Use Cases

for

HouseSense

Version 1.0 approved

Prepared by Group 4

Group 4

8th Feb 2025

Revision History

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| **Name** | **Date** | **Reason For Changes** | **Version** |
| Yee Yong Khang | 8th Feb | Initial edit | 1.0 |
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Use Cases

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| --- | --- | --- | --- |
| Use Case ID: | U1 | | |
| Use Case Name: | View Flat Recommendations | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User |
| Description: | This use case allows user to view a list of flats that matches their input preferences |
| Preconditions: | * User has submitted preferences in their profile |
| Postconditions: | * User is shown a list of recommended flats |
| Priority: | High |
| Frequency of Use: | High |
| Flow of Events: | 1. The user navigates to recommendation page 2. System retrieves flat listing from API 3. The system displays flats that matches the user’s preference |
| Alternative Flows: | If no flats match preferences   1. The system notifies the user and suggests broadening the preference criteria |
| Exceptions: | None |
| Includes: | * Retrieve Flat Listings * Filter Results |
| Special Requirements: | * Must generate recommendations within 3 seconds |
| Assumptions: | None |
| Notes and Issues: |  |

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| Use Case ID: | U2 | | |
| Use Case Name: | Filter Results | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User |
| Description: | This use case enables users to view recommendation for resale flats based on their input preferences, such as budget, flat size, floor level, and proximity to facilities. |
| Preconditions: | * User is logged in * Historical resale flat data is retrieved from HDB Flat API |
| Postconditions: | * Users are presented with a list of flats that meet their specified preferences |
| Priority: | High |
| Frequency of Use: | High |
| Flow of Events: | 1. The user navigates to recommendation page 2. The user inputs their preferences 3. System retrieves relevant data from database/HDB Flat API 4. System filters result based on preferences 5. System generates a list of recommended flats and displays them |
| Alternative Flows: | None |
| Exceptions: | If HDB Flat API is unavailable   1. System notifies the user and uses only locally stored data |
| Includes: | * Retrieve Flat Listings * Filter Results |
| Special Requirements: | * Must generate recommendations within 3 seconds |
| Assumptions: | * User inputs valid input during preference prompt |
| Notes and Issues: |  |

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| --- | --- | --- | --- |
| Use Case ID: | U3 | | |
| Use Case Name: | Resale Flat Comparison | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| Actor: | User |
| Description: | This use case allows users to compare up to 5 resale flats based on various attributes, such as location, size, price, and proximity to facilities |
| Preconditions: | User has selected at least 1 flat to compare |
| Postconditions: | A comparison table is generated highlighting differences between selected flats |
| Priority: | Medium |
| Frequency of Use: | Medium |
| Flow of Events: | 1. User selects flats to compare 2. System retrieves data for the selected flats 3. System generates a compassion table highlighting key differences between the various flats |
| Alternative Flows: | If no flats are selected   1. The system prompts the user to select at least two flats |
| Exceptions: | None |
| Includes: | * Display Flat Information * Highlight key differences |
| Special Requirements: | Must display comparison within 5 seconds under peak load |
| Assumptions: | None |
| Notes and Issues: | None |

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| --- | --- | --- | --- |
| Use Case ID: | U4 | | |
| Use Case Name: | Submit Review and Rating | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User with Account |
| Description: | This use case allows verified users to submit reviews and rating for resale flats that they have interacted with |
| Preconditions: | * The user is logged in and verified |
| Postconditions: | * The user’s review and ratings are stored in the database |
| Priority: | Medium |
| Frequency of Use: | Medium |
| Flow of Events: | 1. The user selects a flat to review 2. The user inputs their review and rating 3. The system goes into Verify User for Review and validates the user’s verification status 4. The system stores the review and rating in the database |
| Alternative Flows: | If the user is not verified   1. The system prompts the user to complete verification before submitting the review |
| Exceptions: |  |
| Includes: | Verify User for Review |
| Special Requirements: | Review and rating submissions must be processed within 2 seconds |
| Assumptions: | None |
| Notes and Issues: | None |

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| --- | --- | --- | --- |
| Use Case ID: | U5 | | |
| Use Case Name: | Create Account | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User |
| Description: | This use case allows users to create an account to save preferences, submit reviews, and access personalized recommendations |
| Preconditions: | * User must provide valid credentials, including email or phone number |
| Postconditions: | * The user account is created and stored in the database, the credentials are securely stored. |
| Priority: | High |
| Frequency of Use: | Low (only once for each new user) |
| Flow of Events: | 1. User navigates to the account creation page 2. User inputs required details (e.g. username, email, password) 3. The system verifies the email or phone number 4. The system securely stores the user’s credentials and creates the account |
| Alternative Flows: | If the email is already registered   1. The system notifies the user and prompts for login instead |
| Exceptions: |  |
| Includes: | Verify User for Review |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

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| --- | --- | --- | --- |
| Use Case ID: | U6 | | |
| Use Case Name: | View Profile | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User with Account |
| Description: | This use case allows user to view their profile |
| Preconditions: | * The user must be logged in |
| Postconditions: | * System will display user’s profile |
| Priority: | Medium |
| Frequency of Use: | Medium |
| Flow of Events: | 1. The user navigates to the profile page 2. System retrieves the user’s information from the database 3. System displays user’s profile |
| Alternative Flows: | None |
| Exceptions: | None |
| Includes: | Change Preferences  Edit Personal Information |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

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| --- | --- | --- | --- |
| Use Case ID: | U7 | | |
| Use Case Name: | Edit Personal Information | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User with Account |
| Description: | This use case allows verified users to edit their personal information |
| Preconditions: | * The user must be logged in with an account |
| Postconditions: | * The user account’s personal information will be updated and reflected in the database |
| Priority: | Medium |
| Frequency of Use: | Medium |
| Flow of Events: | 1. User goes to view profile and click “Edit Personal Information” 2. System prompts user for the fields that they want to edit 3. User inputs the subsequent changes and click “SAVE” 4. System updates the database with the new input information |
| Alternative Flows: | User clicks “CANCEL”   1. User clicks on “CANCEL” 2. System goes back to View Profile |
| Exceptions: | None |
| Includes: | View Profile |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

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| --- | --- | --- | --- |
| Use Case ID: | U8 | | |
| Use Case Name: | Change Preferences | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User with Account |
| Description: | This use case allows verified users to change their flat preferences |
| Preconditions: | * The user must be logged in with an account |
| Postconditions: | * The user account’s flat preferences will be updated and reflected in the database |
| Priority: | Medium |
| Frequency of Use: | Medium |
| Flow of Events: | 1. User goes to view profile and click “Change Preferences” 2. System prompts user for the fields that they want to change 3. User inputs the subsequent changes and click “SAVE” 4. System updates the database with the new preferences |
| Alternative Flows: | User clicks “CANCEL”   1. User clicks on “CANCEL” 2. System goes back to View Profile |
| Exceptions: | None |
| Includes: | View Profile |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

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| Use Case ID: | U9 | | |
| Use Case Name: | Verify User for Review | | |
| Created By: | Yee Yong Khang | Last Updated By: | Yee Yong Khang |
| Date Created: | 8 Feb 2025 | Date Last Updated: | 11 Feb 2025 |

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| --- | --- |
| Actor: | User with Account |
| Description: | This use case ensures that only verified users can submit reviews and ratings, preventing spam and unauthorized activities |
| Preconditions: | * The user must be logged in * The user have submitted a review |
| Postconditions: | * The user’s verification status is confirmed |
| Priority: | High |
| Frequency of Use: | Low (depending on how frequent the user make multiple reviews) |
| Flow of Events: | 1. The user initiates account creation or submits a review 2. System sends a verification email or SMS to the user 3. The user verify their account using link or code provided 4. System updates the user’s profile as verified |
| Alternative Flows: | Verification fails   1. System notifies the user to retry verification   Verification timeout or link expires   1. User request for a new link/code |
| Exceptions: | None |
| Includes: | Submit Review and Rating |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |