SOFTWARE TESTING MODULE 1(ASSIGNMENT)

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.What is SDLC?

SDLC (Software Development Life Cycle)is a structure imposed on the development of a software product that defines the planning,implementation,testing,documentation,deployment and ongoing maintenance and support.

SDLC is a process that develops a software of the highest quality and lowest cost within the shortest time possible.

The different types of SDLC are:

.Waterfall methodology

. V model

.Boehm's spiral model

.Iterative and incremental model

.Agile

.Use case

.What is software testing?

Software testing is process of identifying the correctness, completeness and quality of a developed computer software. Its is the process of evaluating and verifying the software product or an application does what it is supposed to do.

.What is Agile methodology?

Agile methodology is a project management approach that involves breaking the project into phases and emphasizes continuous collaboration and improvement. Teams follow a cycle of planning,executing and evaluating. It emphasizes adapting to the need of the teams,customers and changing environments and project requirements

.What is SRS?

A software requirement specification (SRS) is a document that describes what the software will do and

how it is expected to perform.

.It includes a set of use cases that describe all of the interactions that user will have with the software.

.Use cases are also known as functional requirements. Apart from functional requirements the SRS also contains non functional requirements

.The non functional requirements are that impose constrains on the design or implementation(Such as performance requirements,quality standards or design constraints)

.What is OOPS?
Object oriented programming system is a programming system where the concept of programming helps the programmers to bind the data and function together that manipulate the data .OOPS is a programming concept that works on the principles of

.Abstraction
.Encapsulation
.Inheritance
.Polymorphism

It allows the user to create objects they want and create the methods to handle the objects.

.What is the basic concepts of OOPS?

The basic concept of OOPS are:

- **Class**
- **Encapsulation**
- **Abstraction**
- **Polymorphism**
-
- **.Overriding**
- **.Overloading**
- **Inheritance**

.What is object?

An object is one of the concepts of OOPS which contains both data and function,which operates on the data. An object represents an individual ,identifiable item,unit,or entity,either real or abstract,with a well defined role in the problem domain.

.What is a Class?

A class is a blueprint for an Object. A class represents an abstraction of the object and abstracts the properties and behavior of the object. An object is a particular instance of a class which has actual existence and there can be many objects for a class.

. What is encapsulation?

Encapsulation is one of the concepts of OOPS where the data and the code is wrapped together. In this OOPS concept, the variables of a class is always hidden from other classes. It can only be accessed using the methods of their current class. For example:in school,a student cannot exist without a class

Encapsulation is a way to restrict the direct access to some components of an object,so users cannot access state values for all of the variables of a particular object.

.What is inheritance?

Inheritance is the concept in OOPS in which one class inherits the attributes and methods of another class. The class whose properties and methods are inherited is known as the parent class.
And the class that inherits the properties from the parent class is the child class. Inheritance means that one class inherits the properties of another class and this is also called a "is a" relationship. This is a very important concept of OOPS as this helps to reduce the size of the code.

.What is Polymorphism?

Polymorphism means "having many forms". It allows different objects to respond to the same message in different ways,the response specific to the type of the object. Polymorphism is one of the core concepts of OOPs and describes situations in which something occurs in several different forms. An excellent example of polymorphism is a cursor behavior .A cursor may take different forms like an arrow,a line,cross or other shapes depending on the behavior of the user or the program mode.

.Write SDLC phases with basic introduction:

The 7 SDLC phases are

. Planning: Project planning is a vital role in the software development life cycle since this the part where the team estimates the cost and defines the requirements of the new software.

. Gathering and requirement analysis: The second step in SDLC is gathering maximum information from the client requirements for the product. The development team will then analyze the requirements keeping the design and code of the software in mind. The main goal of this stage is that everyone understand the minute detail of the requirement.

. DESIGN: In the design phase,software engineers analyze the requirements and identify the best solutions to create the software .

.CODING AND IMPLEMENTATION: This fourth stage means translating the design to a computer legible language.

.TESTING: Once the he developers build the software,then it is deployed in the t enviornment .Then the testing team tests the functionality of the entire system.In this fifth phase of SDLC, the testing is

done to ensure that the entire application works according to the customers requirements

.DEPLOYMENT: Once the testing is done and the product is ready deployment,it is released for customers to uproject determines the complexity of the deployment.The users are then provided with the training or documentation that will help them to operate the
software

MAINTENANACE: The actual problem starts when the customer actually starts using the developed system and those needs to be solved from time to time . Maintenance is the seventh phase of SDLC where the product is taken care of . Accoridng to the changing user end environments or technology,the software is updated timely.

.Explain Phases of the waterfall model:

Phases of waterfall project management differ from one project to another. But generally,you can group the activities of the waterfall approach into five
sages:planning,design,implementation,verification and maintenance

. Write phases of Spiral model

The spiral models four phases: Planning,Design,Construct and Evaluation. A software project repeatedly passes through these phases in iterations(called spirals in this model).The spiral model repeats steps of a project ,starting with modest goals and expanding outward in ever-wider spiral(called rounds)

Write Agile manifesto principles

The agile manifesto is a document that identifies four key values that believe software developers should use to guide their work.

They are:

- **Individual interactions**
- **Working software**
- **Customer collaboration**
- **Responding to Changes**

Explain the working methodology of Agile model also write pros and cons :

The agile methodology is an iterative approach to project management and software development that uses feedback loops and test driven development to solve problems. Its not a single method but a collection of best practices that involve constant collaboration

Pros of agile methodology:

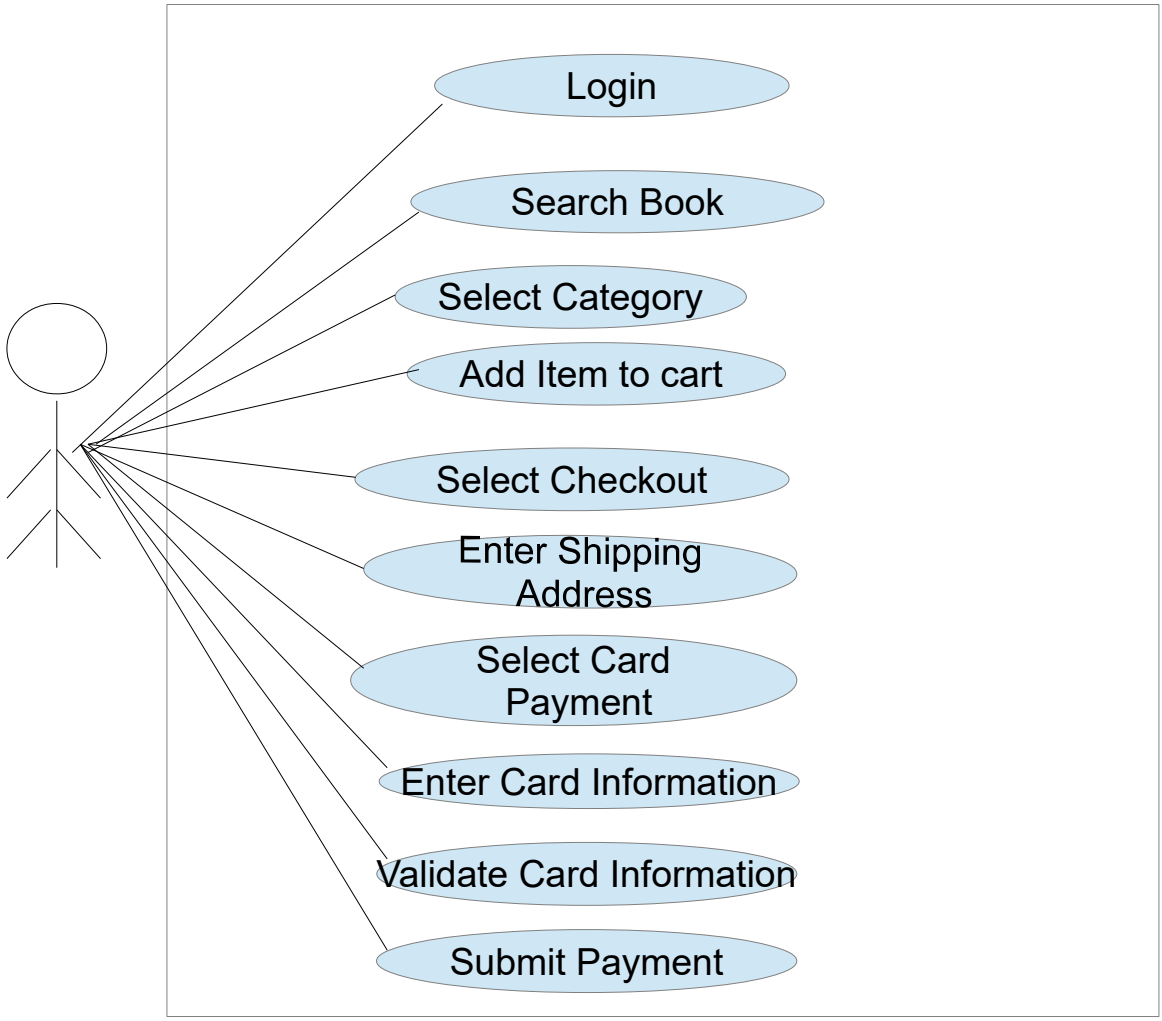
1. Is very realistic approach to software development
2. Promotes teamwork and cross training

3. Functionality can be developed rapidly and demonstrated
4. Resource requirements are minimum
5. Suitable for fixed or changing requirements
6. Little or no planning required
7. Easy to manage
8. Gives flexibility to developers

Cons of an agile methodology:

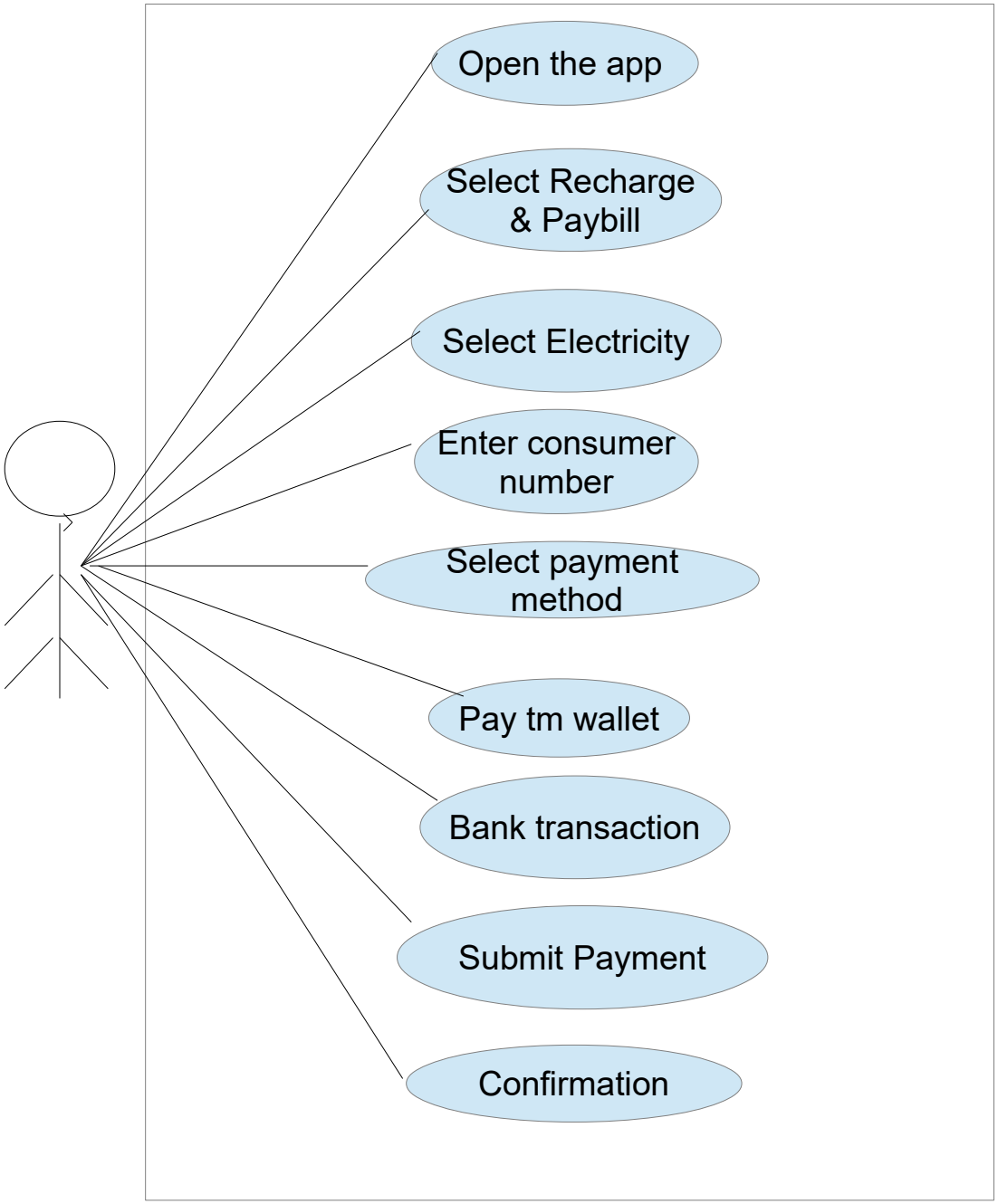
1. Less predictable
2. More time and commitment
3. Greater demand on developers and clients
4. Projects fall easily off track

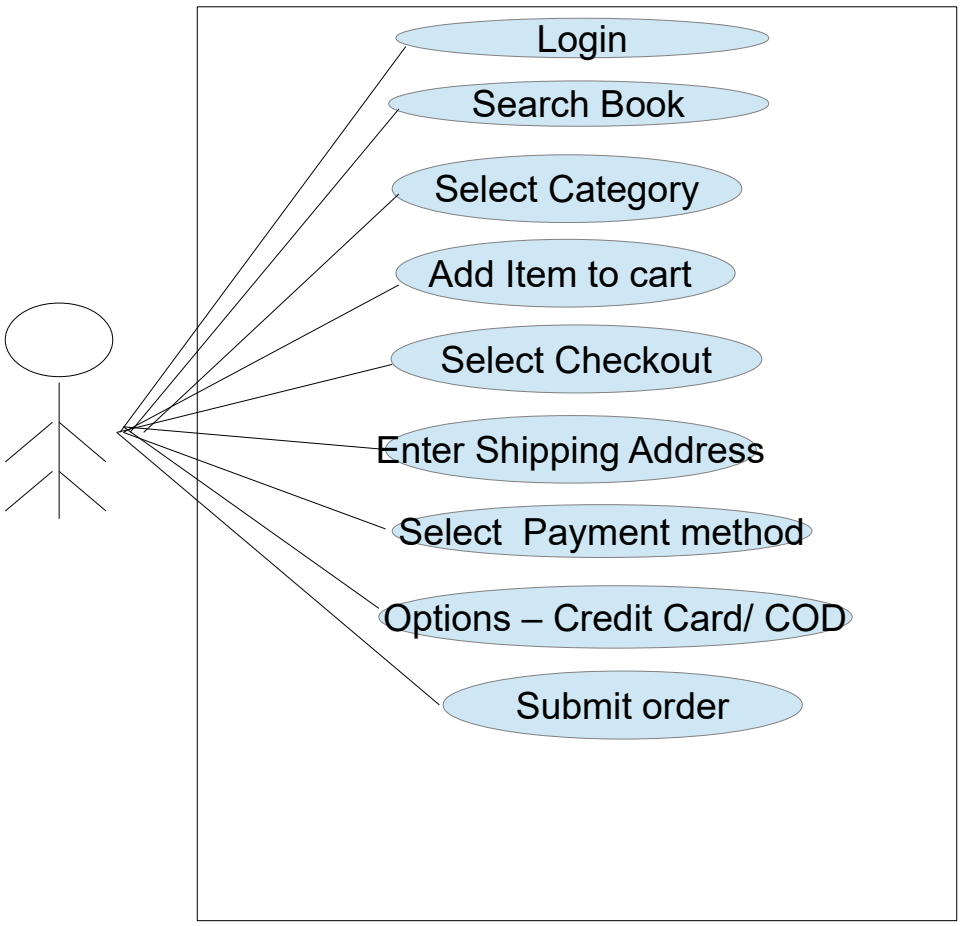
Draw use case on online book shopping



Draw Use case on online shopping using COD

Draw Usecase om online bill payment system (paytm)

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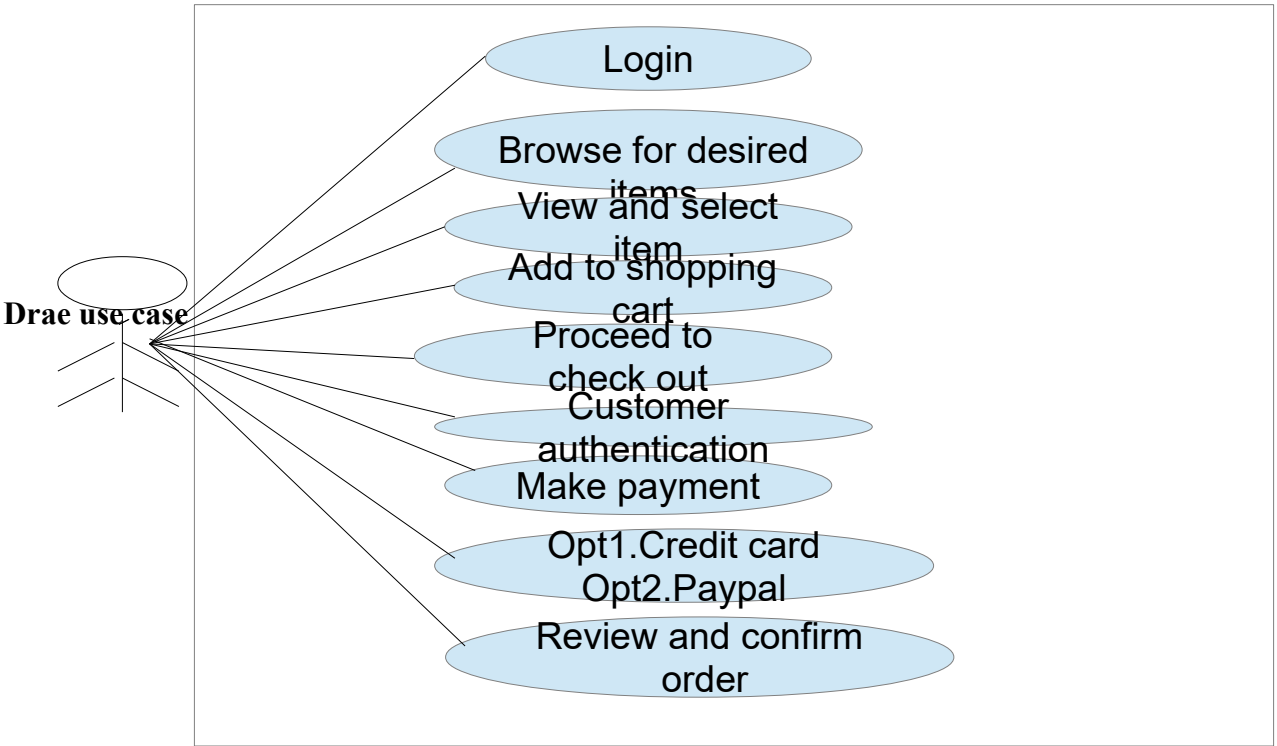
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