
Use Cases for SkillsBridge SG

Version 1.0 approved

Prepared by <author>

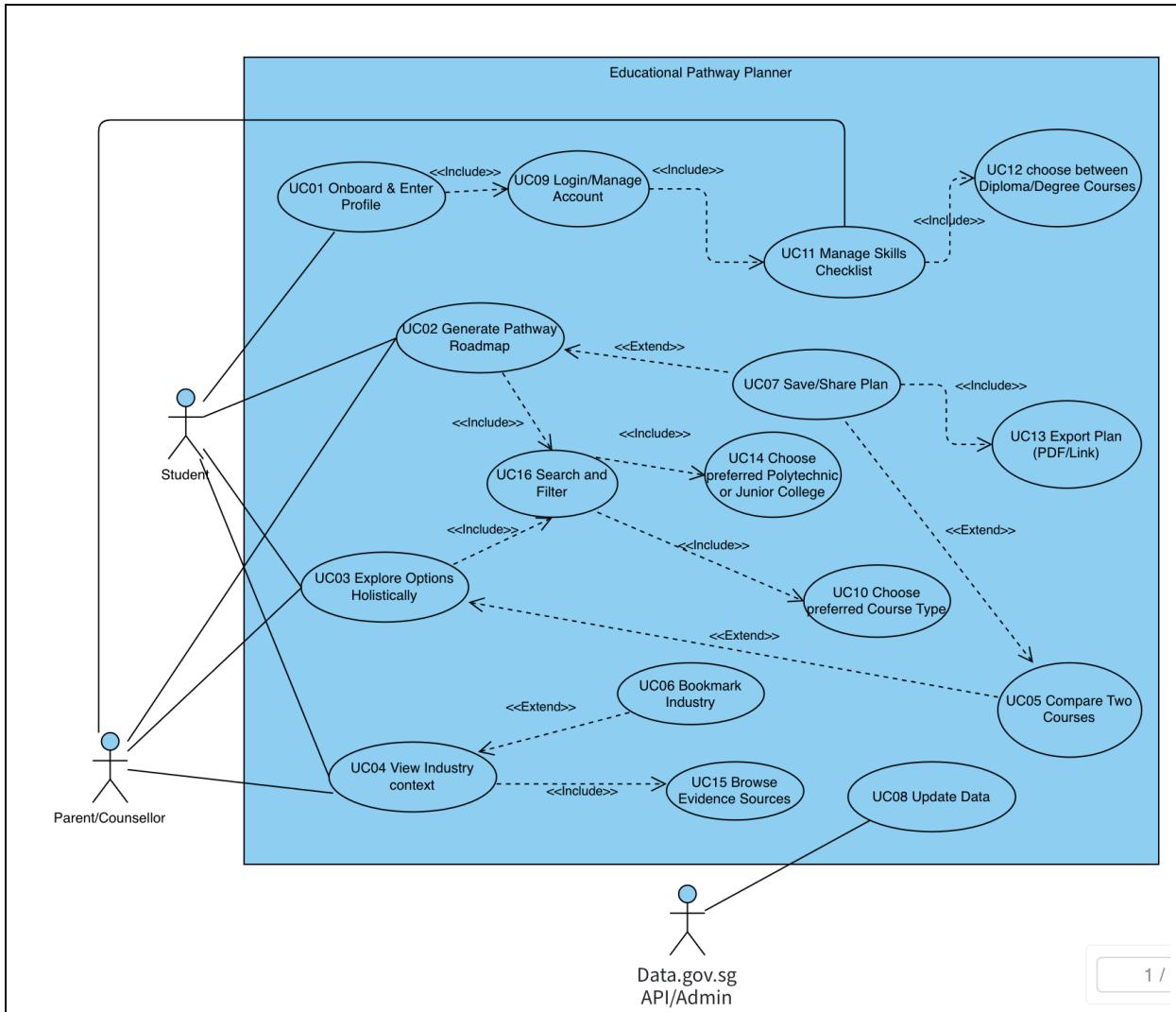
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Revision History

Name	Date	Reason For Changes	Version

Use case diagram



Use Case Descriptions - SkillsBridge SG

UC01 – Onboard & Enter Profile

Use Case ID	UC01
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Use Case Name	Onboard & Enter Profile
Actors	Student
Preconditions	System online and accessible.
Postconditions	Profile stored and ready for roadmap generation.
Priority	High
Frequency of Use	Each new student user
Flow of Events	<ol style="list-style-type: none"> 1. Student clicks 'Get Started' on landing page. 2. System displays onboarding form for interests, subjects, CCAs, and strengths. 3. Student enters details and selects skills checklist. 4. System validates input and saves profile to database.
Alternative Flows	If mandatory fields missing, system prompts for completion.
Exceptions	Network failure logs error and informs user.
Includes	Includes: UC09 Login/Manage Account; UC11 Manage Skills Checklist
Special Requirements	Store profile data securely over HTTPS/TLS 1.2; save operation responds within 2 s for 95 % of requests.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC02 – Generate Pathway Roadmap

Use Case ID	UC02
Use Case Name	Generate Pathway Roadmap
Actors	Student

Preconditions	UC01 completed; datasets refreshed by UC08.
Postconditions	Roadmap displayed with evidence panels.
Priority	High
Frequency of Use	Each time a roadmap is requested
Flow of Events	<ol style="list-style-type: none"> 1. Student selects 'Generate Roadmap' on dashboard. 2. System retrieves profile and dataset version. 3. System applies course type, preferred institution, and study level filters. 4. System displays roadmap with summary evidence and metrics.
Alternative Flows	If no matching pathways, system shows fallback message with suggestions.
Exceptions	API/data fetch failure: system retries and logs error.
Includes	Includes: UC16 Search and Filter; UC14 Choose preferred Polytechnic or Junior College; UC10 Choose preferred Course Type. Extends: UC07 Save/Share Plan
Special Requirements	Render roadmap within 2 s for 95 % of requests; each metric must show source and reference year; secure API calls via HTTPS/TLS 1.2.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC03 – Explore Options Holistically

Use Case ID	UC03
Use Case Name	Explore Options Holistically
Actors	Student, Parent/Counsellor
Preconditions	Datasets updated by UC08.
Postconditions	List of courses and industries displayed.

Priority	High
Frequency of Use	Frequent
Flow of Events	<ol style="list-style-type: none"> 1. User selects 'Explore Options' from menu. 2. System loads course and industry data. 3. User browses cards and applies search/filter (UC16). 4. User may open course or industry details or compare courses (UC05).
Alternative Flows	If no courses match filters, system shows 'No results' and suggests adjustments.
Exceptions	System or API failure logs error and informs user.
Includes	Includes: UC16 Search and Filter. Extends: UC05 Compare Two Courses
Special Requirements	Filtered results must display within 1 s for 90 % of queries.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC04 – View Industry Context

Use Case ID	UC04
Use Case Name	View Industry Context
Actors	Student, Parent/Counsellor
Preconditions	Access to trusted data sources.
Postconditions	Industry context dashboard displayed.
Priority	High
Frequency of Use	Frequent
Flow of Events	<ol style="list-style-type: none"> 1. User selects an industry from roadmap or explore view.

	<ol style="list-style-type: none"> 2. System retrieves employment rate, salary, and growth metrics from evidence sources. 3. System displays dashboard with graphs and key statistics. 4. User may bookmark the industry (UC06) or browse evidence sources (UC15).
Alternative Flows	If dataset reference year >3 years, system displays Warning Badge.
Exceptions	Data fetch failure: system logs and shows error message.
Includes	Includes: UC15 Browse Evidence Sources. Extends: UC06 Bookmark Industry
Special Requirements	Display data source and reference year with each metric; show Risk Warning if industry flagged as declining.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC05 – Compare Two Courses

Use Case ID	UC05
Use Case Name	Compare Two Courses
Actors	Student, Parent/Counsellor
Preconditions	Two courses selected and datasets updated.
Postconditions	Side-by-side comparison displayed.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. User selects two courses from Explore Options (UC03). 2. System retrieves course details and employment metrics.

	3. System displays comparison table with evidence.
Alternative Flows	If user selects more than two courses, system prompts to reduce selection.
Exceptions	Data fetch failure: system logs and shows error message.
Includes	None
Special Requirements	Render comparison within 2 s for 95 % of requests; show data source and reference year for each metric.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC06 – Bookmark Industry

Use Case ID	UC06
Use Case Name	Bookmark Industry
Actors	Student, Parent/Counsellor
Preconditions	UC04 active.
Postconditions	Industry saved to user profile.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. User clicks the bookmark icon in Industry Context view. 2. System saves the industry to the user's bookmarked list.
Alternative Flows	If user not logged in, system prompts login (UC09).
Exceptions	Database failure logs error and notifies user.

Includes	None
Special Requirements	Bookmark action must persist within 1 s for 95 % of requests.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC07 – Save/Share Plan

Use Case ID	UC07
Use Case Name	Save/Share Plan
Actors	Student
Preconditions	UC02 completed and UC09 login successful.
Postconditions	Plan saved and shareable link generated.
Priority	High
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. Student clicks 'Save Plan' after roadmap generation. 2. System saves roadmap as a Saved Plan. 3. Student selects 'Share' to generate a read-only link or export (UC13). 4. System returns link or exported file.
Alternative Flows	If network fails during save, system retries and informs user.
Exceptions	System outage logged and user notified.
Includes	Includes: UC13 Export Plan (PDF/Link)

Special Requirements	Generate shareable link or export within 2 s for 95 % of requests; all links must be HTTPS/TLS 1.2.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC08 – Update Data

Use Case ID	UC08
Use Case Name	Update Data
Actors	Data.gov.sg API/Admin
Preconditions	Admin authenticated and network available.
Postconditions	Datasets refreshed and version logged.
Priority	High
Frequency of Use	Daily
Flow of Events	<ol style="list-style-type: none"> 1. Admin schedules or triggers data refresh. 2. System requests latest datasets from external APIs. 3. System validates, stores, and records reference year and version.
Alternative Flows	If API unavailable, system retries up to three times and logs failure.
Exceptions	Permanent external API failure triggers admin alert.
Includes	None
Special Requirements	Daily dataset refresh must complete within 5 min; all transmissions over HTTPS/TLS 1.2; refresh logs stored for audit.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC09 – Login/Manage Account

Use Case ID	UC09
Use Case Name	Login/Manage Account
Actors	Student, Admin
Preconditions	User registered and system online.
Postconditions	User session established.
Priority	High
Frequency of Use	Each login
Flow of Events	<ol style="list-style-type: none"> 1. User clicks 'Login' button. 2. System prompts for email and password. 3. User enters credentials. 4. System authenticates and establishes a session.
Alternative Flows	If credentials invalid, system prompts retry.

Exceptions	System outage logs error and shows maintenance message.
Includes	None
Special Requirements	All transmissions over HTTPS/TLS 1.2; passwords hashed using bcrypt or Argon2.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC10 – Choose Preferred Course Type

Use Case ID	UC10
Use Case Name	Choose Preferred Course Type
Actors	Student
Preconditions	Course dataset loaded.
Postconditions	Course type stored in user profile and applied to filters.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. Student opens Course Type selection from settings or roadmap filters. 2. Student selects preferred type (e.g., Science, Arts, Engineering). 3. System stores preference and updates roadmap filters.
Alternative Flows	If no course type selected, default remains 'Any'.
Exceptions	Database failure logs error and informs user.
Includes	None
Special Requirements	Selection must persist immediately; used by UC02 and UC16 for filtering.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC11 – Manage Skills Checklist

Use Case ID	UC11
Use Case Name	Manage Skills Checklist
Actors	Student

Preconditions	Onboarding or profile edit in progress.
Postconditions	Selected skills stored for use in recommendations.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. Student opens Skills Checklist during onboarding or from profile settings. 2. System displays list of skills. 3. Student selects or updates skill choices. 4. System saves updated skills.
Alternative Flows	If network error occurs, system retries and informs user.
Exceptions	Database write failure logged with alert.
Includes	Includes: UC12 Choose between Diploma/Degree Courses
Special Requirements	Skill selections must persist within 2 s and update roadmap filters instantly.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC12 – Choose between Diploma/Degree Courses

Use Case ID	UC12
Use Case Name	Choose between Diploma/Degree Courses
Actors	Student
Preconditions	UC11 active or profile editing in progress.
Postconditions	Study level preference stored for recommendations.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. Student chooses either 'Diploma' or 'Degree' option from the Skills Checklist or profile settings. 2. System records choice and updates filters for roadmap generation.
Alternative Flows	If no choice made, default is 'No preference'.
Exceptions	Database failure logs error and prompts retry.
Includes	None
Special Requirements	Selection must persist within 1 s and be applied to UC02 and UC16 searches.

Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC13 – Export Plan (PDF/Link)

Use Case ID	UC13
Use Case Name	Export Plan (PDF/Link)
Actors	Student
Preconditions	UC07 completed and plan saved.
Postconditions	PDF file or shareable link generated.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. Student selects 'Export Plan' from Saved Plan screen. 2. System generates PDF with roadmap and evidence snapshot or creates a secure shareable link. 3. System provides download link or copies shareable link to clipboard.
Alternative Flows	If PDF generation fails, system shows error and allows retry.
Exceptions	Network or file-write failure logged and user notified.
Includes	None
Special Requirements	Generate PDF or link within 2 s for 95 % of requests; link must be HTTPS/TLS 1.2.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC14 – Choose preferred Polytechnic or Junior College

Use Case ID	UC14
Use Case Name	Choose preferred Polytechnic or Junior College
Actors	Student
Preconditions	UC02 active or user editing preferences.
Postconditions	Preferred institution stored for filtering roadmap results.
Priority	Medium
Frequency of Use	Occasional

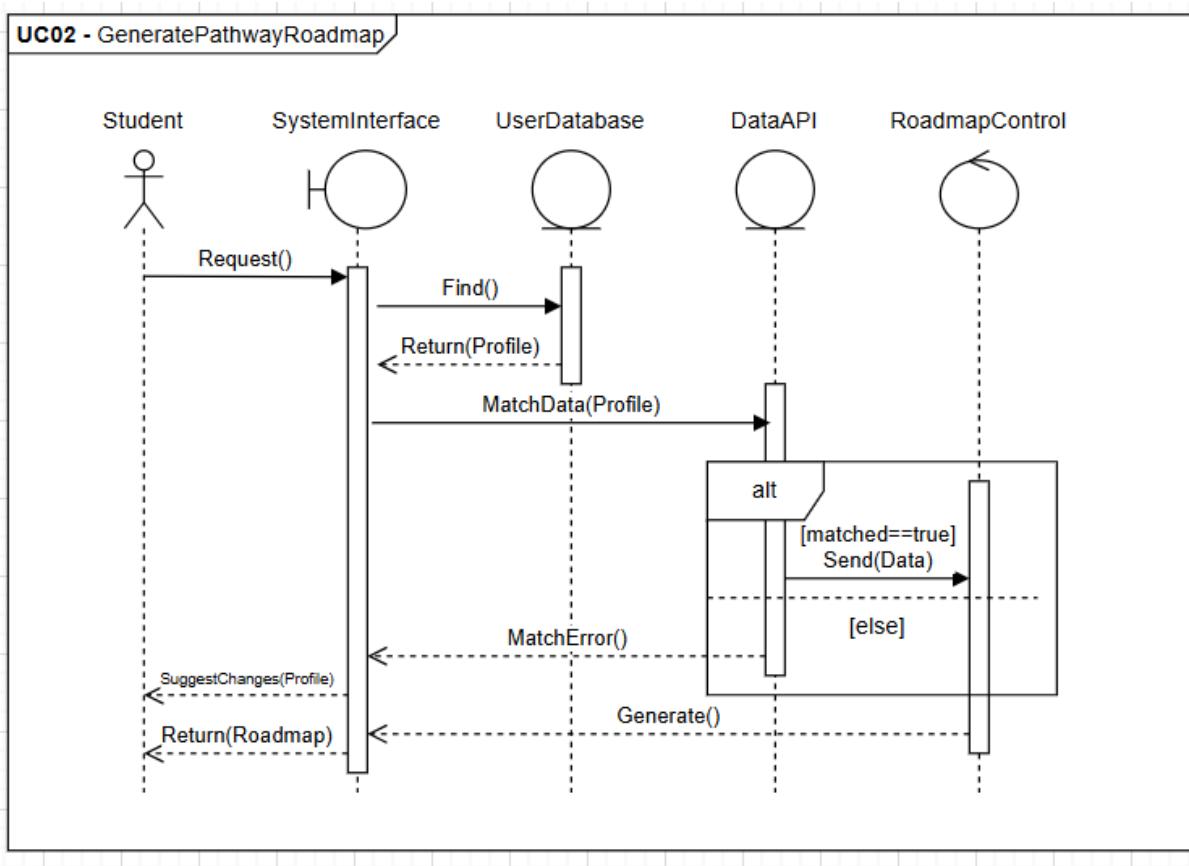
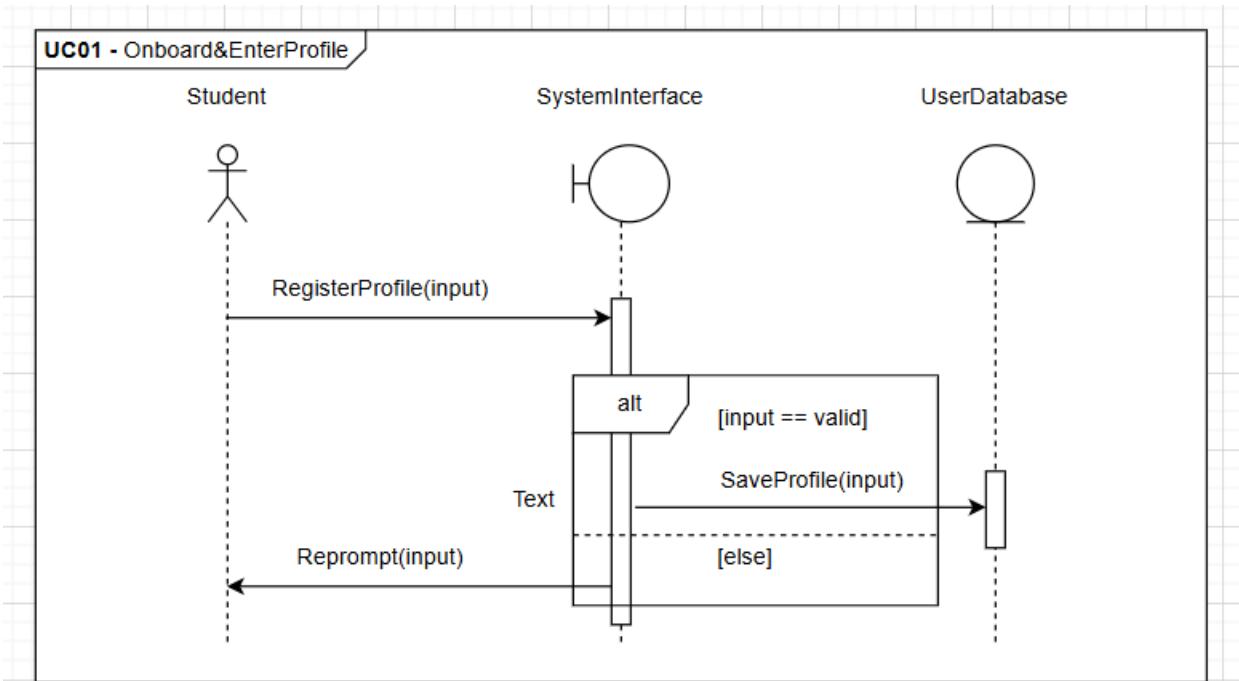
Flow of Events	<ol style="list-style-type: none"> 1. Student opens Institution Preference from settings or roadmap filters. 2. Student selects one or more preferred polytechnics or junior colleges. 3. System stores selection and applies it to roadmap generation and search.
Alternative Flows	If no institution selected, default is 'Any'.
Exceptions	Database failure logs error and prompts retry.
Includes	None
Special Requirements	Selection must persist within 1 s and be applied to UC02 and UC16 searches.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

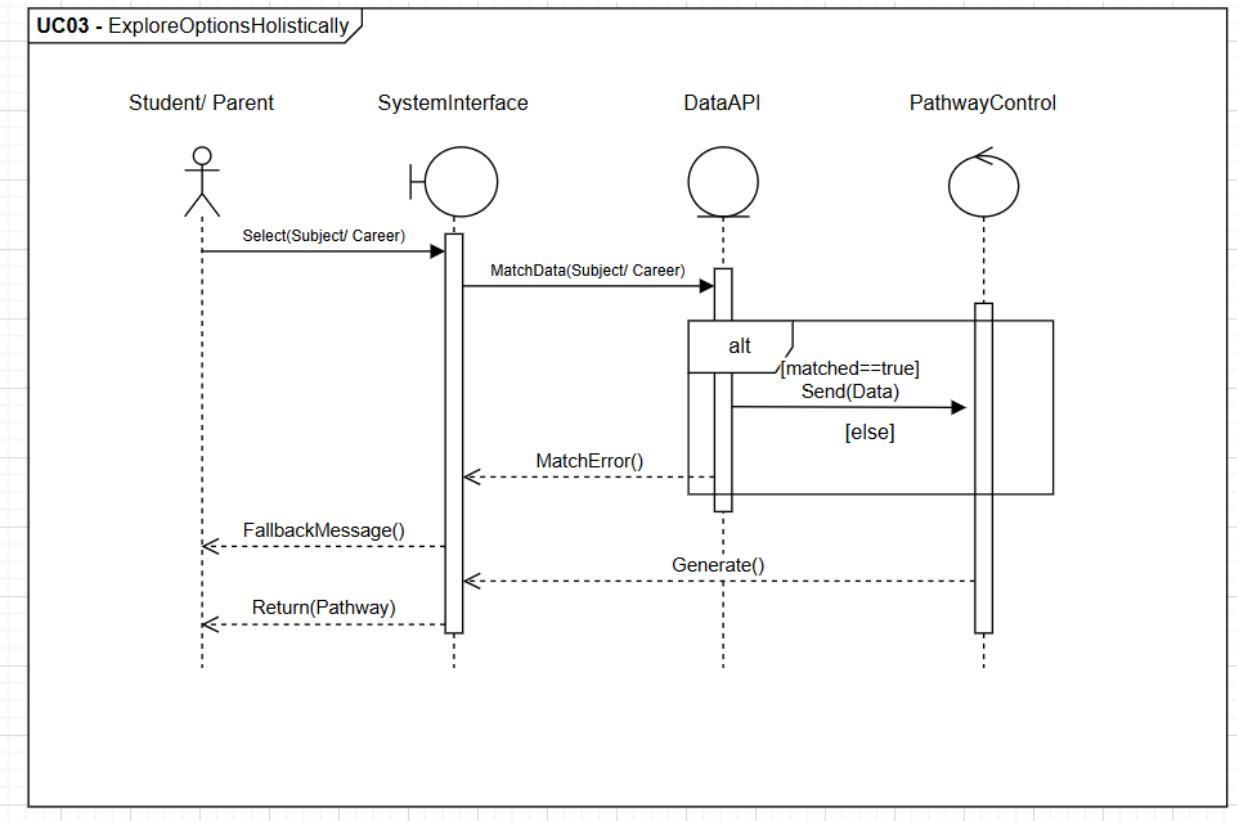
UC15 – Browse Evidence Sources

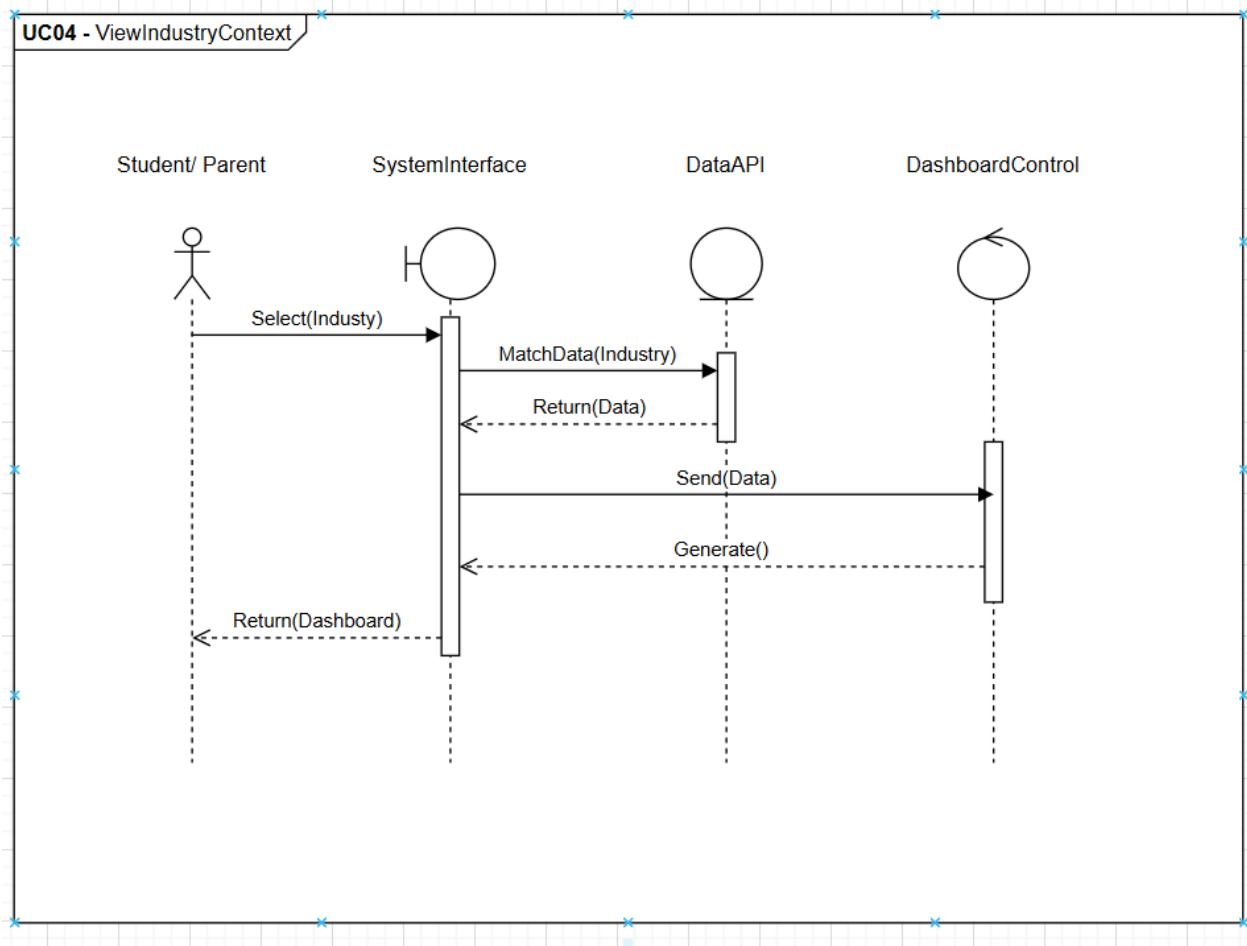
Use Case ID	UC15
Use Case Name	Browse Evidence Sources
Actors	Student, Parent/Counsellor
Preconditions	Evidence available for selected course or industry.
Postconditions	Evidence panel displayed with citations and links.
Priority	Medium
Frequency of Use	Occasional
Flow of Events	<ol style="list-style-type: none"> 1. User clicks 'View Evidence' from an industry or course context screen. 2. System retrieves list of supporting datasets and publications with reference year. 3. System displays citations and links for each metric.
Alternative Flows	If dataset missing, system shows 'No evidence available'.
Exceptions	External link failure logged but does not block display.
Includes	None
Special Requirements	Each evidence source must display dataset name, provider, and reference year.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.

UC16 – Search and Filter

Use Case ID	UC16
Use Case Name	Search and Filter
Actors	Student
Preconditions	Course dataset loaded.
Postconditions	Filtered course list returned.
Priority	High
Frequency of Use	Frequent
Flow of Events	<ol style="list-style-type: none"> 1. User enters keywords or adjusts filters (course type, institution, study level, skill match, salary threshold). 2. System queries dataset using the entered criteria. 3. System displays filtered results instantly and updates as filters change.
Alternative Flows	If no results, system displays 'No matches found' and suggests clearing filters.
Exceptions	Database or API failure logs error and shows fallback message.
Includes	None
Special Requirements	Filtered results must return within 1 s for 90 % of queries.
Assumptions	Stable internet connection and valid datasets.
Notes & Issues	None at present.





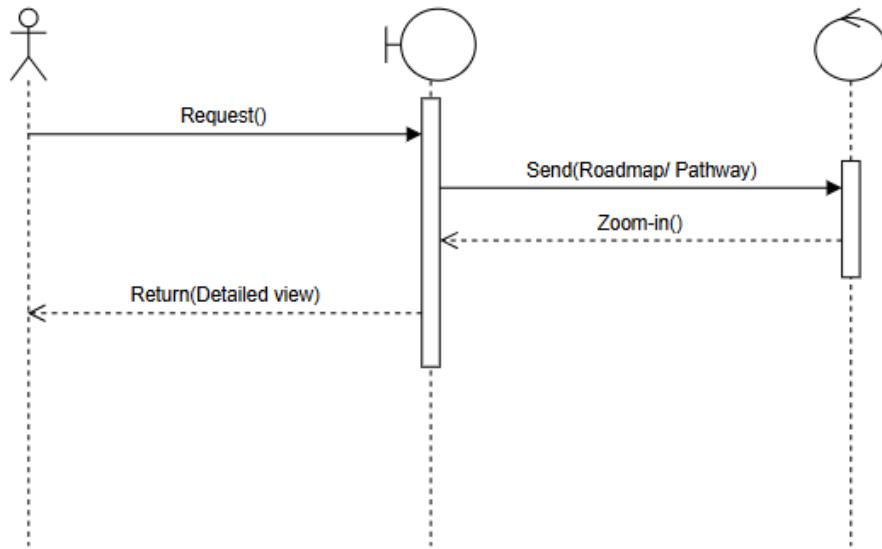


sd RequestDetailedView

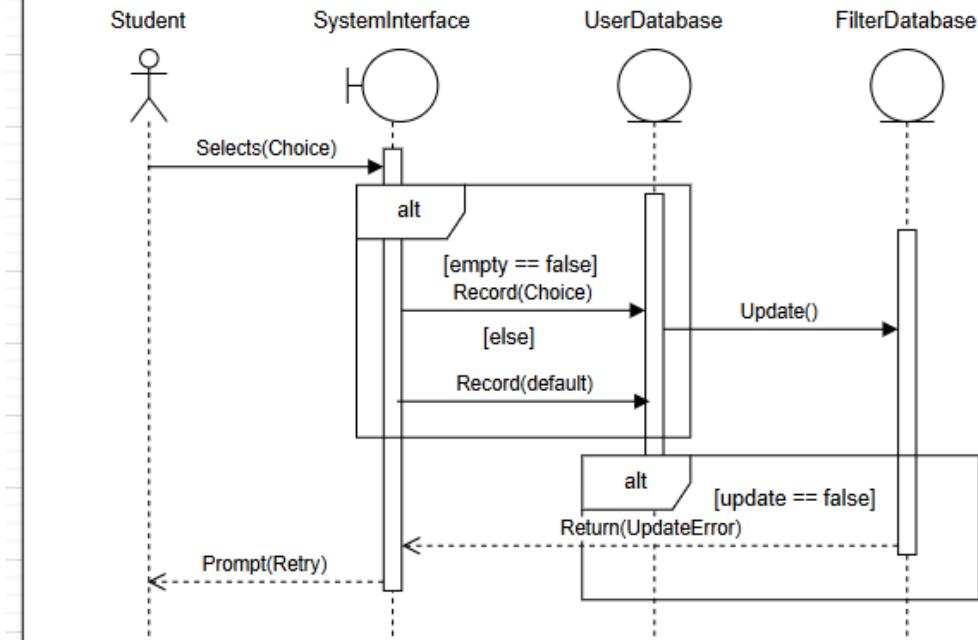
Student/ Parent

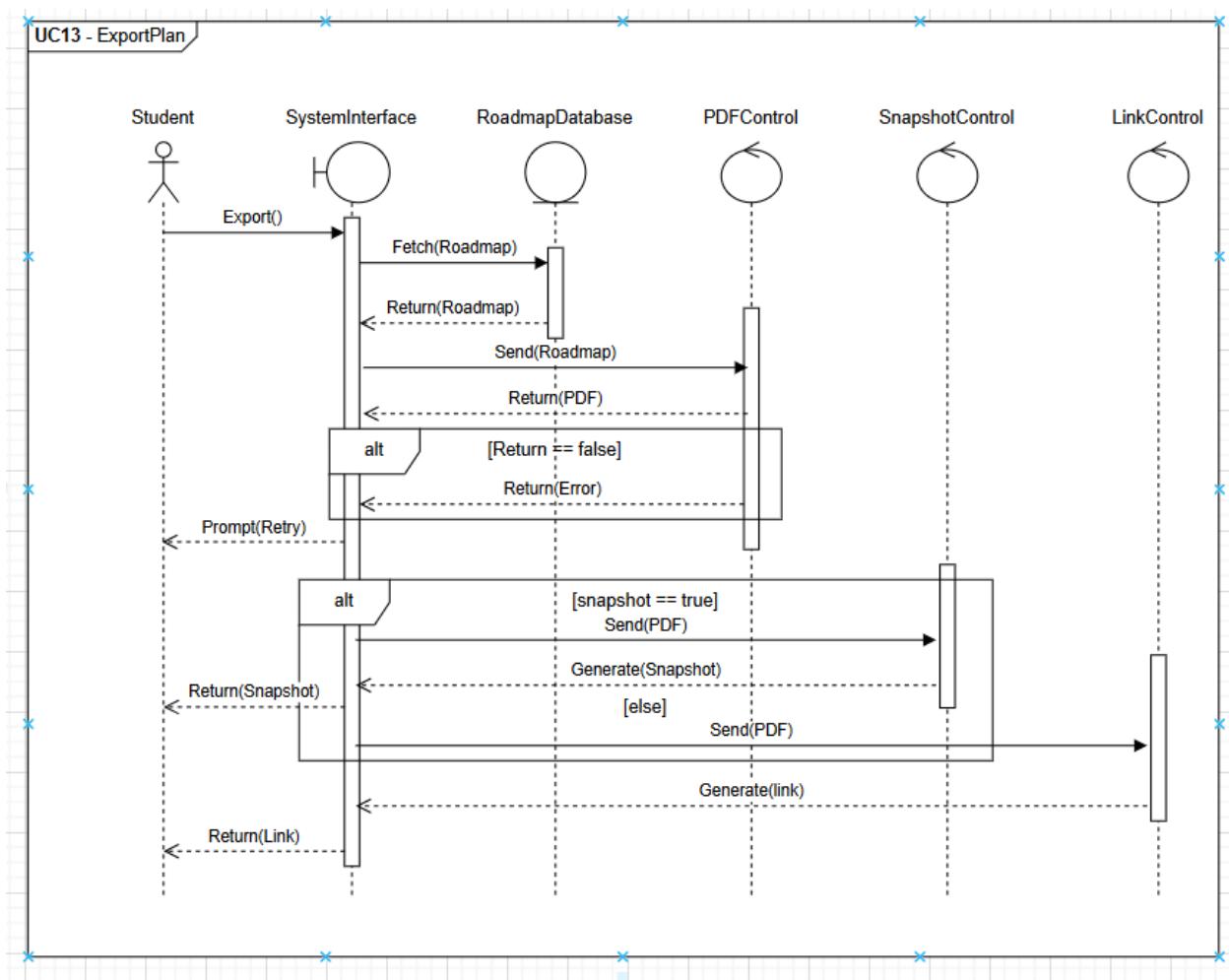
SystemInterface

ScopeControl

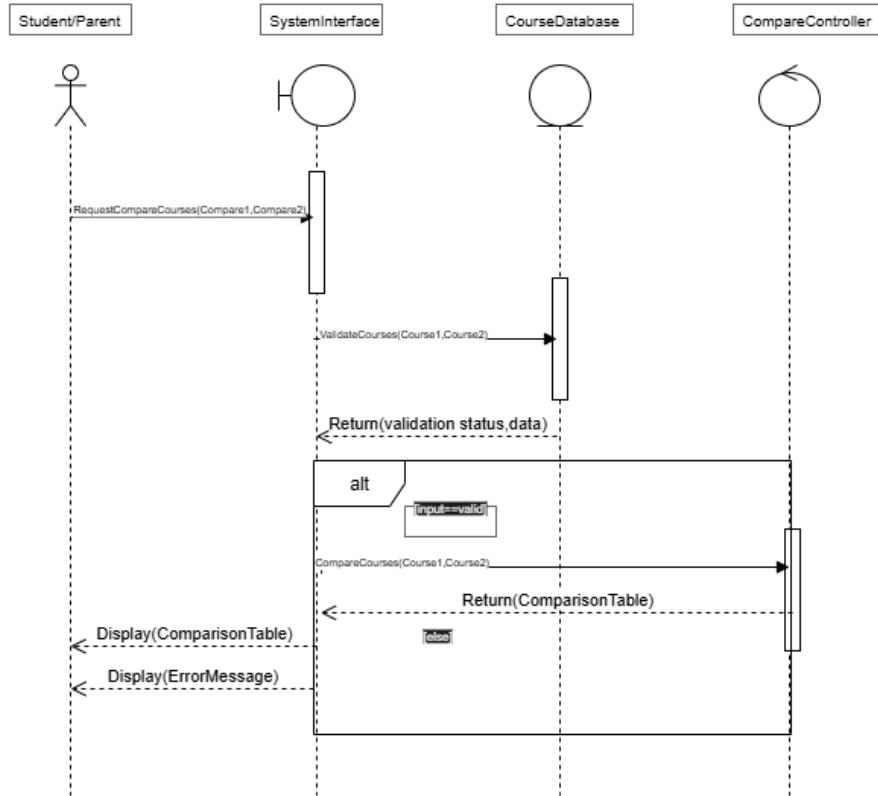


UC12 - ChooseBetweenDiploma/DegreeCourses

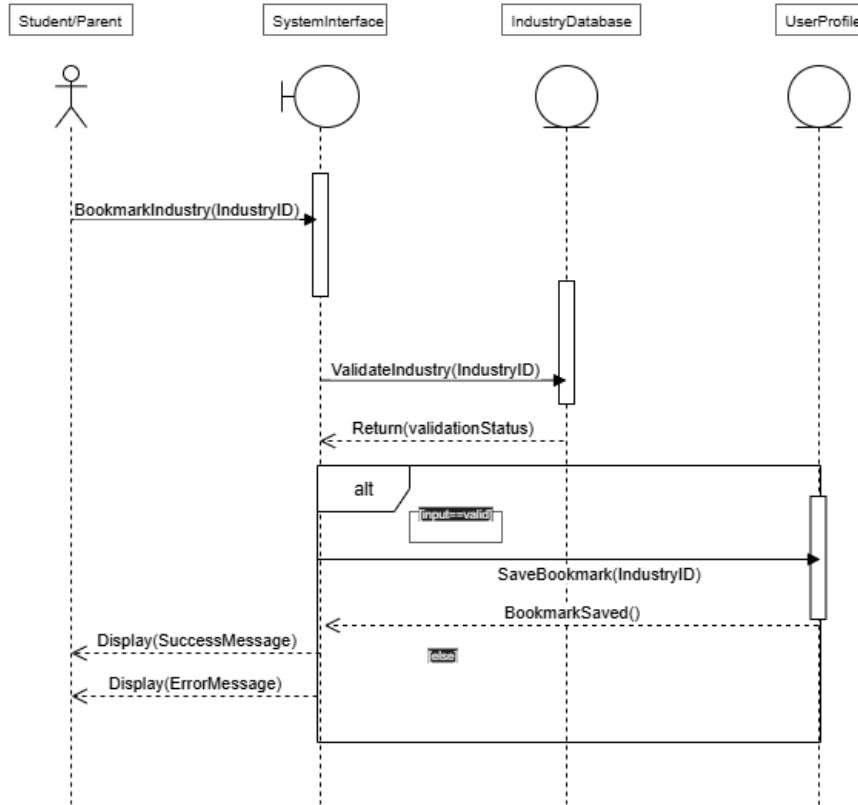




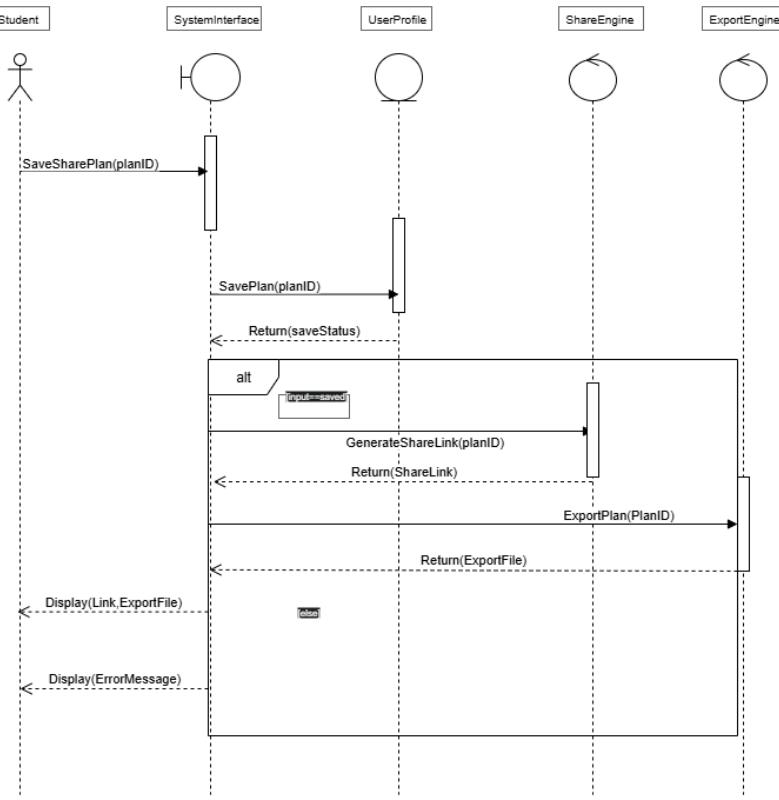
UC05 - CompareTwoCourses



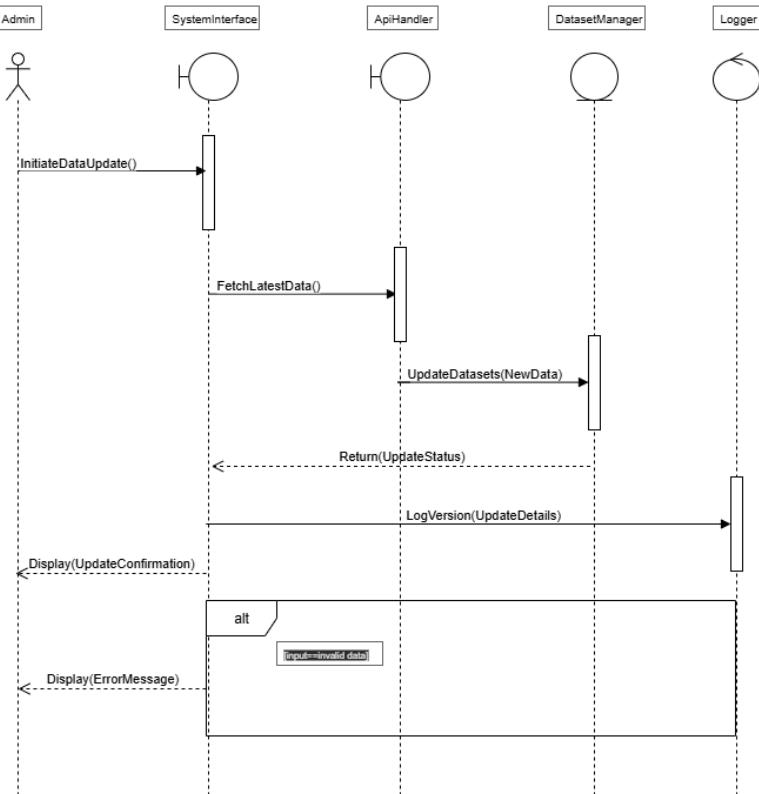
UC06 - BookmarkIndustry



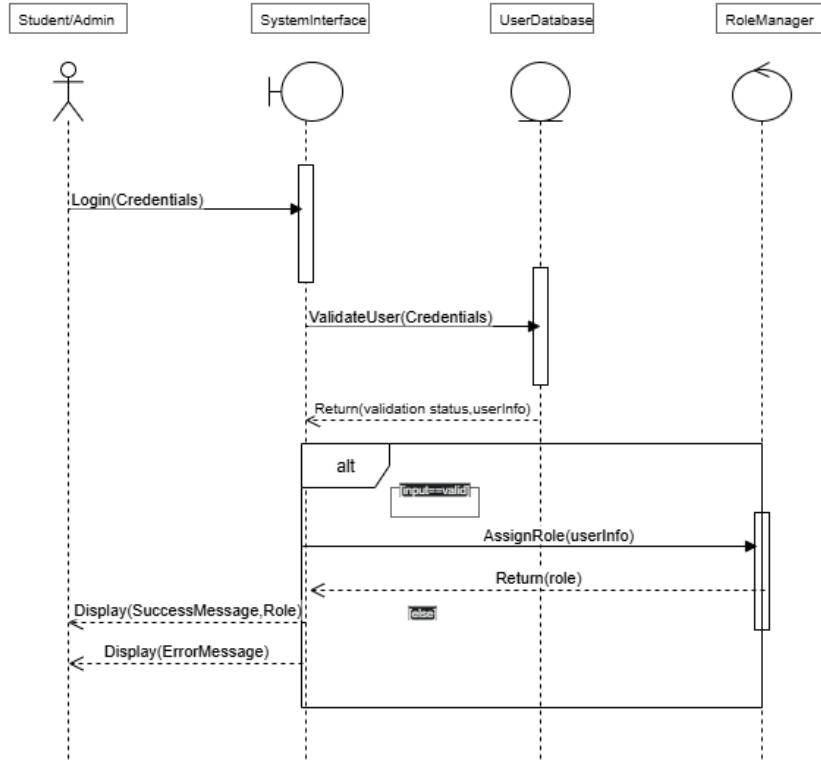
UC07 - Save/SharePlan



UC08 - UpdateDataDaily



UC09 - Login/ManageAccount



UC10 - Search&FilterCourses

