Peer-graded Assignment: Project Scenario 1

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System Architecture - Zenith Healthcare

by Anonymous Learner
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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.

Based on the information provided, the project of Zenith Healthcare has following characteristics:

1. Well known requirements for 3 out 4 components - the project is just to re-architect the existing components and the functionalities of existing system are well accepted by clients.
2. Experienced development team - the team developed the existing system
3. Components are relatively independent
4. One out of four components is the pain point of existing business process and company can be benefited from the replacement of this component as early as possible.
5. Involvement and feedback from clients are required for re-engineering the problematic component so as to reduce the risk and ensure the new version can fulfill users' requirements and demand.
6. The rest of components is relatively stable

Summary the above points, the handling of the defected component should be distinct from other components due to its high risk, urgency and unclear requirement.

Incremental model is a ideal model adopted for this project. Each components is deemed as the independent increment in the project.

Each increment can be applied with different development models. For details, spiral model is applied to the defected component so as to incorporate involvement and feedback from clients in the development to ensure the new version can be truly validated by user and can process with the increasing demand. Waterfall model will apply to the rest components to save the resources for the re-engineering of the defected component

The increment can be implemented at different point of time. The increment of defected component can be started first so that the team have more time and resource to polish this component with a hope to launching new version as earliest convenience.

starts at different time so that the development can develop the defected component first and then the rest components with a hope of early tackling the pain points from the defected component.

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?

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PROMPT

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.

In my imagination, the project team will initiate the requirement workshop with clients for the new version of the system. The team can compile specifications, architecture design and overall component design.

Then the team can initiate the first increment which is the component with most pain points with spiral model. This is a iterative process that the team first define the objectives of re-architect for this component, then identify the risk and solution, develop the prototype and then review with clients what to do next iteration. In each loop, the team can receive feedback from clients and refine the new component to ensure the final version and make sure that the process is on the right track. The loop is stopped until the team and clients think the new version is good enough to launch. With spiral model, the risks can be deviated and the new version of component can be verified and validated by the client to solve the existing pain points.

With the progress of implementing new version component to replace the old defected one, the team can initiate other increments with waterfall model. The waterfall approach is pretty straight forward. The team and clients goes through requirement, design, implementation, testing and deployment. The gate may be set in between each phase to let every stakeholder to review if everything in precedent phase is on track.

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
  Identified the characteristics but logic / reference statement to support this characteristic were incorrect. The correct logic / reference statement to support this characteristics is "**Also, college leadership has some idea on what to build but not sure what exactly are college needs in terms of automation**"
- 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

What kind of testing would you suggest the team to do? Be sure to justify your answer.

As incremental model is adopted, the increments start at different time. And incremental testing approach is also adopted. We first tested the first component which is supposed to be the new version of the original defected component. Then, we add more test cases to verify if the first component works well with later components step by step.

A bottom up testing approach is also applicable as the components are relatively independent.

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

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

For bottom up approach, the testing is expected to deliver the stub to test the individual components. Then the team can build the driver to test if the components work well with its adjacent components and so on until the driver combines all components.

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

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