Use Cases

for

NexusNTU

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

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General Use Case Diagram

1. Login/Logout

1.1 Register New Account

Use Case ID:	REG-01		
Use Case Name:	Register New Account		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	New User (Initiating Actor), Database
Description:	A first-time user can register for an account by clicking the "Sign Up" button. The user must input their username, password and phone number to create an account.
Trigger	A new user who does not have an account selects the "Sign Up" option from the login screen to begin the registration process
Preconditions:	1. The user has navigated to the Registration Page of the application. 2. The account system is operational and able to process new user registrations. 3. The user is connected to the Internet. 4. The user must not have an existing account already registered in the system with the same credentials.
Postconditions:	1. A new user account is successfully created in the system database. 2. The user is redirected to the Create Profile Page. (REG-02: Create New Profile)
Normal Flow:	1. The user launches the application, the Landing Page is displayed. 2. The user clicks the "Get Started" button on the Landing Page, then is redirected to the Login Page. 3. The user clicks the "Don't have an account? Sign Up" button on the Login Page, then is redirected to the Registration Page. 4. The user enters their chosen username and password into the respective fields and confirms their password, then clicks the "Sign Up" button. 5. The system validates the provided information, then asks the user to provide a valid phone number. 6. The user enters their phone number, then clicks the "Send

	code via SMS" button. 7. The system validates the provided information, then sends an OTP to the user's phone number. 8. The user enters the OTP, then clicks the "Verify OTP" button. 9. The system validates the OTP, then redirects the user to the Create Profile Page. (REG-02: Create New Profile)
Alternative Flows:	<u>AF-S4: The user clicks the "Sign Up" button before completing all fields</u> 1. The system displays "Please complete all fields" error prompt. 2. The system returns to Step 4 and waits for inputs from the user. <u>AF-S4: The user enters a password that does not meet the strength requirements</u> 1. The system displays "Please use a stronger password" error prompt. 2. The system returns to Step 4 and waits for inputs from the user. <u>AF-S4: The password and confirm password fields do not match</u> 1. The system displays "Passwords do not match" error prompt. 2. The system returns to Step 4 and waits for inputs from the user. <u>AF-S5: The user enters a username that is already associated with an existing account</u> 1. The system displays "Username already in use" error prompt. 2. The system returns to Step 4 and waits for inputs from the user. <u>AF-S6: The user clicks the "Send code via SMS" button without entering a phone number</u> 1. The system displays "Please enter a valid phone number" error prompt. 2. The system returns to Step 6 and waits for inputs from the user.

	AF-S7: The user inputs an invalid phone number 1. The system displays "Please enter a valid phone number" error prompt. 2. The system returns to Step 6 and waits for inputs from the user. AF-S7: The user inputs a phone number that is already associated with an existing account 1. The system displays "Phone number already in use" error prompt. 2. The system returns to Step 6 and waits for inputs from the user. AF-S8: The user clicks the "Verify OTP" button without entering the OTP 1. The system displays "Please enter the OTP" error prompt. 2. The system returns to Step 8 and waits for inputs from the user. AF-S8: The user fails to enter the OTP within the 60-second time limit 1. The system allows the user to click the "Resend OTP" button. 2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 3. The system returns to Step 8 and waits for inputs from the user. AF-S9: The user enters the OTP incorrectly 1. The system displays "OTP verification failed" error prompt. 2. The system displays a "Resend OTP" button. 3. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 4. The system returns to Step 8 and waits for inputs from the user.
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost."

	2. The system returns to the Landing Page.
	EX2: The user did not receive the OTP
	1. After 60 seconds, the system displays a "Resend OTP" button.
	2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number.
	3. The system returns to Step 8 and waits for inputs from the user.
Includes:	REG-02: Create New Profile
Priority:	High
Frequency of Use:	Low
Business Rules:	
Special Requirements:	For security, passwords must conform to a specific password policy: 1. Minimum length of 8 characters 2. At least 1 uppercase character 3. At least 1 lowercase character 4. At least 1 special character
Assumptions:	-
Notes and Issues:	-

1.2 Create New Profile

Use Case ID:	REG-02		
Use Case Name:	Create New Profile		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	New User (Initiating Actor), Database
Description:	After registering for an account, the new user inputs their personal information (full name, gender, nationality, profession, home address, postal code, security question and answer) to create their profile.
Trigger:	After successfully verifying their phone number during registration, the user is automatically directed to the profile creation screen to input their personal details.
Preconditions:	1. The user has navigated to the Create Profile Page of the application. 2. The account system is operational and able to process new user registrations.

	3. The user is connected to the Internet.
Postconditions:	1. A new user account is successfully created in the system database. 2. The user is logged into the application. 3. The user is redirected to the Dashboard Page.
Normal Flow:	1. After the user has successfully registered for a new account, the Create Profile Page is displayed. 2. The user enters their personal information (full name, gender, nationality, profession, home address, postal code, security question and answer) into the respective fields, then clicks the "Log In" button. 3. The system validates the provided information, then asks the user to upload an image for their profile picture. 4. The user uploads an image, then clicks the "Finish" button. 5. The system validates the file, then creates a new user account in the database. 6. The system redirects the user to the Dashboard Page.
Alternative Flows:	AF-S2: The user clicks the "Log In" button before completing all fields 1. The system displays "Please complete all fields" error prompt. 2. The system returns to Step 2 and waits for inputs from the user. AF-S4: The user clicks the "Finish" button without uploading a profile picture 1. The system continues to Step 5.
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page.
Includes:	-
Priority:	High
Frequency of Use:	Low
Business Rules:	The user profile must capture the user's name, nationality, and academic programme to enable personalisation features like the news hub and school-specific hubs.
Special Requirements:	-

Assumptions:	-
Noes and Issues:	-

1.3 Login

Use Case ID:	LOG-01		
Use Case Name:	Login		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Database
Description:	A user can log in to their account to access the features of the app by using their username and password and verifying their phone number.
Trigger:	An existing user opens the app and enters their credentials on the login screen to access their account.
Preconditions:	1. The user has navigated to the Login Page of the application. 2. The account system is operational and able to process login requests. 3. The user is connected to the Internet. 4. The user must have an existing account already registered in the system.
Postconditions:	1. The user is successfully authenticated and logged into the application. 2. The system displays the Dashboard Page.
Normal Flow:	1. The user launches the application, the Landing Page is displayed. 2. The user clicks the "Get Started" button on the Landing Page, then is redirected to the Login Page. 3. The user inputs their username and password, then clicks the "Log In" button. 4. The system validates the provided information. If it matches an existing account, then the user passes the first step of authentication and is directed to the next. 5. The system extracts the phone number registered with this username from the database, then sends an OTP to the phone number. 6. The user enters the OTP, then clicks the "Verify OTP" button. 7. The system validates the OTP. If the OTP is correct, then the

	user passes the second step of authentication. 8. The system redirects the user to the Dashboard Page.
Alternative Flows:	AF-S3: The user clicks the "Log In" button before completing all fields 1. The system displays "Please complete all fields" error prompt. 2. The system returns to Step 3 and waits for inputs from the user. AF-S4: The user inputs a non-existent username 1. The system displays "No account has been created with this username. Please sign up instead." error prompt. 2. The system returns to the Login Page. AF-S4: The user inputs a wrong password 1. The system displays "Incorrect password" error prompt. 2. The system returns to Step 3 and waits for inputs from the user. AF-S6: The user clicks the "Verify OTP" button without entering the OTP 1. The system displays "Please enter the OTP" error prompt. 2. The system returns to Step 6 and waits for inputs from the user. AF-S6: The user fails to enter the OTP within the 60-second time limit 1. The system allows the user to click the "Resend OTP" button. 2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 3. The system returns to Step 6 and waits for inputs from the user. AF-S7: The user enters the OTP incorrectly 1. The system displays "OTP verification failed" error prompt. 2. The system displays a "Resend OTP" button.

	3. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number.
	4. The system returns to Step 6 and waits for inputs from the user.
Exceptions:	<u>EX1: The system loses internet connection</u>
	1. The system displays the error message "Network connection lost."
	2. The system returns to the Landing Page.
	<u>EX2: The user did not receive the OTP</u>
	1. After 60 seconds, the system displays a "Resend OTP" button.
	2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number.
	3. The system returns to Step 6 and waits for inputs from the user.
Includes:	(Extends) PASS-01: Reset Password
Priority:	High
Frequency of Use:	High
Business Rules:	Authentication requires two factors: the user's password and a 6-digit OTP sent to their registered phone number.
Special Requirements:	The system must implement two-factor authentication for an added layer of security.
Assumptions:	-
Notes and Issues:	-

1.4 Logout

Use Case ID:	LOG-02		
Use Case Name:	Logout		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor)
Description:	A user can log out of their account.
Trigger:	A logged-in user selects the "Logout" option from the settings menu to securely end their session.
Preconditions:	1. The user has navigated to the Settings Page of the application.

	2. The account system is operational and able to process logout requests. 3. The user is connected to the Internet. 4. The user is already logged into their account.
Postconditions:	1. The user is logged out of their account. 2. The system displays the Landing Page.
Normal Flow:	1. The user navigates to the Settings Page. 2. The user clicks the "Logout" button. 3. The system logs the user out of their account. 4. The system redirects the user to the Landing Page.
Alternative Flows:	-
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page.
Includes:	-
Priority:	High
Frequency of Use:	Medium
Business Rules:	-
Special Requirements:	
Assumptions:	-
Notes and Issues:	-

2.1 Reset Password

Use Case ID:	PASS-01		
Use Case Name:	Reset Password		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Database
Description:	A user can reset their password if they have forgotten it.
Trigger:	A user who has forgotten their password clicks the "Forgot Password?" link on the login page.
Preconditions:	1. The user has navigated to the Login Page of the application. 2. The account system is operational and able to process login requests. 3. The user is connected to the Internet.

	4. The user must have an existing account already registered in the system.
Postconditions:	3. The user's account password is changed to their new password in the system database. 4. The user is logged into their account.
Normal Flow:	1. The user navigates to the Login Page. 2. The user clicks the "Forgot Password?" button. 3. The system redirects the user to the Forgot Password Page. 4. The user enters their phone number, then clicks the "Send code via SMS" button. 5. The system validates the provided information, then sends an OTP to the user's phone number. 6. The user enters the OTP, then clicks the "Verify OTP" button. 7. The system validates the OTP. If the OTP is correct, then the user passes the first step of authentication and is directed to the next. 8. The system extracts the security question registered with this phone number from the database, then redirects the user to the Security Question Page. 9. The user enters the answer to the security question, then clicks the "Submit Answer" button. 10. The system validates the answer. If the answer is correct, then the user passes the second step of authentication. 11. The system redirects the user to the Reset Password Page. 12. The user enters their new password and confirms their password, then clicks the "Reset Password" button. 13. The system validates the provided information, then redirects the user to the Dashboard Page.

Alternative Flows:	AF-S4: The user clicks the "Send code via SMS" button without entering a phone number
	
	  1. The system displays the "Please enter a valid phone number" error prompt.
	  2. The system returns to Step 4 and waits for inputs from the user.
	
	AF-S4: The user inputs an invalid phone number
	
	  1. The system displays "Please enter a valid phone number" error prompt.

	2. The system returns to Step 4 and waits for inputs from the user.
	AF-S5: The user inputs a phone number that not associated with an existing account
	1. The system displays "No account has been created with this phone number. Please sign up instead." error prompt.
	2. The system returns to the Login Page.
	AF-S6: The user clicks the "Verify OTP" button without entering the OTP
	1. The system displays "Please enter the OTP" error prompt.
	2. The system returns to Step 6 and waits for inputs from the user.
	AF-S6: The user fails to enter the OTP within the 60-second time limit
	1. The system allows the user to click the "Resend OTP" button.
	2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number.
	3. The system returns to Step 6 and waits for inputs from the user.
	AF-S7: The user enters the OTP incorrectly
	1. The system displays "OTP verification failed" error prompt.
	2. The system displays a "Resend OTP" button.
	3. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number.
	4. The system returns to Step 6 and waits for inputs from the user.
	AF-S9: The user clicks the "Submit Answer" button without entering an answer
	1. The system displays "Please give and answer" error prompt.
	2. The system returns to Step 9 and waits for inputs from the user.
	AF-S10: The user inputs a wrong answer

	1. The system displays "Incorrect answer" error prompt. 2. The system returns to Step 9 and waits for inputs from the user. AF-S12: The user clicks the "Reset Password" button before completing all fields 1. The system displays "Please complete all fields" error prompt. 2. The system returns to Step 12 and waits for inputs from the user. AF-S12: The user enters a password that does not meet the strength requirements 1. The system displays "Please use a stronger password" error prompt. 2. The system returns to Step 12 and waits for inputs from the user. AF-S12: The password and confirm password fields do not match 1. The system displays "Passwords do not match" error prompt. 2. The system returns to Step 12 and waits for inputs from the user. AF-S13: The new password and old password are the same 1. The system displays "New password cannot be same as old password" error prompt. 2. The system returns to Step 12 and waits for inputs from the user.
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page. EX2: The user did not receive the OTP 1. After 60 seconds, the system displays a "Resend OTP" button. 2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 3. The system returns to Step 6 and waits for inputs from the

	user.
Includes:	
Priority:	High
Frequency of Use:	Low
Business Rules:	The new password must adhere to the system's password strength requirements.
Special Requirements:	The system must implement two-factor authentication for an added layer of security. For security, passwords must conform to a specific requirement: 1. Minimum length of 8 characters 2. At least 1 uppercase character 3. At least 1 lowercase character 4. At least 1 special character
Assumptions:	-
Notes and Issues:	-

2.2 Change Password

Use Case ID:	PASS-02		
Use Case Name:	Change Password		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Database
Description:	A user can change their password to a different password.
Trigger:	A logged-in user navigates to the settings page and selects the option to change their current password.
Preconditions:	1. The reminder record must first be found before it can be removed. AND 2. Connection to the database must be established.
Postconditions:	1. The reminder database should be updated with the chosen record being removed. AND 2. The updated data must be returned to the calling use case and reflected in the app.
Normal Flow:	1. The user navigates to the Settings Page. 2. The user clicks the "Change Password" button.

	3. The system redirects the user to the Change Password Page. 4. The user enters their new password and confirms their password, then clicks the "Change Password" button. 5. The system validates the provided information, then redirects the user to the Dashboard Page.
Alternative Flows:	AF-S4: The user clicks the "Change Password" button before completing all fields 3. The system displays "Please complete all fields" error prompt. 4. The system returns to Step 4 and waits for inputs from the user. AF-S4: The user enters a password that does not meet the strength requirements 3. The system displays "Please use a stronger password" error prompt. 4. The system returns to Step 4 and waits for inputs from the user. AF-S4: The password and confirm password fields do not match 3. The system displays "Passwords do not match" error prompt. 4. The system returns to Step 4 and waits for inputs from the user. AF-S5: The new password and old password are the same 1. The system displays "New password cannot be same as old password" error prompt. 2. The system returns to Step 4 and waits for inputs from the user.
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page.
Includes:	-
Priority:	High
Frequency of Use:	Low
Business Rules:	-The new password must adhere to the system's password strength requirements.

Special Requirements:	For security, passwords must conform to a specific requirement: 1. Minimum length of 8 characters 2. At least 1 uppercase character 3. At least 1 lowercase character 4. At least 1 special character
Assumptions:	-
Notes and Issues:	-

2.3 Change Phone Number

Use Case ID:	PHN-01
Use Case Name:	Change Phone Number

Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Database
Description:	A user can change their phone number if they have switched to a new phone number.
Trigger:	A user navigates to their profile settings and initiates the process to update the phone number associated with their account
Preconditions:	1. The user has navigated to the Settings Page of the application. 2. The user is connected to the Internet. 3. The user must have an existing account already registered in the system. 4. The user is already logged into their account.
Postconditions:	1. The user's account phone number is changed to their new phone number in the system database. 2. The system displays the Dashboard Page.
Normal Flow:	1. The user navigates to the Settings Page. 2. The user clicks the "Change Phone Number" button. 3. The system redirects the user to the Change Phone Number Page. 4. The user enters their new phone number, then clicks the "Save" button. 5. The system validates the provided information, then redirects the user to the Verify Phone Number Page. 6. The user clicks the "Send code via SMS" button. 7. The system validates the provided information, then sends an OTP to the user's phone number. 8. The user enters the OTP, then clicks the "Verify OTP" button. 9. The system validates the OTP, then redirects the user to the Dashboard Page.
Alternative Flows:	AF-S4: The user clicks the "Send code via SMS" button without entering a phone number 1. The system displays "Please enter a valid phone number" error prompt. 2. The system returns to Step 4 and waits for inputs from the user.

	AF-S4: The user inputs an invalid phone number 1. The system displays "Please enter a valid phone number" error prompt. 2. The system returns to Step 4 and waits for inputs from the user. **AF-S5: The user inputs a phone number that not associated with an existing account** 1. The system displays "No account has been created with this phone number. Please sign up instead." error prompt. 2. The system returns to the Login Page. **AF-S6: The user clicks the "Verify OTP" button without entering the OTP** 1. The system displays "Please enter the OTP" error prompt. 2. The system returns to Step 6 and waits for inputs from the user. **AF-S6: The user fails to enter the OTP within the 60-second time limit** 1. The system allows the user to click the "Resend OTP" button. 2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 3. The system returns to Step 6 and waits for inputs from the user. **AF-S7: The user enters the OTP incorrectly** 1. The system displays "OTP verification failed" error prompt. 2. The system displays a "Resend OTP" button. 3. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 4. The system returns to Step 6 and waits for inputs from the user. **AF-S9: The user clicks the "Submit Answer" button without entering an answer** 1. The system displays "Please give and answer" error prompt.

	2. The system returns to Step 9 and waits for inputs from the user. AF-S10: The user inputs a wrong answer 1. The system displays "Incorrect answer" error prompt. 2. The system returns to Step 9 and waits for inputs from the user.
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page. EX2: The user did not receive the OTP 1. After 60 seconds, the system displays a "Resend OTP" button. 2. The user clicks the "Resend OTP" button, then the system sends another OTP to the user's phone number. 3. The system returns to Step 6 and waits for inputs from the user.
Includes:	-
Priority:	Low
Frequency of Use:	Low
Business Rules:	1. The new phone number must be verified via OTP before the change is finalized in the system. 2. The new phone number cannot already be in use by another account
Special Requirements:	The system must implement two-factor authentication for an added layer of security. For security, passwords must conform to a specific requirement: 1. Minimum length of 8 characters 2. At least 1 uppercase character 3. At least 1 lowercase character 4. At least 1 special character
Assumptions:	-
Notes and Issues:	-

2.4 View and Edit Profile

Use Case ID:	PRF-01		
Use Case Name:	View and Edit Profile		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Database
Description:	A user can view and edit their personal information on their profile.
Trigger:	A user selects the "Edit Profile" option from their dashboard or settings page to view or modify their personal information
Preconditions:	1. The user has navigated to the Dashboard Page or Settings Page of the application. 2. The user is connected to the Internet. 3. The user must have an existing account already registered in the system. 4. The user is already logged into their account.
Postconditions:	1. The system updates the user's profile to reflect the changes. 2. The changes are saved into the database.
Normal Flow:	1. The user navigates to the Dashboard Page or the Settings Page. 2. The user clicks on their profile picture or the "Edit Profile" button. 3. The system redirects the user to the Profile Page. 4. The user can view their profile information and edit their profile information. 5. The user enters their new profile information, then clicks the "Save" button. 6. The system validates the provided information, then updates the information in the database to reflect the changes.
Alternative Flows:	AF-S5: The user clicks the "Save" button before completing all fields 1. The system displays "Please complete all fields" error prompt. 2. The system returns to Step 5 and waits for inputs from the user.
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page.

Includes:	-
Priority:	Medium
Frequency of Use:	Medium
Business Rules:	1. All user-editable fields must be validated upon submission.
Special Requirements:	-
Assumptions:	-
Notes and Issues:	-

3.1 Currency Conversion

Use Case ID:	CUR-01		
Use Case Name:	Currency Conversion		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Currency Exchange API
Description:	A user can input an amount to convert from SGD to the currency of their home country, or vice versa, and view the current exchange rate.
Trigger:	A user selects the Currency Conversion widget from the main dashboard to calculate foreign exchange rates.
Preconditions:	1. The user has navigated to the Dashboard Page of the application. 2. The user is connected to the Internet. 3. The user must have an existing account already registered in the system. 4. The user is already logged into their account.
Postconditions:	3. The system displays the converted amount and the current market exchange rate.
Normal Flow:	1. The user navigates to the Dashboard Page. 2. The user clicks on the Currency Conversion widget. 3. The system redirects the user to the Currency Conversion Page. 4. The system displays SGD as the From currency and the user's home country currency as the To currency by default. 5. The user can click "Switch" button to swap the From and To currency. 6. The user enters an amount to convert, then clicks the "Convert" button. 7. The system validates the provided information, then displays

	the converted amount and current exchange rate.
Alternative Flows:	<u>AF-S6: The user clicks the "Convert" button without entering an amount</u> 1. The system displays "Please enter an amount to convert" error prompt. 2. The system returns to Step 6 and waits for inputs from the user. <u>AF-S6: The user enters zero or a negative number</u> 1. The system displays "Please enter a positive number to convert" error prompt. 2. The system returns to Step 6 and waits for inputs from the user.
Exceptions:	<u>EX1: The system loses internet connection</u> 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page.
Includes:	-
Priority:	High
Frequency of Use:	Medium
Business Rules:	1. The converter must use real-time exchange rates from a reliable API.
Special Requirements:	The system must fetch real-time currency exchange rates from a reliable financial data API.
Assumptions:	-
Notes and Issues:	-

4.1 Centralised Information Hub

Use Case ID:	HUB-01		
Use Case Name:	Centralised Information Hub		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Content Aggregation Service, University Announcements API, News API
Description:	After login, the user lands on a personalized dashboard showing: (a) home-country news, (b) important NTU announcements, (c) guides

	on local culture/amenities, and (d) curated quick links to official sources (STP, health screening, SimplyGo transit concession, NTU directories).
Trigger:	Upon successful login, the user is automatically presented with the main dashboard, which functions as their personalized information hub.
Preconditions:	1. User is authenticated and has a profile with nationality/home country. 2. Internet connection; aggregation services are available.
Postconditions:	1. Personalized modules render; user preferences are saved.
Normal Flow:	1. User opens the app; Dashboard Page loads. 2. System fetches user profile (home country, interests, stage/"week 1" flag). 3. System retrieves NTU announcements and home-country news. 4. System displays guides and "Verified Quick Links" grouped by tasks (STP, Health, Transit, Contacts). 5. User can pin/unpin modules and reorder widgets; system persists layout. 6. User opens any link to proceed (deep link handled by HUB-02).
Alternative Flows:	AF-S3: No home country set → show "Set Home Country" prompt and default to Singapore news until set.
Exceptions:	EX1: Network loss → show offline message and cached tiles where available.
Includes:	HUB-02 (Quick Link Launcher)
Priority:	High
Frequency of Use:	High
Business Rules:	1. News content must be aggregated from the top 5 media outlets of the user's home country 2. University announcements must be displayed within 24 hours of their official release. 3. All "Quick Links" must be verified deep links to official NTU sources
Special Requirements:	1. Use "Corporate NTU" / "Corporate NTU+1" taxonomy for labels across tiles and sections. 2. Links must be verified destinations (NTU One-Stop, Fullerton Health @ NTU, UWO/UCC, OGEM, SimplyGo, NTU Omnibus).

Assumptions:	-User has granted personalization consent.
Notes and Issues:	-

5.1 Navigation

Use Case ID:	MAP-01		
Use Case Name:	Navigation		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Places API, Maps API
Description:	A user can search for transits routes from a starting location to their destination.
Trigger:	A user opens the navigation feature to get turn-by-turn directions to a location on or off campus.
Preconditions:	1. The user has navigated to the Dashboard Page of the application. 2. The user is connected to the Internet. 3. The user must have an existing account already registered in the system. 4. The user is already logged into their account.
Postconditions:	1. The system displays the travel route from the user's chosen start location to destination on a map. 2. The system displays the details of the route, including the mode of transport (walk, MRT, bus etc.), distance and duration.
Normal Flow:	1. The user navigates to the Dashboard Page. 2. The user clicks on the Navigation widget. 3. The system redirects the user to the Navigation Page. 4. The system displays a map of the user's current location. 5. The user enters the start location and destination, then clicks the "Find Route" button. 6. The system validates the provided information, then displays the travel route from the start location to the destination on the map. 7. The system displays the details of the route, including mode of transport (walk, MRT, bus etc.), distance and duration.
Alternative Flows:	AF-S4: Geolocation tracking is disabled in the user's device settings 1. The system displays a map of Singapore.

	2. The system continues to Step 5.
	
	AF-S5: The user clicks on the "Use Current Location" button
	
	    1. The system uses geolocation tracking to determine the user's current location.
	    2. The system uses the user's current location as the start location.
	    3. The system returns to Step 5 and waits for inputs from the user.
	
	AF-S5: The user clicks on the "Find Route" button without entering a starting location or a destination
	
	    1. The system displays "Please complete all fields" error prompt.
	    2. The system returns to Step 5 and waits for inputs from the user.
	
	AF-S6: The user enters a non-existent address
	
	    1. The system displays "Please enter a valid address" error prompt.
	    2. The system returns to Step 5 and waits for inputs from the user.

Exceptions:	EX1: The system loses internet connection
	
	    1. The system displays the error message "Network connection lost."
	    2. The system returns to the Landing Page.
	
	EX2: The user clicks on the "Use Current Location" button, but geolocation tracking is disabled in the user's device settings
	
	    1. The system displays "Please enable geolocation tracking on your device" error prompt.
	    2. The system returns to Step 5 and waits for inputs from the user.

Includes:	
Priority:	High
Frequency of Use:	Medium
Business Rules:	-

Special Requirements:	The system must fetch real-time location data from a reliable map API.
Assumptions:	-
Notes and Issues:	-

5.2 Amenities Finder

Use Case ID:	MAP-02		
Use Case Name:	Amenities Finder		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), Places API, Maps API
Description:	The user can search for the nearest amenities (lecture halls, administrative offices, dining options, student services) to their current location.
Trigger:	A user accesses the "Nearest Amenities" feature from the dashboard to find points of interest like eateries, administrative offices, or bus stops.
Preconditions:	1. The user has navigated to the Dashboard Page of the application. 2. The user is connected to the Internet. 3. The user has enabled geolocation tracking on their device. 4. The user must have an existing account already registered in the system. 5. The user is already logged into their account.
Postconditions:	1. The system displays the locations of the chosen amenity nearest to the user's current location on a map. 2. The system displays the details of the amenities, including the address, opening hours and description.
Normal Flow:	1. The user navigates to the Dashboard Page. 2. The user clicks on the Nearest Amenities Finder widget. 3. The system redirects the user to the Amenities Page. 4. The user selects an amenity type (lecture halls, administrative offices, dining options, student services), then clicks the "Find Nearest Amenities" button. 5. The system displays a map of the user's current location and displays the locations of the amenities.

	6. The system displays the details of the amenities, including the address, opening hours and description.
Alternative Flows:	<u>AF-S4: The user clicks the "Find Nearest Amenities" button without selecting an amenity type</u> 1. The system displays "Please choose an amenity" error prompt. 2. The system returns to Step 4 and waits for inputs from the user.
Exceptions:	<u>EX1: The system loses internet connection</u> 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page. <u>EX2: Geolocation tracking is disabled in the user's device settings</u> 1. The system displays "Please enable geolocation tracking on your device" error prompt. 2. The system returns to Step 4 and waits for inputs from the user.
Includes:	
Priority:	Medium
Frequency of Use:	Medium
Business Rules:	-
Special Requirements:	The system must fetch real-time location data from a reliable map API.
Assumptions:	-
Notes and Issues:	-

6.1 AI Chatbot

Use Case ID:	AI-01		
Use Case Name:	AI Chatbot		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	4 September 2025	Date Last Updated:	4 September 2025

Actor:	User (Initiating Actor), AI Chatbot API
Description:	The user can interact with an AI-powered chatbot by asking questions and uploading images for analysis, where they can receive immediate automated responses.
Trigger:	A user opens the chatbot widget from the dashboard to ask a question or seek assistance
Preconditions:	1. The user has navigated to the Dashboard Page of the application. 2. The user is connected to the Internet. 3. The user must have an existing account already registered in the system. 4. The user is already logged into their account.
Postconditions:	1. The system displays a response from the AI chatbot.
Normal Flow:	1. The user navigates to the Dashboard Page. 2. The user clicks on the Chatbot widget. 3. The system redirects the user to the Chatbot Page. 4. The user enters a question or uploads an image and clicks the send button. 5. The AI processes the input, then the system displays its response. 6. The user can continue asking more questions or upload additional images.
Alternative Flows:	-
Exceptions:	EX1: The system loses internet connection 1. The system displays the error message "Network connection lost." 2. The system returns to the Landing Page. EX2: The user asks a question that the AI cannot understand or answer 1. The system displays "I'm not sure how to answer that. Can

	you ask in a different way or try a different question?" error prompt. EX3: The uploaded image is not in a supported format or is too large 1. The system displays "Unsupported image format or image too large. Please upload a different image." error prompt.
Includes:	-
Priority:	Medium
Frequency of Use:	Medium
Business Rules:	-
Special Requirements:	-
Assumptions:	-
Notes and Issues:	Considerations for user privacy and data handling policies for uploaded images and conversation logs should be addressed.

7.1 Quick Links

Use Case ID:	QL-01		
Use Case Name:	Quick Links		
Created By:	Tran Son Viet	Last Updated By:	Tran Son Viet
Date Created:	8 September 2025	Date Last Updated:	8 September 2025

Actor:	User (Initiating Actor), Links Registry Service, SSO Provider
Description:	From the Dashboard's "Top Links" strip and the "NTU Links" / "School/Programme Links" sections, the user taps a verified quick link (e.g., Student Intranet, STARS, Degree Audit, NTULearn/Canvas, Academic Calendar, Library Booking, Programme-specific portals) to open it via in-app webview or system browser with SSO.
Trigger:	A user opens the quick link widget from the dashboard
Preconditions:	1. User is authenticated and has network connectivity. 2. Link destination is present in the verified Link Registry and marked active. 3. For programme links, user's School/Programme context is set (or a default is available).
Postconditions:	1. Target page opens successfully (in-app webview or system browser).

	2. Click is logged for analytics; last-opened links may be surfaced in "Recents".
Normal Flow:	1. User opens the Dashboard; Top Links sections are visible. 2. User taps a link tile (e.g., "STARS"). 3. System looks up the destination in the Links Registry (URL, SSO method, deep-link hints). 4. If SSO is required, system initiates the appropriate auth flow. 5. System opens the destination in webview or external browser per link policy. 6. System records click metrics and updates "Recents".
Alternative Flows:	-
Exceptions:	EX1: Destination unreachable (HTTP 4xx/5xx/timeout) 1. System shows "Link unavailable" with "Report broken link" and "Try again". EX2: Permission restricted (e.g., school-only resource) 1. System shows "You don't have access with this account" and offers "Switch account" or "Contact owner". EX3: Network loss 1. System shows "Network connection lost" and returns to Dashboard.
Includes:	-
Priority:	High
Frequency of Use:	High
Business Rules:	-Links that duplicate functionality must point to the canonical official source (NTU policy).
Special Requirements:	-
Assumptions:	-

Notes and Issues:	Considerations for user privacy and data handling policies for uploaded images and conversation logs should be addressed.