

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

It looks like this is your first peer-graded assignment. [Learn more](#)

You passed!

Congratulations. You earned 33.5 / 36 points. Review the feedback below and continue the course when you are ready. You can also help more peers by reviewing their submissions.

[Review assignments](#)

Instructions [My submission](#)

Discussions

Zenith Healthcare Case Study

Submitted on August 4, 2020

[Shareable Link](#)

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 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.

Step 1: The character of this case are:

- + We need a model to emphasize on Architecture ("the company needs to re-architect the system and provide the exact same functionality")
- + Requirements are known and predictive ("the requirements from the client perspective are very well known and do not need to change")
- + There are 4 feature/components ("4, fairly independent components")
- + Client recommends and specifies the order of re-architecture ("one of them has caused the most pain")
- + The company outsources the coding and testing to the other foreign team ("coding for the migration will be offshore in Belarus. The testing team will also be in Belarus")
- + The risk of this is not high and fairly low.

Step 2: Select a model

- + The first two characters recommend the incremental model because we need a model lean toward the Predictive side and it must have a phase emphasizing the architecture.
- + The 3rd and 4th characters recommend the the incremental model. We need a incremental model to build the 4-feature software and it is also incremental because we need Agile mindset for Extreme Programming and Feature Driven Development
- + The last character also recommends the incremental model and it actually puts the big picture of the model because we need to separate the design and architecture team with the programming and testing team. Thus, we have separated each feature within the 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 points
Didn't identify this characteristic
- 1 point
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 points
 Identified the characteristic and specified the correct logic

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

- 0 points
Didn't identify this characteristic
- 1 point
Identified the characteristic but the logic / reference statement used 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 points
 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 points
Didn't identify this characteristic
- 1 point
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 points
 Identified the characteristic and specified the correct logic

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

- 0 points
Learner selected a model that is ill-suited to this situation like the Spiral Model, the V-Model, Sashimi, or the Waterfall method
- 1 point
Learner selected a model that will work but is not the preferred model (e.g. "Unified Process")
- 2 points
Learner selected the right model: the Incremental Model
- 3-points +3.5 pts because of a tie
 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.

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should we replace the most pain-inducing component as fast as we can.

4 points

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 points

Little detail

1 point

Enough detail

2 points

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



Any other open feedback for this question?



YENDURI RAMYA VENKATA NAGA SAI LAKSHMI

Excellent Understanding



Abhishek Agarwal

great

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, I will need to talk with my manager about this project and give him a head up on the model that I selected based on my observations above.

Once I get the approval, I will next start picking a team or selecting members. The members of my team should know the requirements and solutions well because this is a predictive model.

Then I will start the first process of the model that I will work with the design and architecture team. I talk through all the features and components that will need to be built. What steps will need to be taken. This process will take multiple rounds until we have a good documentation to be translated into programming architecture. During that time, I can pick the members of the programming and testing team and give them a brief about the project.

Next, I will work between the design team and programming team. I expect to see the architecture in the program instead of documents and words. It will go multiple rounds once the architecture is completed. I will put the Agile mindset in the next iterations of the programming team so that I can keep updating with the progress.

Once the building is completed. The programming team will transfer the work to the testing team. I will work with the testing team and see if the program works as I documented as I designed before.

===== After that, we will repeat the whole process above for the 2nd, 3rd and 4th components.

RUBRIC

Does the story supports the model selected by the learner?

0 points

The story does not supports the model selected by the learner

1 point

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

2 points

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

4 points

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>

The key things are sorted from up to down as importance:

- Usability
- Integration between the components
- Performance
- Scalability

The big picture is that we are following static Verification and Validation and incremental testing.

The programming team should perform Unit Testing, Module Testing, and Code review testing. The testing

RUBRIC

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

0 points

There are no suggested types of testing.

5 points

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

6 points

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 points

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 points

Types of testing listed make sense for the project (with at most one exception), but the justification only does a mediocre job of



The testing team will perform those tests because we need to make sure the things they build are right by verifying the performance and scalability as the design needs something better for more users.

The testing team will perform those tests because we need to validate that we build the right things not only emphasizing the technical side. This team will check the usability and integration between the components.

As you can see, we perform a thorough test from the black box (programming team) and white box (testing team). This should upgrade the features as we discussed from the design process.

Explaining why these types of testing are necessary.

9 points

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 points

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. 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.

To test the performance, we create a test with a huge demand from clients. So many clients try to use the components. The outputs should be an acceptable amount of waiting time to use the service. So the programming team will need to check if there is a load balancer for that component and it actually goes to all instances. While the testing team will need to check the time.

The testing team will check the 4 independent components. They will make sure they are separated so if one is down, the others should not. Then they will write some status websites to check the service of the components and monitor to track it in real-time. They can perform some attack on security or high load on one component and see if it affects the other components of the system.

Some other testing could be edge cases testing like invalid name, age etc., security like DDOS, SQL-injection and so on.

RUBRIC

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

0 points

There are no test cases or narrative

5 points

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

6 points

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 points

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 points

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

9 points

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

10 points

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

[Edit submission](#)

Comments

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



Share your thoughts...

