Midterm quiz

***Basic stages of development***

**Requirement:** Gathering and analysis, have meeting with manager, stock holder and user to make sure the what is the requirements, such as who is going to use the system? How will they use the system? What data should be input into the system? What data should be output by the system. After requirement gathering, analysis for their validity and the possibility for include them in the development going to start.

**Design**: In this stage, the system and software design are prepared from the requirement stage. System design helps in specifying hardware and system design also it help defining overall system architecture. System design specifications serve as input for the next phase of the model. In this stage, the tester comes up with the test strategy, where they mention what to test, how to test.

**Implementation/Coding:** After receiving system design documents, divide the work into module and start the actual coding. Since, in this stage the code is produced so it is the main focus for the developer. This is the longest stage of the software development life cycle.

**Testing:** After the code is developed it’s tested against the requirements to make sure that product is actually running. In this stage, all types of functional testing like unit testing, integration testing, system testing, acceptance testing are done as well as non-functional testing are also done.

**Deployment:** After successful testing the product is delivered / deployed to the customer for their use.

***Difference between Waterfall and interactive development***

**Waterfall (Big bang):** Form the requirement to design, from the design to code, from the code to test, from the test to deployment, all the stage need to try to do it best. Require every step to be organized and perfect.

**Advantage:** is providing a check point of each phase. When finish one phase, you just need to focus the next phase.

**Disadvantage:** The division of each stage is completely fixed, produce large number of documents between stages, which greatly increases the workload. Linear development model, user can only see the result until the very end, increase the development risk. Also, doesn’t adapt to changes in user needs.

**role of customer:** In the requirement phase, give the requirement to the developer. And In the deployment, end of the development receives the software to use.

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**Interactive development:** Dose not require every phase to be perfect, even there are still lack of something. Focus on the main part first, and use least time to make a unperfect product for the customer, and receive the feedback from the user and fix the product.

**Advantage:** Reduce the risk, make a unperfect software early for determine the risk to have enough time to fix it. Improve the speed of the development, developer know the focus of the problem, their work will be more efficient. More adapt to the changes in user needs.

**Disadvantage:** The requirements for developer are high, need a high-quality project manager and a high-tech development team to adapt he early development of project changes.

***User stories:***

A user achieves something he went through a system (such as buy a coke), that is user story.

**What are User stories?**

Let’s assumed the producer of the vending is the client, and we develop a software for the vending machine. Client said “User enter a coin; machine show how many coins have user been inserted. When inserted coin is enough for buy certain drink, the light of that drink will on. If user press the button, vending machine will give the drink to the user, then give user changes.” From this story, we need to record it in a different format

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Name: Vending machine sell drink

Story:

1. User inserted money.

2. Vending machine display the amount of money inserted.

3. Drink light button on when the money is enough for it.

4. User press the button that have light on.

5. Vending machine sell a drink.

6. Vending machine give user changes.

Help client and developer communicate. **A user story includes 3C**.

**1. A written story description used to make plans and as a reminder. (CARD)**

**2. Conversation about the story, used to materialized story’s detail. (CONVERSATION)**

**3. Test, used to express and document story details and can be used to determine when is completed. (Confirmation)**

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**What is the good user story? (INVEST):**

1. Independent 2. Negotiable 3. Valuable to users or customers 4 Estimable 5 Small 6 Testable.

**Guideline:**

1.Make the size of the story let the user feel that they can go for a coffee break after use.

2.Don’t let story involve user interface too early.

3.Sotry for individual user.

4.Including the user role when actually writing the story.

5.Let user writing the story, not developer.

***Estimation:***

Assume the size of the project, we always use point for this estimation. Planning poker is a common way, the point on the poker is 0,1/2, 1, 2, 3, 5, 8, 13, 20, 40, 100, ?.

The entire team have discussed for the project. Every member give card for estimate, then pick the outlier, let they explain their reason for why need that long or short, sometimes other members may forgot something and underestimate the difficultly of a project.

**What’s the largest point and smallest point?**

The one we discuss in the class the largest one is 13, smallest one is 1. If any estimation is larger than 13, develop team need to split the big chunk into smaller pieces.

**What’s the advantage?**

Help the team estimate the time and every developer can communicate with one another. This is preparing for Iteration planning meeting.

***Planning***

Iteration: