

Software Testing Assignment (module 1)

1. What is SDLC?

Software Development Life Cycle; It is structural development of software using SDLC phases. It is step by step process with a goal of creating high quality software based on customer expectation.

2. What is software testing?

Software Testing is a process of identify the correctness, completeness, and quality of developed computer software.

3. What is Agile methodology?

The Agile Methodology is a way to manage a project by breaking it up into several phases.

4. What is SRS?

Software Requirement specification. It is complete description of the behaviour of the system to be developed.

5. Write SDLC phases with basic introduction.

7 phases of SDLC (Requirement, Analysis, Design, Development, Testing, Deployment, Maintain)

- **Requirement phase:** - This is a first and fundamental phase of SDLC. Collect the all requirement to the customer and create a specific document.

Types of Requirement:-

Functional Requirement: Describe system functions.

Non Functional Requirement: Describe constraints on the system or the development process.

- **Analysis phase:** It is carried out by the senior developers/ tester of the team information from the client, market studies, and specialists of the industry.
End of the phase is a requirement document which clear description of all requirement.

- **Design phase:** In this phase software design are prepared as per the SRS document.

Two kind of design document developed in this phase:

High level design:

Brief description and name of each module.

Outline about the functionality of every module.

Complete architecture diagram along with technology details.

Low level design:

Database tables which include type and size.

Complete detail of the interface.

Complete output and input for every module.

- **Implementation phase / coding phase :**

This phase has many name such as coding, build, development, implementation.

Developer start build the entire system by writing code using the chosen programming languages.

Task are divided into units or modules and assigned to the various developers.

Longest phase of the software development life cycle process.

- **Testing phase :**

Validation phase, testing is defined as an activity to check whether the actual result match the expected results and ensure the software system is defect free.

QA and testing team many find some bugs, defects which communicate to developers.

The developer fixes the bug and send back to tester.

The process continues until the software is bug free, stable, and working according to the business needs of the system.

- **Deployment phase:**

It includes a release specifically for a market facing group of people and gets.

It tested in a real time environment for their acceptance.

It is a sort of user acceptance testing (UAT).

➤ **Maintenance phase:**

After the software clears all the SDLC phases without any issue, then it goes into the maintenance stage.

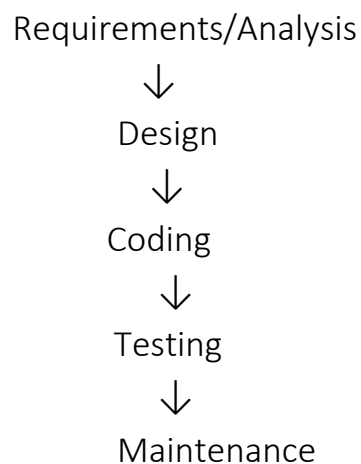
Maintenance is the process of changing a system after it has been deployed.

Corrective Maintenance: Identifying and repairing defects.

Adaptive Maintenance: Adapting the existing solution to the new platform.

Perfective Maintenance: Implementing the new requirement.

6. Explain phases of the waterfall model.



It is very simple but idealistic.

This model software development life cycle is based on classical waterfall model.

In this model one phase can be started after completion of the previous phase.

The output of one phase will be input to the next phase.

Development process can be considered as a sequential flow in the waterfall.

Requirements are very clear and fixed.

Product is stable.

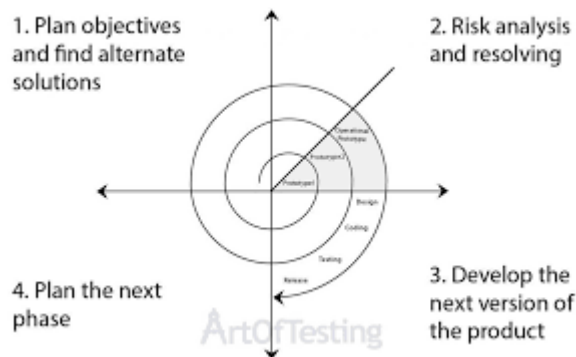
The project is short.

7. Write phases of spiral model.

➤ **Planning:** determination of objectives, alternatives, and constraints.

➤ **Risk analysis:** Analysis of alternative and identification resolution of risks.

- **Engineering:** Development of the next level product.
- **Customer evolution:** assessment of the requirement.



Spiral model is iterative model.

Spiral model overcome drawback of waterfall model.

In every cycle new software will be release to customer.

This model used for medium to high risk.

This model used long term project because change and add the requirement based on customer requirement and market requirement.

Customer is not sure of their requirement which are usually the case.

8. Explain working methodology of agile model and also write pros and cons.

This model is combination of both iterative and incremental process models.

It is focus on process adaptability and customer satisfaction by rapid delivery of working software product.

This model breaks down the product into small incremental builds.

In this model, the customer is able to see the result and understand to satisfied or not.



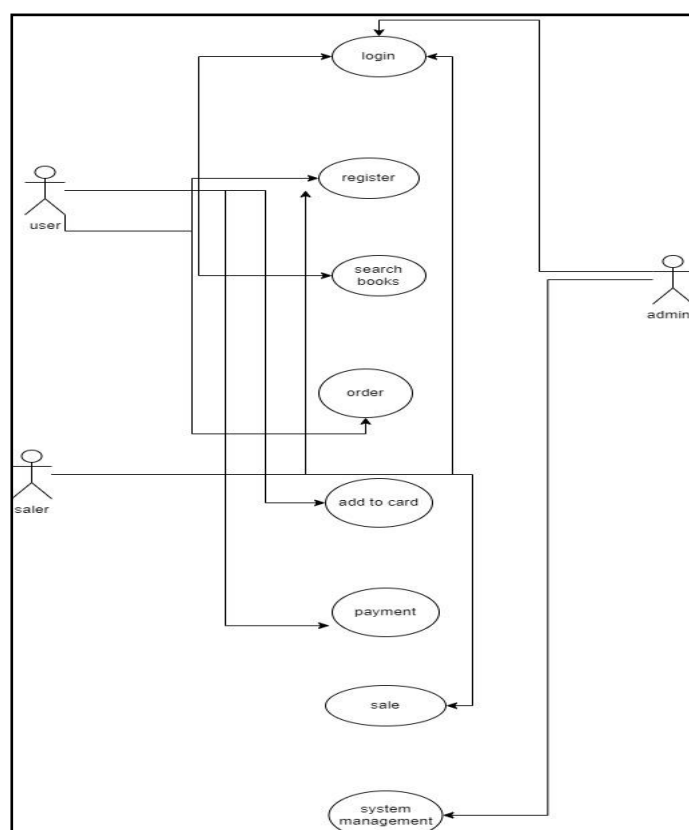
Pros:

- Project is divided into short and transparent iteration.
- It has a flexible change process.
- It minimize the risk of software development.
- Quick release of the first product version.
- The correctness of functional requirement is implemented into the development process.
- It is very realistic software development.
- Functionality can be developed rapidly and demonstrated.
- Resource requirement are minimum.
- Suitable for fixed or changing requirement.
- Minimum rules and documentation easily employed.
- Easy to manage.

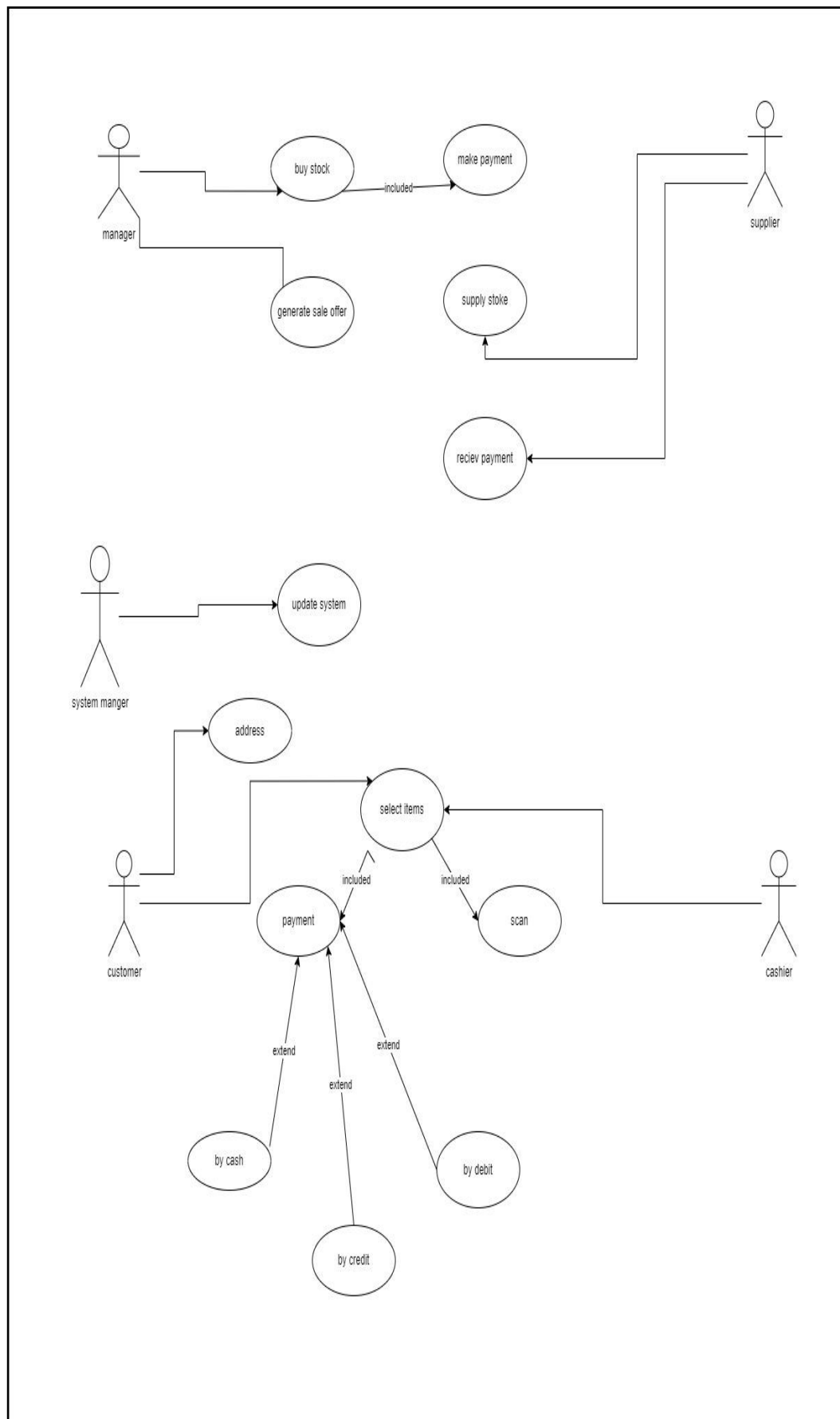
Cons:

- The development team should be highly professional and client oriented.
- Not suitable for handling complex customer
- More risk of sustainability, maintainability and extensibility.
- Customer is not clear, team can be driven in the wrong direction.
- Further correction and change their may be chances the project will cross the expected time.

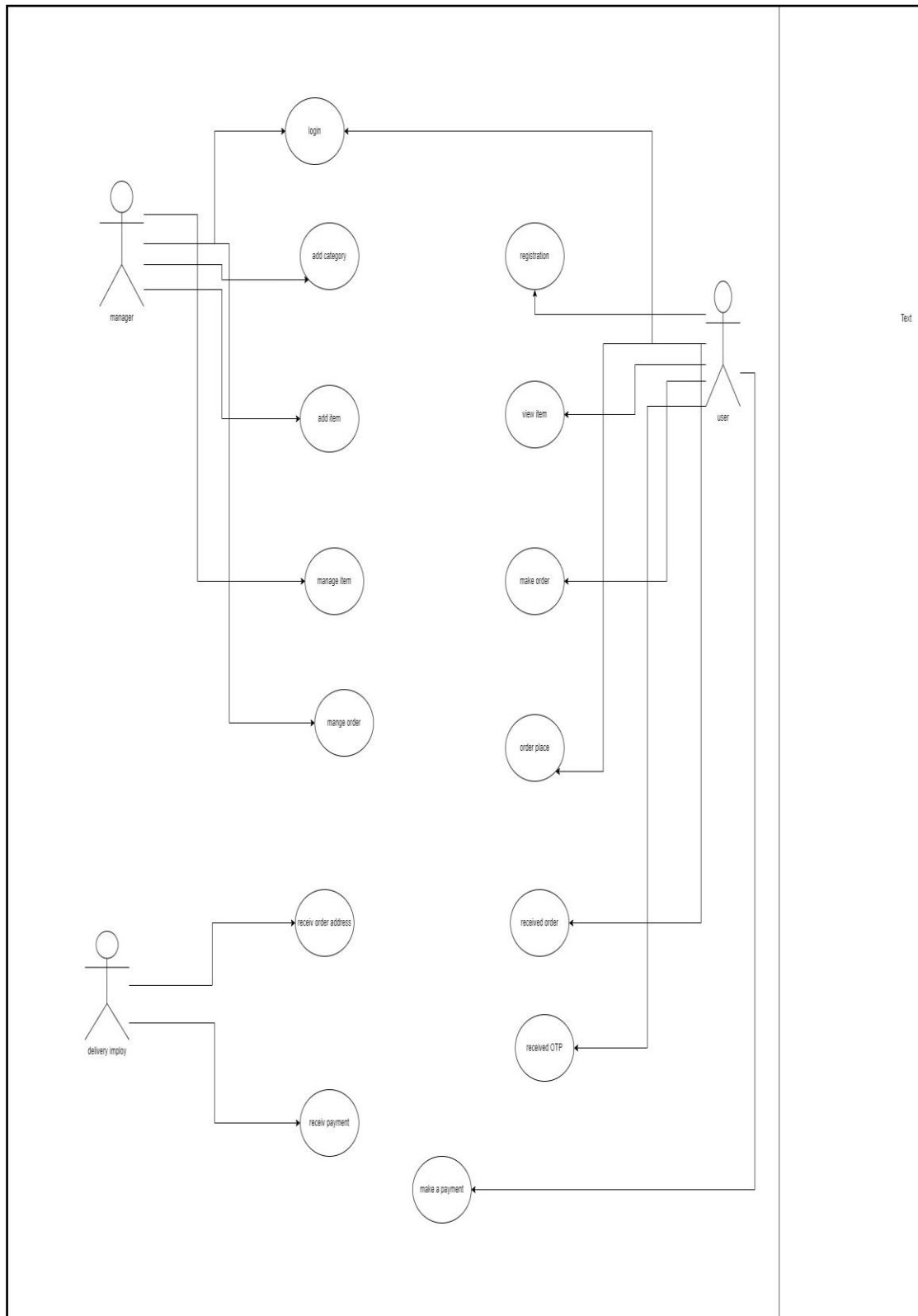
9. Draw usecase on online book shopping.



10. Draw usecase on online bill payment system.



11. Draw usecase on online shopping product using COD.



12. Draw usecase on online shopping product using payment gateway.

