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Waterfall Models

Incremental Models

Iterative Models

Applying traditional software development models

✓ **Video:** Phase Gates / Stage Gates
8 min

✓ **Video:** Applying Software Development Models
13 min

✓ **Quiz:** Traditional Software Development Models
11 questions

Peer-graded Assignment: Project Scenario 1
Grading in progress

Review Your Peers: Project Scenario 1

Peer-graded Assignment: Project Scenario 1

Review by Aug 19, 11:59 PM PDT

Reviews   2 left to complete

SoftwareDevelopmentProcessAndMethodologies

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August 4, 2020

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PROMPT

What software development methodology would you suggest for this situation and why?

- Step 1: Start analyzing the scenario by **identifying the characteristics** of this situation and **specify the logic** behind the selection of characteristics. For example, you may identify "User Needs Unknown" as a characteristic based on statement X, Y and Z in the scenario.
- Step 2: **Select a model** that best fits the characteristics you identified in step 1. **Justify your choice** by providing by the logic behind your selection. For example, you may say that since the scenario has characteristics X and Y, models A and B are potential candidates. Additionally, since the scenario has characteristic Z, model A is the best option.

Characteristics of the project:

a. Requirement is well known.

b. The client's current system already exists, so it provides us an idea of their demands which are to be updated in the new system.

c. Requirements are most likely stable and won't be changed.

d. What needs to be changed in the system to support the growing demand is also well understood.

According to the scenario, the requirements from the client perspective are very well known and do not need to change, so I would prefer incremental model.

RUBRIC

Did the learner identify "**Known User Needs**" or "**Known Requirements**" (or something similar) as one of the characteristics and specified the correct logic?

○ 0 pts
Didn't identify this characteristic

○ 1 pt
Identified the characteristic but the logic / reference statement used to support the characteristic was incorrect. The correct logic / reference statement to support this characteristic is "**...with the exact same functionality. Thus, the requirements from client perspective are very well known and do not need to change**"

● 2 pts
Identified the characteristic and specified the correct logic

Did the learner identify "**Known Solution**" (or something similar) as one of the characteristics?

● 0 pts
Didn't identify this characteristic

○ 1 pt
Identified the characteristic but the logic / reference statement to support this characteristic was incorrect. The correct logic / reference statement to support this characteristic is "**What needs to be changed in the system to support the growing demand is also well understood**"

○ 2 pts
Identified the characteristic and specified the correct logic

Did the learner identify "**Benefit in deploying part of the product**" (or something similar) as one of the characteristics?

● 0 pts
Didn't identify this characteristic

○ 1 pt
Identified the characteristic but the logic / reference statement to support this characteristic was incorrect. The correct logic / reference statement to support this characteristic is "**Out of the 4, one of them has caused the most pain and organization could benefit greatly if that component could be replaced first with a new, highly scalable architecture.**"

○ 2 pts
Identified the characteristic and specified the correct logic

Did the learner select the right model for the scenario and provide the correct logic?

○ 0 pts
Learner selected a model that is ill-suited to this situation like the Spiral Model, the V-Model, Sashimi, or the Waterfall method

○ 1 pt
Learner selected a model that will work but is not the preferred model (e.g. "Unified Process")

○ 2 pts
Learner selected the right model: the Incremental Model

● 3 pts
Learner selected the right model and the right variation of it: the most basic incremental model -- all phases are completed in each increment. This allows us to replace the most pain-inducing component as fast as we can.

○ 4 pts
Learner selects the right model and specifies the right logic behind the selection: "Out of the 4, one of them has caused the most pain and the organization could benefit greatly if that component could be replaced first with a new, highly scalable architecture."

What is the overall quality and detail of the response and the facts supporting the response.

○ 0 pts
Little detail

○ 1 pt
Enough detail

○ 2 pts
Enough detail with additional, out-of-the-box/creative thinking

box/creative thinking

Any other open feedback for this question?

PROMPT

Imagine that you were the lead or project manager for this project. For the selected model, take us through a simulated / fictitious journey on how this project will be completed all the way from defining requirements to deployment. You are free to make up characters as you feel appropriate to fit your story. Please watch the video on" Model Selection" to get an idea. The video stays at high level, but you can go in further details as you feel necessary. In your story, please make sure to talk about artifact and practices followed by the team on this project.

First of all, I will ask my requirement gathering software engineers to collect all the requirements from the clients and the changes that needs to be done in their new system. Then, the designers will start designing the system. When the designing of the system is completed, our programmers or developers will start coding the system according to the design built from the requirement of the project. Once the system is implemented, our testers will start testing the system with the help of multiple test cases, and if any bugs are discovered, programmers will debug them. When the testers cannot find anymore bugs in the system, we will deploy the system in the market. After deploying the system, we will maintain it through our client's and users' suggestions and feedbacks, and use them for the next increment.This is how I will lead the project as a project manager.

RUBRIC

Does the story supports the model selected by the learner?

○ 0 pts
  The story does not supports the model selected by the learner

○ 1 pt
  The story supports the model selected but story was shallow with not much details

○ 2 pts
  The story was very detailed and complete (covers all artifacts and ceremonies of the model selected)

● 4 pts
  The story was very creative and covers things that weren't taught in the course but applicable to this scenario.

PROMPT

Assume that you are the quality lead or technical lead on this project. What kind of testing would you suggest the team to do? Be sure to justify your answer. To answer this question, first list down the key things from the use case above that are really important. For e.g. scalability, performance, usability, integration between components etc. After that, identify what type of testing would you want the team to do to make sure that upgraded product is high quality and deployed defect free. Please refer to the "Testing and Verification" section in module 2. Also, please watch following videos to learn about various types of testing methods: https://www.coursera.org/learn/software-processes/lecture/G30EZ/software-testing-perspectives

For testing the system, I would suggest the team for white-box, black-box, sub-system, and system testings. Black-box testing will be conducted to test the behavioural, and functionalities of the system. This test will also check if the system performs, how it supposed to without having to know anything about the codes. Similarly, white-box testing will be conducted to test the most fragile element of the system's codes to check if it is well built, and can handle any kinds of exceptions when incorrect inputs are provided by the user. Sub-system testing will be conducted to test all the components of the system by combining all four components together, and seeing if the system works as expected, when the components are combined. System testing will be conducted to test all the components and the whole system itself prior to deploying the system to the client. Hence, these four testings will be suggested to my team for testing the system.

RUBRIC

Are the types of testing suggested by the submission appropriate for the example?

○ 0 pts
  There are no suggested types of testing.

○ 5 pts
  Some types of testing are listed, but no attempt is made to justify them, right or wrong.

○ 6 pts
  Some types of testing are listed, some are right but most are wrong. The justification does not do a good job of explaining why these types of testing are needed.

○ 7 pts
  Types of testing listed make sense for the project (with at most one exception), but the justification does not do a good job of explaining why they are necessary.

○ 8 pts
  Types of testing listed make sense for the project (with at most one exception), but the justification only does a mediocre job of explaining why they are necessary.

○ 9 pts
  Types of testing listed make sense for the project (with at most one exception), and the justification provided makes sense (with at most one exception).

● 10 pts
  The types of testing listed are perfectly applicable to the project, and these types of testing are fully justified.

PROMPT

Continuing your role as a quality lead or technical lead for the project. Write a few example of test cases or a descriptive narrative for what you expect the testing team to use when testing this product. Please refer to the "Testing and Verification" section in module 2. Feel free to make assumptions about the functionality of the system to come up with a scenario.

Combining all four components of the system and testing the functionalities of the system when the components are added together. b. Testing if the system works perfectly fine, when the most fragile elements of the codes are tested. c. Testing if the system performs as expected when it's functions are called. d. Checking how the system responds when invalid inputs are entered.

RUBRIC

Do the test cases or narrative provided make sense relative to the project at hand?

○ 0 pts
  There are no test cases or narrative

● 5 pts
  Test cases or a narrative exist, but is either not at all clear or completely misses the point of the assignment.

○ 6 pts
  Some test cases or a brief narrative appears, but only applies to the project in a tangential way (is mostly off-topic, hardly related, etc.)

○ 7 pts
  Test cases provided are not fully described (e.g. they are missing expected output); the narrative merely lists ways of testing which are generic or the definition of the type does not apply them to this specific project.

○ 8 pts
  Test cases exist but are not considered comprehensive; Narrative only applies to the project partially, or is incorrect in some major way

○ 9 pts
  Test cases exist and are nearly comprehensively descriptive; Narrative applies but has mistakes which affect applicability/understandability

○ 10 pts

Test cases included are excellent: Narrative clearly explains the how the testing should be approached.

Submit Review

Comments

Comments left for the learner are visible only to that learner and the person who left the comment.

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