

# Use-Case Exercise

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Given the following Requirements Specification, generate use-cases for the system. Using the following steps may be helpful.

## **Steps in Writing a Use Case:**

- 1: Identify Classes of Users
- 2: Outline the Kinds and Number of Use Cases Required
- 3: List Use Case Names
- 4: Write Some Use Case Descriptions
- 5: Write Steps for Selected Use Cases
- 6: Evaluate Use Cases

## **On-line Enrollment -- Requirements Specification**

When a student first enrolls at the university, the student uses the SRS to specify a major and a degree. During the registration period preceding each semester, the student is able to view the schedule of classes online, and choose whichever classes he or she wishes to attend, indicating the preferred section (day of week and time of day) if the class is offered by more than one professor. The SRS will verify whether or not the student has satisfied the necessary prerequisites for each requested course by referring to the student's online transcript of courses completed and grades received.

Assuming that (a) the prerequisites for the requested course(s) are satisfied, and (b) there is room available in each of the class(es), the student is enrolled in the class(es). It is the student's responsibility to drop the class if it is no longer desired. Students may drop a class up to the end of the first week of the semester in which the class is being taught. At the end of the semester grades are posted, possible grades are variations on A, B, C, D (i.e. A, A+, A-), and an F. A passing grade is anything above an F. Only if a student passes a course, is this course updated in his transcript.

# Use-Case Exercise Solution:

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The high-level use cases for the SRS are:

1. Enroll in university.
2. Register for a course.
3. Drop a course.
4. Determine a student's course load.
5. View schedule of classes.
6. Request a student roster for a given course.
7. Request a transcript for a given student.
8. Maintain course information: course id, course description, course instructor.
9. Post final semester grades for a given course.

We may decompose any one of the use cases into steps, each one representing a 'sub use case';

**'Enroll in university'** should be decomposed into:

- I. Set student name
- II. Set student ssn.
- III. Declare degree.
- IV. Declare major.

**'Register for a course'** should be decomposed into:

- I. Verify that a student has met the prerequisites.
- II. Check availability of a seat in the course.

**'Post final semester grades for a given course'** should be decomposed into:

- I. Update student transcript with grade if student passed.
- II. Remove course from student course load.

**'Drop a course'**

- I. Check if a week into the semester has yet to pass.
- II. If yes, then remove the course from student course load.
- III. Otherwise do not remove course.