Examples

Object Orientated Analysis and Design

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Outline

- Review

- Bringing together all the concepts

- Example

Example

- Complex System
- Develop Solution

Course Registration System

- What are we trying to build?

- Customer's problem?

- Expand upon the vision statement and associated high-level requirements and constraints

- Researching/evidencing
  - ▷ Facts

Simplification

- Develop simplified perspective of the problem
- Levels to manage the complexity

Ground-Work

- Engineering Steps
- Realization of a Successful System
- System Requirements
- Elements and Sub-Systems
- Allocation and Interconnection
  - ▷ Meet the System Requirements

Vision Statement
- Provide an effective and affordable course registration service for students

Functional Requirements
- Provide course registration service
- Operate the course registration service
- Maintain the course registration service

Nonfunctional Requirements
- Level of reliability to ensure adequate service guarantees
- Sufficient accuracy to support current and future user needs

Constraints
- Compatibility with other systems/standards
- Maximal use of commercial-off-the-shelf (COTS) hardware and software

Basic Mechanics

Step 1
- Get the student registration number and his date of birth.
- The registration number should be verified with the existing database of valid registration numbers.
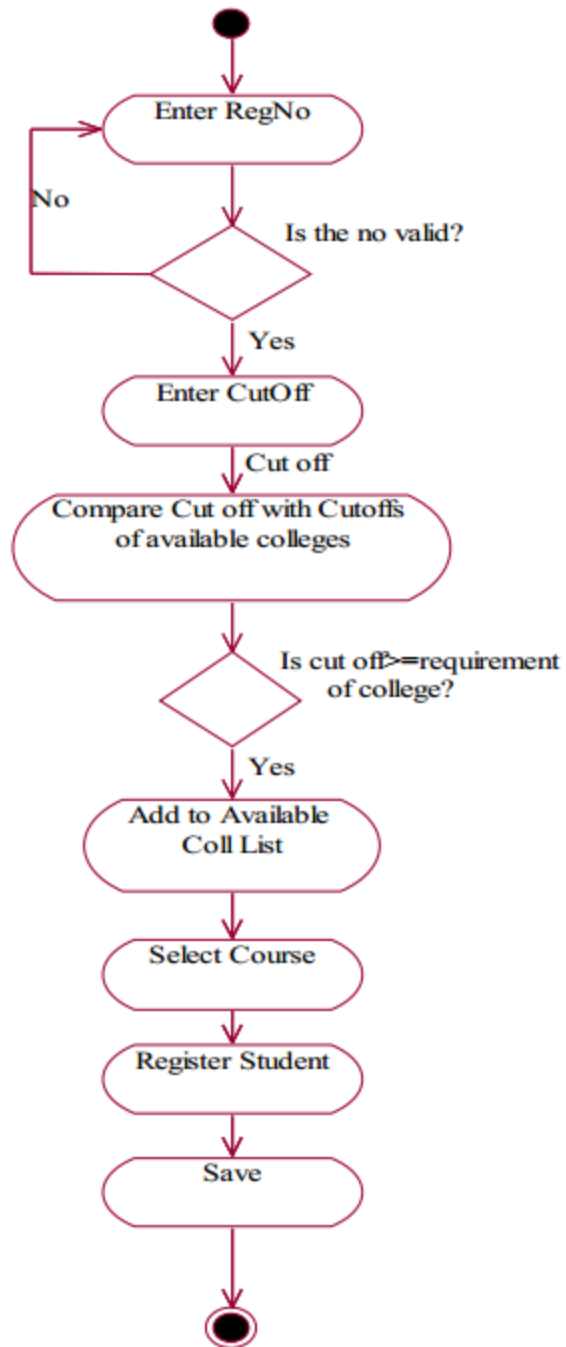
Step 2
- Get the cutoff.
- Compare the cutoffs and record the cutoff along with the student's registration time.

Step 3
- Display the colleges, whose required cutoff is less than or equal to the student's total cutoff mark.
- The student must choose his preferred college.
- Display the available courses in the selected college.
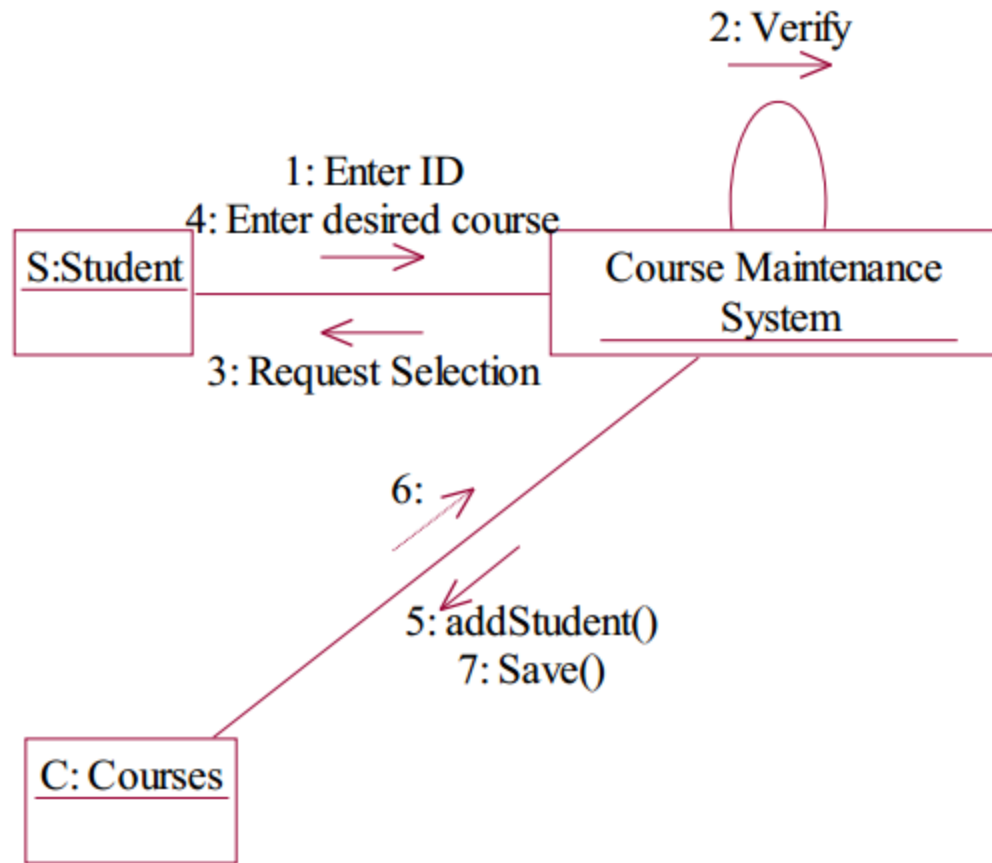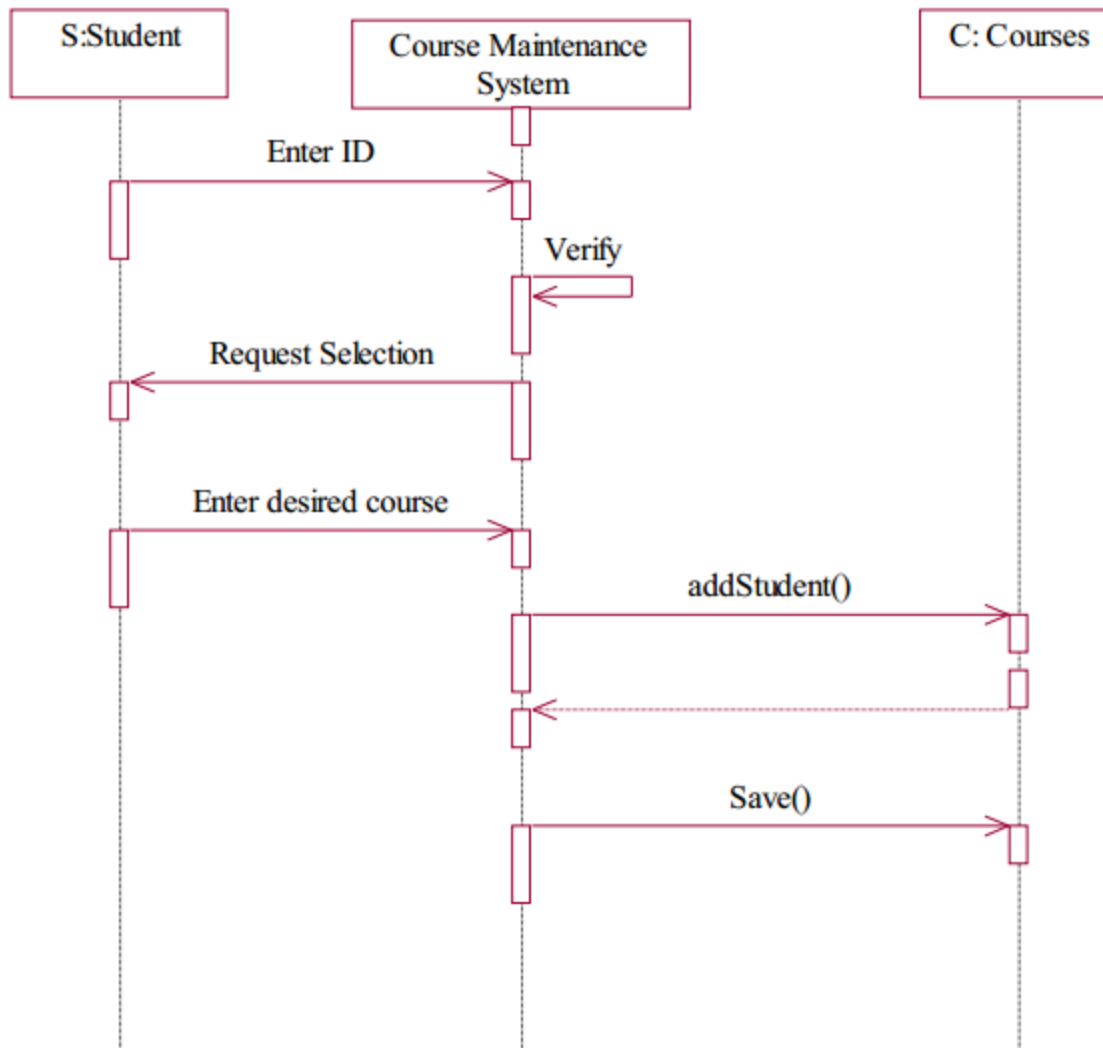- The student must now choose his preferred course.

Step 4
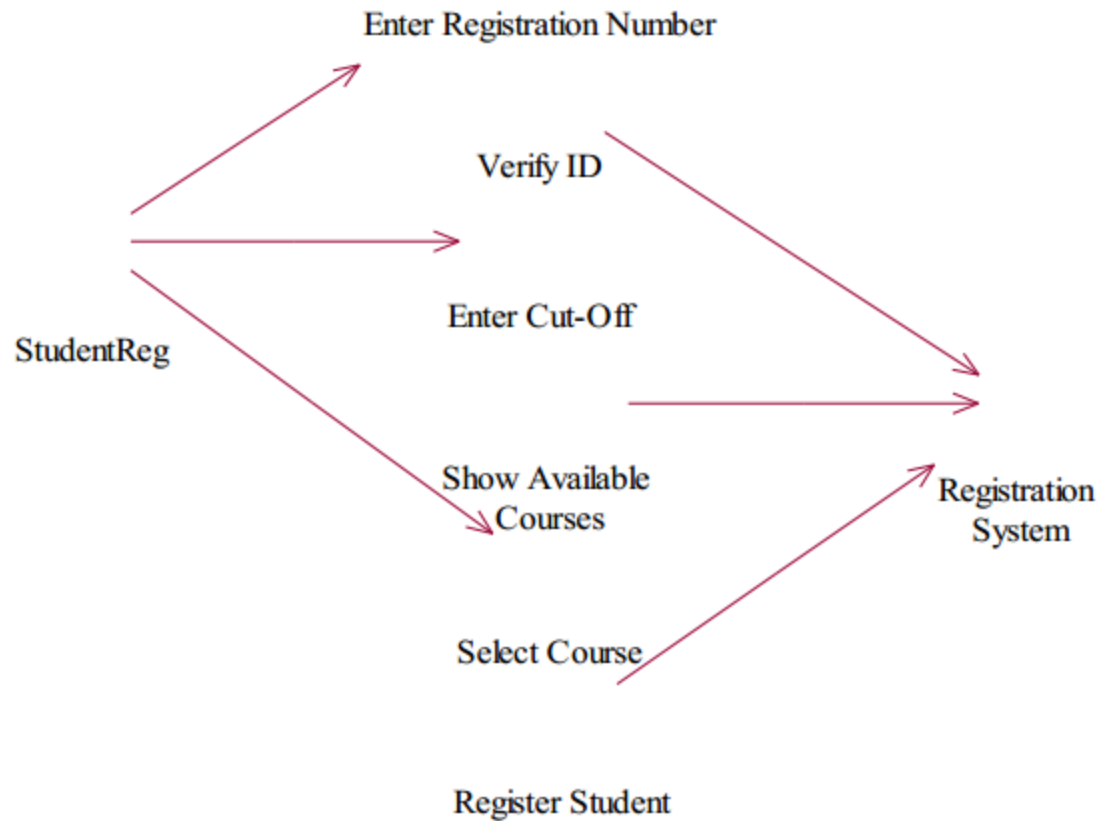- The student must finally be informed that he has been registered successfully
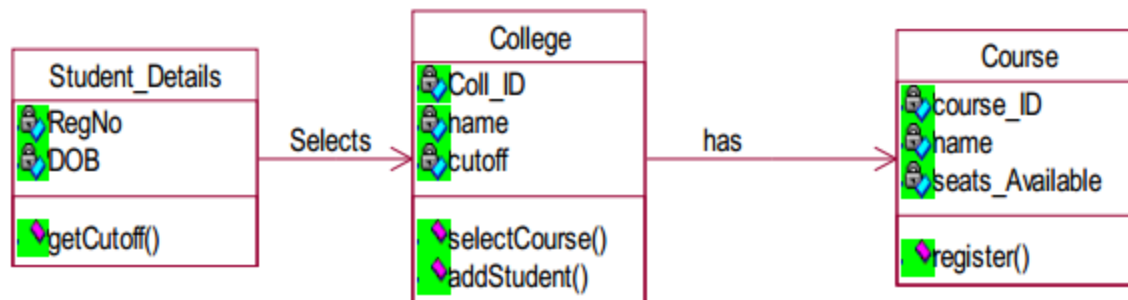
Activity Diagram

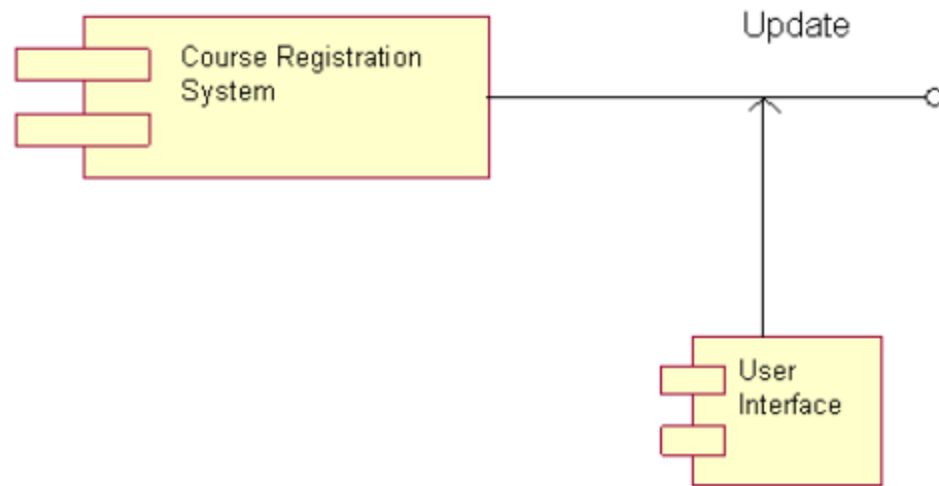# Collaboration Diagram

Sequence Diagram

Use Case Diagram

Enter Registration Number

Verify ID

StudentReg

Enter Cut-Off

Show Available Courses

Registration System

Select Course

Register Student
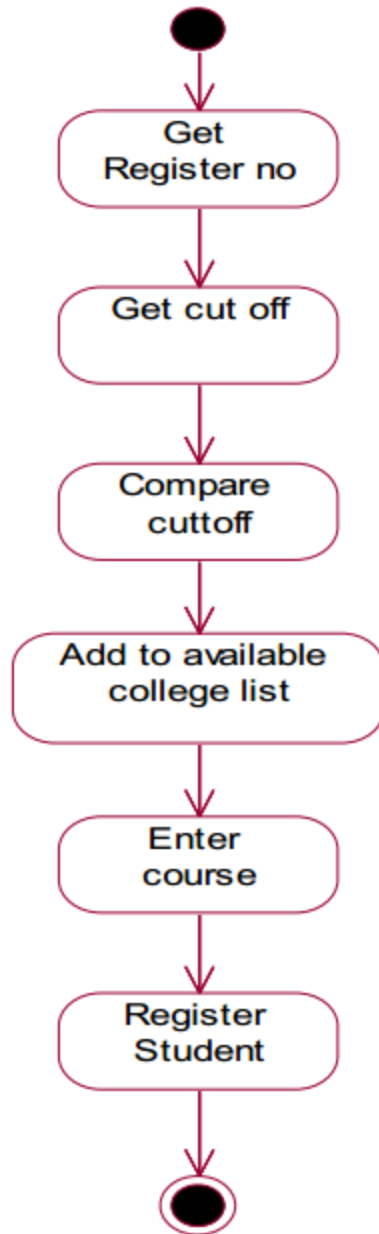
Class Diagram

Deployment Diagram

Component Diagram

State Chart Diagram

Design/Verification

- Testing/verification

- Compare against original design

- User feedback

Summary

- Example Problem/Solution
- Review Questions

This Week

- Review Slides

- Coursework

- Reviewing Quiz Questions

- Reviewing Associated Chapter

Questions/Discussion