Module-1 (fundamental)

1. what is SDLC ?

Ans. SDLC full form is Software Development Life Cycle.

> It is the step-by-step process followed to design, develop, test, and maintain software. It helps ensure the software is high-quality, cost-effective, and delivered on time

2.What Is Software Testing ?

Ans. Software Testing is the process of checking whether a software application works as expected, is free from defects (bugs), and meets user requirements before it is released.

3. what is agile methodology ?

Ans. Agile Methodology is a modern approach to software development that focuses on flexibility, teamwork, and customer satisfaction. Instead of building the entire software at once, Agile breaks the project into small, manageable parts called iterations or sprints

4.what is SRS

Ans. SRS full form software requirement specification.

SRS means Such documents are kept on how to make applications and software. Like what the software has to do, what features it will have, how it will behave, and what rules it will follow.

5. write SDLC phases with basic introduction

Ans. SDLC phase is below.

1. Requirement Gathering.

2. Analysis.
3. Design.
4. Implementation.
5. Testing.
6. Deployment.
7. Maintenance.

1.Requirement Gathering:

Information is collected from the users about what they expect from the software than collect the requirement and create any software.

2. Analysis:

In the Analysis Phase, the client's needs are understood and analyzed. In this, information is collected by talking to the user and it is seen what the system will do. Then an SRS (Software Requirement Specification) document is prepared, in which all the functional and non-functional requirements are written

3. design.

Architecture design, UI design, database design etc. are created. In this stage a blueprint is prepared as to how the system will look and work.

4. implementation.

Now, the developers and designers create the structure of the software. They make diagrams, wireframes, and design the layout (UI) of the app or software. This phase is like making a blueprint before building a house.

5. testing.

Developers write code according to design than create application and software completed end all software test and find errors, bugs and any problem.

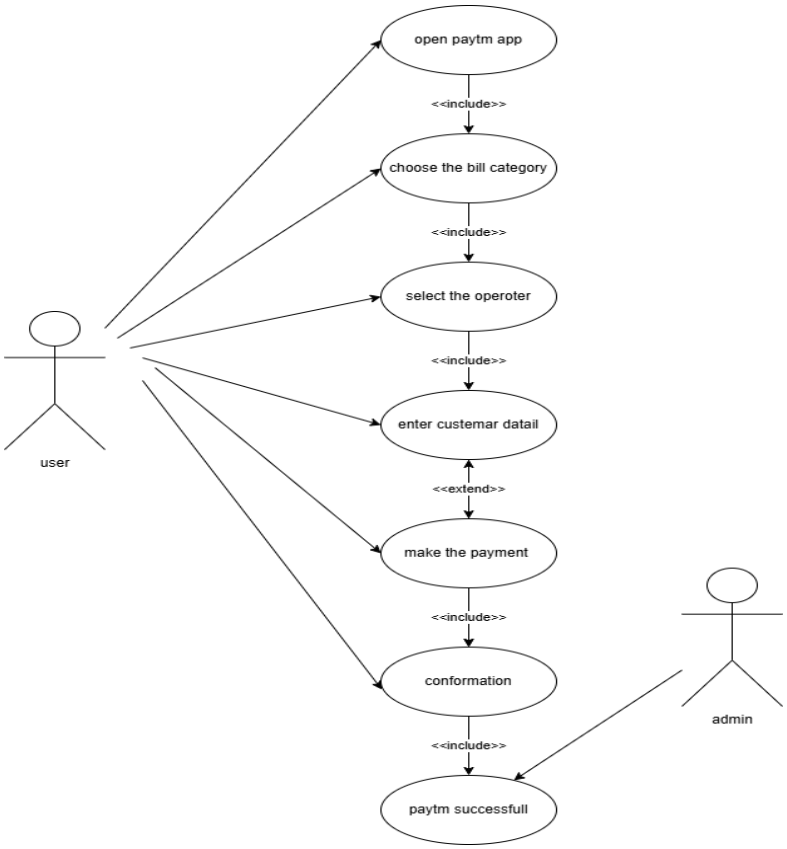
6. Deployment.

Deployment means it is installed on a server or released to the cloud.

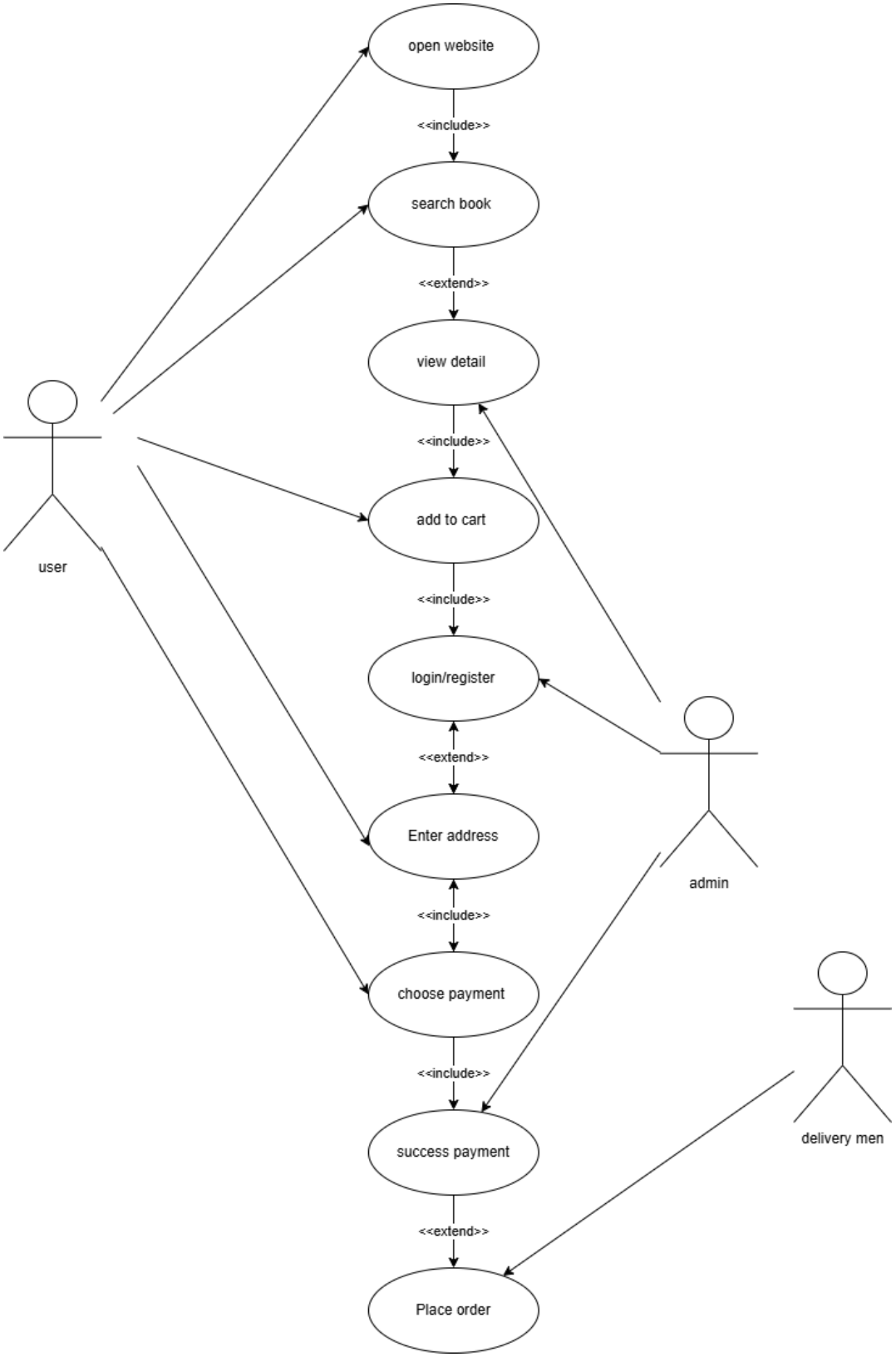
7. Maintenance.

The software is updated and maintained. New features are added based on user feedback.

. 6. draw use case on online bill payment system (Paytm).



7.draw use case on online book shopping product using gateway



8. Draw use case on banking system for customer.

9. Write phases of spiral model.

Ans. Here are the main phases of the spiral model:

1. Planning phase.
2. Risk analysis.
3. Engineering phase.
4. Evaluation and review phase.

1. Planning phase.

Gathering requirement and planning collect the project and further planning is done.

2. Risk analysis.

Potential risk are identified. Measures to mitigate them and prototypes are prepared.

3. Engineering phase.

Design and develop software. Validating the product through testing. Modify the design as needed.

4. Evaluation and review phase.

Feedback is received from the customer. Plans are made for the next spiral cycle.

10. write agile manifesto principles.

1. customer satisfaction.

Ans. Delivery valuable software regularly, so the customer is happy and gets what they need early.

2. deliver working software frequently.

Deliver working software frequently, with a preference for shorter timescales.

3. welcome changing requirements.

Even late in the project, welcome changes. Agile welcomes change to improve the product.

4. Business and developers must collaborate

Business and developers must collaborate means daily support in team and stakeholder.

5. Support motivated individuals.

Means trust the team and support, give the best work environment.

6. face to face communication is best.

Mean you should communicate with your team without being nervous and afraid.

7. working software is the primary measure of progress.

Means software is working are the best success

8. maintain a sustainable development pace.

Protect the team to burnout and good speed to the work.

9. Focus on technical excellence and good design.

Means it should be easy for code and maintenance.

10. simplicity is essential.

Means avoid unnecessary work do only what's needed.

11. self-organizing teams perform best.

Means the teams should decide for how work in the best way.

12. reflect and improve continuously.

Means Time to time your work check and make it better.

11. What is oops.

Ans. oops means object-oriented programing system (oops). Programing in which we think and create everything as an object each project has its own data and there is work too.

12. Write basic concepts of oops.

Ans. here are the basic concept of oops.

- Object.
- Class.
- Encapsulation.
- Inheritance.
- Polymorphism.
- Abstraction.

13. What is object.

Ans. object means a class is a plan or design from which you can create real things.

14. What is class.

Ans. class is collection of data member and member function.

15. What is encapsulation.

Ans. encapsulation means data hiding the detail of how something work and only showing what's necessary.

16. what is inheritance.

Ans. Inheritance means things which are already made in one class can be automatically take by another class. Simple mean that has already been written. Then again no need write.

17. what is polymorphism.

Ans. Polymorphism means one name, many forms. Means same look a like method and function works differently in different place.

18. Explain phases of the waterfall model.

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2. Analysis.
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19. Explain working methodology of agile model and also write pros and cons.

Ans. The agile model is an incremental and iterative development process. The purpose is customer have to give priority. In this the project is divided into small parts and a working software is prepared in every part.

- Agile working methodology.
  1. requirement gathering:
  Initial requirement are taken from the clients and stakeholders, but the entire scope is not fixed in the beginning.
  2. planning.
  Sprint planning is done. Which features will be built in every sprint this decision is made.
  3. design and development.
  In each sprint, selected features are designed and coded.
  4. testing.
  Testing is done during the sprint only. Bugs are fixed in the same sprint.

5. review and feedback.
At the end of the sprint, the working model is shown to the client and feedback is taken.
6. iteration.
In the next sprint, improvements are made according to the previous feedback is taken.

- **Pros.**
  1. Customer satisfaction is high due to consistently working product and feedback.

  2. Quick delivery: Usable product is ready in a short time.

  3. Accepts change – The process remains flexible even when requirements change.

  4. Better communication There is constant interaction between the team and the customer.

  5. High quality product – Regular testing and feedback improves the quality of the product.
- **Cons.**
  1. Less documentation - which may make future maintenance difficult.

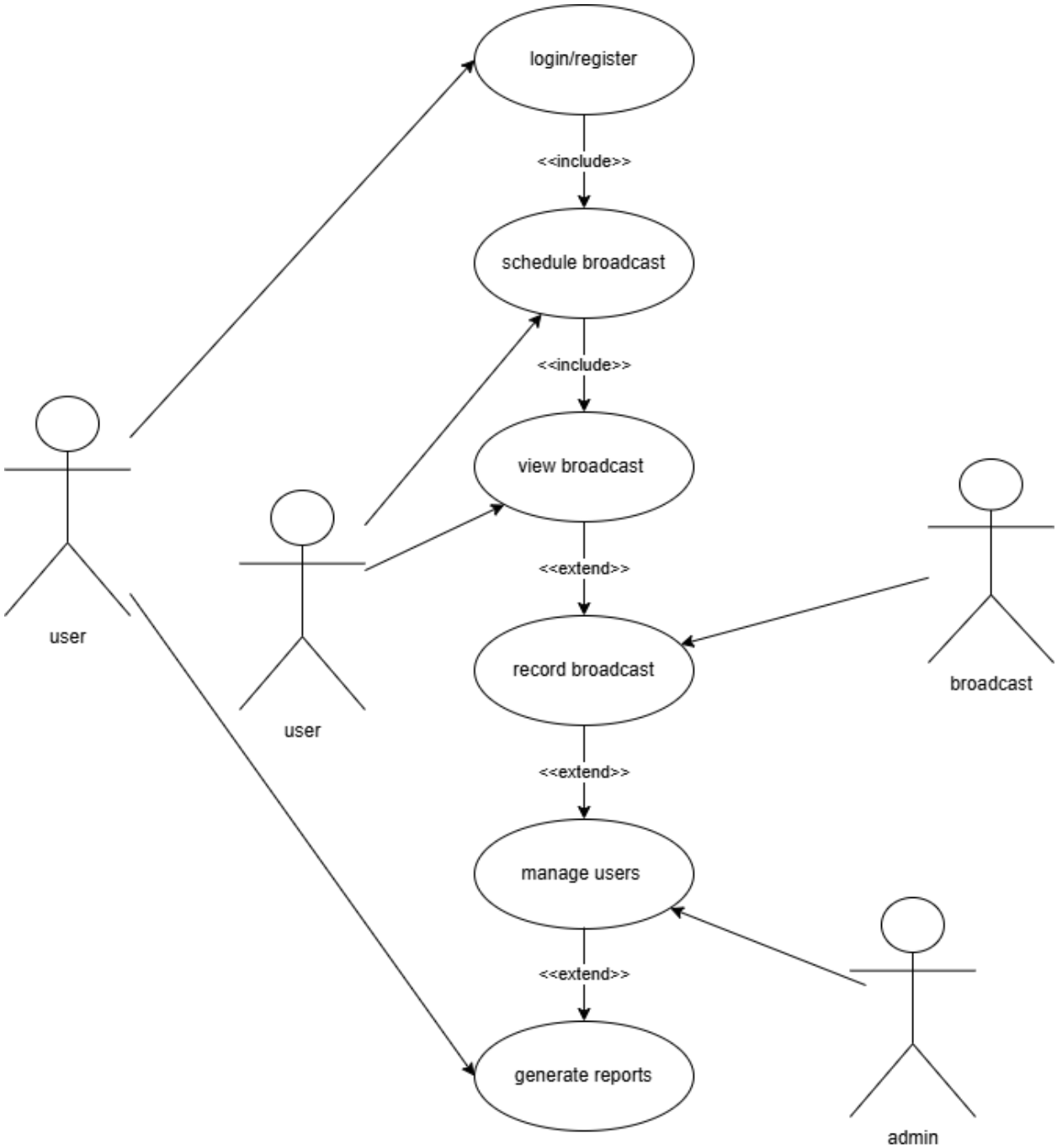
  2. Need for experienced team – To effectively implement Agile, a skilled team is required.

  3. Danger of Scope Creep: Constant changes can cause the scope of the project to go out of control.

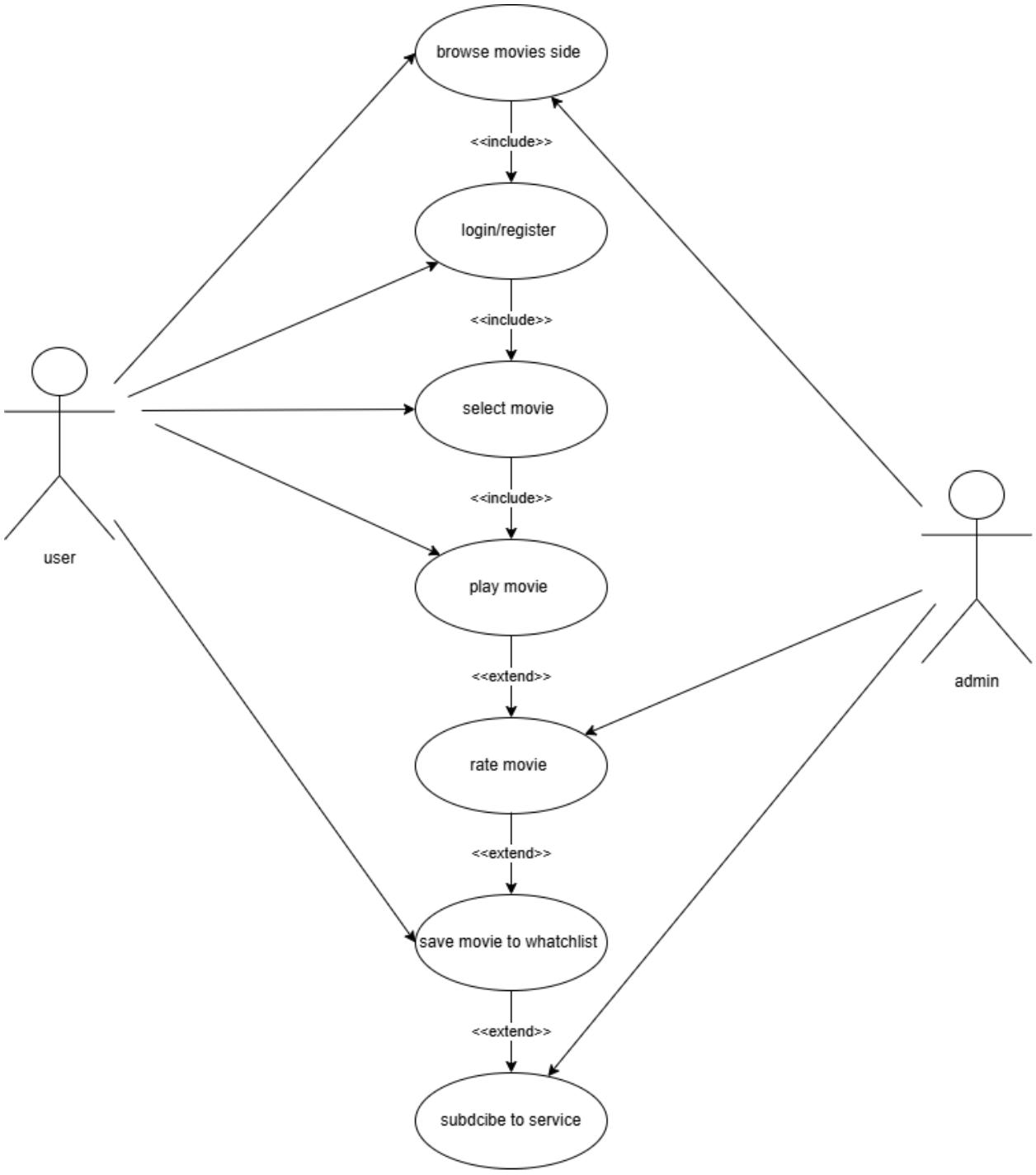
  4. Difficult for long term projects: Planning and control can be difficult in very large systems.

5. Client involvement is important. If the client is too busy, the project may get affected.

20. draw use case on broadcasting system.



21. draw use case on OTT platform.



22. Draw use case on E-commerce application.