

Software Requirements Specification for de_schedule

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Software Requirements Specification

de_schedule

10/12/2023

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1. Introduction.

1.1 - Purpose

This Software Requirements Specification (SRS) is intended to outline software requirements for the de_schedule system. This SRS is intended to provide guidance to the developers of the system to implement the functions necessary to create a class scheduling system. It will also allow for the developers to check that all features and functionality has been met to show the scheduling system has been built to full functionality.

1.2 - Scope

The document specifies the requirements for the following capabilities:

1. Schedule building, including the user interface
2. Class recommendations
3. Registry management, allowing advisors and registry to connect

1.3 - Definitions

BDD: Block Definition Diagram.

SRS: Software Requirements Specification.

UML: Unified Modeling Language.

1.4 - Overview

The format of this SRS shall be similar to the format of the IEEE recommended practice for software specification.

2.1 - Product Perspective

De_schedule is an application intended to be used by students, registrars, and advisors across any operating system. This document specifies the ability of users to create schedules. Furthermore, the following diagram illustrates all of the functionalities and how they work together within the de_schedule system.

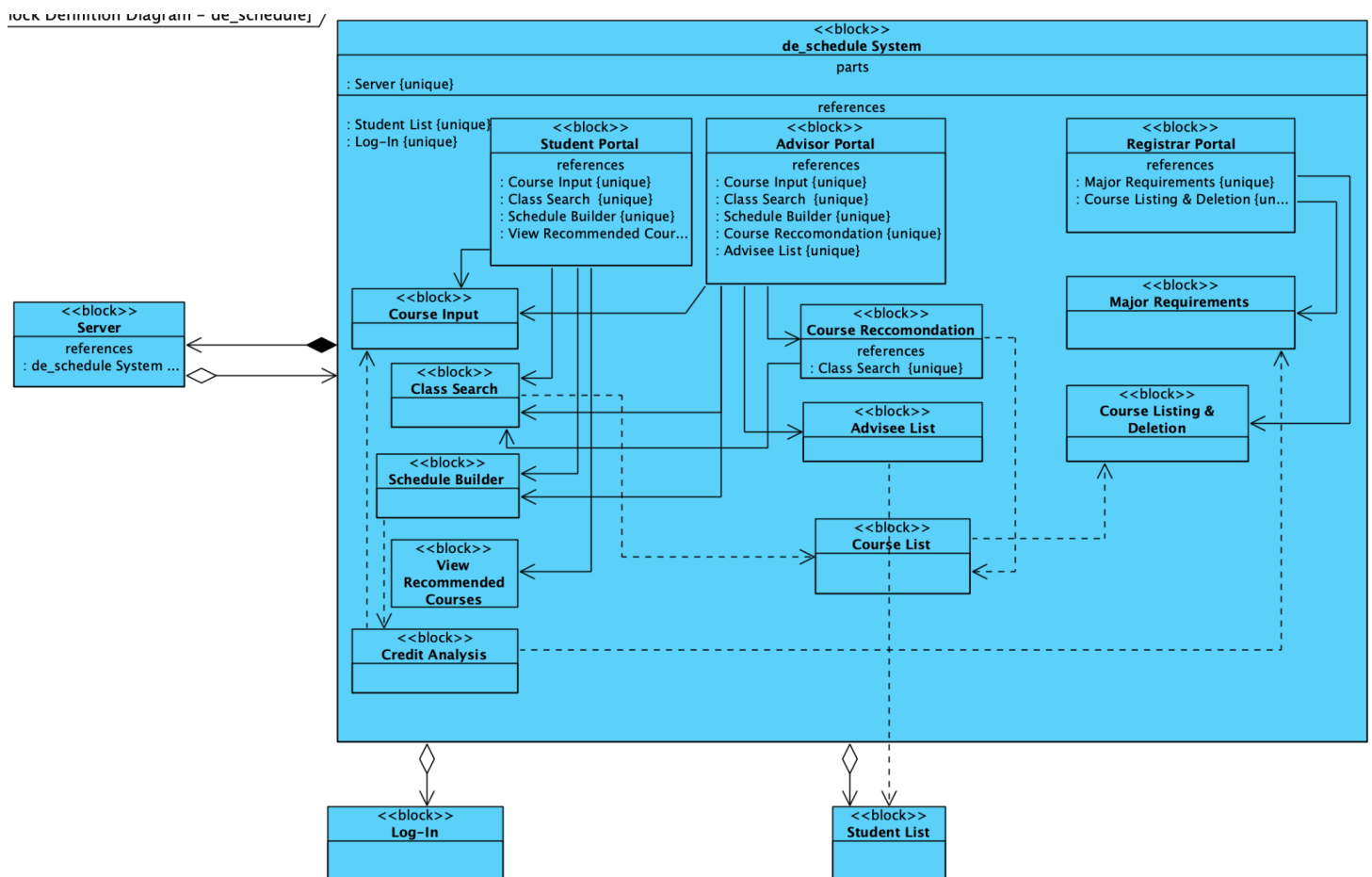


Figure 1: Block Definition Diagram for de_schedule

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2.2 - Product Functions

The following use case diagram depicts users of the system and the intended way they should interact with the system.

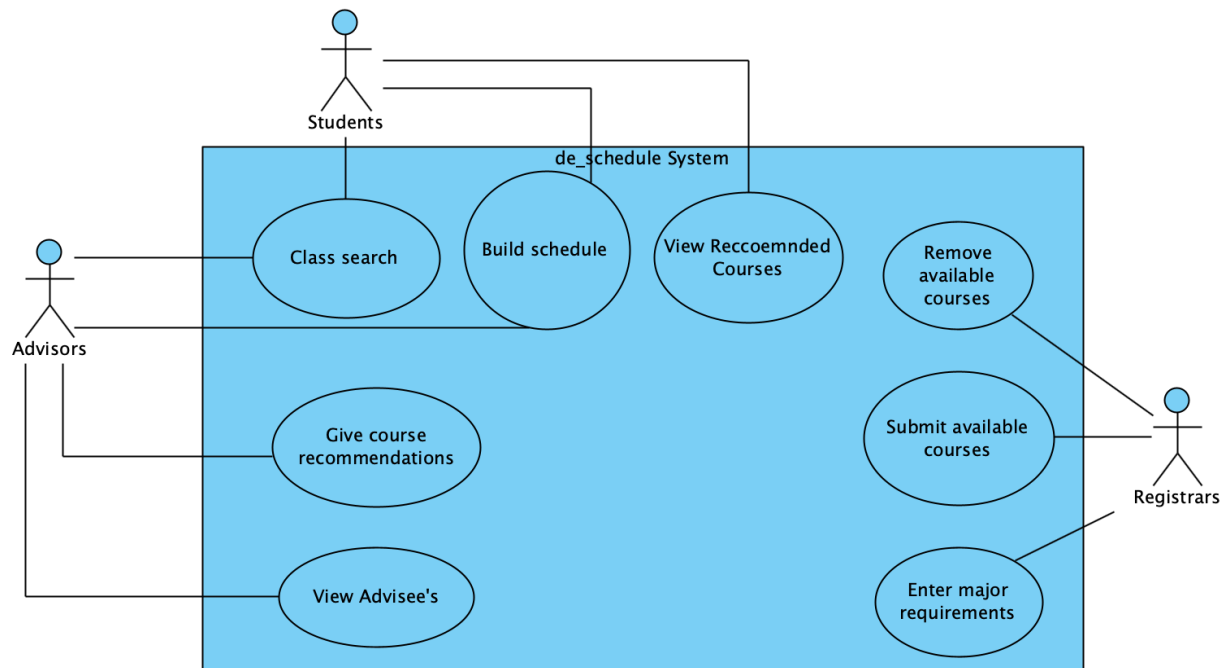


Figure 2 de_schedule System Use Cases

2.3 - Use Case Descriptions

2.3.1 Build Schedule

Intent	Allow users to build a schedule
Scope	Student/Advisor portal class search
Primary Actor	Student/Advisor
Secondary Actors	N/A
Preconditions	Student/Advisor has logged in

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Assumptions	Student/advisor is registered within the school
Trigger	Student/Advisor uses UI to build schedule
Successful Post Condition	Student/Advisor is able to edit and add classes to a schedule
Failed Post Condition	Student/Advisor unable to edit and add classes to a schedule

Sunny Day

Start	This Scenario starts when a student/advisor uses the build schedule function in the application
1	Student/advisor instructed by UI to search classes they want to add
2	UI asks students/advisors which section of the class they want to add to schedule
3	UI shows students/advisors any scheduling conflict
4	UI allows students/advisors to select courses they want to remove from schedule
5	This use case ends when students/advisors are done building and saving the schedule

Rainy Day

Start	This Scenario starts when student/advisor uses the build schedule function in the application and fails to build schedule
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2.3.2 Class Search

Intent	Students/advisor able to find available classes for the semester
Scope	Student/Advisor portal Schedule builder
Primary Actor	Student/Advisor
Secondary Actors	N/A
Preconditions	Classes that are available has been updated
Assumptions	Students and advisors registered with college account or email
Trigger	Student or advisor searches for available classes
Successful Post Condition	Student or advisor is able to search for classes
Failed Post Condition	Advisor or student unable to search for classes

Sunny Day

Start	This scenario starts when students have initiated the build schedule function and have selected class search on the UI
1	Student enters in class they want to find using either name or filters with search constraints
2	Student select classes they want to add
3	UI asks student for confirmation
4	This scenario ends when the student confirms selected classes

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Rainy Day

Start	This scenario starts when students have initiated the build schedule function and have selected class search on the UI and can't search classes
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2.3.3 Give Course Recommendations

Intent	Advisors able to write recommended course to students and students able to see those recommendations
Scope	Advisor Portal Course Recommendations
Primary Actor	Advisor
Secondary Actors	N/A
Preconditions	Advisor has entered the course recommendation tab or has found a valid class within class search.
Assumptions	Advisor has a student listed as advisor. Course list is valid and up to date.
Trigger	Advisor uses UI button to enter write recommendation or selects "recommend course" button attached to class within class search
Successful Post Condition	Advisor able to write recommendation and it's visible to specific students
Failed Post Condition	Advisor not able to write recommendation and it's not visible to specific students

Sunny Day Scenario

Step	Action
Start	Advisor has found course within class search which they wish to recommend

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1.	User selects the “recommend course” option which is attached to the class listing.
2.	Modal window pops up on screen containing list of advisee’s
3.	User selects advisor which they wish to send course to
4.	Course is sent to student, User see’s “Recommendation has been sent” on screen

Sunny Day Scenario

Step	Action
Start	Advisor has entered the “Give Course Recommendation” tab within the system.
1.	Modal page pops up showing a list of advice.
2.	Advisee is selected by user
3.	User is routed to course search
4.	User searches for desired course
5.	User Selects course to be recommended
6.	Confirmation/summary of recommendation is shown to user
7.	User sends recommendations to the student.

Rainy Day Scenario

Step	Action
Start:	This scenario occurs when the user does not elect or exits out of a course recommendation.

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2.3.4 Submit available courses

Intent	Registrars able to submit roster of available courses
Scope	Registrar Portal Course Listing & Deletion
Primary Actor	Registrar
Secondary Actors	N/A
Preconditions	Logged into the system as registrar.
Assumptions	Registrar already has access to all available courses for the semester
Trigger	Registrar uses UI to edit available courses
Successful Post Condition	Registrar able to submit available courses
Failed Post Condition	Registrar unable to submit available courses

Sunny Day

Start	The scenario begins with the user selecting the option to submit available courses
1	The user is instructed by the user interface to select the classes to submit
2	The user interface asks the user for confirmation of the classes to submit
3	This use case ends when confirmation is given for the submitted classes.

Rainy Day

Start	The scenario begins with a failure to initialize the user interface for submitting available classes
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2.3.5 Remove available courses

Intent	Registrars able to remove available courses
Scope	Advisor Portal Course Listing and Deletion
Primary Actor	Registrar
Secondary Actors	N/A
Preconditions	User is logged in as a registrar. User has accessed the course listing tab.
Assumptions	Registrar already has access to all available courses for the semester
Trigger	Registrar uses UI to edit available courses
Successful Post Condition	Registrar able to remove available courses
Failed Post Condition	Registrar unable to remove courses

2.3.6 View Advisee's

Intent	Advisor able to see advisee's informations
Scope	Advisor portal
Primary Actor	Advisor
Secondary Actors	N/A
Preconditions	Logged into system as advisor
Assumptions	Advisors already have access to students' enrollment lists.
Trigger	Advisor logged in to see the advisor list.
Successful Post Condition	Advisor having access to advisee's list
Failed Post Condition	Advisor cannot see the advisor's information.

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2.3.7 Enter Major Requirements

Intent	Registrars able to submit roster of available courses
Scope	Registrar Portal
Primary Actor	Registrar
Secondary Actors	N/A
Preconditions	User is logged in as a registrar.
Assumptions	Registrar already has access to all available courses for the semester, and required courses for each major
Trigger	Registrar uses UI to edit required courses
Successful Post Condition	Registrar able to submit required courses
Failed Post Condition	Registrar unable to submit required courses

2.3.8 View Recommended Courses

Intent	Allow Students to view recommended courses.
Scope	Student portal View recommended courses
Primary Actor	Student
Secondary Actors	Advisor
Preconditions	User is a valid student.
Assumptions	Students have a valid advisor.
Trigger	Student selects “View Recommended” courses tab
Successful Post Condition	Students are able to view recommended courses.
Failed Post Condition	Student is unable to view recommended courses.

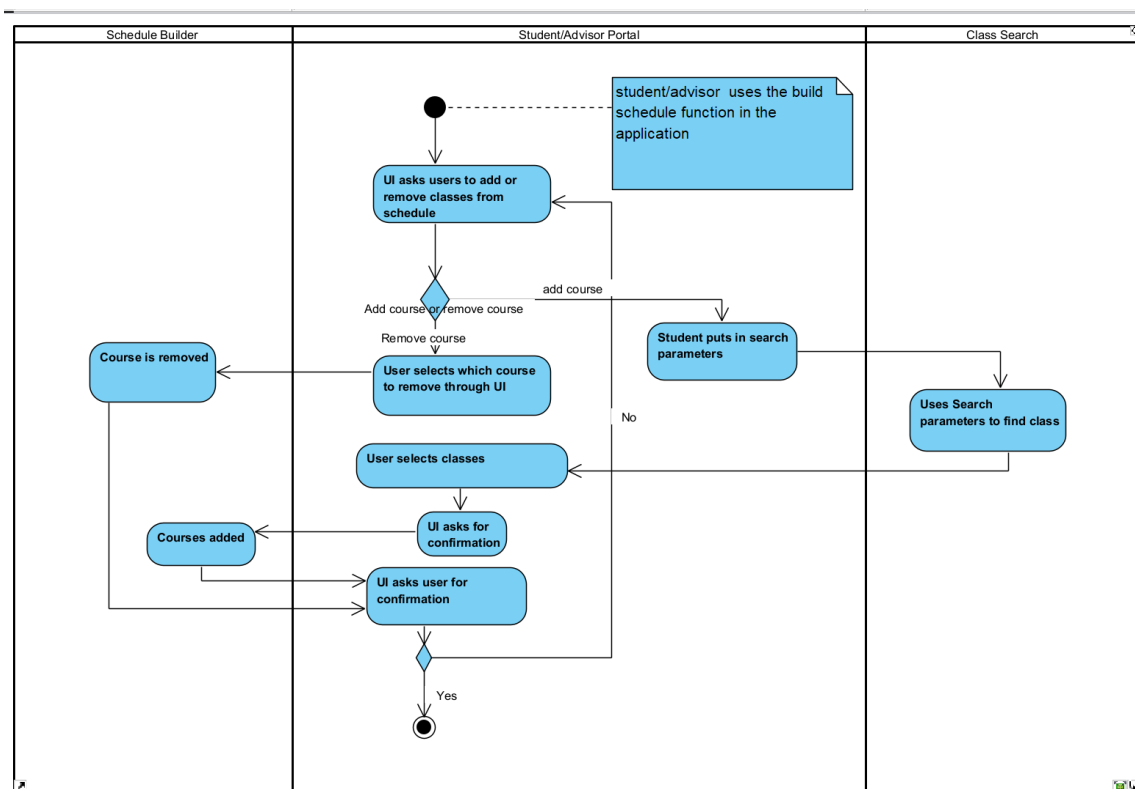
3. Specific Requirements

3.3 - System Features

3.3.1 Build Schedule

3.3.1.1 Introduction/Purpose of Feature: This Feature will allow users to create and edit a schedule following the build schedule use case above.

3.3.1.2 Stimulus/Response Sequence



3.3.1.3 Associated Functional Requirements

- The system **shall** allow students to build schedule based on available classes
- The system **shall** allow students to edit schedule
- The system **shall** add/remove courses from schedule
- The student/advisor portal **shall** send information and instructions to students/advisors
- The system **shall** save user made schedules

3.3.2.1 Introduction/Purpose of Feature: The purpose of this feature is to allow both advisors and students to search for desired courses.

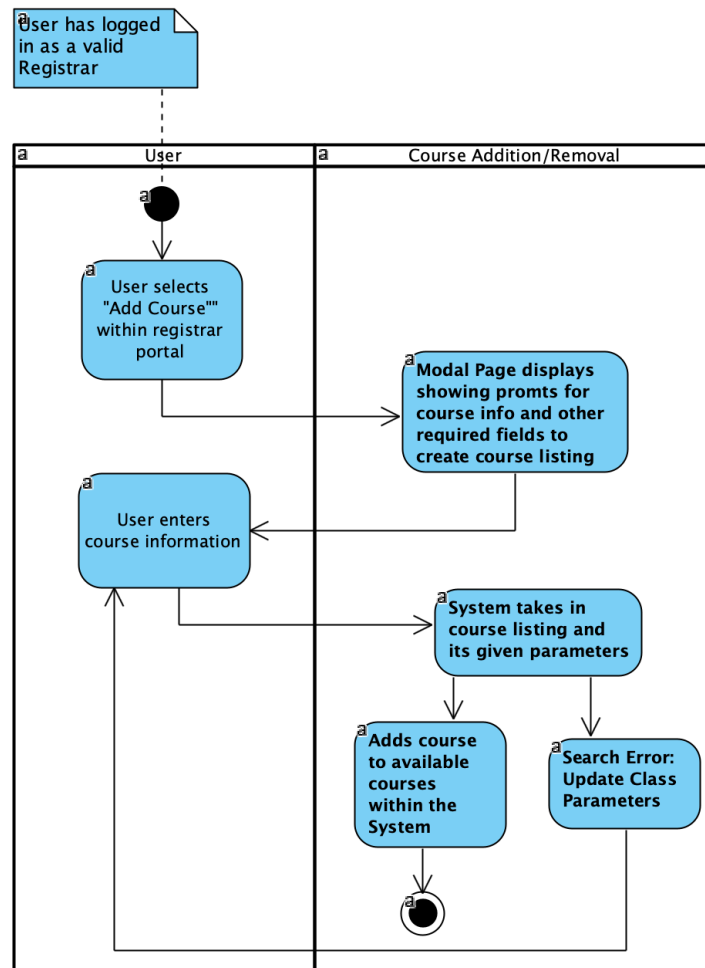
```
graph TD
    subgraph User
        Start(( )) --> U1[User selects "Search Classes" tab]
        U1 --> U2[User Enters Search Parameters]
        U2 --> End(( ))
    end
    subgraph Class_Search [Class Search]
        S1[System displays search UI and its search parameters]
        S2[System takes in search parameters, checks "Credit Analysis" if needed]
        S3[Shows available courses given search constraints]
        S4[Search Error: Update Search parameters]
        S1 --> U2
        U2 --> S2
        S2 --> S3
        S2 --> S4
        S4 --> S3
        S3 --> End
    end
    subgraph Credit_Analysis [Credit Analysis]
        C1[Credit Analysis uses constraints from "Major Requirements" to show valid courses]
        S2 --> C1
        C1 --> S4
    end
```

- The system **shall** allow the user to interact with it via an user interface
- The system **shall** allow the user to search for classes utilizing the class number or name
- The system **shall** include a filter to identify certain classes
- The system **shall** contain all current available courses on hand
- The system **shall** ask the user for confirmation before adding classes to schedule

3.3.3 Submit available courses

3.3.3.1 Introduction/Purpose of Feature: This feature will allow the registrar to add available courses for students to see and select from when searching classes and building their schedule.

3.3.3.2 Stimulus/Response Sequence



3.3.3.3 Associated Functional Requirements

- The system **shall** allow students to enroll in available courses
- The system **shall** allow Registrar to edit available courses
- The system **shall** allow advisors to see available courses
- The system **shall** display available courses with instructors names, time and place of the course.

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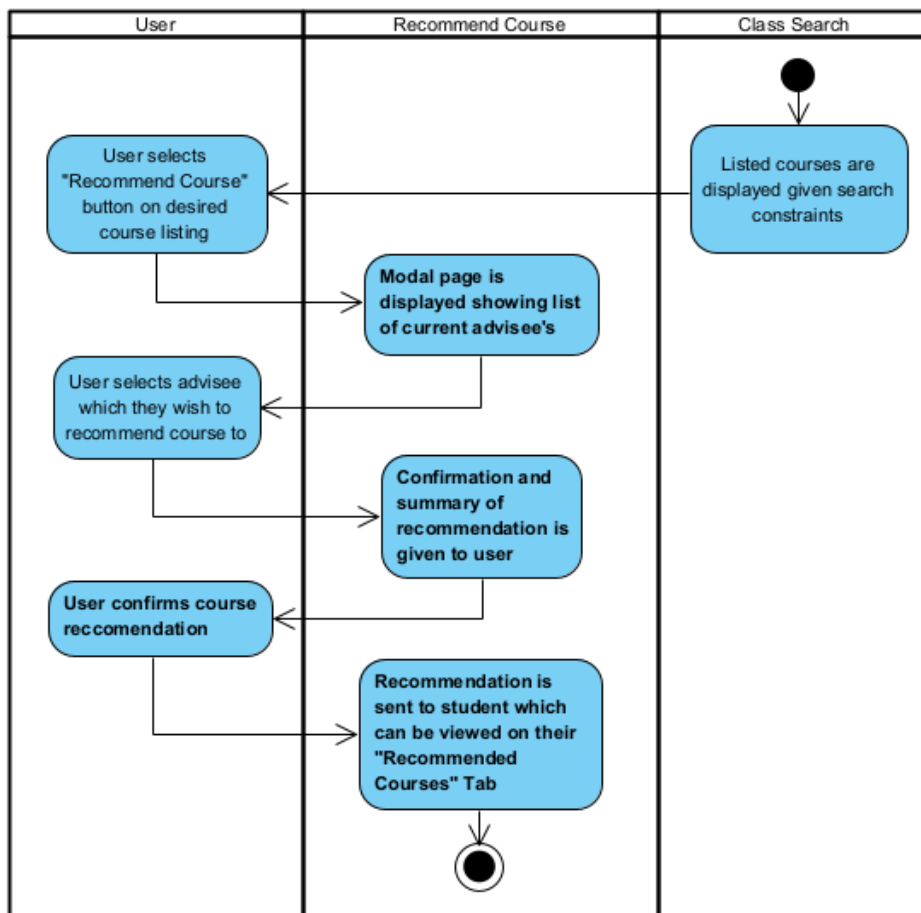
3.3.4 Give course recommendations

3.3.4.1 Introduction/Purpose of Feature: This feature will allow the advisor the ability to recommend classes to their advisees, who will be able to select classes based on those recommendations.

3.3.4.2 Stimulus/Response Sequence

User has logged in as a valid advisor.

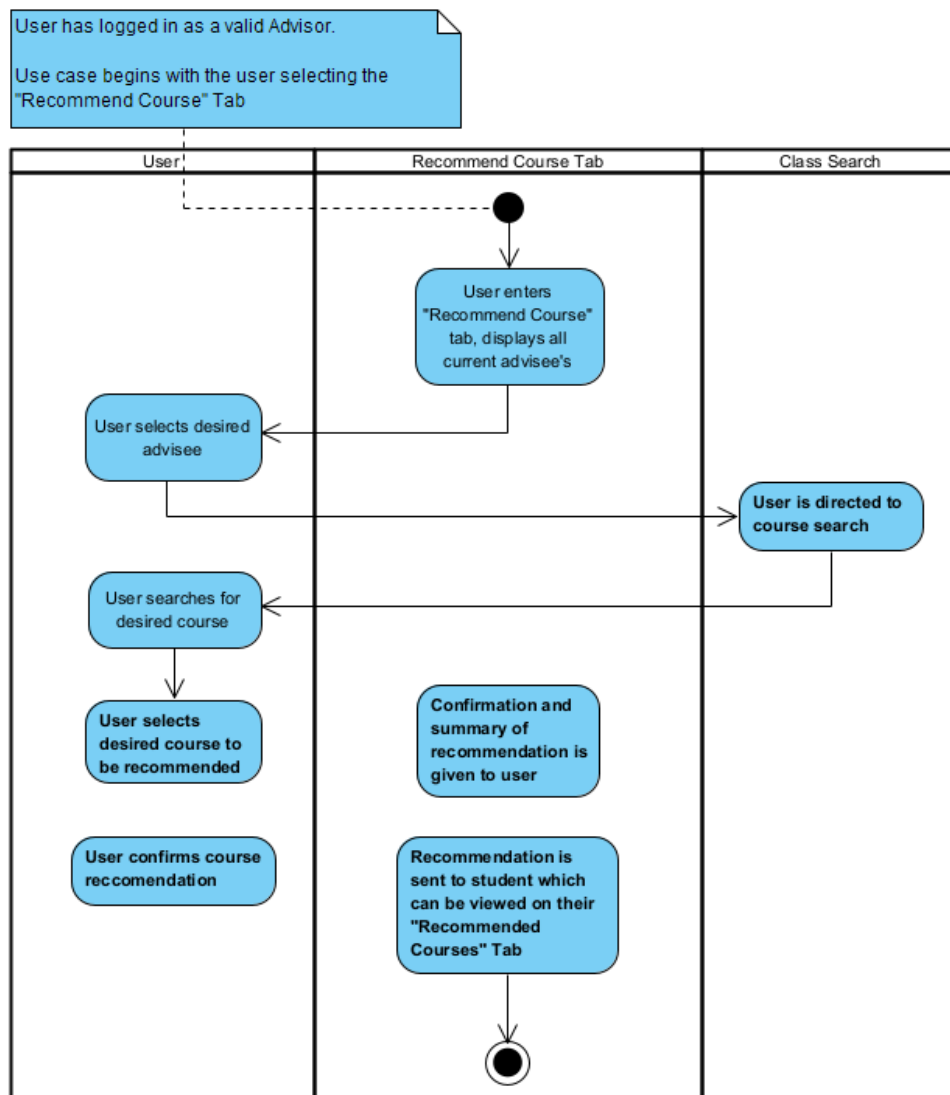
Use case begins with the user selecting "Recommend Course" on a class within the class search



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3.3.4.3 Associated Functional Requirements

- The system **shall** allow the user to recommend courses to students.
- The system **shall** allow the user to recommend courses within the “recommended courses” tab.
- The system **shall** allow the user to recommend courses while viewing listed courses in class search.
- The system **shall** send the recommendations to the student to view in the “view recommended courses” tab.