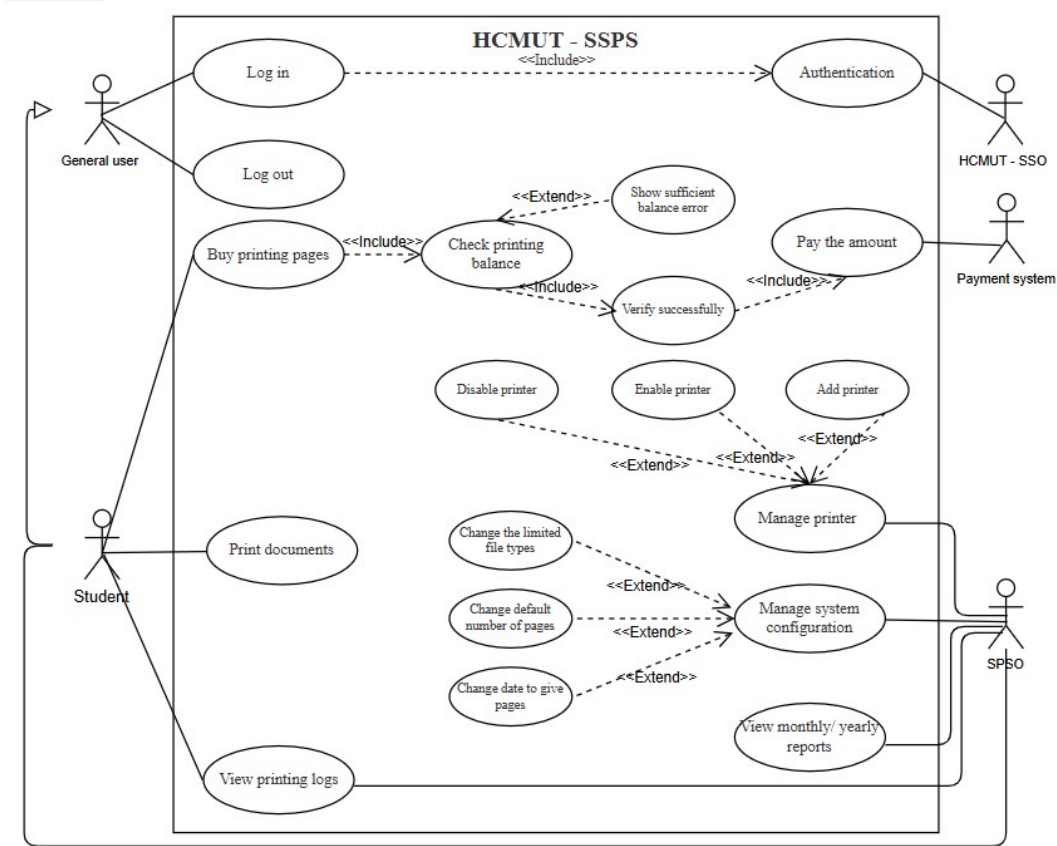Ngày 6 tháng 10 năm 2024

Pic: describing the whole system
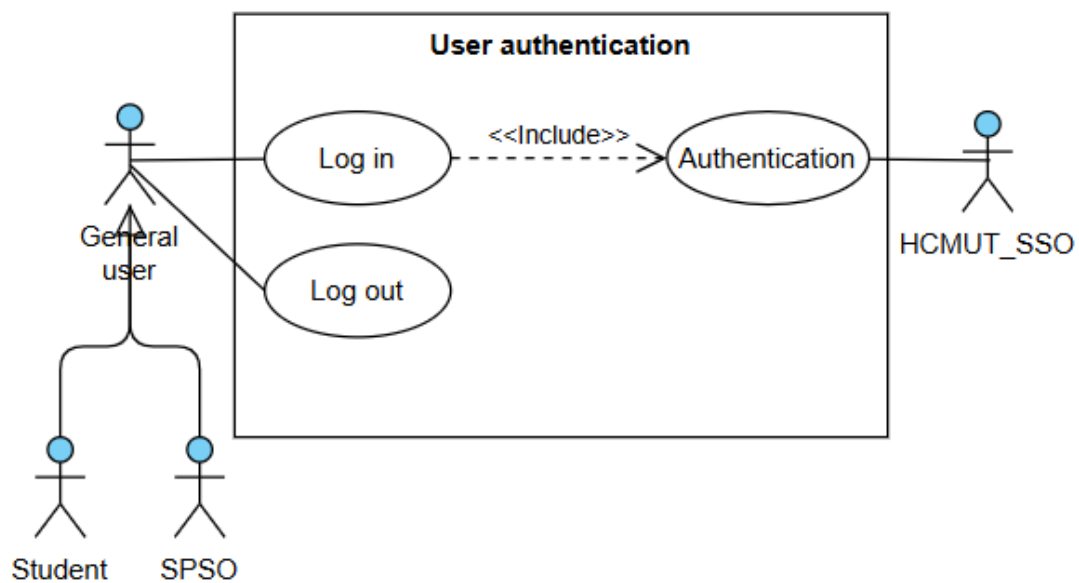

Pic: The important module choosing to describem

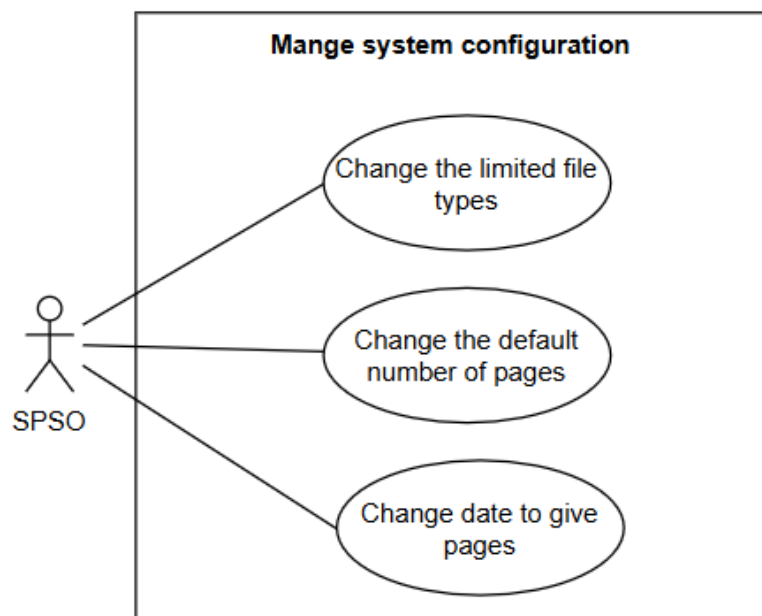| Use-case name:	Print document
Actors:	- Student (Primary Key) - SPSO
Description:	-Help students to print document
Trigger:	- Students in HCMUT have ID

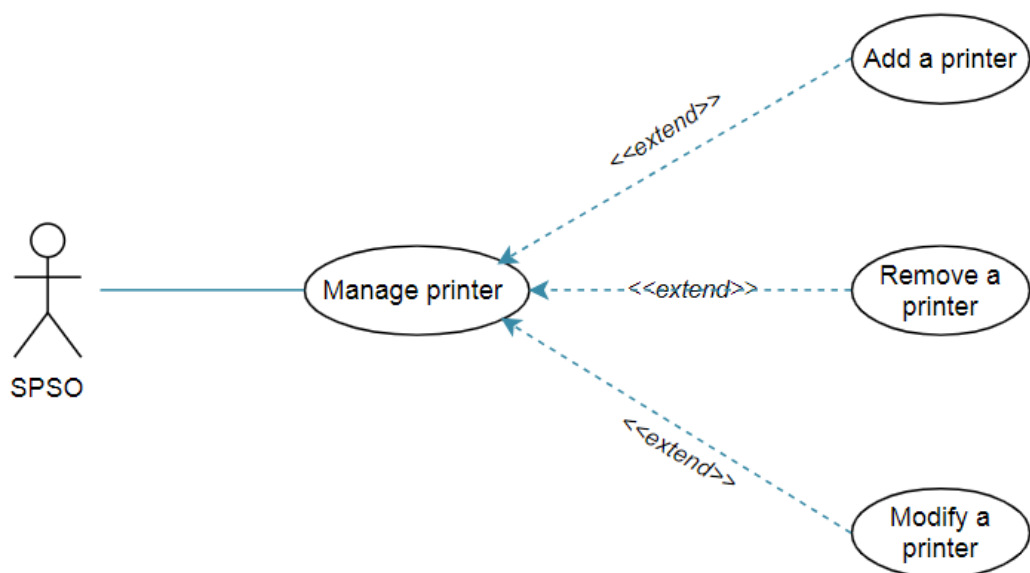|	
Precondition:	- Student is authenticated via HCMUT_SSO. - Printer is available and configured.
Post condition:	- Document is successfully printed, and the action is logged.
Normal flows:	1. Students select "print document" function. 2. Students upload || reupload the document to print. 3. System checks file type and page balance 4. If balance is insufficient, system extends "handle insufficient properties. 5. System logs the print action 6. Documents is sent to chosen printer and printed.
Alternative flows:	
Exceptions:	
Note and issues:	- Retry on Printer Error: If an error occurs, retry is triggered. - Handle Insufficient Balance: If balance is insufficient, the system requests more funds via BKPay.

Table: document printing feature specification

Hình 1: Use-case diagram for authentication

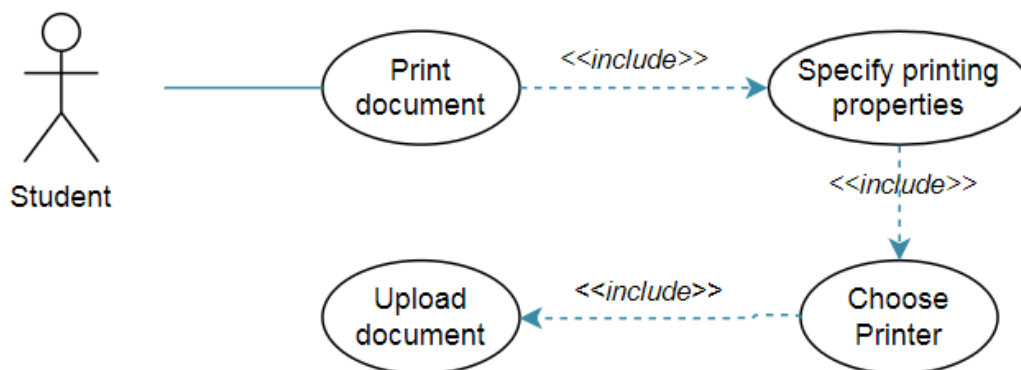| Use-case	Log in
Actor	SPSO, Student, HCMUT_SSO
Description	The user signs into to system using a username and password.
Trigger	The user opens the application and presses the login button.
Preconditions	1. The user has a valid and active university account that belongs to Ho Chi Minh University of Technology - VNU - HCM. 2. The device has the necessary permissions (access to the internet, storage, etc.) to function properly.
Postconditions	After a sucessfully login, the user is granted access to the system's functionalities.
Normal Flow	1. The login interface appears, showing fields for the university-issued account and password. 2. The user fills in their account information and password into the appropriate fields. 3. The user seclects the login option to submit their credentials. 4. The system confirms the accuracy of the user's account and password. 5. The system navigates the user to main page, granting access to the available functionalities.
Alternative flows	None
Exceptions	Exception1 : At step 4: If authentication fails: 4.1. The screen displays an authentication error message. 4.2 The user returns to step 1.

Hình 2: Use case diagram for manging system configuration

Use-case	Log out
Actor	SPSO, Student
Description	The user logs out of the system fuctions page and returns to the homepage.
Trigger	The user presses the "Logout" button or logs out through a keyboard shortcut (ctrl + L).
Preconditions	1. The users is logged into the system. 2. The user must have access to a stable internet connection.
Postconditions	
Normal Flow	1. The user select "Logout" button dispalyed on the screen. 2. The system prompts the user to confirm the logout action. (A confirmation dialog appears, asking the user, "Are you sure you want to log out?" with options to confirm or cancel the action.) 3. The system process the logout request and ends the user's session. 4. The user is redirected to the homepage.
Alternative flows	None
Exceptions	Exception1 : At step 3: If an error occurs: 3.1. The system displays an error message. 3.2. The system provide options for user action.(The error message include buttons "Retry" and "Contact support".) 3.3 The system maintains the user's current session. 3.4 The system prompts the user to any unsaved work.

Hình 3: Use-case diagram for managing printer

Use-case	Authentication
Actor	HCMUT_SSO
Description	The system authenticates the user's account and password by verifying the credentials provided during the login process. Upon receiving the user's input, which includes a unique username(or account ID) and a corresponding password, the system initiates a secure authentication process.
Trigger	The user presses the "Login" button after entering the account and password.
Preconditions	1. The user has a stable internet connection. 2. The user has successfully logged into system. 3. The user's device has the correct date and time settings. 4. The system is operating.
Postconditions	The user is successfully authenticated and gains access to the system.
Normal Flow	1.The system checks the authentication information, which includes credential retrieval, password comparison, account status assessment, security checks, and error handling. 2. The system successfully authenticates the user. 4. The user is redirected to the homepage and
Alternative flows	None
Exceptions	Exception1 : At step 2: If the authentication fails: 2.1 The system display an error message. 2.2 The system provide options for user action.(The error message include buttons "Retry" and "Contact support".) 2.3 The screen reverts to the login interface.

Hình 4: Use-case diagram for printing process

Use-case	Change the limited file types
Actor	SPSO
Description	The SPSO (Student printing service office) updates the list of allowed file formats for user uploads to ensure a seamless printing experience. This involves adding new formats and removing outdated ones to meet current operational needs.
Trigger	SPSO clicks the "Change allowed file types" button to initiate the process of updating the list of file formats.
Preconditions	1. The system is operational and accessible. 2. SPSO is logged into the system. 3. SPSO has identified the file formats that need to be added or removed. 4. The current cofiguration settings page is available for access.
Postconditions	SPSO successfully changes the configuration.
Normal Flow	1. The system displays the current list of allowed file types and a field to add a new file type. 2. SPSO reviews the list of currently allowed file types. 3. SPSO enters the desired file format in the input field. 4. SPSO clicks the confirm button to add the new file format. 5. The system validates the entered file format to ensure it meets the required criteria. 6. The system displays a success message confirming that the new file format has been added.
Alternative flows	At step 1: SPSO deletes a file format. 1.1 SPSO selects the file format to delete. 1.2 The system prompts for confirmation (Are you sure you want to delete the selected file format?). 1.3 SPSO confirms the deletion. 1.4 The system deletes the selected file type. 1.5 The updated list of allowed file formats is displayed. 1.6 Continues to step 1 in the main flow.
Exceptions	None

Use-case	Change the default number of pages
Actor	SPSO
Description	SPSO updates the number of free printed pages allocated to each user per semester based on the school's policy. This ensures fair access to printing resources and supports students' academic needs while managing printing costs.
Trigger	SPSO clicks the "Change Default Printed Pages" button.
Preconditions	1. The system is operational and accessible. 2. SPSO is logged into the system. 3. The current cofiguration settings page is available for access. 4. SPSO accesses the configuration settings page.
Postconditions	SPSO successfully changes the configuration.
Normal Flow	1.The system displays an input field for the number of pages 2.SPSO enters a number into the field. 3. SPSO clicks the confirm button to change. 4. The system validates the entered number. 5. The system successfully makes the change.
Alternative flows	None
Exceptions	Exception1 : At step 4: SPSO encounters a validation error: 4.2 The system notifies SPSO to re-enter.

Use-case	Change date to give pages
Actor	SPSO
Description	SPSO modifies the system's settings to adjust the schedule for when users receive their allocated free printed page numbers. This change allows SPSO to ensure timely access for users and improve the overall page number allocation process.
Trigger	SPSO clicks the "Change Default Page Numbering Date" button.
Preconditions	1. The system is operational and accessible. 2. SPSO is logged into the system. 3. The current cofiguration settings page is available for access. 4. SPSO accesses the configuration settings page.
Postconditions	SPSO successfully changes the configuration.
Normal Flow	1.The system retrieves calendar data and generates a list of days for the current month. 2. SSPSO selects one of the displayed days. 3.SPSO clicks confirm to change. 4. The system confirms the change was successful. 5. The system returns to the configuration settings interface.
Alternative flows	None
Exceptions	None

Use-case	Manage Printer
Actor	SPSO
Description	Allows SPSO to manage the printers.
Trigger	SPSO chooses "Manage Printers" in the main menu.
Preconditions	SPSO is logged into the printing services portal.
Postconditions	Add/Remove/Modify printer success.
Normal .	1. System opens the Manage Printers window. 2. System gets the list of printer. 3. System displays the list of printers 4. Printer manager choose a printer from the list. 5. System gets the printer detail and shows.
Alternative flows	**Alternative** 1: at step 3 3.1. Search printer Return to step 2 and continue in the normal flow Extended points: at step 5 Modify a printer, add a printer, remove a printer. Return to step 2 and continue in the normal flow
Exceptions	Exception 1: at step 5 5.1. If there's an issue, the user reports it to the system.

Bảng 2: Use-case Manage Printer

Use-case	Modify a Printer
Actor	SPSO
Description	Allows SPSO to manage the printers
Trigger	SPSO clicks "Modify" button in the printer menu
Preconditions	SPSO islogged into the printing services portal.
Postconditions	Modify printer success.
Normal flows	1.System changes into the edit mode. 2.Printer manager enable/disable the printer. 3.Printer manager selects "Save" button. 4.System saves the new detail.
Alternative flows	None
Exceptions	Exception1: at step3 3.1. Print manager selects "Cancel" button.

Bảng 3

Use-case	Add a Printer
Actor	SPSO
Description	Allows SPSO to manage the printers.
Trigger	SPSO clicks "Add" button in the printer menu.
Preconditions	SPSO is logged into the printing services portal.
Postconditions	Add printer success.
Normal flows	1. System changes into the edit mode. 2. Printer manager adds the detail. 3. Printer manager selects "Save" button. 4. System saves the new detail.
Alternative flows	None
Exceptions	Exception 1: at step 3 3.1. Print manager selects "Cancel" button

Bảng 4: Use-case: Add a Printer

Use-case	Remove a Printer
Actor	SPSO
Description	Allows SPSO to manage the printers.
Trigger	SPSO clicks "Remove" button in the printer menu.
Preconditions	SPSO is logged into the printing services portal.
Postconditions	Remove printer success.
Normal flows	1. System changes into the edit mode. 2. Printer manager chooses the printer to remove. 3. System asks the printer manager to confirm removing. 4. System saves the new detail.
Alternative flows	None
Exceptions	Exception 1: at step 3 3.1. Print manager selects "Cancel" button

Bảng 5: Use-case: Remove a Printer

Use-case	Upload Document
Actor	Student
Description	Allows students to upload specific file types for printing.
Trigger	Student chooses to print a document.
Preconditions	Student is logged into the printing services portal.
Postconditions	File is uploaded and ready for printing.
Normal flows	1. Student navigates to the "Upload File" section. 2. Student selects the desired file from their device. 3. System validates the file type. 4. Student confirms the upload. 5. System saves the file and queues it for printing. 6. System redirects the student to the "Choose Printer" section.
Alternative flows	Alternative 1: at step 3 3.1. If the file type is not supported, the system prompts the student to choose a different file. Return to step 2 and continue in the normal flow. Alternative 2: at step 4 4.1. Student chooses to upload a different document file for printing. Return to step 2 and continue in the normal flow.
Exceptions	Exception 1: at step 5 5.1. If there's an error in saving or queuing the file, the system displays an error message to the student.

Bảng 6: Use-case: Upload Document

Use-case	Choose Printer
Actor	Student
Description	Enables students to select a printer based on its ID, location, or other details.
Trigger	Student wants to select a specific printer for their printing job.
Preconditions	Student has uploaded a file for printing.
Postconditions	Printer is selected and the file is queued for printing on the chosen printer.
Normal flows	1. Student gets redirected to the "Choose Printer" section. 2. System displays a list of available printers with details. 3. Student selects a printer based on preference. 4. System confirms the printer selection. 5. System reserves the chosen printer for the student to use. 6. System redirects the student to the "Printing Properties" page.
Alternative flows	Alternative 1: at step 4 4.1. If the chosen printer is offline or unavailable, the system prompts the student to choose a different printer. Return to step 2 and continue in the normal flow.
Exceptions	None.

Bảng 7: Use-case: Choose Printer

Use-case	Specify Printing Properties
Actor	Student
Description	Provides students the option to specify printing properties like paper size, one-/double-sided printing, etc.
Trigger	Student wants to set specific printing properties for their document.
Preconditions	Student has uploaded a file and chosen a printer.
Postconditions	Printing properties are set and the file is queued with the specified settings. The chosen printer starts the printing process.
Normal flows	1. Student navigates to the "Printing Properties" section. 2. System displays available printing options. 3. Student sets desired properties (e.g., paper size, double-sided). 4. System presents a page with set properties. 5. Student confirms the printing properties. 6. System confirms the specified properties and saves them for printing. 7. The chosen printer starts printing the uploaded document.
Alternative flows	Alternative 1: at step 5 5.1. Student chooses to change the printing properties. Return to step 2 and continue in the normal flow.
Exceptions	Exception 1: at step 4 4.1. If there's an error in setting the properties, the system displays an error message to the student.

Bảng 8: Use-case: Specify Printing Properties