Assignment

Solution of Mid Term Exam

Introduction To Software Engineering

(Sir Shakir Rashid Khan Khattak)

Muhammad Sharjeel Husnain
4345/FBAS/BSSE/F21

QUESTION# 1:- Describe water-fall model for software development and list the stages of Water Fall Model and write its three advantages and disadvantages.

ANS:

The waterfall model is a sequential design process in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of **Conception**, **Initiation**, **Analysis**, **Design**, **Construction**, **Testing**, **Production/Implementation**, and **Maintenance**.

Advantages:
- Before the next phase of development, each phase must be completed
- Suited for smaller projects where requirements are well defined
- Any changes in software is made during the process of the development

Disadvantages
- Testing period comes quite late in the developmental process
- Documentation occupies a lot of time of developers and testers
- Clients valuable feedback cannot be included with ongoing development phase

QUESTION# 2:- List the stages of software development life cycle (SDLC). Describe each stage in one phrase.

ANS:

Answer:- Following are the stages of SDLC

- ## Planning**: In the Planning phase, project leaders evaluate the terms of the project. This includes calculating labor and material costs, creating a timetable with target goals, and creating the project's teams and leadership structure.**

- ## Define Requirement**: Defining requirements is considered part of planning to determine what the application is supposed to do and its requirements.**

- **Designing:** Based on the requirements in SRS desired features and operation in detail are specified and documented in a DDS(Design Document Specification).

- **Development:** In this stage of SDLC the actual development starts and the product is built.The programming code is generated as per DDS during this stage.

- **Testing:** This stage refers to the testing of the product where products defects are reported, tracked, fixed and retested, until the product reaches the quality standards defined in the SRS.

- **Deployment:** Once the product is tested and ready to be deployed it is released formally in the appropriate market.

- **Maintenance:** What happens during the rest of software's life: changes corrections, additions and more.

QUESTION # 3:- Write a user level and several system level requirements of Library Management System..

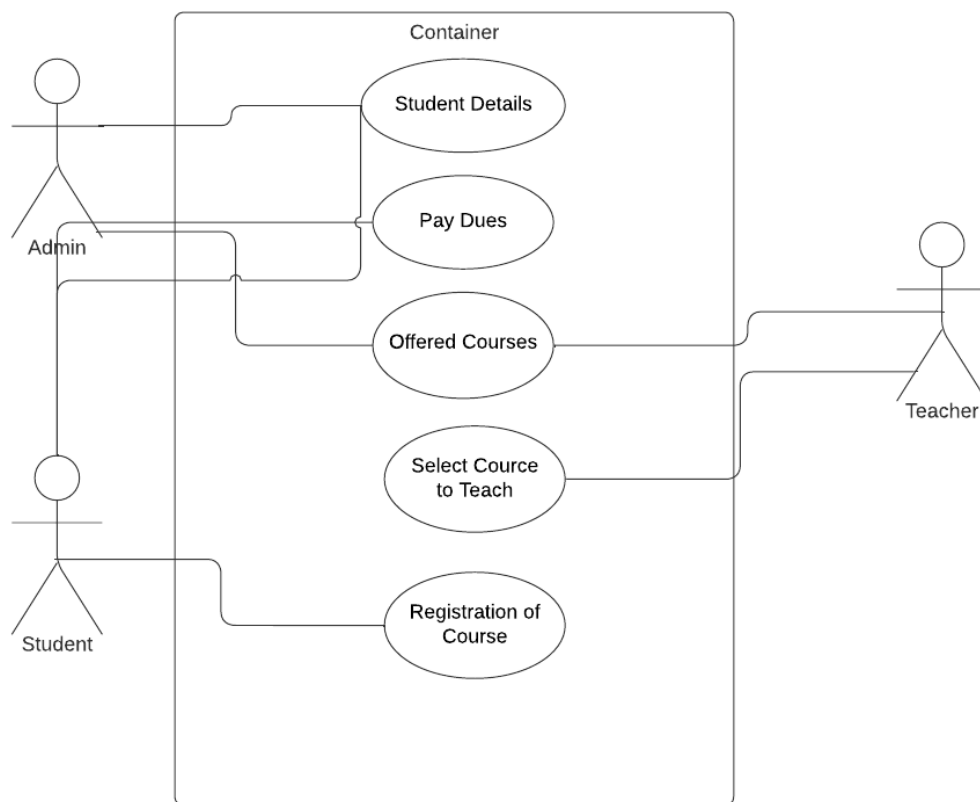**Answer**:

User level requirement:

- Details of borrower like **Name, ID** and **Contact** etc
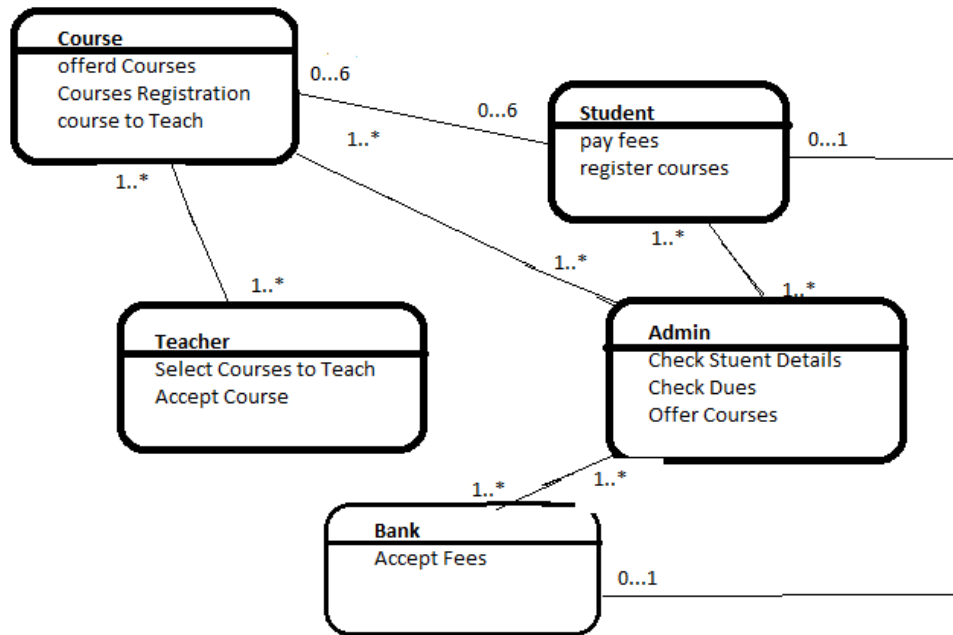
System Level Requirements:
- A book must have an unique ISBN to search book Physicaly.
- The system should be able to collect fines for books returned after the due date.
- Searching book through title to check Status of the book (either available or borrowed).
- Id of the borrower must be given.

QUESTION# 4:- Make a use case diagram and domain model

UML Diagram Of University Management System(Course Registration).

Domain Model of University management System (Course Registration)

Question# 5: Write non-functional requirements of Following

Answer:

Bike Racing Game:
- Game should load within a second
- Game should have realistic 3D Graphics
- It should work very fast with out any hanging

Online Banking System
- **Security**
- **Availability-** The system must be available 24/7
- **Performance-** Can be used by Muttiple Users at a time