert project to OOP ● Create database to host on AWS ● Bin Guang and Sahira to start with the documentation ● Arrange another meeting before class on Wednesday to sync up on what direction we should take for the project.
15/05/24	<ul style="list-style-type: none"> ● Bin Guang and Sahira to consolidate all the user stories on Taiga ● Complete report ● Backend side are now in progress to change it to oop ● Adjust the codes to look cleaner

Taiga Screenshots

29 April 2024 (First Meeting)

Creating of Taiga

The screenshot shows the Taiga backlog management interface. At the top, there's a summary bar with metrics: 0% defined points, 0 closed points, and 0 points/sprint. To the right, a sidebar displays the "First Sprint" from 29 Apr 2024-24 May 2024, showing 0 closed and 0 total stories. Below this, a large card titled "CUSTOMIZE YOUR BACKLOG GRAPH" explains how to set up points and sprints through Admin. The main area is titled "Backlog" and lists 12 user stories. A search bar and filters (subject or reference, Tags) are available. The backlog table includes columns for USER STORY, STATUS, and POINTS. Stories include #64, #82, and #85, each with a brief description and a "seller" or "buyer" tag.

Inputting user stories

This screenshot shows the "USER STORY" input screen. It displays three user stories that have been entered but not yet saved:

- #64 45. As a seller, I want access to legal resources related to property transactions so that I can lookup on uncertainty rules. (Seller)
- #82 56. As a buyer, I want to be able to report the listing so that I can list out potential scams. (Buyer)
- #85 49. As a real estate agent, I want to be able to manage my contacts so that I can organize the list of seller and buyer that I am working with.

Each story has a checkbox, a status dropdown set to "New", and a points column.

Classifying user stories and tasks

USER STORY		NEW	IN PROGRESS	READY FOR TEST	CLOSED
#1 47. As a seller, he is able to bump the listing to the top so that viewers see the listing	N/E	+	#86 Create a tracker for the listing Not assigned	#87 Create a way to bump the listing up to the top Not assigned	
#79 50 .As a Seller, I want to find a property agent so that	N/E	+		#115 Add a search function for	

18 May 2024 (Ready to Test)

USER STORY		NEW	IN PROGRESS	READY FOR TEST	CLOSED
#61 6. As a buyer, I want to input my down payment into the mortgage calculator so that it can calculate the actual loan amount.	N/E	+		#99 accept down payment into the mortgage calculator. 	
#57 5. As a buyer, I want to adjust the inputs to the mortgage calculator to see how different scenarios affect my monthly payments and the total cost of the loan.	N/E	+		#97 add scenarios to the mortgage calculation formula. 	#98 able to accept inputs from user to calculate the mortgage amount

19 May 2024 (Completed first sprint)

The screenshot shows a project management interface for a 'First Sprint' from April 29 to May 19, 2024. The backlog is organized into four columns: NEW, READY FOR TEST, CLOSED, and NEEDS INFO. The NEW column contains user stories such as #417, #418, #419, #420, #421, #422, #423, #424, and #425. The READY FOR TEST column contains tasks like #416, #426, #427, #428, #429, #430, #431, and #432. The CLOSED column contains user stories like #411, #412, #413, #414, and #415. The NEEDS INFO column contains user stories like #410 and #419.

19 May 2024 (The second sprint creation)

The screenshot shows a project management interface for 'Scrum'. On the left, there's a 'Backlog' section with user stories like #402, #403, #404, #405, #406, #407, #408, #409, #410, #411, #412, #413, #414, #415, #416, #417, #418, #419, #420, #421, #422, #423, #424, #425, #426, #427, #428, #429, #430, #431, #432, #433, #434, #435, #436, #437, #438, #439, #440, #441, #442, #443, #444, #445, #446, #447, #448, #449, #450, #451, #452, #453, #454, #455, #456, #457, #458, #459, #460, #461, #462, #463, #464, #465, #466, #467, #468, #469, #470, #471, #472, #473, #474, #475, #476, #477, #478, #479, #480, #481, #482, #483, #484, #485, #486, #487, #488, #489, #490, #491, #492, #493, #494, #495, #496, #497, #498, #499, #500, #501, #502, #503, #504, #505, #506, #507, #508, #509, #510, #511, #512, #513, #514, #515, #516, #517, #518, #519, #520, #521, #522, #523, #524, #525, #526, #527, #528, #529, #530, #531, #532, #533, #534, #535, #536, #537, #538, #539, #540, #541, #542, #543, #544, #545, #546, #547, #548, #549, #550, #551, #552, #553, #554, #555, #556, #557, 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23 May 2024(The last image of Taiga)

The screenshot shows the Taiga project management interface for the 'Second Sprint' from 19 May 2024 to 24 May 2024. The backlog is divided into four main columns: NEW, READY FOR TEST, CLOSED, and NEEDS INFO. Below these columns are several user stories, each with a brief description and an associated epic link.

NEW	READY FOR TEST	CLOSED	NEEDS INFO
#811 As a real estate agent, I want to be able to update my professional profile so that I can manage my own profile.			
#812 As a real estate agent, I want to be able to remove my listing so that it does not show when user views anymore.		#812 able to remove the listing	
#813 As a real estate agent, I want to manage property viewing so that I can make arrangements for the buyer to view the property.			
#814 As a real estate agent, I want to manage my reviews so that I can know the number of reviews I receive.			
#815 As a buyer, I want to find a property agent so that I have assistance to look for my dream home.		#815 able to visit 1 agent to start the searching web	
#816 As a Seller, I want to leave an order review on the performance and quality of service of the agent.		#816 able to give rating and review to the agent	