

LAB 01 : OO Development Process and Introduction to UML

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1. Review question**1.1. Suppose that you are in a small company. What type of methodology would you use and why?**

I would use an adaptive approach. Because as a small company we don't have much money to do our company project. To get the amount of money we need to make a public application that solves the daily problem of people and makes it free on download and may have premium content if you purchase a specific feature. The reason to use the adaptive approach is that our app is dependent on the public if people want our app to be better in their way, we need to correct their feedback and improve by their thought

1.2. Suppose that you are in a very large company. What type of methodology would you use and why?

I would use both the predictive approach and adaptive approach. In a predictive way, we bring the stunning feature that gives every excitement in our product or makes our company project and keep secret until open to the public. Like a game company we keep the main game a secret until a big event like E3 to announce what we are doing now, the example shows that we don't involve any public people but talk with only our team. In adaptive way, we need to listen to our main customer to improve their application because if we don't have their attention our company would run down the application is not our company their product only, we are the main team to improve and maintain their application

1.3. Compare each phase of adaptive SDLC and predictive SDLC.

Phase	Predictive	adaptive
Planning	We know what we want to do	We know the task but not 100%
Analysis	We only need to make it in atomic to design	We talk with customer and make it deal with design
Design	We design what we think it right	We design with customer
Implement	We develop by design we made	We develop by design we made
Support	We know how to support it well	We know the problem by customer

2. OO Development

- 2.1. Use your internet find the article entitled as "Visual Modeling: past, present and future" written by Andrew Watson. Write a summary for this article.

The software development before the 1990s is very confused because there is no standard way to understand the software design because of that I cause the software development too high to build some applications because they lack communication. In the mid-1990s the software group name Object Management Group (OMG) come and set the standard way to understand that notation in the software design by setting the standard of the notation name UML and suddenly the world uses the standard notation and makes the engineer over the world exchange their idea in their product. Now UML is supported by every major commercial IT vendor and not far from that in 2005 OMG published UML2 and make it more specific using the framework they written call Meta-Object Framework(MOF) in UML1 it is just a diagram that represents a system for easy to work but UML2 is more than that it needs to be created if you need to save your work cost UML are now important in the software architecture and we call that approach Model Driven Architecture (MDA) this approach give us two key in the software environment multiple implementation technologies and maintenance over make software live longer. There is a case study that proves that UML saves them a lot of money in the software project. At Deutsche Bank, they need to refactor the codebase from a back-office mainframe using COBOL to a Web-based front-end that using JAVA and Servlet/JSP turn out if they use MDA approach save them 40% of the original cost in today UML is bringing the benefits of the standard to whether software development business world of engineering and many more in the project that needs to communication

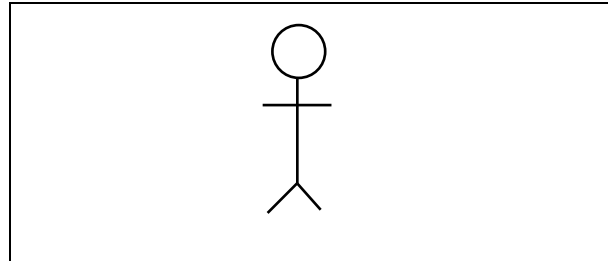
3. Use case diagram

3.1. What's the purposes of the use case diagram?

This diagram use for specify the model and feature that going to use in the application this diagram create in early stage of project to satisfy requirement system, show big picture of system architecture, generate testcase (for system test)

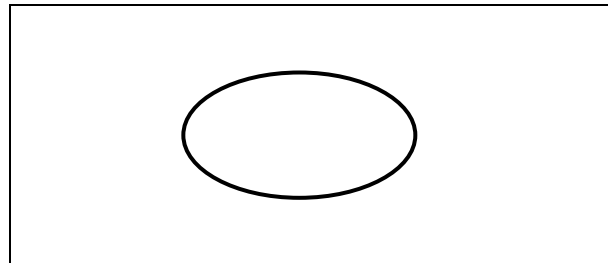
3.2. Write down the definition of actor and draw the symbol that represent actor.

This notation represents users that use
A function in the system. the notation need
To have a role to specific features its can
use in the system



3.3 Write down the definition of use case and draw the symbol that represent use case.

A finish feature that has a name in it.
It needs to link to actor where the feature
allows the actor use it



4 Class diagram

4.1 What's the purposes of the class diagram?

This diagram represents a structure of whole system and easily to understand to who involve in the project. The diagram doesn't help only a developer to know the system it also help business analysis to understand the business perspective in the current project

4.2 Given the notation for the class diagram. Explain each component of the notation.





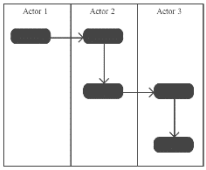
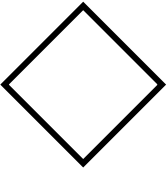
Class name	-name of the class...
Class Attributes +(public) name : type -(private) name : type #(protected) name : type	-attribute that show in the class and it need to tell you that each attribute is public private or protected
Class methods +name(type) : type	-like an attribute part but add input/output in the parameter part after that it has return type of the method

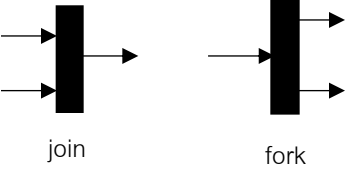
5 Activity diagram

5.1 What's the purposes of the activity diagram?

This diagram describes how user workflow in the system and it use to identify the use cases in action. If the class diagram is representing the big picture of the structure in the system activity diagram is represent the big picture of the behavior in the system as well.

5.2 Complete the following table.

Term	Definition	Symbol
Activity	Set of the activity (login sign-out)	
Transition	The arrow the link between activity notation	
Start	Use to identify the start point in the diagram	
Termination	Identify the end of the diagram	
Swim lane	It is group a activity to a each actor in use case diagram	
Decision	Used to represent the condition point in the activity diagram	

<p>Fork and Join</p>	<p>-Join notation represent 2 activity join into one output to next activity in the system</p> <p>-fork notation represent 1 activity can go into parallel flow in the system</p>	 <p>join fork</p>
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6 Sequence diagram

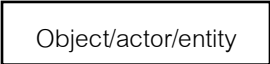


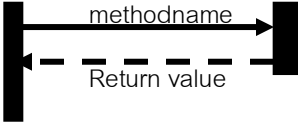
6.1 What's the purposes of the sequence diagram?

This diagram is show interaction between class diagram and use cases diagram it show all possible path through the interaction. the sequence diagram shows only the object use in one use case.

6.2 What is the relationship between sequence diagram and class diagram?

The relationship between those two diagrams is link with a use cases diagram by class diagram will pick an example object and its method and attribute and use the sequence diagram to represent all possible outcome in the system

6.3 Complete the following table.

Term	Definition	Symbol
Lifeline	This notation represents an object in the use case that in the sequence	
Condition	Use to represent the alternative sequence if the action is in the condition	
Iteration	Use to represent the iteration action if the action is in the condition in the loop	
Return	Use to represent the object method in action if it uses method and has a return statement	
Message	Use to identify the method name or variable name in the sequence diagram	