Indian Institute of Information Technology, Vadodara

SDLC MODEL

IT Team - 3

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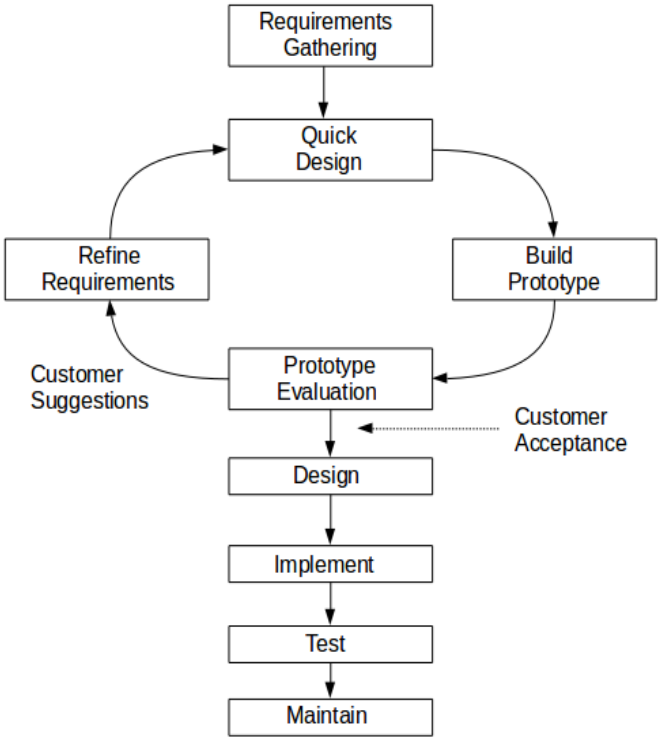
Accepted SDLC Model

1 Protyping Model

We have decided to use Prototyping Model for our project. Prototyping model is very beneficial when we have a client.
By using this prototype, the client can get an actual feel of the system, since the interactions with prototype can enable the client to better understand the requirements of the desired system. Prototype models can make our product more successful at any stage of its life cycle.



2 Advantages

Following are the Advantages of using Prototyping Model

1. **Reduce the cost of Development:**
   Using a prototype model enables you to demonstrate the concept of your product and discover any flaws. You have the opportunity to correct these flaws, or come up with solutions for improving the product. It reduces risk of failure, as potential risks can be identified early and mitigation steps can be taken. Hence, the cost of development and production is drastically reduced because you don't have to fix problems later after the final product is already in production.

2. **Reduce the Time Needed for Product Development:**
   With a prototype of your product, you are able to see it completely in 3D. The system requirements are defined as much as possible during the prototype process which is early in the product development. You are able to have a better idea of what the final product will look like. This knowledge enables you to accelerate the product development because using the prototype can get you feedback from all parties at the beginning of the product development cycle.

3. **Increase User Participation in Product Development:** With a prototype of your product, consumers get the opportunity to use it and give suggestions. Users can test the functionality of the product and give feedback. In this way, consumers have the opportunity to help you improve your product. Since in this methodology a working model of the system is provided, the users get a better understanding of the system being developed. In addition, you can develop a product that is more appealing to consumers since you will be using their direct input.

4. **Except these prototype has several other advantages:**

   - It provides a good mechanism for understanding the customer requirements
   - It is very useful in GUI(Graphical User Interface) development.
   - It facilitates critical examination of technical issues associated with software development.
   - Iteration between development team and client provides a very good and conductive environment during project.
   - It reduces wasted development effort.
   - Missing functionality can be identified easily.
   - Confusing or difficult functions can be identified.

Rejected

1 Waterfall Model

- Waterfall model is basically a step by step model and once one step is done there is no chance to go back and make changes, and there is high probability of error at any stage.
- It becomes very difficult to move back to the phase. For example, if the application has now moved to testing stage and there is a change in requirement, It becomes difficult to go back and change it.
- In this Model, change is expensiveand is unable to accommodate changing requirements because most of the time and effort has been spent early on in the design and analysis phases.
- As we are treating a live client for our project and our client wants a prototype of product before final development begins and in this model, no working software is produced until late during the life cycle, thats why we cant follow this model of software development.
- We might learn more information about a feature and will need to adjust based on the requirement criteria of client, or our team might realize once they begin to build then it will be more complicated to make possible changes.
- Integration is done at the last stage,so problem in compatibility will be discovered too late and it will be difficult to measure progress within stages.

2 Spiral:

- Cost involved in this model is high so we can't accept this model as working model of our project.
- Skills required, to evaluate and review project from time to time, need expertise and as we are working on such a big project first time so we avoided this model.
- This model of development requires very strict management to complete product because if not followed proper management then there is risk of running the spiral in indefinite loop.
- This model is basically for the approach when SRS is not clear but in our case SRS is fixed.
- In this model of software development ,there will be large number of intermediate stage and each stage would require more documentation compared to other models and hence not feasible in given time.

3 Big Bang:

- The Big Bang model is SDLC model where we do not follow any specific process and development just starts with the required money and efforts as the input, and the output may or may not be as per customer requirement.
- In this model there is no planning and the requirements are decided on the fly in the development process but in our case we had already defined requirements in SRS documentation.
- We can not afford very high risk as project has to be completed and submitted in this semester only but very little planning is done in this model so there is very high risk and uncertainty.

- We are doing this kind of project for the first time so we need to learn and do proper documentation but there is lack of emphasis on necessary designing and documentation in this model.
- We have to be time efficient as the client requires the product within time limit, But it can turn out to be very expensive if requirements are misunderstood.

4 Agile

- We are doing this kind of project for the first time so we need to learn and do proper documentation but there is lack of emphasis on necessary designing and documentation in this model.
- Very important and precise decisions are needed to be taken during the development process which requires senior/experienced programmers. But, all the team-members are almost unexperienced so this model will not be appropriate for this project.
- Also we will not be able to take out the time for continuous interaction between teams that the Agile method requires due to classes and college timings.
- We can provide a sample(prototype) at early stage but a providing working product after each iteration is not possible.
- Also our client wants only a sample at early stage and fully developed product to be deployed at last so, this model is not going to help.
- In Agile model the developers should be knowledgeable, analytically strong, collated and collaborative and first timers should avoid it.

5 V-Model

- This model is the extended version of Waterfall model and is based on association of a testing phase for each corresponding development stage and it will require more time to complete so we avoided this model.
- Our client requires a prototype before final development process. So,we cant choose this model of development as Software is developed during the implementation phase.
- This model is very rigid and less flexible.