

LivaSG: The Smart Neighborhood Explorer

LivaSG is supposed to be an interactive decision-support application that helps Singapore residents and homebuyers evaluate neighbourhoods. We use real government data consolidated from multiple datasets. Instead of simply showing raw data, LivaSG fuses multiple datasets from HDB resale prices and community amenities to transport access and green spaces into a Neighbourhood Rating

With LivaSG, users can explore Singapore's planning areas on an interactive map, filter by budget and lifestyle needs, and instantly see how different neighborhoods compare in Affordability, Accessibility, Amenities, Environment, and Community. Whether it's a young family seeking schools and playgrounds, an active professional looking for gyms and transport convenience, or a retiree prioritizing healthcare access, LivaSG makes raw data actionable by highlighting the neighborhoods that best fit each profile.

User stories

- **As a homebuyer**, I want to filter neighbourhoods by budget so I can see where a 4-room resale flat is typically affordable.
- **As a parent**, I want to see areas with more schools/childcare and nearby parks so I can shortlist family-friendly neighbourhoods.
- **As a commuter**, I want to compare MRT/bus accessibility across neighbourhoods so I can minimize daily travel pain (no routing needed).
- **As an active person**, I want to see sports facilities density so I can live near courts, gyms, pools.
- **As a planner**, I want a single "Neighbourhood Rating" with a breakdown (Affordability, Accessibility, Amenities, Environment, Community) so I can compare apples-to-apples.
- **As a renter**, I want to save and export shortlists so I can discuss options with family/agent.

Functional Requirements

1. Users can rank the categories at the launching page. Categories include Budget, Affordability, Accessibility, Amenities, Environment and Community.
2. The system shall display the map of Singapore with planning area polygons, coloured according to a Neighbourhood Rating.
3. Users can zoom in and out of the Map View to choose neighbourhoods to explore.
4. Users can click a polygon to view more details.
 - 4.1. Users can click a polygon to view Neighbourhood Rating.
 - 4.2. Users can click a polygon to view Categories breakdown.
 - 4.3. Users can click a polygon to view Facilities available.
 - 4.4. Users can click a polygon to view the price trend.
5. Users can click on the search icon to search for specific neighbourhoods.
 - 5.1. The search function supports filtering based on factors such as price and availability of facilities.
6. After search, the system will rank and display the neighbourhoods according to the filters as well as Neighbourhood Rating.
7. Users can click on a listed neighbourhood to view more details.
 - 7.1 Users can click on a listed neighbourhood to view Neighbourhood Rating.
 - 7.2 Users can click on a listed neighbourhood to view Categories breakdown.
 - 7.3 Users can click on a listed neighbourhood to view Facilities available.
 - 7.4 Users can click on a listed neighbourhood to view the price trend.
8. The system shall compute the Categories score.
 - 8.1. The system shall compute Affordability from recent HDB resale price data.
 - 8.2. The system shall compute Accessibility using proximity to MRT stations and bus stops as well as carpark availability
 - 8.3. The system shall compute the Amenities factor from the number of schools, SportsSG facilities and hawker centres within the polygon.

8.4. The system shall compute the Environment factor using the number of green spaces and basic environmental details like PSI/UV (only for info not for scoring).

8.5. The system shall compute the Community factor from CC presence.

9. Users can re-weight categories and the map re-ranks the locations instantly.

10. Users can save a shortlist of neighbourhood details.

10.1 Users can click the shortlist to view their shortlisted neighbourhoods.

11. Users can export their shortlisted categories weights and neighbourhood details as a PDF or CSV .

12. Users can import their shortlisted categories weights and neighbourhood details as PDF or CSV.

13. Users can choose to compare between 2 selected neighbourhoods by searching the two addresses.

13.1. Upon comparison, users can view the Categories score of the 2 neighbourhoods.

13.2. Upon comparison, users can view the price trend of the 2 neighbourhoods.

Non-functional Requirements

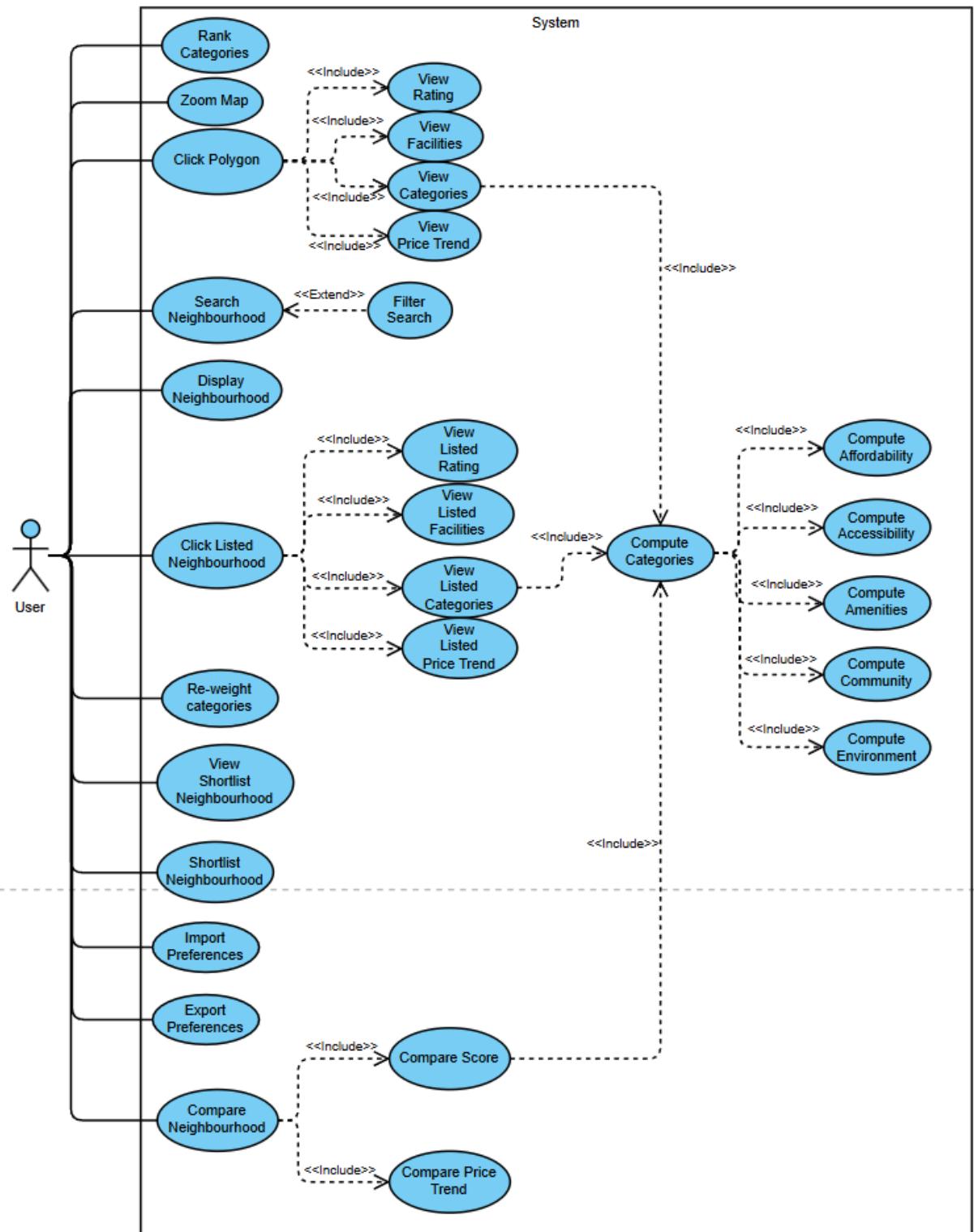
1. Usability: Mobile Web App; accessible colour palette and clear icons and UI.
2. Reliability: Caching Utility in case a live feed is unavailable.
3. Performance: Initial map load < 2.5 s and re rank response < 1.2 seconds.
4. Supportability: The system shall be designed in a way that datasets, scoring weights and normalizing parameters can be updated without modifying source code.
5. Maintainability: Clear module boundaries with config driven weights.
6. Auditability: Each score shows category inputs in backend and data timestamps.

Data Dictionary

Term	Definition
Budget	The maximum expenditure on housing cost by the Home Buyer when evaluating various housing.
Planning Area Polygon	A defined boundary used by the Urban Redevelopment Authority (URA) of Singapore to...
Map View	The map visualisation of Singapore using planning area polygons, coloured according to the neighbourhood rating.
Neighbourhood Profile	Information that is displayed when a polygon is clicked. Namely the Neighbourhood Rating and facilities.
Categories	These are Affordability, Accessibility, Amenities, Environment and Community, which are used to evaluate a neighbourhood.
Category Score	A score of individual Categories.
Category Weights	The relative importance assigned to the categories in calculating neighbourhood rating.
Neighbourhood Rating	A weighted score determined by Affordability, Accessibility, Amenities, Environment and Community after weighing user preferences.
Affordability	A measure of inexpensiveness of housing cost in the neighbourhood, computed from recent Housing and Development Board (HDB) resale price data.
Accessibility	The measure of the ease of transportation, computed from the proximity to Mass Rapid Transit (MRT) stations, bus stops and carpark availability.
Amenities	A measure of the availability of facilities in the neighbourhood, computed from the number of schools, SportsSG facilities and hawker centres.
Environment	A measure of the access to greenery, computed from the number of green spaces.
Community	A measure of social infrastructures, based on the presence of Community Centres (CCs).
HDB Resale Price Data	The trends of housing prices around the selected neighbourhood over a period of time.
Transport Facilities	These include MRT stations, bus stops and carparks.
Educational	These include schools within the neighbourhood.

Facilities	
Sports Facilities	These include SportSG facilities within the neighborhood.
Green Spaces	These include parks, park connectors and nature reserves.
Food Facilities	These include hawker centers.
Community Facilities	These include Community Centres.
Shortlist Items	A list of saved neighbourhoods selected by the user.
App Snapshot	This includes things to be exported as PDF or CSV file, which are ranked categories and shortlisted neighbourhoods

Use Case Diagram



Use Case Description

Use Case ID:	1		
Use Case Name:	Rank Categories		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	25/8/2025	Date Last Updated:	25/8/2025

Actor:	User
Description:	Users are prompted to select and rank preferences like budget, schools, gyms etc and these will affect the initial colouring of the polygon that they see on the map.
Preconditions:	<ol style="list-style-type: none"> First time using this mobile app
Postconditions:	<ol style="list-style-type: none"> Preferences get saved and subsequent calculations will reflect it. Initial polygon colour will be initialised based on these preferences.
Flow of Events:	<ol style="list-style-type: none"> The user launches the app. The system prompts the user to rank and select preferences that are important to them. The user drags whatever is the most important to the top and checks the checkboxes for amenities that are important. The system saves the preferences and calculates initial values for the polygons to be displayed on the map. The system displays polygons varying from green to red on the map.
Alternative Flows:	AF-3: If the user attempts to skip

	<ol style="list-style-type: none">1. The system displays the message “You are not allowed to skip this”2. The system returns to step 2
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	2		
Use Case Name:	Zoom Map		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	29/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	Users can zoom in and out of the Map View to choose neighbourhoods to explore.
Preconditions:	1. The map is displayed
Postconditions:	1. The map is displayed at the new zoom level.
Flow of Events:	<ol style="list-style-type: none"> 1. User pinches the map 2. System adjusts the map with new zoom level 3. System displays updated map
Alternative Flows:	<p>AF-S2: If zoom level is at maximum</p> <ol style="list-style-type: none"> 1. The system prevents zooming in further. <p>AF-S2: If zoom level is at minimum</p> <ol style="list-style-type: none"> 1. The system prevents zooming out further.
Exceptions:	Nil
Includes:	Nil

Notes and Issues:	Nil
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Use Case ID:	3		
Use Case Name:	Click Polygon		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click the polygons on the map to view more details of the selected neighbourhood.
Preconditions:	<ol style="list-style-type: none"> 1. All calculations are done so that the polygons are coloured according to the score.
Postconditions:	<ol style="list-style-type: none"> 1. The system is displaying a zoomed-in map of the selected neighbourhood. 2. The system is displaying buttons to see more details of the neighbourhood and to see the breakdown for rating score.
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on a polygon. 2. The system opens up a new page to show a zoomed-in version of the selected neighbourhood, along with buttons to see more details of the neighbourhood and the breakdown for rating score.
Alternative Flows:	Nil
Exceptions:	Nil

Includes:	View Rating, View Facilities, View Categories, View Price Trend
Notes and Issues:	Nil

Use Case ID:	4		
Use Case Name:	View Rating		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	27/08/2025	Date Last Updated:	27/08/2025

Actor:	User
Description:	Users can click on the rating button to see the general score of the neighbourhood.
Preconditions:	1. Calculations for all the categories have finished.
Postconditions:	1. The system displays a general score at the top of the page.
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the rating button. 2. The system opens up a new page to display a general score at the top of the page.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	5		
Use Case Name:	View Facilities		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the details button to view the location of the facilities that are available in the chosen neighbourhood.
Preconditions:	<ol style="list-style-type: none"> Successfully pulled the relevant datasets or api for the facilities
Postconditions:	<ol style="list-style-type: none"> Zoomed-in map view of the selected neighbourhood, with the facilities highlighted on the map.
Flow of Events:	<ol style="list-style-type: none"> The user clicks on the details button. The system opens up a new page to display another smaller map, with a dropdown button for filtering facilities. The user clicks the filter to select the facilities to be highlighted on the map. The system highlights the position of the selected facilities.
Alternative Flows:	<p>AF3: The user did not select any facilities</p> <ol style="list-style-type: none"> The system does not highlight any position on the map and displays an empty map.
Exceptions:	EX1: Facilities do not exist

	1. The system does not highlight any position on the map and displays an empty map.
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	6		
Use Case Name:	View Categories		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the rating button to see the breakdown of the neighbourhood rating in terms of five categories.
Preconditions:	<ol style="list-style-type: none"> Calculations for all the categories have finished.
Postconditions:	<ol style="list-style-type: none"> The system is displaying a filled radar chart with five axes
Flow of Events:	<ol style="list-style-type: none"> The user clicks on the rating button. The system opens up a new page to display a filled radar chart with five axes for the five different categories.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Compute Categories
Notes and Issues:	Nil

Use Case ID:	7		
Use Case Name:	View Price Trend		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the details button and see the price trend for the selected neighbourhood.
Preconditions:	1. Successfully pulled the dataset for the price trend.
Postconditions:	1. Filled line graph that shows the price trend of the selected neighbourhood
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the details button. 2. The system opens up a new page to display the price trend.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	8		
Use Case Name:	Search Neighbourhood		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the search bar to search for a specific neighbourhood.
Preconditions:	Nil
Postconditions:	<ol style="list-style-type: none"> Searched results are listed out below the search bar
Flow of Events:	<ol style="list-style-type: none"> The user clicks on the search bar and enters a location name. The system processes the text in the search bar. The system lists out all matching results below the search bar.
Alternative Flows:	Nil
Exceptions:	<p>EX1: Searched location does not exist</p> <ol style="list-style-type: none"> The system displays a message "No results found"
Includes:	Nil

Notes and Issues:	Nil
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Use Case ID:	9		
Use Case Name:	Filter Search		
Created By:	Mun Kuan	Last Updated By:	Mun Kuan
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	The user would be able to filter the search result according to their budget and facilities available.
Preconditions:	<ol style="list-style-type: none"> 1. The user should have clicked on the search function button.
Postconditions:	<ol style="list-style-type: none"> 1. The system displays the listed neighbourhoods according to the filters and neighbourhood ratings.
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the filter button. 2. The system will open a page with checkboxes to select facilities as well as a slider to determine the budget.
Alternative Flows:	<ol style="list-style-type: none"> 1. The users can choose not to include any filters. 2. The system will display the neighbourhoods according to the neighbourhood rating only.
Exceptions:	Nil
Includes:	Nil

Notes and Issues:	Nil
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Use Case ID:	10		
Use Case Name:	Display Neighbourhood		
Created By:	Mun Kuan	Last Updated By:	Mun Kuan
Date Created:	29/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	The users can view a list of all available neighbourhoods.
Preconditions:	<ol style="list-style-type: none"> 1. The user has searched for a neighbourhood.
Postconditions:	<ol style="list-style-type: none"> 1. The system opens the list of ranked neighbourhoods according to the search filters and neighbourhood ratings.
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks enter to confirm the search. 2. The system displays the list of ranked neighbourhoods according to the search filters and neighbourhood ratings. 3. The user clicks the desired neighbourhood to view more details.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	11		
Use Case Name:	Click Listed Neighbourhood		
Created By:	Calvin Kuan	Last Updated By:	Calvin Kuan
Date Created:	29/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	Users can view a list of all available neighbourhoods.
Preconditions:	<ol style="list-style-type: none"> 1. The system requires the user to have searched a specific neighbourhood.
Postconditions:	<ol style="list-style-type: none"> 1. The system displays a list of all neighbourhoods.
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the search bar 2. The system displays a list of all available neighbourhoods
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	View Listed Rating, View Listed Facilities, View Listed Categories, View Price Trend
Notes and Issues:	Nil

Use Case ID:	12		
Use Case Name:	View Listed Rating		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the rating button to see the general score of the neighbourhood.
Preconditions:	1. Calculations for all the categories have finished.
Postconditions:	1. The system displays a general score at the top of the page.
Flow of Events:	1. The user clicks on the rating button. 2. The system opens up a new page to display a general score at the top of the page.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	13		
Use Case Name:	View Listed Facilities		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the details button to view the location of the facilities that are available in the chosen neighbourhood.
Preconditions:	<ol style="list-style-type: none"> Successfully pulled the relevant datasets or api for the facilities
Postconditions:	<ol style="list-style-type: none"> Zoomed-in map view of the selected neighbourhood, with the facilities highlighted on the map.
Flow of Events:	<ol style="list-style-type: none"> The user clicks on the details button. The system opens up a new page to display another smaller map, with a dropdown button for filtering facilities. The user clicks the filter to select the facilities to be highlighted on the map. The system highlights the position of the selected facilities.
Alternative Flows:	<p>AF3: The user did not select any facilities</p> <ol style="list-style-type: none"> The system does not highlight any position on the map and displays an empty map.
Exceptions:	EX1: Facilities do not exist

	1. The system does not highlight any position on the map and displays an empty map.
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	14		
Use Case Name:	View Listed Categories		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the rating button to see the breakdown of the neighbourhood rating in terms of five categories.
Preconditions:	1. Calculations for all the categories have finished.
Postconditions:	1. The system is displaying a filled radar chart with five axes
Flow of Events:	1. The user clicks on the rating button. 2. The system opens up a new page to display a filled radar chart with five axes for the five different categories.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Compute Categories
Notes and Issues:	Nil

Use Case ID:	15		
Use Case Name:	View Listed Price Trend		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	29/8/2025	Date Last Updated:	29/8/2025

Actor:	User
Description:	Users can click on the details button and see the price trend for the selected neighbourhood.
Preconditions:	1. Successfully pulled the dataset for the price trend.
Postconditions:	1. Filled line graph that shows the price trend of the selected neighbourhood
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the details button. 2. The system opens up a new page to display the price trend.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	16		
Use Case Name:	Compute Categories		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	29/08/2025	Date Last Updated:	29/08/2025

Actor:	Null
Description:	The system shall compute the Categories score.
Preconditions:	1. Neighbourhood selected
Postconditions:	1. The system returns the overall rating score
Flow of Events:	1. The system computes the score for several categories 2. The system then aggregates the score for the overall rating score.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Compute Affordability, Compute Accessibility, Compute Amenities, Compute Community, Compute Environment
Notes and Issues:	Nil

Use Case ID:	17		
Use Case Name:	Compute Affordability		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	27/08/2025	Date Last Updated:	27/08/2025

Actor:	Null
Description:	The system will compute affordability from the recent HDB resale price dataset and return a rating score that can be displayed directly or used in other calculations.
Preconditions:	<ol style="list-style-type: none"> 1. The recent HDB resale price data is available.
Postconditions:	<ol style="list-style-type: none"> 1. The system returns a rating score that could be displayed or used in other calculation
Flow of Events:	<ol style="list-style-type: none"> 1. The system extracts relevant data from the recent HDB resale price dataset. 2. The system calculates a rating score based on a self-developed algorithm. 3. The system uses this rating score for another calculation.
Alternative Flows:	<p>AF-3: The system displays the rating score right away</p> <ol style="list-style-type: none"> 1. The system displays the rating score by plotting on a radar graph
Exceptions:	Nil

Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	18		
Use Case Name:	Compute Accessibility		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	27/08/2025	Date Last Updated:	27/08/2025

Actor:	Null
Description:	The system will compute accessibility by using the proximity to MRT stations and bus stops as well as carpark availability and return a rating score that can be displayed directly or used in other calculations.
Preconditions:	<ol style="list-style-type: none"> Datasets or apis for the locations of the MRT stations and bus stops as well as carpark availability.
Postconditions:	<ol style="list-style-type: none"> The system returns a rating score that could be displayed or used in other calculation
Flow of Events:	<ol style="list-style-type: none"> The system extracts relevant data from the different datasets. The system calculates a rating score using pre-defined and self-defined algorithms to determine the proximity of the MRT stations and bus stops as well as carpark availability. The system uses this rating score for another calculation.
Alternative Flows:	<p>AF-3: The system displays the rating score right away</p> <ol style="list-style-type: none"> The system displays the rating score by plotting on a radar graph

Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	19		
Use Case Name:	Compute Amenities		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	25/08/2025	Date Last Updated:	27/08/2025

Actor:	Null
Description:	System shall compute the Amenities factor from the number of schools, SportsSG facilities and hawker centres within the polygon.
Preconditions:	<ol style="list-style-type: none"> 1. User has selected a polygon 2. System has access to dataset for amenities for selected polygon
Postconditions:	Amenities Factor is computed and displayed for selected polygon
Flow of Events:	<ol style="list-style-type: none"> 1. User selects neighbourhood polygon on map. 2. System retrieves all nearby schools, SportsSG facilities and hawker centres within the polygon. 3. System counts the number of each amenity type found 4. System computes these counts into an Amenities Factor using predefined scoring method. 5. System returns Amenities Factor.
Alternative Flows:	Nil
Exceptions:	Nil

Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	20		
Use Case Name:	Compute Community		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	26/08/2025	Date Last Updated:	27/08/2025

Actor:	Null
Description:	System shall compute the Community Factor from counts of community clubs.
Preconditions:	<ul style="list-style-type: none"> 1. User has selected a polygon 2. System has access to dataset for community clubs for selected polygon
Postconditions:	Community Factor is computed and displayed for selected polygon
Flow of Events:	<ul style="list-style-type: none"> 1. User selects neighbourhood polygon on map 2. System retrieves nearby community clubs within the polygon 3. System counts the number of community clubs found 4. System computes these counts into an Community Factor using predefined scoring method 5. System returns Community Factor
Alternative Flows:	Nil
Exceptions:	Nil

Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	21		
Use Case Name:	Compute Environment		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	27/08/2025	Date Last Updated:	27/08/2025

Actor:	Null
Description:	System shall compute the Environment Factor using the number of parks and or green spaces and basic environmental details like PSI/UV (only for info not for scoring).
Preconditions:	<ol style="list-style-type: none"> 1. User has selected a polygon 2. System has access to dataset for number of parks and or green spaces for selected polygon
Postconditions:	Environment Factor is computed and displayed for selected polygon
Flow of Events:	<ol style="list-style-type: none"> 1. User selects neighbourhood polygon on map 2. System retrieves nearby parks and green spaces and basic environmental details like PSI/UV within the polygon 3. System counts the number of parks and green spaces found 4. System computes these counts into an Environment Factor using predefined scoring method 5. System returns Environment Factor and basic environmental details like PSI/UV
Alternative Flows:	Nil

Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	22		
Use Case Name:	Re-weight Categories		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	27/08/2025	Date Last Updated:	27/08/2025

Actor:	User
Description:	Users can choose to re-weight the categories and the system will recalibrate the scores. The newly calibrated scores will then be reflected by the colour of the polygons on the map.
Preconditions:	Nil
Postconditions:	<ol style="list-style-type: none"> 1. The color of the polygons changed. 2. Preferences saved in the app are changed.
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the preferences tab from the bottom navigation bar. 2. The system displays the current preferences for the different categories. 3. The user changes the weight values for the categories. 4. The user clicks the save button. 5. The system saves the new weight values for the different categories. 6. The system calculates new values and displays new colours for the polygons.
Alternative Flows:	<p>AF-3: The user clicks on other tab on the bottom navigation bar</p> <ol style="list-style-type: none"> 1. The system discards all changes made.

	2. The system displays the respective page for the clicked tab.
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	23		
Use Case Name:	View Shortlist Neighbourhood		
Created By:	Samrath	Last Updated By:	Samrath
Date Created:	29/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	Users can view shortlisted neighbourhoods.
Preconditions:	1. Have neighbourhoods added to shortlist.
Postconditions:	2. System opens neighbourhood shortlist.
Flow of Events:	<ol style="list-style-type: none"> 1. User clicks shortlist button in bottom navbar. 2. System displays shortlist of saved neighbourhoods. 3. User clicks desired neighbourhood to view more details.
Alternative Flows:	<p>AF-S2-If User has no neighbourhoods added to shortlist</p> <ol style="list-style-type: none"> 1. User clicks shortlist button in bottom navbar. 2. System displays screen with “Empty shortlist message”
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	24		
Use Case Name:	Shortlist Neighbourhood		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	27/08/2025	Date Last Updated:	27/08/2025

Actor:	User
Description:	Users can save a shortlist of neighbourhood polygons.
Preconditions:	Have a neighbourhood polygon selected
Postconditions:	Neighbourhood polygon is saved into a shortlist
Flow of Events:	<ol style="list-style-type: none"> 1. User taps on the bookmark button 2. Neighbourhood polygon is added to shortlist 3. Bookmark icon changes
Alternative Flows:	<p>AF-S2: If polygon is already inside shortlist</p> <ol style="list-style-type: none"> 1. Neighbourhood polygon is removed from shortlist 2. System proceeds to step 3
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	25		
Use Case Name:	Import Preferences		
Created By:	Loong Kiat	Last Updated By:	Xi Quan
Date Created:	27/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	Users can choose to import preferences from their phone.
Preconditions:	<ul style="list-style-type: none"> 1. A valid preference file is available
Postconditions:	<ul style="list-style-type: none"> 1. Preferences in the file has been applied to the app
Flow of Events:	<ul style="list-style-type: none"> 1. The user clicks on the import button. 2. The system prompts the user to select a file. 3. The user selects the desired file. 4. The system checks if the selected file is of the correct file type. 5. The system overwrites the current ranking of the categories with the rankings from the file. 6. The system overwrites the shortlist of neighbourhood with the shortlist from the file 7. The system displays a successful message.
Alternative Flows:	<p>AF-2: The user cancel selection:</p> <ul style="list-style-type: none"> 1. The system displays the message “You did not select any file” 2. The system exits the use case and returns to the settings page.

	<p>AF-4: The file selected is of the wrong file type:</p> <ol style="list-style-type: none">1. The system displays the message “You can only select .csv and .pdf files”.2. The system returns to step 2.
Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	26		
Use Case Name:	Export Preferences		
Created By:	Loong Kiat	Last Updated By:	Loong Kiat
Date Created:	27/08/2025	Date Last Updated:	30/08/2025

Actor:	User
Description:	Users can choose to export all their preferences, such as categories ranking and shortlisted neighbourhoods, as a csv or pdf file.
Preconditions:	<ol style="list-style-type: none"> 1. User has already ranked their preferences 2. User's phone has sufficient storage
Postconditions:	<ol style="list-style-type: none"> 1. A csv or pdf file will be saved onto the users' phone
Flow of Events:	<ol style="list-style-type: none"> 1. The user clicks on the export button. 2. The system creates a csv or pdf file with the user's preferences. 3. The system checks if the phone has sufficient storage. 4. The system saves the newly created csv or pdf file onto the phone. 5. The system displays a successful message.
Alternative Flows:	<p>AF-3: If the phone does not have sufficient storage</p> <ol style="list-style-type: none"> 1. The system displays the message "Phone has insufficient storage, please try again" 2. The system exits the use case and returns to the settings page.

Exceptions:	Nil
Includes:	Nil
Notes and Issues:	Nil

Use Case ID:	27		
Use Case Name:	Compare Neighbourhood		
Created By:	Xi Quan	Last Updated By:	Xi Quan
Date Created:	27/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	Users can get a comparison overview of 2 neighbourhood polygons side by side.
Preconditions:	1. There are at least 2 neighbourhoods available
Postconditions:	1. System displays an overview comparing the 2 selected neighbourhood
Flow of Events:	<ol style="list-style-type: none"> 1. User taps on the “Compare Neighbourhood” button 2. System enters the compare neighbourhood page 3. User selects 2 neighbourhoods 4. The system generates neighbourhood ratings for selected neighbourhoods. 5. The system displays ratings on a radar chart.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Compare Score, Compare Price Trend

Notes and Issues:	Nil
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Use Case ID:	28		
Use Case Name:	Compare Score		
Created By:	Mun Kuan	Last Updated By:	Mun Kuan
Date Created:	29/08/2025	Date Last Updated:	29/08/2025

Actor:	User
Description:	User can view a comparison between the various Categories Score
Preconditions:	<ul style="list-style-type: none"> 1. Users must have searched their 2 selected neighbourhoods to compare.
Postconditions:	<ul style="list-style-type: none"> 1. Users will be able to see a comparison between Categories score of the 2 selected neighbourhoods.
Flow of Events:	<ul style="list-style-type: none"> 1. The user determines 2 neighbourhoods to compare between. 2. The user confirms their choices by clicking a button named “compare”. 3. The system will open a new page displaying the categories score of the desired neighbourhoods in an overlaid radar chart.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Compute Categories

Notes and Issues:	Nil
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Use Case ID:	29		
Use Case Name:	Compare Price Trend		
Created By:	Mun Kuan	Last Updated By:	Samrath
Date Created:	29/08/25	Date Last Updated:	29/08/25

Actor:	User
Description:	Users can view a comparison between the price trend of properties in the neighbourhood.
Preconditions:	<ol style="list-style-type: none"> 1. Users must have searched their 2 selected neighbourhoods to compare.
Postconditions:	<ol style="list-style-type: none"> 1. Users will be able to see a comparison between Categories score of the 2 selected neighbourhoods.
Flow of Events:	<ol style="list-style-type: none"> 1. The user enters the 2 desired neighbourhoods to compare into the search box. 2. The User confirms their choices by clicking the "Compare" button. 3. The system will open up a new page displaying the price trend line of the desired neighbourhoods.
Alternative Flows:	Nil
Exceptions:	Nil
Includes:	Nil

Notes and Issues:	Nil
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UI Mockup (best viewed in figma)

Preview link:

<https://www.figma.com/proto/NLm4PQEyzxnO9vgZke8sCG/Untitled?node-id=0-1&t=ViSgTQyc5SrvDBm-1>

Edit link:

<https://www.figma.com/design/NLm4PQEyzxnO9vgZke8sCG/Untitled?node-id=0-1&t=ViSgTQyc5SrvDBm-1>

Notes:

1. Click outside of prototype phone to see clickable areas in blue
2. Clicking at the western water catchment area (40, 42) simulates selecting a specific neighbourhood.
3. Drag and drop is not possible, hence for the simulation of preference category priority is shown with the dragging of Accessibility and Affordability options

7:27



LivaSG



Explore



Comparison



Preferences

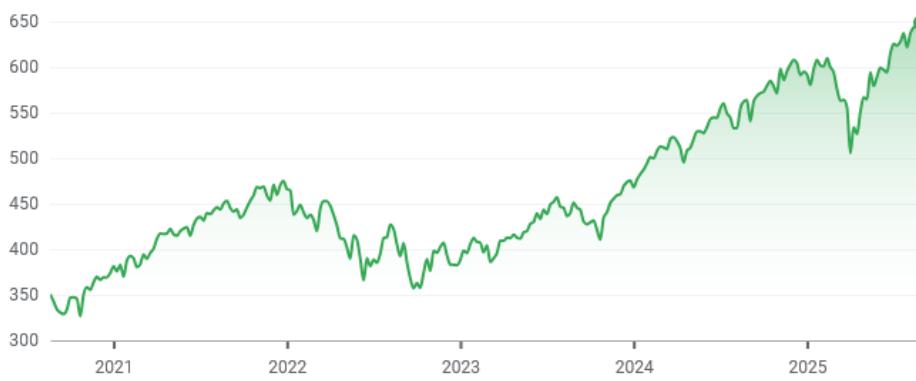


Bookmarks

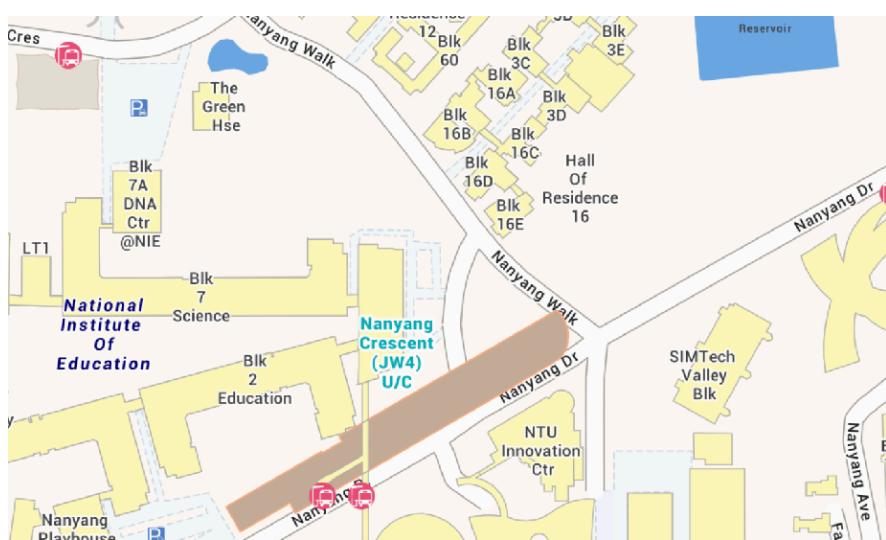




Price History

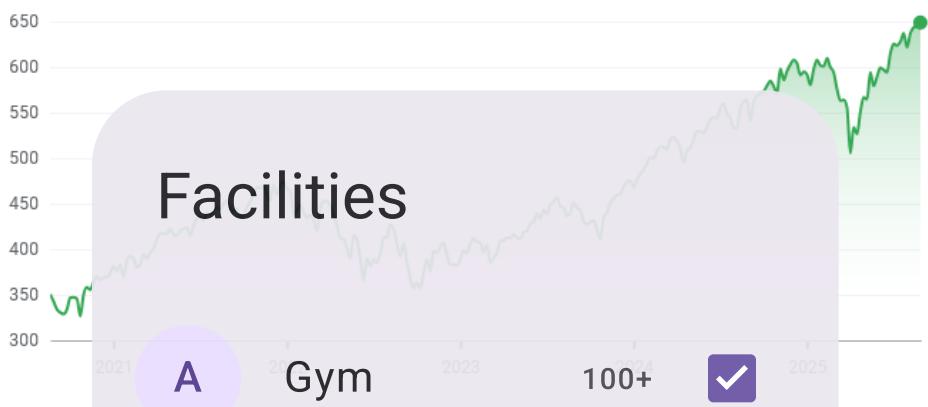


Facilities

[Explore](#)[Comparison](#)[Preferences](#)[Bookmarks](#)



Price History



Facilities

A

Gym

100+



A

Park

100+



A

List item

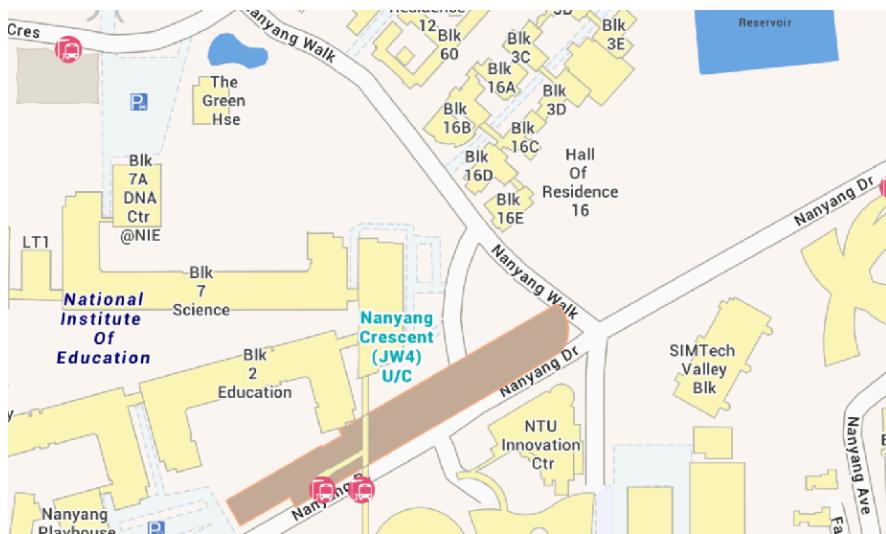
100+



Confirm

Cancel

Facilities



Explore



Comparison



Preferences



Bookmarks





Settings

[Import Data](#)[Export Data](#)

A

Settings 1



A

Settings 2



A

List item



A

List item



A

List item



A

List item



A

List item



A

List item



A

List item



A

List item



Explore



Comparison



Preferences



Bookmarks

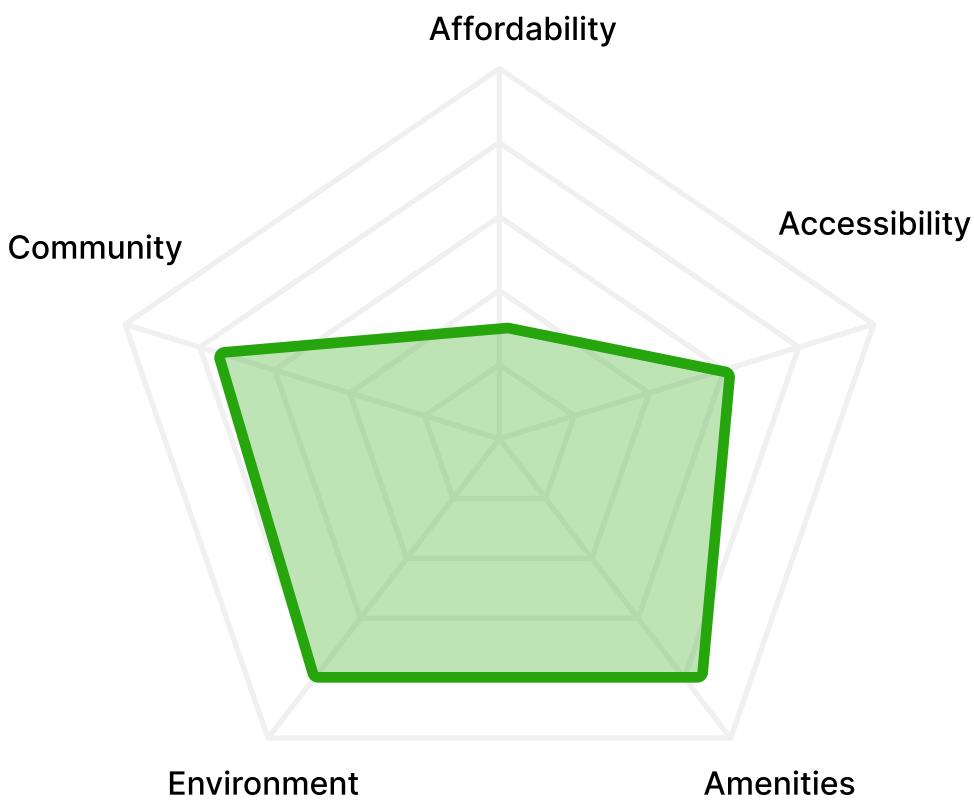




Rating



Rating: 76



PSI

UV

47

8



Rank the categories

**Accessibility****Affordability****Amenities****Environment****Community**

Explore



Comparison



Preferences



Bookmarks





Rank the categories

**Affordability.****Accessibility****Amenities****Environment****Community**

Explore



Comparison



Preferences



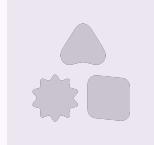
Bookmarks



7:27



Nanyang Crescent



Nanyang Crescent



Location



Location



Location



Location



Location



GIF



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a s d f g h j k l



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?123



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Location Search



Facilities

 Gym Park List item List item List item List item List item List item

Price



Explore



Comparison



Preferences



Bookmarks





Saved Places



Location Search



Nanyang Crescent



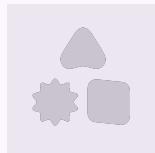
Location



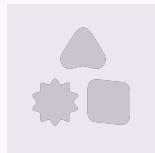
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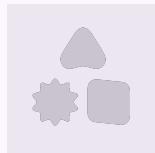
Location



Location



Location



Location



Location



Explore



Comparison



Preferences



Bookmarks





Comparison



Location 1 |



A

List item

Supporting line text lorem ipsum dolor si...

A

List item

Supporting line text lorem ipsum dolor si...

A

List item

Supporting line text lorem ipsum dolor si...



Location 2



A

List item

Supporting line text lorem ipsum dolor si...

A

List item

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A

List item

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Compare



Explore



Comparison



Preferences

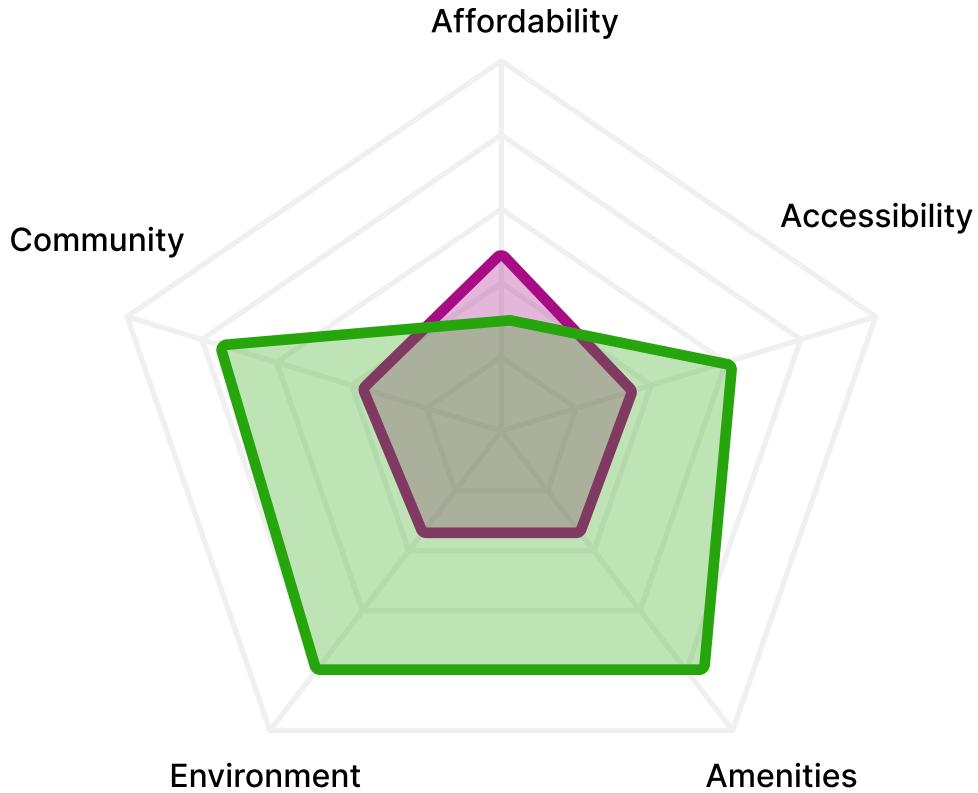


Bookmarks





Comparison



Explore



Comparison



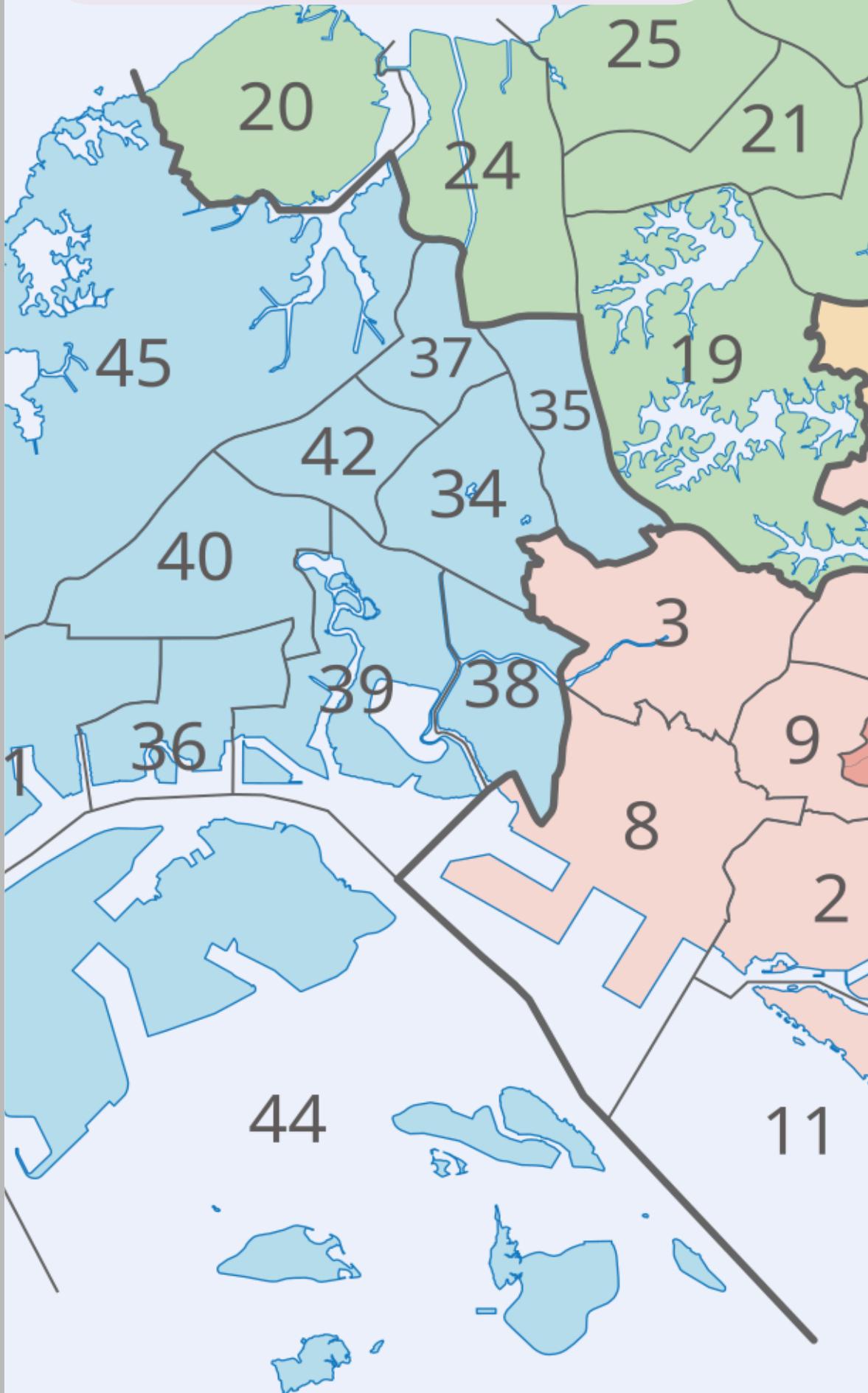
Preferences



Bookmarks



Location Search



Explore



Comparison



Preferences



Bookmarks



Nanyang Crescent (Western Water Catchment)



Explore



Comparison



Preferences



Bookmarks



Nanyang Crescent



A

Nanyang Crescent

Supporting line text lorem ipsum dolor si...

A

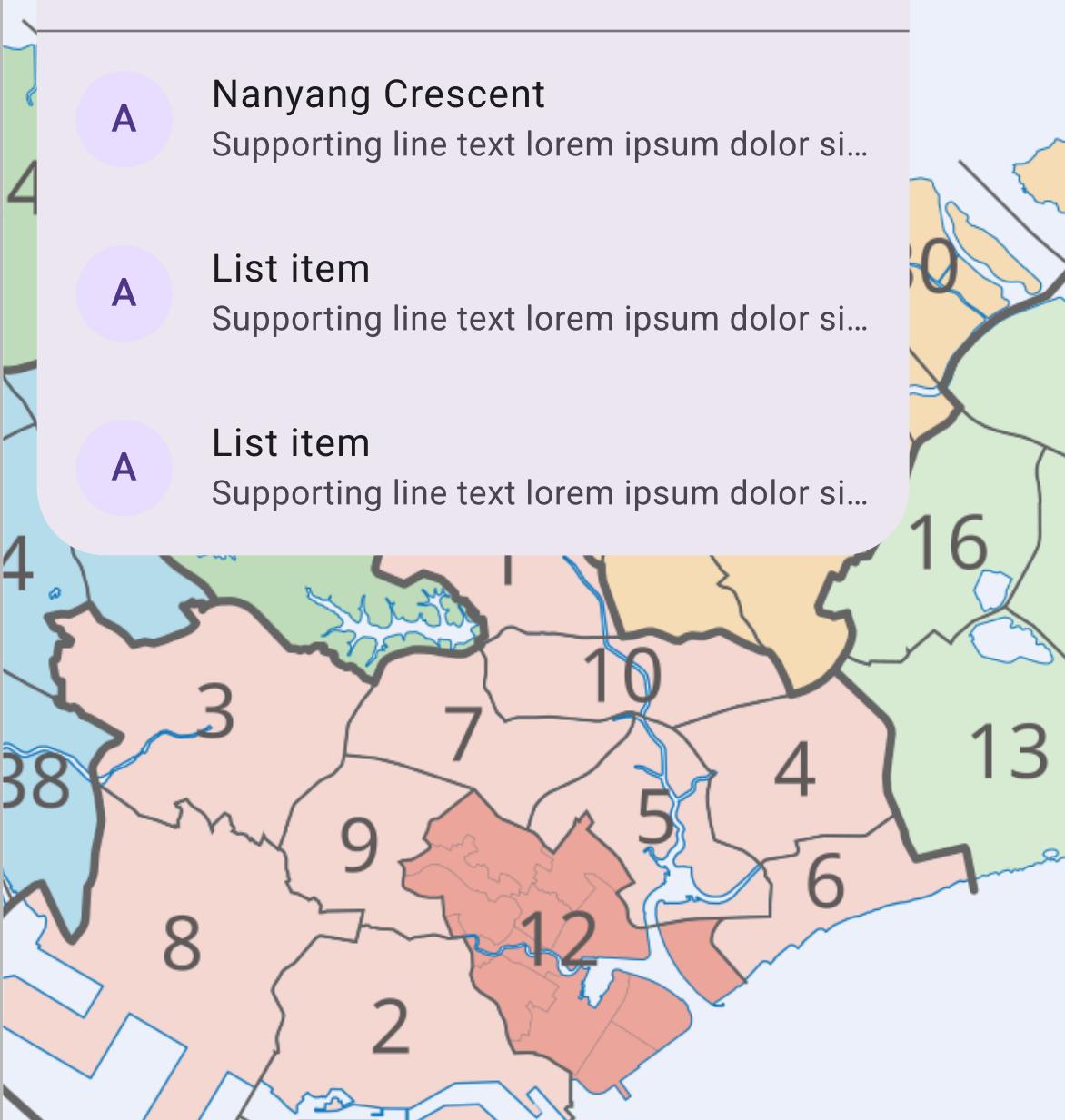
List item

Supporting line text lorem ipsum dolor si...

A

List item

Supporting line text lorem ipsum dolor si...



GIF



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q w e r t y u i o p

a s d f g h j k l



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