

- 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 Scenarios

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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<p>PROMPT</p> <p>What software development methodology would you suggest for this situation and why?</p> <ul style="list-style-type: none">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. <p>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.</p>	<p>RUBRIC</p> <p>Did the learner identify "Known User Needs" or "Known Requirements" (or something similar) as one of the characteristics and specified the correct logic?</p> <p>0 pts Didn't identify this characteristic</p> <p>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"</p> <p>2 pts Identified the characteristic and specified the correct logic</p> <p>Did the learner identify "Known Solution" (or something similar) as one of the characteristics?</p> <p>0 pts Didn't identify this characteristic</p> <p>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"</p> <p>2 pts Identified the characteristic and specified the correct logic</p> <p>Did the learner identify "Benefit in deploying part of the product" (or something similar) as one of the characteristics?</p> <p>0 pts Didn't identify this characteristic</p> <p>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."</p> <p>2 pts Identified the characteristic and specified the correct logic</p> <p>Did the learner select the right model for the scenario and provide the correct logic?</p> <p>0 pts Learner selected a model that is ill-suited to this situation like the Spiral Model, the V-Model, Scrum, or the Waterfall method</p> <p>1 pt Learner selected a model that will work but is not the preferred model (e.g., "Unified Process")</p> <p>2 pts Learner selected the right model: the incremental Model</p> <p>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.</p> <p>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."</p> <p>What is the overall quality and detail of the response and the facts supporting the response.</p> <p>0 pts Little detail</p> <p>1 pt Enough detail</p> <p>2 pts Enough detail with additional, out-of-the-box/creative thinking</p> <p>Any other open feedback for this question?</p> <div></div>
<p>PROMPT</p> <p>Imagine that you were the lead or project manager for this project. For the selected model, take us through a simulated/stressful 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 Model" to get an idea. The video stops 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.</p> <p>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 separate 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 allow for time testing when the other components are much more predictive and can be reworked. 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.</p>	<p>RUBRIC</p> <p>Does the story support the model selected by the learner?</p> <p>0 pts The story does not support the model selected by the learner</p> <p>1 pt The story supports the model selected but story was shallow with not much detail</p> <p>2 pts The story was very detailed and complete (covers all artifacts and ceremonies of the model selected)</p> <p>4 pts The story was very creative and covers things that weren't taught in the course but applicable to this scenario.</p>
<p>PROMPT</p> <p>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-engineering/lecture/53XG2/software-testing-overviews</p> <p>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 thorough 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.</p>	<p>RUBRIC</p> <p>Are the types of testing suggested by the submission appropriate for the example?</p> <p>0 pts There are no suggested types of testing.</p> <p>5 pts Some types of testing are listed, but no attempt is made to justify them, right or wrong.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>10 pts The types of testing listed are perfectly applicable to the project, and these types of testing are fully justified.</p>
<p>PROMPT</p> <p>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.</p> <p>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.</p>	<p>RUBRIC</p> <p>Do the test cases or narrative provided make sense relation to the project at hand?</p> <p>0 pts There are no test cases or narrative</p> <p>5 pts Test cases or a narrative exist, but is either not at all clear or completely misses the point of the assignment.</p> <p>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.)</p> <p>7 pts Test cases provided are not fully described (e.g., they are missing expected outcome, the narrative merely lists ways of testing which are generic or the definition of the type does not apply them to this specific project.</p> <p>8 pts Test cases exist but are not considered comprehensive. Narrative only applies to the project partially, or is incorrect in some major way</p> <p>9 pts Test cases exist and are nearly comprehensively descriptive. Narrative applies but has mistakes which affect applicability for understandability</p> <p>10 pts Test cases included are excellent; Narrative clearly explains the how the testing should be approached.</p>

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