

UML & Design Patterns Lab

(Textbook no.2 i.e. Object-Oriented Analysis & Design with the Unified Process by Satzinger, Jackson & Burd Cengage Learning will be the primary source for finding templates for developing different artifacts / diagrams)

Take three case studies:

Customer Support System (in the Object-Oriented Analysis & Design with the Unified Process by Satzinger, Jackson & Burd Cengage Learning)

Point-Of-Sale Terminal (in Larman textbook)

Library Management System (in the reference book no. 2 i.e. UML toolkit)

Week 1:

Familiarization with Rational Rose or Umbrello

For each case study:

Week 2, 3 & 4:

For each case study:

Identify and analyze events

Identify Use cases

Develop event table

Identify & analyze domain classes

Represent use cases and a domain class diagram using Rational Rose

Develop CRUD matrix to represent relationships between use cases and problem domain classes

Week 5 & 6:

For each case study:

Develop Use case diagrams

Develop elaborate Use case descriptions & scenarios

Develop prototypes (without functionality)

Develop system sequence diagrams

Week 7, 8, 9 & 10:

For each case study:

Develop high-level sequence diagrams for each use case

Identify MVC classes / objects for each use case

Develop Detailed Sequence Diagrams / Communication diagrams for each use case showing interactions among all the three-layer objects

Develop detailed design class model (use GRASP patterns for responsibility assignment)

Develop three-layer package diagrams for each case study

Week 11 & 12:

For each case study:

Develop Use case Packages

Develop component diagrams

Identify relationships between use cases and represent them

Refine domain class model by showing all the associations among classes

Week 13 onwards:

For each case study:

Develop sample diagrams for other UML diagrams - state chart diagrams, activity diagrams and deployment diagrams

