Software Development Life Cycle, or SDLC is a combination of processes in which different stages of software development are carefully designed and defined. These stages cover the full life cycle of any software such as inception to retirement of the product., and the final goal is to produce a high-quality product for the end user (2022). It describes all the steps that are involved in project development from starting to ending.

1. SDLC Phases
   1. #1) Requirement Gathering and Analysis
   2. #2) Design
   3. #3) Implementation or Coding
   4. #4) Testing
   5. #5) Deployment
   6. #6) Maintenance
2. Software Development Life Cycle Models
   1. #1) Waterfall Model
   2. #2) V-Shaped Model
   3. #3) Prototype Model
   4. #4) Spiral Model
   5. #5) Iterative Incremental Model
   6. #6) Big Bang Model
   7. #7) Agile Model
3. #1) Requirement Gathering and Analysis: All the information is gathered from user/customer to develop the software based on their expectations. Detailed and clear information will help the development team a lot, and any ambiguity should be resolved in this phase, if possible. When the business analyst and project manager fully understand the demands and requirements of the customer, the SRS (Software Requirement Specification) document will be created and then should be reviewed and confirmed with the customer to make sure everyone is on the same page.
4. #2) Design: Using the SRS document, the software structure (main capabilities, programming language, pseudocode, etc.) will be designed.
5. #3) Implementation or Coding: The actual code is written in the selected language(s).
6. #4) Testing: can be done during or after the coding is done, to find any defect or bug until all issues are fixed and the software meets the customer’s expectations.
7. #5) Deployment: when all the tests are done and passes, the software will be used in the real environment or first UAT (User Acceptance testing) is done depending on the customer expectation.
8. #6) Maintenance: To resolve and fix any issues or enhance current software capabilities.

In the SNHU Travel project we mainly focused on the Scrum-Agile model and team, and many people were involved to develop a good product at the end. The Product owner played an important role by gathering accurate and detailed information from customers and defining those expectations in stories so that the project is broken down to small pieces with the highest to lowest priority, and then came up with an accurate estimation of the cost and time to complete it. She also stayed in touch with customers, and her on time update about the small changes in the software and customer’s expectations (focus on wellness travel destinations instead of general places) saved us a lot of time and effort. The developers helped with estimation of the final cost and time to complete the project, and with coding and adapting with the changes that were brought up by the product owner. Scrum master supported the team by leading the meetings, resolving the issues, answering the questions and motivating and guiding the team in difficult times such as change of the customer’s expectations. Testers helped with addressing the issues, problems and expectations by designing detailed testing scenarios based on the customer’s needs and expectations. Their experience also helped to test the software in unique situations such as requesting a page or destination that does not exist, DoS attacks, etc.

As I mentioned above, the Scrum-agile approach helped with breaking down the sprints/project to the smaller modules, and made it easier to complete, change and estimate the final time and cost. That would have been way more difficult to change the code if it was not modular and may have needed for the whole code to be rewritten, while the customer changes their requirements of the software. Scrum ceremonies or events enabled a dynamic and collaborative environment for the team, in which everyone helped and supported each other, and was updated about the latest changes, opportunities and issues. Defining roles, responsibilities and expectations, made it easy and clear for everyone in the team to know what they are supposed to do.

Effective and direct communication is one of the Scrum-Agile principles and I was able to fully benefit from that when I had any ambiguity or doubt in the assigned task. For instance, when I came up with some questions about the project, I sent the following email to clarify the misunderstanding (see email at the end of paper).

There were some pros and cons in using the Scrum-agile approach in the SNHU Travel project. Completing project deliverables quickly and efficiently, ensuring effective use of time and money, dividing the big project into easily manageable sprints, testing the code during sprint reviews, clear visibility by employing scrum meetings, and adopting based on the customer feedback (or in our case change of the expectations). To name some cons, I can mention the failure possibility of the project in case individuals are not committed or cooperative, daily meetings may be frustrating for some members, the completion estimation would be accurate if team members are experienced, and it is hard to implement in large teams (Chandana, 2022).

Considering the fact that customer changed their requirements (to wellness travel destination), Scrum-Agile model seems to be the best approach that was able to quickly and efficiently respond to that interruption, in an agile and rapid way. Waterfall would not be able to adopt easily to the changes.

Hi George, after reviewing the user stories, a few questions have arisen for me and I appreciate your advice in that regard, as it helps me a lot to pass/fail the first version of the products.

Here are the questions:

1. General aspects
   1. Should the website have multi-language support compatibility?
   2. Should the top 5 destinations be hyperlinked to provide more info, and if yes, what sources should be added?
   3. Who is the target audience of the website, for instance families, young people, senior adults, colleges, etc. as it impacts on the theme, fonts, colors and many other characteristics of the website?
2. Technical aspects
   1. What are the user's main devices (tablet, laptop, phone, etc.) to navigate/use the website?
   2. Do you want to integrate registration capability using social media to fulfill account registration or should it be totally independent?

In the user story 3, “Ability to retrieve top destinations, based on the type of vacation selected”, how many categories and what kinds should be defined? For instance, cruise, hiking, flying, train, etc.

References:

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