University of Calgary

Winter 2020

SENG 300 – L01 –T10

Introduction to Software Engineering

Assignment #1

Minh Hang Chu – 30074056

Instructor: Sohaib Shahid Bajwa

TA: Ali Alkhazaly

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1. Functional and Non-functional requirements

Functional requirements:

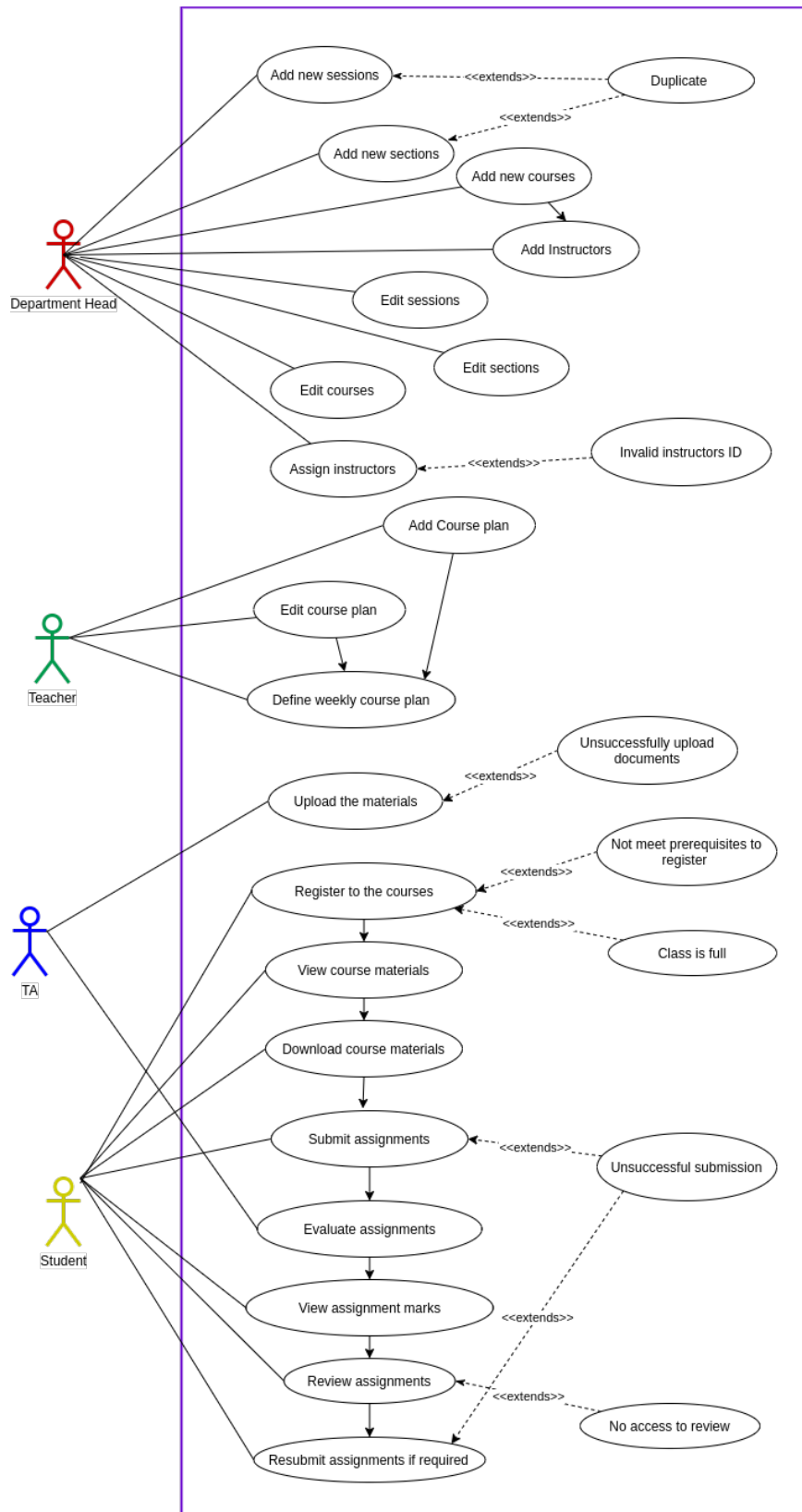| FR1	Department Head can add new sessions, sections, and courses.
FR2	Department Head can edit new sessions, sections, and courses.
FR3	Department head can add instructors to course.
FR4	Department Head can assign instructors to course.
FR5	Instructor can add the course plan.
FR6	Instructor can edit the course plan.
FR7	Instructor should define weekly course plan and each weekly plan should contain lecture notes, helping materials, assignments.
FR8	TA can upload the material, but cannot change the course plan.
FR9	Students can register himself/herself to the courses.
FR10	Students can view lecture notes, helping materials and assignments.
FR11	Students can submit assignments through the system.
FR12	TAs evaluate the assignments.
FR13	Students can review and resubmit if require.
FR14	Students should also view their assignment marks
FR15	Students can download lecture notes, helping materials and assignments.

Non-functional requirements:

NFR1	Each course is taught by two people.
NFR2	One course should only have one lead instructor.
NFR3	Every course must have an instructor.
NFR4	Department head also wants an easy and attractive interface.
NFR5	Students should not be allowed to see each other assignments for security and privacy reason.
NFR6	System should provide backup and security plan.

2. Use Case Diagram

Assumption:

Course materials = lectures notes, helping materials and assignments

Department Head
- Add new sessions
- Add new sections
- Add new courses
- Add Instructors
- Edit sessions
- Edit sections
- Edit courses
- Assign instructors

Duplicate <<extends>> Add new sessions
Duplicate <<extends>> Add new sections
Invalid instructors ID <<extends>> Assign instructors

Teacher
- Add Course plan
- Edit course plan
- Define weekly course plan

TA
- Upload the materials

Unsuccessfully upload documents <<extends>> Upload the materials

Student
- Register to the courses
- View course materials
- Download course materials
- Submit assignments
- Evaluate assignments
- View assignment marks
- Review assignments
- Resubmit assignments if required

Not meet prerequisites to register <<extends>> Register to the courses
Class is full <<extends>> Register to the courses
Unsuccessful submission <<extends>> Submit assignments
No access to review <<extends>> Review assignments

3. Descriptions of 5 uses cases

UC-ID	UC-1
UC-Name	Upload the materials
Description	TA accesses the system and views courses that he teaches. Then, he chooses the course and uploads materials.
Primary Actor	Teacher Assistant (TA)
Pre-Conditions	TA is logged into system
Post Conditions	Materials are uploaded to the course
Main Success Scenario	1, TA selects courses from course menu. 2, System displays list of categories: lectures notes, materials or assignment. 3, TA selects Material category. 4, TA clicks "Upload" button. 5, System displays Folders in his/her computer. 6, TA chooses the files he/she wants to upload. 7, System uploads the files to Materials category and displays a confirmation message.
Extensions	7a. System cannot upload the files. --- 7a1. System displays error message saying cannot upload files, provides the reasons and how to fix.

UC-ID	UC-2
UC-Name	Assign instructors to a course
Description	Department Head accesses the system and views the courses. Then he chooses the courses and adds Instructors information to the course file.
Primary Actor	Department Head
Pre-Conditions	Department Head is logged into system
Post Conditions	Instructor is assigned to a course
Main Success Scenario	1, Department Head "Edit course profile" button. 2, System displays list of courses. 3, Department Head selects the course he wants to assign instructors.

	4, Department Head types in Instructor's ID.
	5, Department Head clicks "Save" button.
	6, System saves the instructors information assigned to the course and display a confirmation message.
Extensions	4a. Instructors ID is not valid.
	--- 4a1. System displays error message saying not valid instructors ID.
	--- 4a2. Department Head needs to try again with another ID.
	5a. Courses have already had 2 instructors and cannot be added more.
	--- 5a1. System displays error messages saying cannot add more instructors.
	--- 5a2. Department Head either backs out of this use case or tries again after removing another instructors on course files.

UC-ID	UC-3
UC-Name	Download lecture notes
Description	Student accesses the system and views the courses he/she currently enrolls in. Then he/she selects lecture notes and downloads.
Primary Actor	Student
Pre-Conditions	Student is logged into system
Post Conditions	Lecture note is downloaded to his/her computer
Main Success Scenario	1, Student selects course from the course lists that he/she enrolls in.
	2, System displays 3 categories: lecture notes, materials, and assignments (etc.).
	3, Student choose "Lecture Notes" button.
	4, System displays names of files that Instructors have uploaded.
	5, Student clicks name of the file he/she wants to download.
	6, System display a message box if student wants to download or view the documents.
	7, Student clicks "Download" button.
	8, The file student chooses will be downloaded to his/her computer.
Extensions	3a. There are no files to be displayed.

	--- 3a1. System displays "No files available" and asks student to go back to course home page. --- 3a2. Students can choose different categories. 8a. System cannot download the files. --- 8a1. System displays errors message, provides reasons. --- 8a2. Students either backs out of this case or tries again.

UC-ID	UC-4
UC-Name	View assignments marks
Description	Student accesses the system and course page. Then student can choose Grade category to view his grades for assignments.
Primary Actor	Student
Pre-Conditions	Student is logged into system
Post Conditions	Assignment marks are viewed
Main Success Scenario	1, Student selects course from the course lists that he/she enrolls in. 2, System displays what students can access. 3, Student clicks "Grades" button. 4, System displays all grades he/she has got in the course.
Extensions	4a. There is no grade available to view. --- 4a1. System displays "There is no grades available to view" message. --- 4a2. Student backs out of this use case and selects another option.

UC-ID	UC-5
UC-Name	Add course plan for next week
Description	Instructor accesses to the system and selects the course page. He adds course plan to the course page.
Primary Actor	Instructor
Pre-Conditions	Instructor is logged into the system
Post Conditions	Course plan is updated

Main Success Scenario	1, Instructors selects course in the course lists he currently teaches.
	2, System displays course page and options.
	3, Instructors clicks "Add course plan" button
	4, System displays a box for instructors to choose dates and course plan description.
	5, Instructor types in course plan and clicks "Submit" button.
	6, System saves course plan and displays confirmation message.
Extensions	4a. Instructors choose the past date.
	--- 4a1. System displays error message that dates were invalid.
	--- 4a2. Instructor either backs out of this use case or change to valid dates.
	6a. System cannot save course plan.
	--- 6a1. System displays error messages, provides reason and rectifying the cause.
	--- 6a1. Instructor can try again after rectifying the cause.