

Introduction to Software Engineering

CSE291



Department of Computer Science

COMSATS University Islamabad, Lahore Campus

Lab Name: Introduction to Software Engineering Lab.

Lab Code: CSE291

Semester: 3rd

Syllabus

1. Assigning SE projects to students
2. Introduction to MS Project Tool
3. Task division using Gantt Chart
4. Write Project Proposal according to the CS FYP Template
5. Create prototypes of Project by using BalSamiq tool
6. Develop requirements specification for a given problem (The requirements specification should include both functional and non-functional requirements) by using Case Complete tool.
7. Introduction to MS Professional Visio
8. Draw Context and Activity Diagrams of the assigned projects using MS Professional Visio
9. Develop UML Use case model for a problem.
10. Draw Sequence Diagrams of the assigned projects
11. Draw State Transition and Collaboration Diagrams
12. Develop DFD Model (Level 0, Level 1 DFD)
13. Develop Class diagrams.
14. Project Presentation

Lab Objectives

The Software Engineering Lab has been developed by keeping in mind the following objectives:

1. To impart state-of-the-art knowledge on Software Engineering and UML
2. Present case studies to demonstrate practical applications of different concepts.
3. Provide a scope to students where they can solve small, real-life problems.

Lab Outcomes

1. Can produce the requirements and use cases the customer wants for the software being produced.
2. Participate in drawing up the project plan. The plan will include at least extent and work assessments of the project, the schedule, available resources, and risk management can model and specify the requirements of mid-range software and their architecture.
3. Create and specify such a software design based on the requirement specification that the software can be implemented based on the design.
4. Can assess the extent and costs of a project with the help of several different assessment methods.

Lab Week 1

1. Orientation and general discussion of course structure, Grading policy and Assignments.
2. Assigning of Projects to students

Choose any of one Projects

1. Online Doctor Consultation System
2. Online Event Management System
3. Online Learning System like Google Class room
4. Transport hiring System like Uber
5. Online Employee Management System

3. Write different features/modules of assigned projects

Example

University Management System

University Management will automate and simplify all the operational requirements of a university. Our University Management Information System provides a complete set of tools and applications that let you plan, execute, and analyse at both strategic and tactical levels as well as administering all university procedure as a mechanized system

Modules of University Management System

a) Admin And User Module:

The User Management grants authorized users the rights to use the various services by dividing them in to groups and defining their privileges.

b) Registration:

This module is used in the university management system to register student's examination, semesters and programs. This module manages the academic years, the pre-requisites for various degrees and the programs and subjects to be offered in semester or the annual terms

c) Fee Handling:

The Fee management is an important UMS module this particular module is responsible for handling the process of Fee collection from the students as well as the fee for all sorts of admission test and interview

d) Scheduling:

The Schedule Management Module helps in managing the semester timetable and the management to different classes of a semester.

e) Meeting Section:

The Meeting section in the UMS provides the management for various committees that the university formulates. The module also helps the management to generate the reports for these meeting sessions.

f) Library:

The Library Management Module is all about the library and its functions. Library racks records are managed. The administration manages the authors, publishers, and editor's records along with the circulation and requisitions processes.

g) Transport:

The Transport Management helps the management to administer all the university transportation. It includes the vehicle management, fuel and maintenance, vehicle visit, its sales and depreciation.

h) Events:

The Event Management allows the administrator to manage all the university events. It includes different activities, member's profiles, organizing bodies of events, planning the event, news related to events, and customized reports.

4. Identify the modules of your assigned project in Lab.