

OO Analysis and Design Lab Week 2

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Class : Web Development 2

Q1 Please refer to the Public University Registration System Problem Statement below and answer the given questions

(i) Identify the additional events to which the automated system must now respond.

- A class list is printed for that student. It shows the classes in which the student has enrolled.
- Containing a list of the student's names and identifiers, is printed for the professor teaching each class
- The Records office keeps a permanent record of the grades and produces a student grade report, which is emailed to each student, and an instructor's grade report.
- Students request the classes they would like to take, using a touch tone telephone.

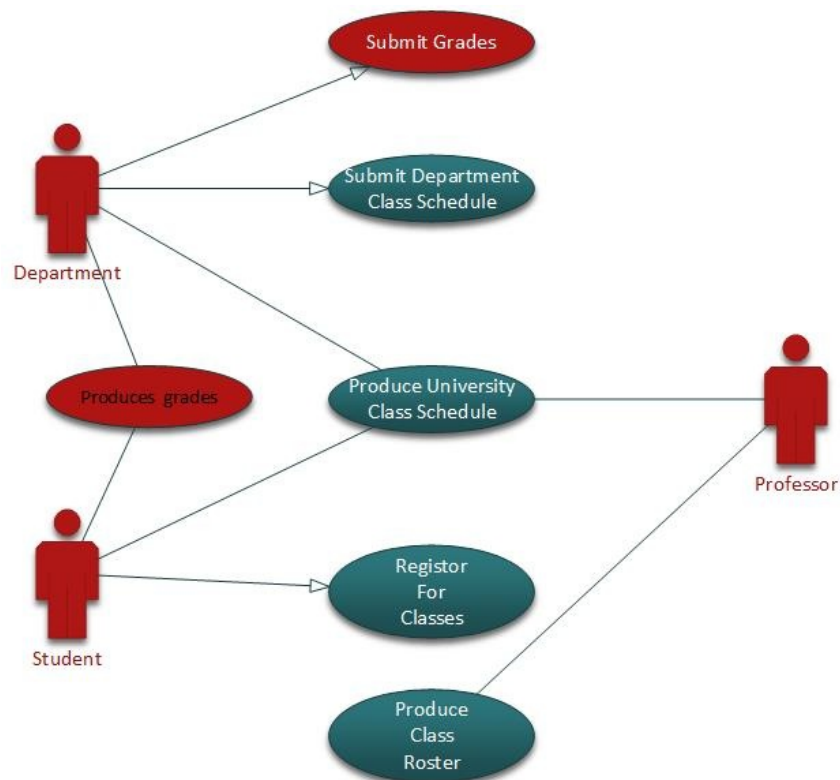
(ii) Modify the event table below to incorporate these events. Imagine that each system input associated with an event arrives individually.

Event Number	Event Description	System Input	Actor Providing Input	System Output	Actor Receiving
1	Department submits class schedule	Department Class Schedule	Department		
2	Time to produce class schedule			University Class Schedule	Student Department Professor
3	Student registers for Classes	Registration request	Student	Student class list	Student
4	Time to produce class roster			Class Roster	Professor
5	Produces an instructor/ student's grade report	Grades and Reports.	instructor	Email with report.	Students and Instructors
6	Submit Grades	Grades	Department / Staff		Students and staff.

(iii) List other events which might be included in a University Registration system of extended scope.

- Student change his class.
- Submit Grades
- Student may appeal grades given

(iv) Modify Use Case diagram to incorporate additional requirements



(v)Prepare a use case narrative for the additional events in the Public Registration system.

Use Case :	Submit Grades
Actors :	Department, Students/Professors
Overview :	One week after the examination period instructors submit a grade sheet containing the grades students have earned in each class. So that the students can access and see there grades.
Type :	Essential
Preconditions	Student is known by the system. Has exams.
Post conditions:	Online portal is up. That the results have been posted correctly
Special Requirements:	Students must have taken the exam.

Flow of Events

Actor Action	System Response
1 Use case starts when instructor wants to submit grade sheet	
2 Instructor provides a grade sheet	3 Records grades if the date is not there

Alternative Flow of Events

Line 3 : Grade sheet is overdue. error.

Use Case :	Produces an instructor/student's grade report
Actors :	Students and Instructors
Overview :	The Records office keeps a permanent record of the grades and produces a student grade report , which is emailed to each student , and an instructor's grade report, which is distributed to each faculty member.
Type :	Essential
Preconditions	Emails , have to be on the system. Grades must be graded
Post conditions:	Be able to response to other back emails.
Special Requirements:	Students must have taken the exam. Send email

Flow of Events

Actor Action	System Response
1 : Use case starts when records office starts to produce grade reports	2 : Produces grade reports
3 : On report arrival office emails reports to students	4 : Sends emails to students

Alternative Flow of Events

Line 4 : Invalid email. Retry step 3.

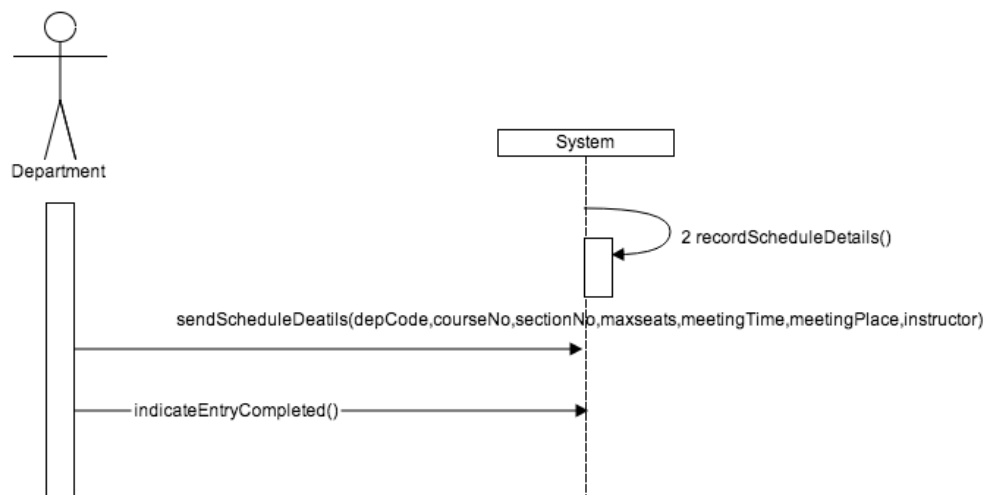
Q2 Modify the use case narrative for Register for Classes to require that the system check prerequisites before adding a student to a class

FIGURE 4.12

Expanded essential use case narrative for Register for Classes

Use case:	Register for Classes
Actors:	Student
Purpose:	Register a student for classes and record the student's schedule.
Overview:	A Student requests the sections of class desired for a term. The system adds the Student to each section if there is space available. On completion, the system provides the Student with a list of the classes in which he or she is enrolled.
Type:	Essential
Preconditions:	Class schedule must exist. Student is known by the system.
Postconditions:	Student was enrolled in the section.
Special Requirements:	Student must get a system response within 10 seconds.
Flow of Events	
ACTOR ACTION	SYSTEM RESPONSE
1. This use case begins when a Student desires to register for classes.	3 Checks details provided for class and the students identifier existence
2. The Student provides the Student's identifier and a list of the department code, course number, and section number for each section desired.	Adds the student to the section if theres are seats avaibale.
4. On completion of entry of the section requests, the Student indicates that the request is complete.	5 produces a student class list for the student.
6. The Student receives the student class list.	
Alternative Flow of Events	
Line 3: Invalid department code and course number entered. Indicate error. Return to Step 2.	
Invalid section number entered. Indicate error. Return to Step 2.	
No seats remaining. Inform the Student. Return to Step 2.	
No Class or Student Id . error . Return To Step 2	

Q3 Draw a system sequence diagram for the typical flow of events for the use case Submit Department Class schedule.



Q4 Draw a system sequence diagram for the use case Check out library Book shown in figures below.

