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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
2h

✅ **Review Your Peers:** Project Scenario 1

✅ Peer-graded Assignment: Project Scenario 1

Reviews   5 complete

You've finished your peer reviews
Well done! You sent 5 peers feedback that will help them. If you have time, please review one or two more. Every review you do helps another peer complete the course!

Your fellow learner has submitted their assignment anonymously and your review will be anonymous to them. All names are still visible to course instructors.

Stronger, Better, Faster... Software

👤 by Anonymous Learner
April 10, 2022

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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.

The situation involves a 2 year old product that needs new architecture to handle growing demand. The client needs are well known as the system must perform the exact functions.
The best design model for this scenario is the Incremental Model where the Requirements and Design are done upfront and each branch afterwards will follow the Waterfall Model. These designs work best with low-risk, predictive situations. Since the system is performing the same exact needs, the Requirements and Design will be consistent.

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

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 "Applying Software Development Models" to get an idea. The video stays at a high level, but you can go into further detail as you feel necessary. In your story, please make sure to talk about artifacts and practices followed by the team on this project.

The PM and Architect will deploy the Incremental Model with the Requirements and Design are done upfront. After this is deployed to our remote team, each team can work on the 4 components of the system simultaneously in seperate incremental branches and be launched when ready to meet rising demand. Testing can be done individually since each component functions relatively independent. The 1 component that requires replacement can be worked on first to allot for time testing while the other components are much more predictive and can be relaunched. This design will allow for development of multiple parts at one time since there is a high demand and will result in a faster development time.

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 the following videos to learn about various types of testing methods:
https://www.coursera.org/learn/software-processes/lecture/G30EZ/software-testing-perspectives

Testing would be important for scalability, handling high traffic, and performing the exact requirements and needs. Each component will be tested for scalability and v & v thorugh unit and module testing. The system as a whole will also be tested for performance with system testing. And finally, to test for meeting requirements and client needs it will be tested through acceptance testing live, with users, especially those who are familiar with the software.

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 examples of test cases or a descriptive narrative for what you expect the testing team to use when testing this product.

RUBRIC

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

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.

The system will be tested through acceptance testing by various users to verify and validate the systems functions are performing the same. Users can easily visit the site with the same expectations and test the site through behavior. Since this is a service based system, users with various needs and utilizing various functions can be final verification based on their knowledge of the previous system.

○ 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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