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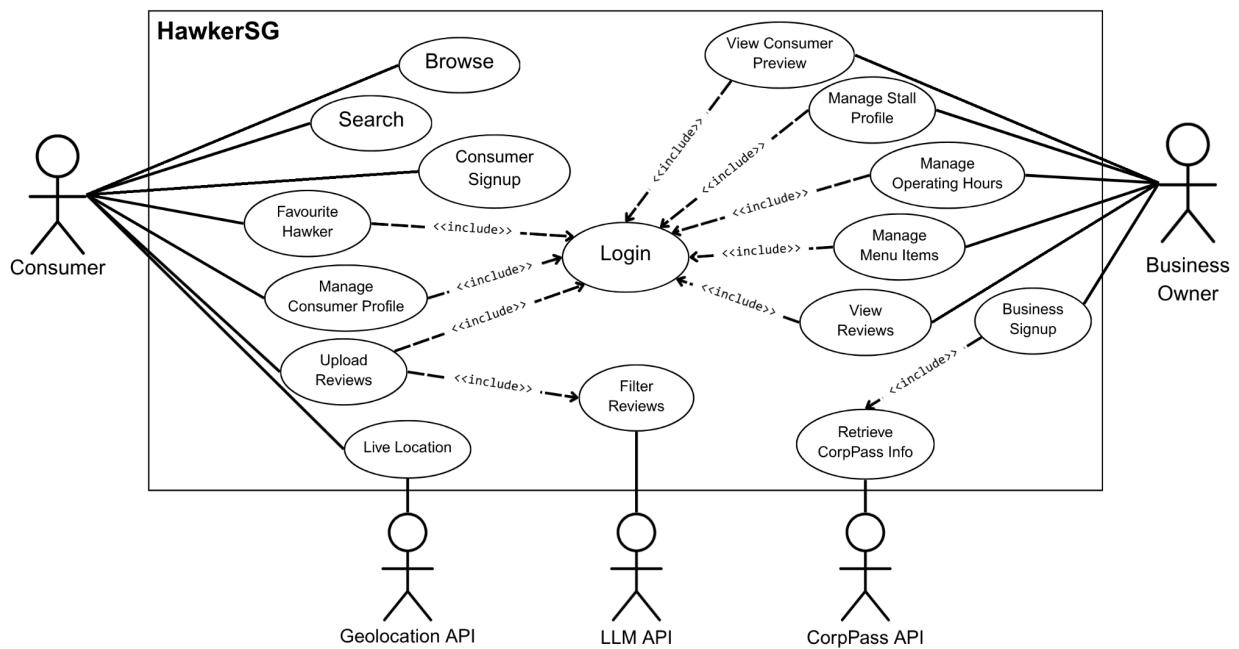
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Table of Contents

1. Use Case Diagram and Use Case Description.....	3
A. Use Case Diagram.....	3
B. Use Case Description.....	4
I. Functional Requirement #1 - Consumer.....	4
I.I Search.....	4
I.II Live Location.....	6
I.III Favourite Hawker.....	8
I.IV Upload Reviews.....	10
I.V Edit Reviews.....	13
I.VI Manage Consumer Profile.....	16
I.VII Browse.....	19
II. Functional Requirement #2 - Business.....	21
I.I Manage Stall Profile.....	21
I.II Manage Menu Items.....	24
I.III Manage Operating Hours.....	28
I.IV View Stall Reviews.....	31
I.V Consumer View Preview.....	33
III. Functional Requirement #3 - Authentication.....	35
I.I Consumer Signup.....	35
I.II Business Signup.....	37
I.III Login.....	42
I.IV Retrieve Basic Info (CorpPass).....	45
IV. Functional Requirement #4 - LLM API.....	47
I.I Filter Reviews.....	47
2. Class Diagram of Entity Classes.....	49
3. Key Boundary Classes and Control Classes.....	50
4. Sequence Diagram of the Use Cases.....	51
4.1 Search Use Case:.....	51
4.2 Business Sign Up:.....	52
4.3 Manage Consumer Profile.....	53
4.4 Upload Reviews.....	54
4.5 Log In.....	55
5. Initial Dialog Map.....	56

1. Use Case Diagram and Use Case Description

A. Use Case Diagram



B. Use Case Description

I. Functional Requirement #1 - Consumer

I.I Search

Use Case ID:	01-001		
Use Case Name:	Search		
Created By:	Lee Yong Liang	Last Updated By:	Lee Yong Liang
Date Created:	03/09/2025	Date Last Updated:	09/09/2025

Actor:	Consumer
Description:	Allow Consumer to search hawker centres and stalls by keyword, filter by cuisine/rating/open status, and persist the search term in the user's history so future discovery workflows stay personalised.
Preconditions:	System has valid Hawker Stalls loaded.
Postconditions:	Consumer will either receive a list of relevant results or a message that shows "No results to display".
Priority:	Low
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none">1. Consumer presses the search bar and inputs their query.2. System receives and validates the Consumer input; this may include trimming extra spaces and any other actions.

	<p>3. System compares the query with its records of Hawker Stall. 4. System shows a list of relevant results based on the query.</p>
Alternative Flows:	<p>AF-S1: If the query exceeds 100 characters 1. System truncates the remaining input. 2. System prompts the consumer with the message “Input exceeds maximum length of 100 characters”. 3. System disables typing.</p> <p>AF-S4: If there are no relevant hawker centres or stalls to output 1. System will display “No results to display”.</p>
Exceptions:	None
Includes:	None
Special Requirements:	The results containing the list of hawker centres or stalls will be sorted according to alphabetical order.
Assumptions:	None
Notes and Issues:	None

I.II Live Location

Use Case ID:	01-002		
Use Case Name:	Live Location		
Created By:	Lee Yong Liang	Last Updated By:	Lee Yong Liang
Date Created:	03/09/2025	Date Last Updated:	15/11/2025

Actor:	Consumer, Geolocation API, OneMap API
Description:	Access to the Consumer's live location and then show a list of Hawker centres and stalls nearby within the radius specified by the Consumer.
Preconditions:	System has the required permission to access real-time location data.
Postconditions:	Consumer is successfully shown the correct Hawker centre/stall.
Priority:	High
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. Consumer clicks on the "Near me" button. 2. System requests the Consumer's live location via the geolocation API. 3. System translates the Consumer coordinates to a planning area name via the OneMap API, such as Yishun. 4. System displays the list of Hawker Centres and hawker stalls within a default 2-kilometre radius of the consumer.

Alternative Flows:	<p>AF-S2: Unable to access live location</p> <ol style="list-style-type: none"> 1. When permission is denied or unsupported, the UI shows red guidance plus preset filters (Tiong Bahru, Chinatown, etc.) that set a fixed coordinate after a brief spinner. 2. When the Consumer clicks on a preset filter, the System will display the relevant Hawker Centres or stalls near that coordinate. <p>AF-S4: Consumer selects a different radius filter</p> <ol style="list-style-type: none"> 1. System displays the list of hawker Centres and hawker stalls within a specified radius of the consumer's location.
Exceptions:	EX1: Failure to obtain geolocation due to permission denial, device issues, or unsupported browsers.
Includes:	None
Special Requirements:	<p>The use of location data must meet the privacy compliance of the Singapore Personal Data Protection Act (PDPA).</p> <p>Integration with IP lookup and device-based geolocation APIs</p>
Assumptions:	The device/browser supports the required geolocation features to function properly.
Notes and Issues:	VPNs, proxies, or ISP limitations may impact the accuracy of Geolocation.

I.III Favourite Hawker

Use Case ID:	01-003		
Use Case Name:	Favourite Hawker		
Created By:	Lee Yong Liang	Last Updated By:	Lee Yong Liang
Date Created:	03/09/2025	Date Last Updated:	15/11/2025

Actor:	Consumer
Description:	A bookmarking feature that enables Consumers to save hawker stalls for quick access via their profile page.
Preconditions:	Consumer is logged into the system.
Postconditions:	<ul style="list-style-type: none"> The chosen Hawker Stall is "Favourite" and saved in the Consumer profile. Consumers can access or remove their favourites anytime.
Priority:	Low
Frequency of Use:	Medium
Flow of Events:	<ol style="list-style-type: none"> Consumer finds a Hawker Stall that they personally enjoy. Consumer presses the "Favourite" button to save the Hawker Stall. Consumer can access their favourite list from a dedicated tab in their profile.

Alternative Flows:	AF-S2: Hawker Stall already “Favoured” 1. System will unfavourite the stall
Exceptions:	None
Includes:	Login
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

I.IV Upload Reviews

Use Case ID:	01-004		
Use Case Name:	Upload Reviews		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	04/09/2025	Date Last Updated:	08/09/2025

Actor:	Consumer, LLM API
Description:	Allows the Consumer to submit a review of a Hawker Stall
Preconditions:	Consumer must be logged into their HawkerSG account. Hawker Stall exists and is visible to the Consumer.
Postconditions:	Review is stored and displayed, associating with Hawker Stall and the Consumer's account. Aggregate Hawker Stall rating and review count are updated and displayed.
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. Consumer clicks into the Hawker Stall. 2. Consumer clicks the "Write a Review" button. 3. Consumer selects a star rating (1 - 5).

	<ol style="list-style-type: none"> 4. The Consumer enters text in the “Description” box. (Optional) 5. Consumer clicks the “plus” button besides “Add Photo”. (Optional) <ol style="list-style-type: none"> a. Consumer navigates to the photo in their device and selects it. b. Consumer clicks “Done”. c. Photo is displayed in the review. 6. Consumer clicks “Upload”. 7. System executes Filter Reviews use case. 8. If approval is granted, System commits the review, linking to Hawker Stall and Consumer profile. 9. System updates the aggregate of star rating and number of reviews for the Hawker Stall, displaying the changes. 10. System shows a success message and displays the review under the Hawker Stall.
Alternative Flows:	<p>AF-S3: Consumer does not include description and photo.</p> <ol style="list-style-type: none"> 1. Consumer continues from S6. <p>AF-S3: Consumer does not include description.</p> <ol style="list-style-type: none"> 1. Consumer continues from S5. <p>AF-S4.a: Consumer does not include photo.</p> <ol style="list-style-type: none"> 1. Consumer continues from S6. <p>AF-S4.b: Consumer exceeds text length.</p> <ol style="list-style-type: none"> 1. System disables further typing in the description box. 2. Consumer continues from S5. <p>AF-S5-A: Consumer exceeds file size limit.</p> <ol style="list-style-type: none"> 1. System returns error message 2. File is not uploaded. 3. Returns to S5. <p>AF-S8: LLM API returns reject value of review.</p> <ol style="list-style-type: none"> 1. System displays an error message along with the reason of why the review was rejected. 2. System returns to S4.
Exceptions:	None.
Includes:	Login, Filter Reviews

Special Requirements:	Maximum text size is 250 characters. Maximum Image size is 20MB. Only 1 review per Consumer account per Stall.
Assumptions:	None.
Notes and Issues:	Moderation of review content/details and the exact limitations for image size and text.

I.V Edit Reviews

Use Case ID:	01-005		
Use Case Name:	Edit Reviews		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	04/09/2025	Date Last Updated:	08/09/2025

Actor:	Consumer, LLM API
Description:	Allows Consumer to update Review
Preconditions:	<p>Consumer must be logged into their HawkerSG account.</p> <p>Hawker Stall exists and is visible to the Consumer.</p> <p>Consumer must already have written a Review on this Hawker Stall.</p>
Postconditions:	<p>Updated review is stored and displayed, associated with Hawker Stall and the Consumer's account.</p> <p>Aggregate Hawker Stall rating and review count are updated and displayed.</p>
Priority:	Medium
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. Consumer clicks into the Hawker Stall.

	<ol style="list-style-type: none"> 2. Consumer clicks the “Write a Review” button. 3. Consumer selects a star rating (1 - 5). 4. The Consumer enters text in the “Description” box. (Optional) 5. Consumer clicks the “plus” button besides “Add Photo”. (Optional) <ul style="list-style-type: none"> a. Consumer navigates to the photo in their device and selects it. b. Consumer clicks “Done”. c. Photo is displayed in the review. 6. Consumer clicks “Upload”. 7. System executes Filter Reviews use case. 8. If approval is granted, System commits the review, linking to Hawker Stall and Consumer profile. 9. System updates the aggregate of star rating and number of reviews for the Hawker Stall, displaying the changes. 10. System shows a success message and displays the updated review under the Hawker Stall.
Alternative Flows:	<p>AF-S3: Consumer does not include description and photo.</p> <ol style="list-style-type: none"> 2. Consumer continues from S6. <p>AF-S3: Consumer does not include description.</p> <ol style="list-style-type: none"> 2. Consumer continues from S5. <p>AF-S4: Consumer does not include photo.</p> <ol style="list-style-type: none"> 2. Consumer continues from S6. <p>AF-S4: Consumer exceeds text length.</p> <ol style="list-style-type: none"> 3. System disables further typing in the description box. 4. Consumer continues from S5. <p>AF-S5-A: Consumer exceeds file size limit.</p> <ol style="list-style-type: none"> 4. System returns error message 5. File is not uploaded. 6. Returns to S5. <p>AF-S8: LLM API returns reject value of review.</p> <ol style="list-style-type: none"> 3. System displays an error message along with the reason of why the review was rejected. 4. System returns to S4.

Exceptions:	None.
Includes:	Login, Filter Reviews
Special Requirements:	Maximum text size is 250 characters. Maximum Image size is 20MB. Only 1 review per Consumer account per Stall.
Assumptions:	None.
Notes and Issues:	Moderation of review content/details and the exact limitations for image size and text.

I.VI Manage Consumer Profile

Use Case ID:	01-006		
Use Case Name:	Manage Consumer Profile		
Created By:	Kavan Lee	Last Updated By:	Lee Yong Liang
Date Created:	08/09/2025	Date Last Updated:	15/11/2025

Actor:	Consumer
Description:	Allows the Consumer to view and edit their Personal Information and activity.
Preconditions:	Consumer must be logged into their HawkerSG account.
Postconditions:	The profile reflects the changes made. If the password is changed, subsequent logins require the new password. All existing sessions will be invalidated/expired.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none"> 1. Consumer clicks the “Profile” button. 2. Consumer clicks the “Edit Profile” button. 3. System displays a mini window, allowing the Consumer to change username, password and profile photo. <ol style="list-style-type: none"> a. New Username:

	<ul style="list-style-type: none"> i. Consumer clicks into the username field and modifies the username. ii. The new username is displayed. <p>b. New Password:</p> <ul style="list-style-type: none"> i. Consumer clicks into the new password field and enters a new password different from the current one. ii. System shows the password masked with asterisks. <p>c. New Profile Photo:</p> <ul style="list-style-type: none"> i. Consumer clicks the choose image button. ii. System prompts Consumer to upload a new photo from their device. iii. Consumer navigates to the file on their device and selects it. iv. System checks if the file is a valid image format. v. System checks if the file exceeds the maximum allowed limit. vi. System displays a preview of the new picture in the square. <p>4. Consumer clicks the “Update” button.</p> <p>5. System checks if password requirements are met.</p> <p>6. System commits the changes when password requirements are met and confirms success, returning to the updated profile view.</p> <p>7. Upon a successful password update event, System terminates all other existing sessions for the user.</p>
Alternative Flows:	<p>AF-S3: Consumer only changes the Password.</p> <ol style="list-style-type: none"> 1. Consumer executes steps S3-B-I and S3-B-II. 3. Consumer continues to S4. <p>AF-S3: Consumer only changes Profile Photo.</p> <ol style="list-style-type: none"> 1. Consumer executes steps S3-C-I and S3-C-VI. 2. Consumer continues to S4. <p>AF-S3-A-II: Consumer only changes Username.</p> <ol style="list-style-type: none"> 1. Consumer continues from S4. <p>AF-S5: Password requirements are not met.</p> <ol style="list-style-type: none"> 1. System displays message to inform Consumer that password requirements are not met and deletes the password field. <p>Consumer continues from S3.</p>

	<p>AF-S3-C-IV: Selected file is not a valid image format</p> <ol style="list-style-type: none"> 1. System displays message to inform Consumer that the file is not a valid image format. Consumer continues from S3-C-II <p>AF-S3-C-V: Selected photo size is not in range of allowed limit.</p> <ol style="list-style-type: none"> 2. System displays message to inform Consumer that the photo size is too large and to choose another photo of a smaller appropriate size. Consumer continues from S3-C-II
Exceptions:	None.
Includes:	Login
Special Requirements:	Hashing password using Argon2 algorithm.
Assumptions:	Username doesn't have to be unique.
Notes and Issues:	None.

I.VII Browse

Use Case ID:	01-007		
Use Case Name:	Browse		
Created By:	Lee Yong Liang	Last Updated By:	Lee Yong Liang
Date Created:	03/09/2025	Date Last Updated:	09/09/2025

Actor:	Consumer
Description:	Compiled lists of the individual Hawker Centres and Hawker Stalls for Consumer to browse. Consumer can filter the Hawker Stalls by status, cuisine, star rating.
Preconditions:	System has valid Hawker Centre and Hawker Stalls loaded.
Postconditions:	Consumer will receive a list of relevant results.
Priority:	Low
Frequency of Use:	High
Flow of Events:	<ol style="list-style-type: none"> 1. Consumer clicks on the Browse Button 2. Consumer can choose between browsing Hawker Centre or Hawker Stalls. 3. System would display relevant option chosen by Consumer
Alternative Flows:	AF-S3.a: If Consumer clicks the Hawker Centre tab <ol style="list-style-type: none"> 1. A list of relevant Hawker Centres will be displayed.

	<p>AF-S3.b: If Consumer clicks the Hawker Stall tab</p> <ol style="list-style-type: none"> 1. A list of relevant Hawker Stalls will be displayed. 2. Consumer can choose to filter the Hawker Stalls by status, cuisine, star rating. <ol style="list-style-type: none"> a. Filter Hawker Stalls by Status Consumer selects a status filter (Open / Closed). System refreshes the list to show stalls matching the selected status. b. Filter Hawker Stalls by Cuisine Consumer selects one or more cuisines. System refreshes the list to show matching stalls. c. Filter Hawker Stalls by Star Rating Consumer selects a desired minimum star rating. System sorts or filters stalls accordingly. d. Combined Filters Consumer selects more than one filter type. System returns only stalls that meet all selected criteria. e. No Results If no stalls match the applied filters, System displays "No stalls found based on selected filters."
Exceptions:	None
Includes:	None
Special Requirements:	None
Assumptions:	None
Notes and Issues:	None

II. Functional Requirement #2 - Business

I.I Manage Stall Profile

Use Case ID:	02-001		
Use Case Name:	Manage Stall Profile		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	04/09/2025	Date Last Updated:	15/11/2025

Actor:	Business Owner
Description:	Allows Business Owner to view and update stall information.
Preconditions:	Business Owner must be logged into their HawkerSG account.
Postconditions:	Business profile reflects all changes made.
Priority:	High
Frequency of Use:	Medium

Flow of Events:	<ol style="list-style-type: none"> 1. Business Owner starts off at the Business Profile page, in the “Overview” tab which displays the current information such as Average Rating, Total Reviews, number of Menu Items, Current Status, Stall Name, Stall Photo, Cuisine, Location and Description. 2. Business Owner selects the “Stall Profile” tab button. 3. System displays the editable sections. 4. Business Owner edits one or more sections. <ol style="list-style-type: none"> a. Stall Name (Required): <ol style="list-style-type: none"> i. Business Owner clicks into the “Stall Name” field. ii. Business Owner modifies the previously saved name. iii. New name is displayed in the “Stall Name” field. b. Cuisine Type (Required): <ol style="list-style-type: none"> i. Business Owner clicks the dropdown button under the “Cuisine Type” header. ii. Business Owner selects one cuisine type the hawker stall falls under based on the available options. iii. The cuisine type that has been selected is displayed under the cuisine type field. c. Stall Description (Optional): <ol style="list-style-type: none"> i. Business Owner clicks into the “Stall Description” field. ii. Business Owner modifies the previously saved Stall Description. iii. New description is displayed in the “Stall Description” field. d. Stall Photo (Optional): <ol style="list-style-type: none"> i. Business Owner clicks inside the box with the words “Add Photo” under the “Stall Photo” header. ii. System opens the file manager for the Business Owner to upload a new photo from their device. iii. Business Owner navigates to the photo in their device and selects it. iv. New photo will be displayed in the box under the “Stall Photo” header. 5. Business Owner clicks the “Update Stall Profile” button at the bottom
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	<p>6. System commits the changes and reflects the updated Stall Profile and displays a success message.</p>
Alternative Flows:	<p>AF-S4: Business Owner does not edit any details.</p> <ol style="list-style-type: none"> Business Owner clicks the “Update Stall Profile” button on the bottom. System saves the existing details and returns to S1. <p>AF-S4-C-II: Stall Description exceeds character count limit.</p> <ol style="list-style-type: none"> System truncates the Business Owner’s input into the acceptable limit, taking the first 500 characters. System disables further input from the Business Owner. System displays an alert message below the description box that “Description exceeds maximum length of 500 characters”. System continues from S4-D-III. <p>AF-S4-D-III.a: Selected photo exceeds size limitations.</p> <ol style="list-style-type: none"> System displays an error message “Photo must be less than 20MB”. Business Owner continues from S4-E-II. <p>AF-S4-D-III.b: Selected photo not a valid image file format.</p> <ol style="list-style-type: none"> System displays an error message “Please select a valid image file (JPEG, PNG, WebP)”. Business Owner continues from S4-E-II. <p>AF-S5: Required fields are left empty.</p> <ol style="list-style-type: none"> System displays an alert message, “Please fill out this field.”, at each respective required field that has been left empty. Business Owner continues at S4.
Exceptions:	None
Includes:	Login
Special Requirements:	<p>Description enforces 500 characters limit.</p> <p>Image enforces size of 20MB and acceptable image format of JPEG, PNG and WebP.</p>
Assumptions:	None.
Notes and Issues:	Exact image, file constraints for photos and constraints for text.

I.II Manage Menu Items

Use Case ID:	02-002		
Use Case Name:	Manage Menu Items		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	08/11/2025	Date Last Updated:	15/11/2025

Actor:	Business Owner
Description:	Allows Business Owner to view and update Menu information.
Preconditions:	Business Owner must be logged into their HawkerSG account.
Postconditions:	Business profile reflects all Menu changes made.
Priority:	High
Frequency of Use:	Medium

Flow of Events:	<ol style="list-style-type: none"> 1. Business Owner starts off at the Business Profile page, in the “Overview” tab which displays the current information such as Average Rating, Total Reviews, number of Menu Items, Current Status, Stall Name, Stall Photo, Cuisine, Location and Description. 2. Business Owner selects the “Menu” tab button. 3. System displays the menu items. 4. Business Owner adds one or more menu items. <ol style="list-style-type: none"> a. Business Owner clicks “Add Menu Item”. b. System displays an in-window form to fill the menu item details such as Item Name (Required), Price (Required), Description (Optional) and Photo (Optional). c. Business Owner clicks into the Item Name field and modifies the details. <ol style="list-style-type: none"> i. The new details will be displayed in the Item Name field. d. Business Owner clicks into the Price field and modifies the details. <ol style="list-style-type: none"> i. The new details will be displayed in the Price field. e. Business Owner clicks into the Description field and modifies the details. <ol style="list-style-type: none"> i. The new details will be displayed in the Description field. f. Business Owner clicks into the Photo field. <ol style="list-style-type: none"> i. System opens the file manager for the Business Owner to upload a new photo from their device. ii. Business Owner navigates to the photo in their device and selects it. iii. Selected photo will be displayed in the Photo field. 5. Business Owner clicks the “Update Menu” button at the bottom right. 6. System commits the changes and updates the live Stall Profile, displaying a success message.
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<p>Alternative Flows:</p> <p>AF-S3.a: Business Owner does not edit any details.</p> <ol style="list-style-type: none"> 1. Business Owner clicks the “Update Menu” button on the bottom. 2. System saves the existing details and returns to S1. <p>AF-S3.b: Stall Profile has no existing menu items.</p> <ol style="list-style-type: none"> 1. System displays “No Menu Items” and asks Business Owner to start adding menu items. 2. Business Owner clicks “Add First Item” and continues from S4-B. <p>AF-S4.a: Business Owner chooses to delete menu item.</p> <ol style="list-style-type: none"> 1. Business Owner clicks on the red dustbin icon on the top right of the in-winder menu item form. 2. System prompts, confirming if Business Owner wants to delete the menu item. 3. Business Owner clicks “Yes” and continues from S7. <p>AF-S4-C: Item Name exceeds character count limit.</p> <ol style="list-style-type: none"> 1. System truncates the Business Owner’s input into the acceptable limit, taking the first 100 characters. 2. System disables further input from the Business Owner. 3. System displays an alert message below the description box that “Name exceeds maximum length of 100 characters”. 4. System continues from S4-C. <p>AF-S4-D.a: Business Owner enters a value that is not a number:</p> <ol style="list-style-type: none"> 1. System displays an error message “Please enter a number.” 2. Business Owner continues from S4-D. <p>AF-S4-D.b: Business Owner enters a negative number:</p> <ol style="list-style-type: none"> 1. System displays an error message “Value must be greater than or equal to 0.01.” 2. Business Owner continues from S4-D. <p>AF-S4-D.c: Business Owner enters a number with more than 2 decimal places:</p> <ol style="list-style-type: none"> 1. System displays an error message “Please enter a valid value.” and suggests the 2 nearest 2 decimal point numbers from Business Owner’s input. 2. Business Owner continues from S4-D. <p>AF-S4-E: Description exceeds character count limit.</p> <ol style="list-style-type: none"> 1. System truncates the Business Owner’s input into the acceptable limit, taking the first 500 characters. 2. System disables further input from the Business Owner. 3. System displays an alert message below the description box that “Description exceeds maximum length of 500 characters”. 4. System continues from S4-E. <p>AF-S4-F-II.a: Selected photo exceeds size limitations.</p>
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	<p>1. System displays an error message “Photo must be less than 20MB”. Business Owner continues from S4-F-I.</p> <p>AF-S4-F-II.b: Selected photo not a valid image file format.</p> <p>1. System displays an error message “Please select a valid image file (JPEG, PNG, WebP)”. Business Owner continues from S4-F-I.</p> <p>AF-S5: Required fields are left empty.</p> <p>1. System displays an alert message, “Please fill out this field.”, at each respective required field that has been left empty.</p> <p>2. Business Owner continues at S4-B.</p>
Exceptions:	None
Includes:	Login
Special Requirements:	<p>Price must be positive, 2 decimal places and numbers only.</p> <p>Description enforces 500 characters limit.</p> <p>Item Name enforces 100 characters limit.</p> <p>Image enforces size of 20MB and acceptable image format of JPEG, PNG and WebP.</p>
Assumptions:	None.
Notes and Issues:	Exact image, file constraints for photos and constraints for text.

I.III Manage Operating Hours

Use Case ID:	02-003		
Use Case Name:	Manage Operating Hours		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	08/11/2025	Date Last Updated:	15/11/2025

Actor:	Business Owner
Description:	Allows Business Owner to view and update Operating Hours information.
Preconditions:	Business Owner must be logged into their HawkerSG account.
Postconditions:	Business profile reflects all Operating Hours changes made.
Priority:	High
Frequency of Use:	Medium

Flow of Events:	<ol style="list-style-type: none"> 1. Business Owner starts off at the Business Profile page, in the “Overview” tab which displays the current information such as Average Rating, Total Reviews, number of Menu Items, Current Status, Stall Name, Stall Photo, Cuisine, Location and Description. 2. Business Owner selects the “Operating Hours” tab button. 3. System displays the editable sections. 4. Business Owner edits the Stall Status: <ol style="list-style-type: none"> a. Business Owner clicks the “Close Stall” button to manually close the hawker stall, disregarding the operating hours. b. The “Close Stall” button is darkened and the hawker stall status is set to “Closed” permanently until the Business Owner manually changes the status, where the stall status will start following operating hours again. 5. Business Owner edits the Operating Hours: <ol style="list-style-type: none"> a. Business Owner clicks the “Open” checkbox for the day(s) when the stall will be open. b. Business Owner clicks into the From/To time field. c. System displays a dropdown menu with timings in 12-hour format in 1 minute intervals with AM and PM selectors. d. Business Owner clicks a new timing. e. New timing is displayed in the From/To time field. 6. Business Owner clicks the “Save Hours” button at the bottom. 7. System commits the changes and updates the live Stall Profile, displaying a success message.
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Alternative Flows:	<p>AF-S3: Business Owner does not edit any details.</p> <ol style="list-style-type: none"> 1. Business Owner clicks the “Save Hours” button at the bottom. 2. System saves the existing details and returns to S1. <p>AF-S4.a: Business Owner does not click the “Close Stall” button.</p> <ol style="list-style-type: none"> 1. Business Owner continues from S5. <p>AF-S4.b: Business Owner clicks “Set All: 10AM – 8PM” button under the “Quick Actions” header.</p> <ol style="list-style-type: none"> 1. All days (Monday to Sunday) timings are set From 10AM and To 8PM. 2. Business Owner continues from S5. <p>AF-S4.c: Business Owner clicks “Close Sundays” button under the “Quick Actions” header.</p> <ol style="list-style-type: none"> 1. Sunday “Open” checkbox will be unchecked. 2. Business Owner continues from S5. <p>AF-S4.d: Business Owner clicks “Weekend Extended” button under the “Quick Actions” header.</p> <ol style="list-style-type: none"> 1. Friday and Saturday operating hours will be set From 8AM To 10PM. 2. Business Owner continues from S5.
Exceptions:	None
Includes:	Login
Special Requirements:	<p>Time will be displayed in 12-hour format with AM and PM indicators.</p> <p>The System must support 24-hour operating hours (open all day).</p> <p>The System must support cross-day operation e.g. 9PM to 10AM the next day.</p>
Assumptions:	None.
Notes and Issues:	Exact time constraints for operating hours.

I.IV View Stall Reviews

Use Case ID:	02-004		
Use Case Name:	View Stall Reviews		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	08/11/2025	Date Last Updated:	15/11/2025

Actor:	Business Owner
Description:	Allows Business Owner to view the reviews about their hawker stall.
Preconditions:	Business Owner must be logged into their HawkerSG account.
Postconditions:	Business profile reflects all reviews made about the Business Owner's hawker stall.
Priority:	High
Frequency of Use:	Medium

Flow of Events:	<ol style="list-style-type: none"> 1. Business Owner starts off at the Business Profile page, in the “Overview” tab which displays the current information such as Average Rating, Total Reviews, number of Menu Items, Current Status, Stall Name, Stall Photo, Cuisine, Location and Description. 2. Business Owner selects “View Reviews” tab button. 3. System displays all reviews that has been made about the hawker stall. 4. Business Owner selects “All”/5/4/3/2/1 stars button beside “Filter” to filter reviews based on the number of stars. 5. System displays the reviews according to the respective filters (All/5/4/3/2/1 stars). 6. Business Owner clicks the dropdown button beside “Sort:” and selects “Most recent”. 7. System displays the reviews based on the filter.
Alternative Flows:	<p>AF-S6.a: Business Owner selects “Highest rating”.</p> <ol style="list-style-type: none"> 1. System continues at S7. <p>AF-S6.b: Business Owner selects “Lowest rating”.</p> <ol style="list-style-type: none"> 1. System continues at S7.
Exceptions:	None
Includes:	Login
Special Requirements:	None.
Assumptions:	None.
Notes and Issues:	

I.V Consumer View Preview

Use Case ID:	02-005		
Use Case Name:	Consumer View Preview		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	15/11/2025	Date Last Updated:	15/11/2025

Actor:	Business Owner
Description:	Allow Business Owner to see how their Stall Profile information is portrayed to users.
Preconditions:	Business Owner must be logged into their Business account.
Postconditions:	System displays the Stall Profile to the Business Owner. No data is modified during preview mode.
Priority:	High
Frequency of Use:	Medium

Flow of Events:	<ol style="list-style-type: none"> 1. Business Owner starts off at the Business Profile page, in the “Overview” tab which displays the current information such as Average Rating, Total Reviews, number of Menu Items, Current Status, Stall Name, Stall Photo, Cuisine, Location and Description. 2. Business Owner clicks the “consumer view preview” button 3. The system displays how the Stall Profile will look like with the current stall information such as Stall Name, Status, Picture and Location. 4. Business Owner closes the preview by clicking anywhere outside the preview window.
Alternative Flows:	<p>AF-S3: The stall profile has not been created.</p> <ol style="list-style-type: none"> 1. The system displays “Please set up your stall profile first.”
Exceptions:	<p>EX1: System cannot retrieve stall data due to connectivity issues. System will display an error message “Unable to load stall preview. Please check your connection.”</p>
Includes:	None
Special Requirements:	<p>Preview should match exactly what consumers see in the ConsumerUI.</p> <p>Real-time reflection of saved changes in the Business Profile page</p>
Assumptions:	
Notes and Issues:	Consider adding loading state while generating preview

III. Functional Requirement #3 - Authentication

I.I Consumer Signup

Use Case ID:	03-001		
Use Case Name:	Consumer Signup		
Created By:	Lee Yong Liang	Last Updated By:	Lee Yong Liang
Date Created:	03/09/2025	Date Last Updated:	09/09/2025

Actor:	Consumer
Description:	None
Preconditions:	None
Postconditions:	Creation of a new Consumer account, and the Consumer will be prompted to verify their email.
Priority:	High
Frequency of Use:	Low
Flow of Events:	<ol style="list-style-type: none">1. Consumer is shown a registration form when accessing the sign-up page.2. Consumer fills in the following fields in the form and then submits it.

	<p>a. Username</p> <p>b. Email</p> <p>c. Password</p> <p>3. System adds a new entry into the database after checking the Consumer's inputs.</p> <p>4. Consumer is redirected to the login page.</p>
Alternative Flows:	<p>AF-S2-B.a: Email already exists</p> <p>1. System will display the message "Email already exists, please choose a different one".</p> <p>AF-S2-B.b: Invalid email</p> <p>1. System will display the message "Please enter a valid email".</p> <p>AF-S2-C: Password did not meet policy</p> <p>1. System will display the message "Password must be a mix of uppercase, lowercase, numbers, symbols, and at least 8 characters long".</p> <p>AF-S2-C: Password mismatch</p> <p>1. System will display the message "Your password did not match!".</p>
Exceptions:	EX1: System will output clear error messages to the Consumer to correct the inputs if it receives invalid, incomplete, or data that does not meet requirements.
Includes:	None
Special Requirements:	<ul style="list-style-type: none"> Collecting and storing user data must meet the privacy compliance of the Singapore Personal Data Protection Act (PDPA). Implementation of information security policies, such as hashing.
Assumptions:	None
Notes and Issues:	Third-party sign-up options can be considered to make registration easier.

I.II Business Signup

Use Case ID:	03-002		
Use Case Name:	Business Signup		
Created By:	Lee Yong Liang	Last Updated By:	Kavan Lee
Date Created:	05/09/2025	Date Last Updated:	15/11/2025

Actor:	Business Owner
Description:	None
Preconditions:	A valid CorpPass account is needed.
Postconditions:	Creation of a new Business Owner account, and the Business Owner will be prompted to verify their email.
Priority:	High
Frequency of Use:	Low

Flow of Events:	<ol style="list-style-type: none"> 1. Business Owner clicks the “Sign Up” button when in the home page. 2. Business Owner clicks the “Business Owner” button. 3. Business Owner clicks the “Sign Up With CorpPass” button. 4. The System calls the Retrieve CorpPass Info use case to retrieve the Business Owner’s Unique Entity Number (UEN), Full Name and Email. 5. Upon success the System stores the license number(s) in the session. 6. The email field and business Name is prefilled by the data retrieved from CorpPass. 7. The user can check and edit the prefilled data. 8. Business Owner fills in the Password and Confirm Password fields and clicks “Create Account”. 9. The System checks if the license number already exists in our database (of hawker stalls from data.gov). 10. If the license number exists, the System checks if the hawker stall profile has been claimed by any business accounts yet. 11. If the hawker stall is unclaimed, the System links the Business Owner account to the existing hawker stall that has the same license number. 12. The System redirects the user to the login page.
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Alternative Flows:	<p>AF-S8.a: Email already exists</p> <ol style="list-style-type: none"> 1. System will display the message “Email already exists, please choose a different one”. <p>AF-S8.b: Empty Field for Email.</p> <ol style="list-style-type: none"> 1. System displays error message “Please fill out this field.” 2. User continues from S7. <p>AF-S8.c: Invalid Email Format.</p> <ol style="list-style-type: none"> 1. System displays error message “Please include an @ in the email address.” or “Please enter a part following ‘@’.” 2. User continues from S7. <p>AF-S8.d: Empty Field for Password.</p> <ol style="list-style-type: none"> 1. System displays error message “Please fill out this field.” 2. User continues from S8. <p>AF-S8.e: Password did not meet policy</p> <ol style="list-style-type: none"> 1. System will display the message “Password must be a mix of uppercase, lowercase, numbers, symbols, and at least 8 characters long”. 2. User continues from S8. <p>AF-S8.f: Password Mismatch between “Password” and “Confirm Password” field.</p> <ol style="list-style-type: none"> 1. System will display the message “Your password does not match.” 2. User continues from S8. <p>AF-S11: If the license number does not exist</p> <ol style="list-style-type: none"> 1. System will create a new entry in the database with the submitted fields and the System continues from S11.
Exceptions:	<p>EX1: System will output clear error messages to the Business Owner to correct the inputs if it receives invalid, incomplete, or data that does not meet requirements.</p> <p>EX2: System will output an error message “License number already registered. Please log in to your account.” if the license number exists in our database and the hawker stall is already claimed.</p>

Includes:	Retrieve CorpPass Info
Special Requirements:	<ul style="list-style-type: none"> • Collecting and storing user data must meet the privacy compliance of the Singapore Personal Data Protection Act (PDPA). • Implementation of information security policies, such as hashing. • Prevention of account generation through automated bots by using CAPTCHA.
Assumptions:	None
Notes and Issues:	None

I.III Login

Use Case ID:	03-003		
Use Case Name:	Login		
Created By:	Lee Yong Liang	Last Updated By:	Lee Yong Liang
Date Created:	03/09/2025	Date Last Updated:	15/11/2025

Actor:	Consumer and Business Owner
Description:	None
Preconditions:	User already has an account created.
Postconditions:	User is granted access to the respective role after being authenticated.
Priority:	High
Frequency of Use:	High

Flow of Events:	<ol style="list-style-type: none">1. User is shown a login form when the User clicks the “Login” button.2. User clicks on the respective Account Type button, “Consumer” or “Business Owner”, to log into the specific account role.3. User enters valid credentials in the following fields and submits them.<ol style="list-style-type: none">a. Emailb. Password4. System compares data inside the database against the user inputs.5. User is logged into the chosen account type and is redirected to (a) the homepage for Consumer or (b) the Business Profile page for Business Owner.
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Alternative Flows:	<p>AF-S1: Forgot Password</p> <ol style="list-style-type: none"> 1. Send a password recovery email if the user selects "Forgot Password". 2. Redirect back to the login page, the user continues from S2. <p>AF-S3-A.a: Empty Field for Email.</p> <ol style="list-style-type: none"> 3. System displays error message "Please fill out this field." 4. User continues from S3. <p>AF-S3-A.b: Invalid Email Format.</p> <ol style="list-style-type: none"> 3. System displays error message "Please include an @ in the email address." or "Please enter a part following '@'." 4. User continues from S3. <p>AF-S3-B: Empty Field for Password.</p> <ol style="list-style-type: none"> 3. System displays error message "Please fill out this field." 4. User continues from S3. <p>AF-S4.a: Invalid Credentials (Email and/or password)</p> <ol style="list-style-type: none"> 1. System asks the user to reattempt after showing the error message "Invalid email or password. Please check your credentials and account type." 2. Redirect back to the login page, the user continues from S2. <p>AF-S4.b: Account Type does not match (Correct details for different role).</p> <ol style="list-style-type: none"> 1. System asks the user to reattempt after showing the error message "Invalid email or password. Please check your credentials and account type." 2. User continues from S3.
Exceptions:	None
Includes:	None
Special Requirements:	Session management inactivity timeout.
Assumptions:	None
Notes and Issues:	None

I.IV Retrieve Basic Info (CorpPass)

Use Case ID:	03-004		
Use Case Name:	Retrieve Basic Info		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	04/09/2025	Date Last Updated:	08/09/2025

Actor:	Business Owner, CorpPass API
Description:	Allow Users to sign up for a HawkerSG account with CorpPass details.
Preconditions:	Called by the use case Sign Up when the “Sign up with CorpPass” button is selected.
Postconditions:	System receives Business Owner’s basic information. Registration form is prefilled with Business Owner’s information and ready for confirmation.
Priority:	High
Frequency of Use:	Medium

Flow of Events:	<p>5. Business Signup use case calls Retrieve Basic Info.</p> <p>6. System redirects to the CorpPass application, requesting consent to retrieve basic information.</p> <p>7. Business Owner authenticates with CorpPass successfully.</p> <p>8. CorpPass application displays a consent screen and the Business Owner approves.</p> <p>9. System calls CorpPass basic info endpoint and receives permitted attributes.</p> <p>10. System validates and normalises fields (e.g. name casing, email format).</p> <p>11. System prefills registration form with the retrieved information.</p> <p>12. Business Owner reviews and/or edits the some prefilled fields and continues the Business Signup use case.</p>
Alternative Flows:	None
Exceptions:	<p>EX1: Business Owner fails to authenticate and login to CorpPass application. The system directs the Business Owner back to the Sign Up screen with an Error Message.</p> <p>EX2: Business Owner denies consent to share basic information with the system. The system directs the Business Owner back to the Sign Up screen with an Error Message.</p>
Includes:	None
Special Requirements:	Use of CorpPass API.
Assumptions:	Business Owner has a CorpPass account.
Notes and Issues:	Exact fields of information to request from CorpPass API.

IV. Functional Requirement #4 - LLM API

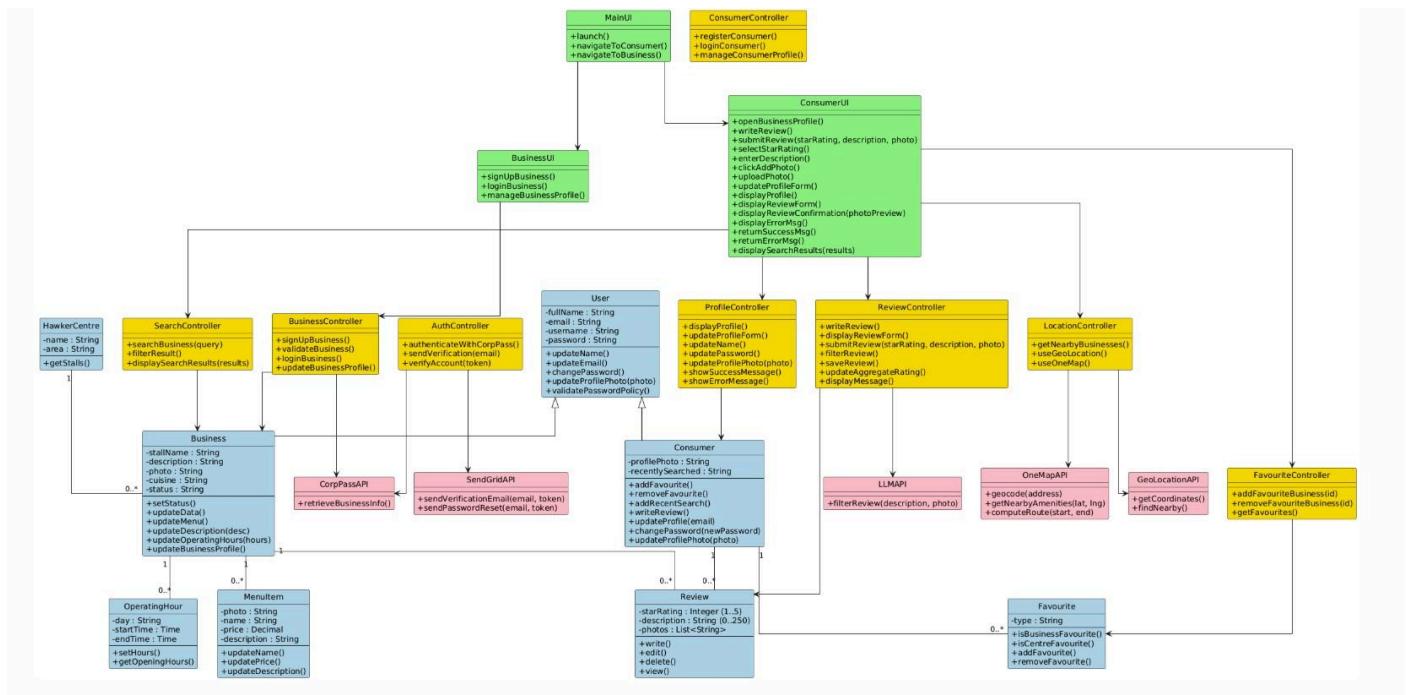
I.I Filter Reviews

Use Case ID:	04-001		
Use Case Name:	Filter Reviews		
Created By:	Kavan Lee	Last Updated By:	Kavan Lee
Date Created:	08/09/2025	Date Last Updated:	08/09/2025

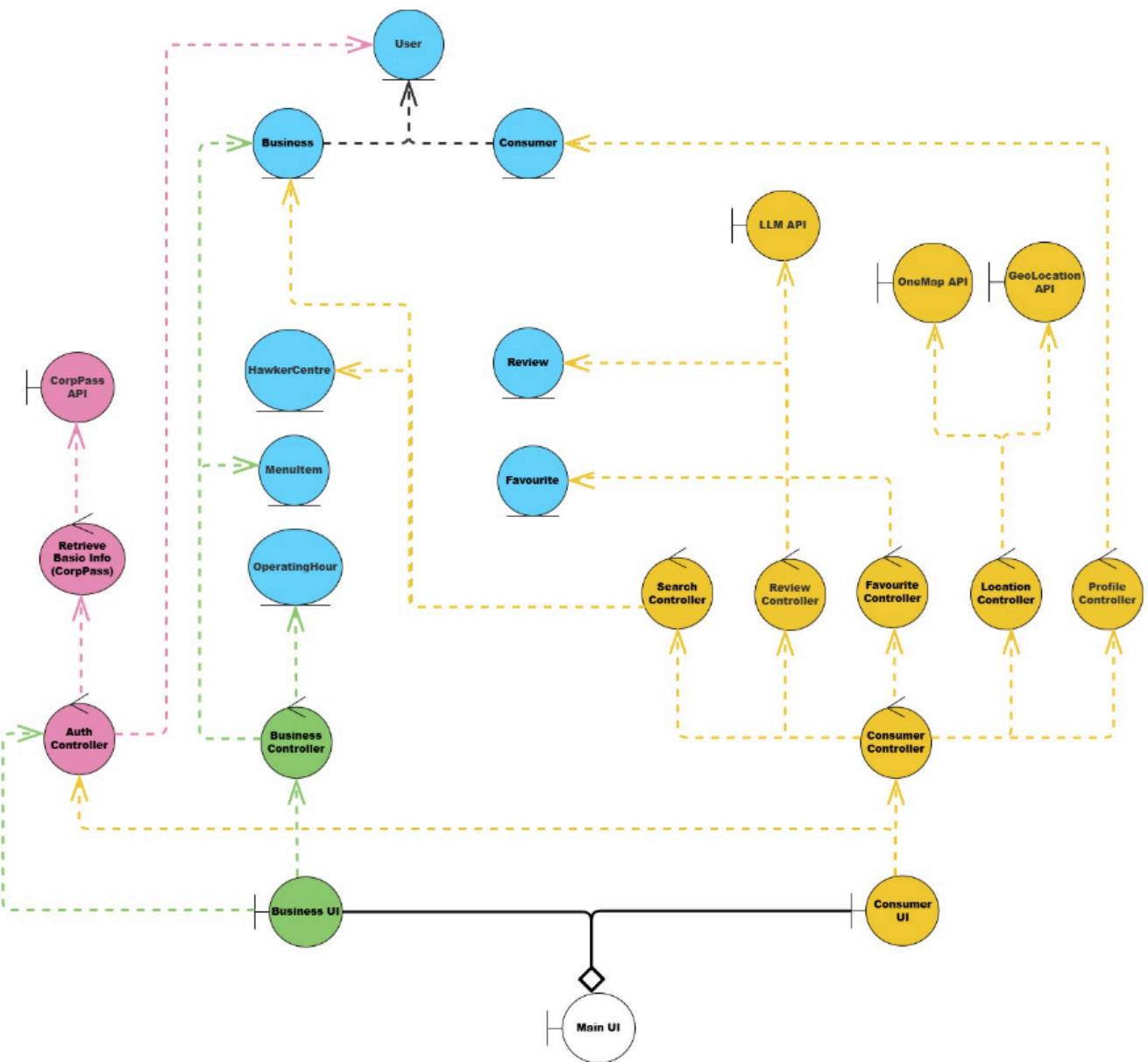
Actor:	Consumer, LLM API
Description:	Return reasons for rejection for inappropriate review content so that the Upload Reviews only uploads acceptable review content.
Preconditions:	Consumer must be logged into their HawkerSG account. Consumer's review has been validated for basic constraints (star rating compulsory, within word and picture limit etc.)
Postconditions:	Rating is returned to Upload Reviews use case. 1. Approve 2. Reject Reasons are also returned to the Upload Reviews use case.
Priority:	Medium
Frequency of Use:	Medium

Flow of Events:	<ol style="list-style-type: none"> 1. Upload Reviews parses Consumer review data to system. 2. System calls the LLM API and sends the review data over. 3. LLM API reads the data based on the criteria it was trained on and outputs a rating 4. If the rating is “APPROVE”, the system continues the Upload Review use case and commits the review.
Alternative Flows:	<p>AF-S4: If the LLM API outputs a rating of REJECT.</p> <ol style="list-style-type: none"> 1. LLM API will also output the reasons/conditions that were flagged to the system. 2. System then continues back to Upload Reviews use case alternate flow. <p>AF-S1: The review does not have a description and/or photos.</p> <ol style="list-style-type: none"> 1. System skips calling the API and sends an APPROVE rating. 2. System continues the Upload Reviews use case.
Exceptions:	EX-1: Connection to LLM API times out. The system returns back to Upload Reviews and prompts the Consumer to retry uploading along with an error message.
Includes:	None.
Special Requirements:	None.
Assumptions:	LLM API provides data that can be mapped to our internal system.
Notes and Issues:	None

2. Class Diagram of Entity Classes

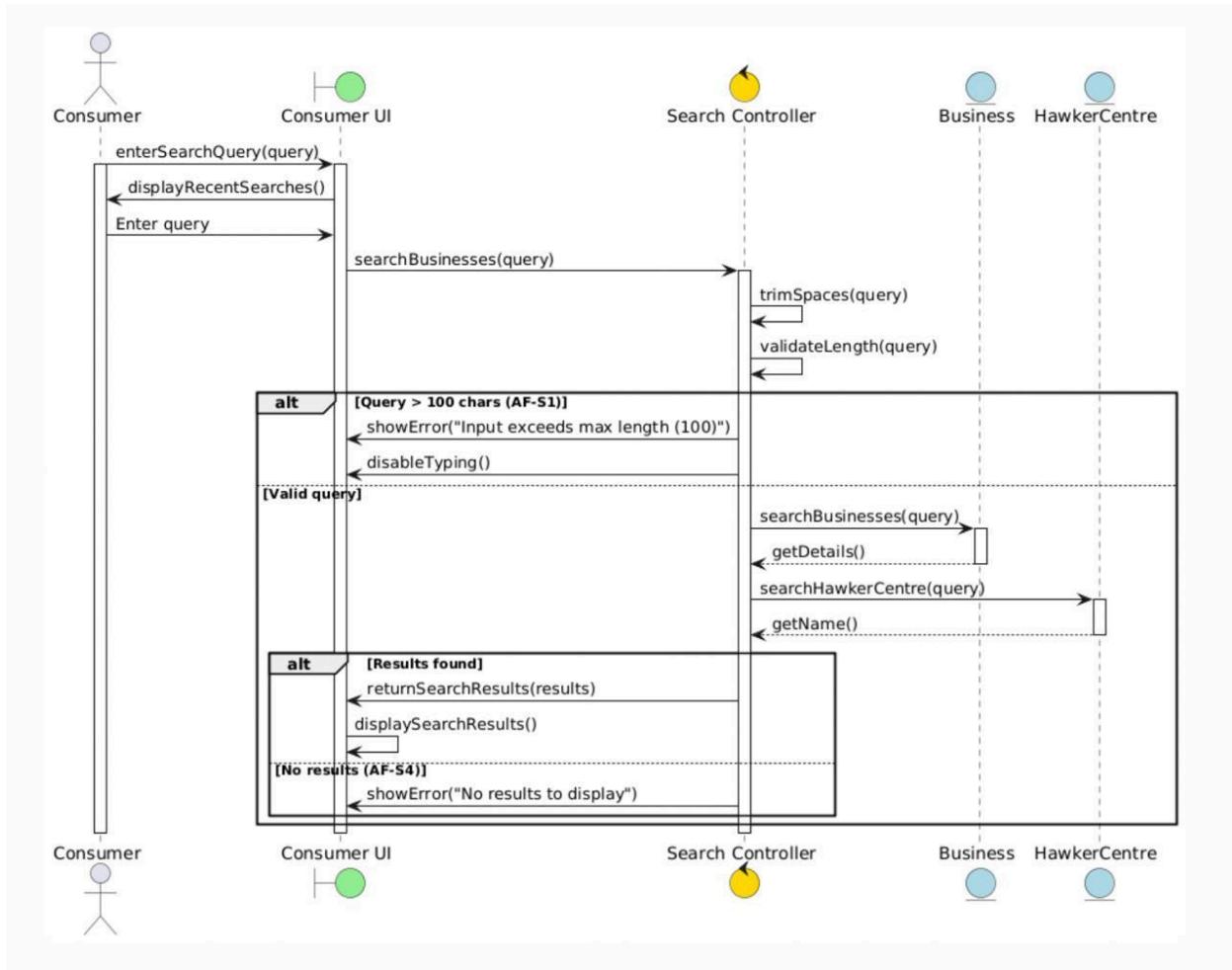


3. Key Boundary Classes and Control Classes



4. Sequence Diagram of the Use Cases

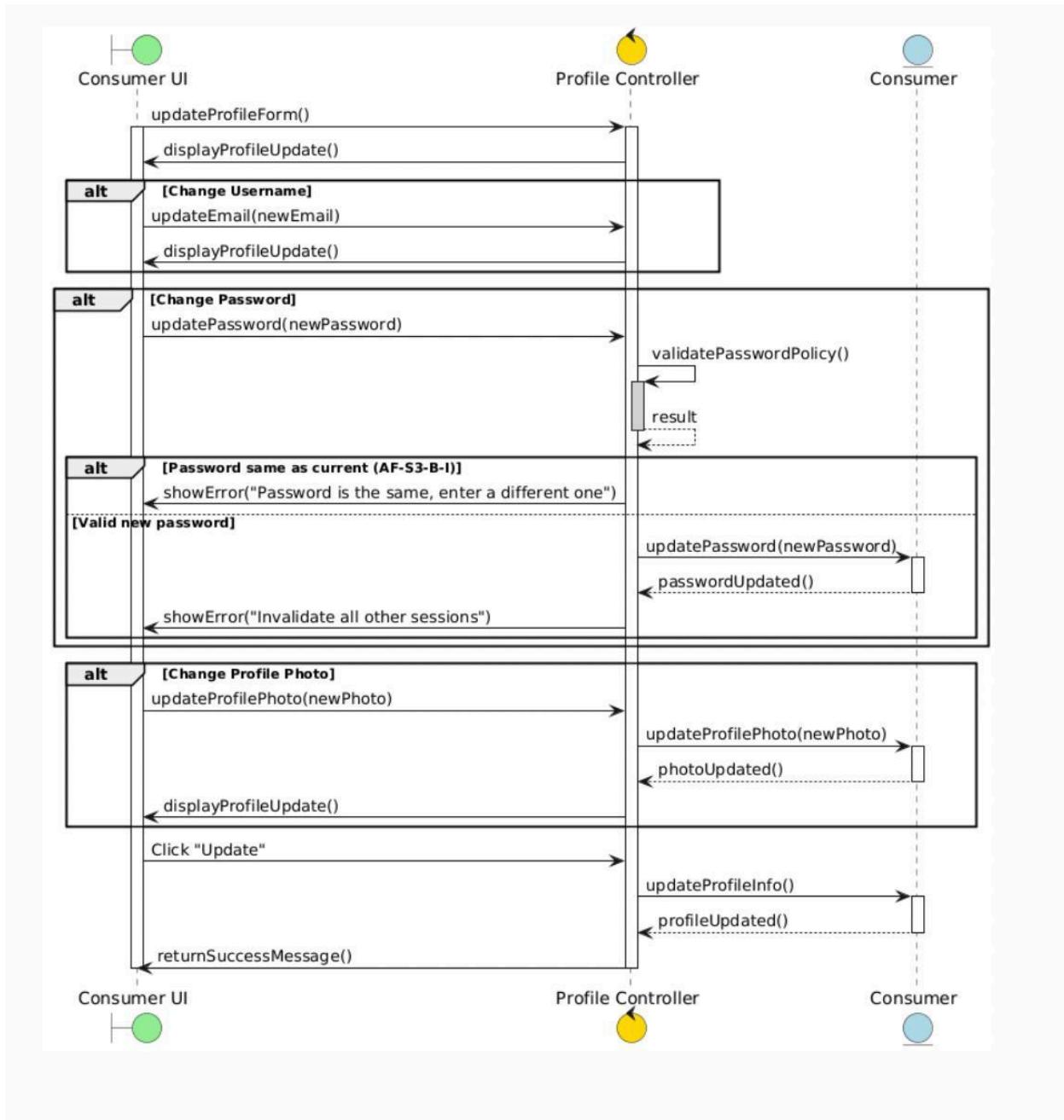
4.1 Search Use Case:



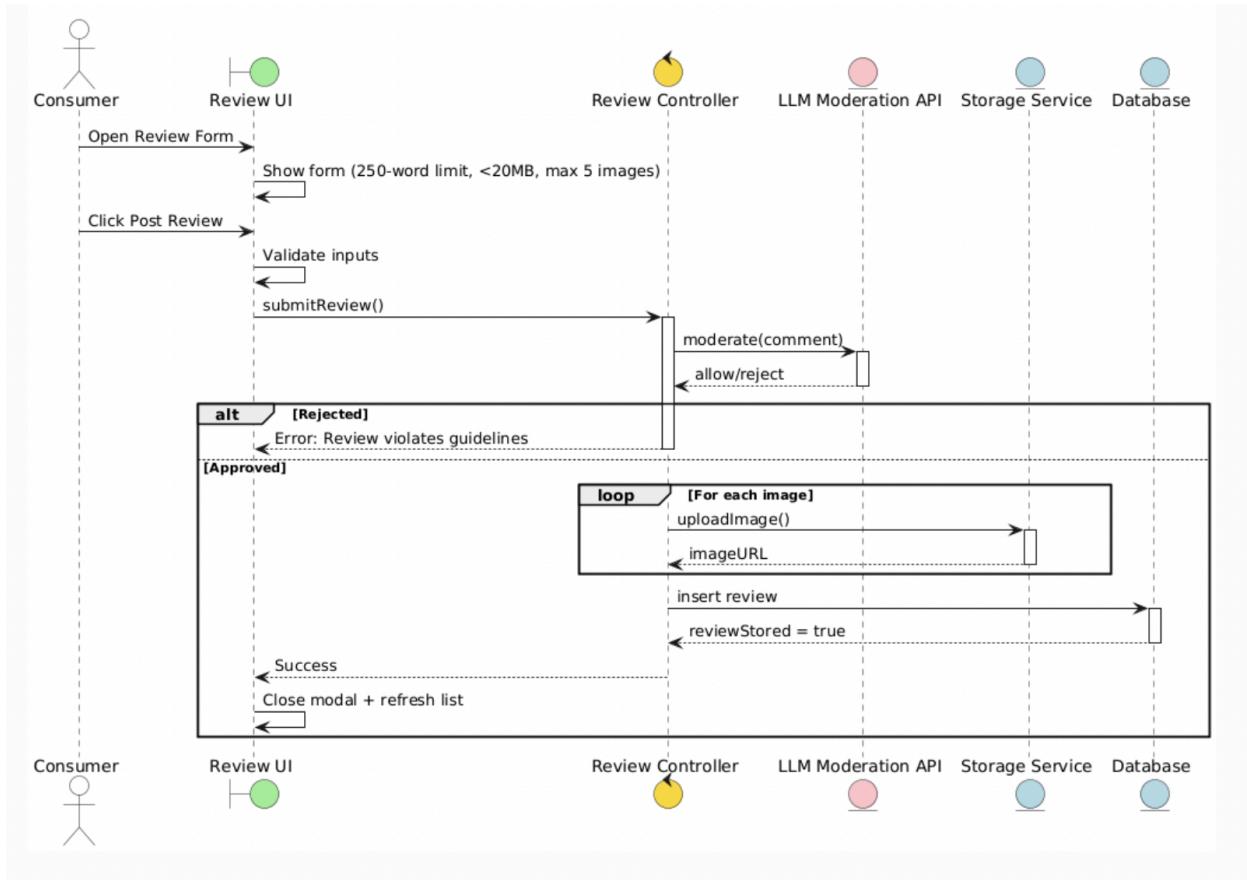
4.2 Business Sign Up:



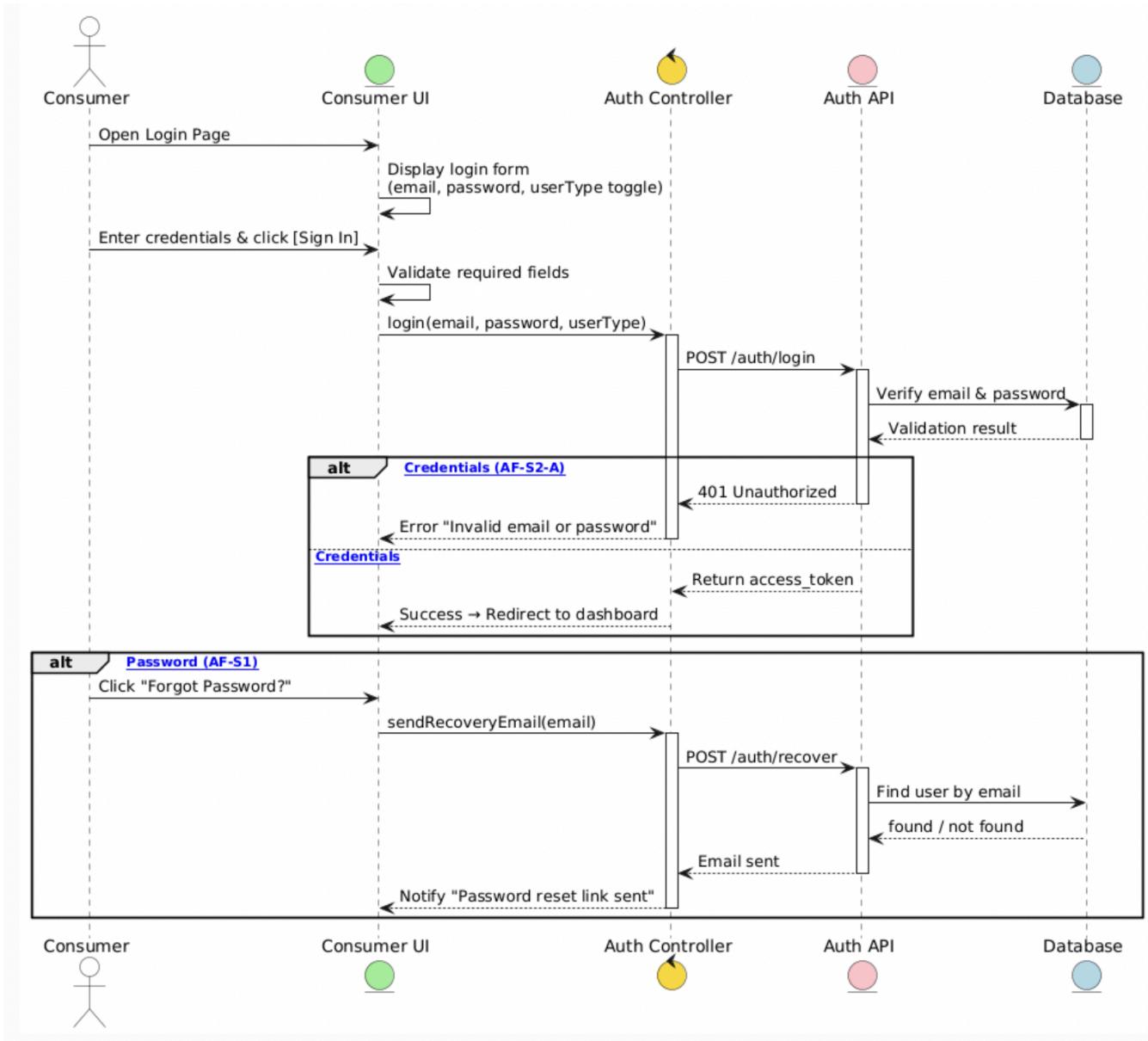
4.3 Manage Consumer Profile



4.4 Upload Reviews



4.5 Log In



5. Initial Dialog Map

