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| Use Case ID: | 1 | | |
| Use Case Name: | Login | | |
| Created By: | Jeremy | Last Updated By: | Jeremy |
| Date Created: | 3/2/21 | Date Last Updated: | 3/2/21 |

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| Actor: | User, system |
| Description: | The user enters username and password to enter account for personalized housing suggestions |
| Preconditions: | User credentials must be authenticated |
| Postconditions: | User will be logged in and can view personalized financial scheme and property suggestions based on past viewed properties. |
| Priority: |  |
| Frequency of Use: | Every time the user wishes to save preferences and suggestions |
| Flow of Events: | 1) The user inputs username and password  2) System authenticates user credentials |
| Alternative Flows: | 1.AC.1:  1) User forgets username or password and requests for a reset via email.  2) System sends an email to user with verification code  3) System authenticates verification code and prompts for new username/password.  4) User updates new username/password and logins with credentials |
| Exceptions: | 1.EX.1:  1) User inputs wrong username/password  2) System displays error message and requests for re-input of credentials  3) After maximum of 3 wrong authentication, account will be locked. System sends reset email to user to request for change of password.  4) User changes password and log in using new credentials |
| Includes: | Authentication of user credentials |
| Special Requirements: |  |
| Assumptions: | User details must be kept private and secure |
| Notes and Issues: |  |

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| Use Case ID: | 2 | | |
| Use Case Name: | Mortgage calculator | | |
| Created By: | Jeremy | Last Updated By: | Jeremy |
| Date Created: | 3/2/21 | Date Last Updated: | 3/2/21 |

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| Actor: | User, system |
| Description: | This calculator is meant to help users estimate their additional expenditure per month if they decide to take up a mortgage loan in order to finance their purchase of a property. |
| Preconditions: |  |
| Postconditions: | The system updates the repayment amount per month based on the changes in loan amount or period provided by the user. |
| Priority: |  |
| Frequency of Use: | 1 time when the user has decided on a property and is planning their future finances. |
| Flow of Events: | 1) The user chooses the type of property the are planning to buy or rent.  2) The user inputs the mortgage loan amount, tenure, and interest rate.  3) The system will calculate a monthly amount the user needed to repay the loan by the end of the tenure. |
| Alternative Flows: |  |
| Exceptions: | 2.EX.1:  1) The user does not input a valid loan amount or interest rate.  2) The system will display an error message and highlight the erroneous fields for the user. |
| Includes: | System calculates the month payment amounts |
| Special Requirements: |  |
| Assumptions: | Some users may be worried about the additional financial burden should they uptake a loan. This use case is meant to help users decide on a suitable loan repayment plan such that they can afford a property without over-straining their finances. |
| Notes and Issues: |  |

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| Use Case ID: | 3 | | |
| Use Case Name: | View available properties | | |
| Created By: | Jeremy | Last Updated By: | Jeremy |
| Date Created: | 3/2/21 | Date Last Updated: | 3/2/21 |

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| Actor: | User, system |
| Description: | User can view available properties for sale or rent in different parts of Singapore and can also compare the prices of different properties. |
| Preconditions: |  |
| Postconditions: | System will have displayed updated property information. |
| Priority: |  |
| Frequency of Use: | Every time a user visits the website |
| Flow of Events: | 1) User selects option to buy/sell or rent a property  2) System generates a map with available properties as pin points on the map  3) User hovers the cursor over pin to view brief information on property, such as price |
| Alternative Flows: | 3.AC.1:  1) User can select filters (sorted by district) to narrow down search.  2) System will zoom into a smaller area to highlight available properties in selected district.  3) User hovers the cursor over pin to view brief information on property, such as price  3.AC.2:  1) User can click on pin of property instead to add property to a table for comparison.  2) System displays the selected properties in a table and displays the different properties side by side |
| Exceptions: |  |
| Includes: | Generates points on map to represent the properties available for sale or rent. |
| Special Requirements: |  |
| Assumptions: | 1) Using pin points on the map is more intuitive for users compared to a search bar.  2) Providing a more specific level of filtering during search will help users find |
| Notes and Issues: |  |

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| Use Case ID: | 4 | | |
| Use Case Name: | View property macros | | |
| Created By: | Jeremy | Last Updated By: | Jeremy |
| Date Created: | 3/2/21 | Date Last Updated: | 3/2/21 |

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| Actor: | User, system |
| Description: | Displays an overview of the overall market trends and prices |
| Preconditions: |  |
| Postconditions: | Market trends will be updated. |
| Priority: |  |
| Frequency of Use: | Only when the user wants to better understand the market conditions within a certain timeframe |
| Flow of Events: | 1) User selects the option to view macros  2) System displays graphs to visualize the various aspects of the property market, including price trends for both sale and rental |
| Alternative Flows: | 4.AC.1:  1) User filters the market trends for sale and rent by district or years of lease.  2) System will display specific price trends for selected district rather than the market. |
| Exceptions: |  |
| Includes: | Generating and displaying the market trends |
| Special Requirements: | The trends need to be updated based following the accuracy of available market data. |
| Assumptions: | There will be more advanced users who would want market analysis to aid in their decision to purchase a property. |
| Notes and Issues: |  |