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**Module Seven Final Project**

**CS-250 Software Development Lifecycle**

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The essential group of individuals that make up the Scrum-Agile team is a Product Owner, a Scrum Master, and the Development Team. The product owner’s role is to create and concisely communicate product backlog items ensuring the product backlog is transparent, visible, and understood. The author of an article at coursera.com writes, “the product owner also develops and embodies the product goal. The product owner is one person that stands for the needs of various stakeholders that make a product backlog.” (Coursera, 2022)

The product owner adds intrinsic value to the Scrum-Agile team whereby managing external stakeholders and making sure the team is focused on achieving product development milestones through communication and progress evaluation. The product owner’s role in the SNHU Travel project was to stay in touch with customer expectations, market trends, and project managers outside of the team. An important example of the product owners’ job to keep lines of communication open arose during the sprint review and kept the information channel open and flowing throughout the sprint by asking important questions such as “What has the team done to ensure the product is successful and delivers high value?” and “How does the team know it’s doing a good job?”. As the Product Owner, I found that my responsibility to the customer as the end-user was implemented using “User Stories” to add to the product backlog. The product owner working with the SNHU Travel Project valued the perspective of the customer and the changing priorities of the team when it came to the product change that enhanced the need to be able to select wellness and detox, in addition to relaxing vacation sites.

An important and necessary aspect of the development lifecycle is the Scrum Master role. The Scrum Master works to iron out any issues or obstacles that the team may face. Scrum Masters lead daily Scrum meetings, lead in planning sprint meetings, keep up with team members through individual meetings and work through obstacles that may arise by communicating with stakeholders. The Scrum Master is a leader and a team supporter. The role of the Scrum Master during the project SNHU Travel functioned as a “servant leader, facilitator, coach, and teacher.” As the project transitioned from the Waterfall method to the Agile philosophy, our Scrum Master was able to help define the path that the team should be taking to ensure the project stay within the defined specifications and to adopt the added features that the product owner had implemented. The questions that the Scrum Master asked during the sprint stand-ups dealt with the size of the product backlog, lead time from the value ideas being introduced to their delivery, and whether the backlog was being estimated in hours or story points. The team had decided to use story points instead of hours in the development phase and therefore the project sprint cycle was adjusted for that criteria. The Scrum Master also asked what the team was working on, what had been developed recently, and if there were any issues standing in the way of development. The SNHU Travel Project had been stuck in the development phase in the transition from Waterfall to Agile and the project flowed more smoothly by using the Scrum-Agile methodology. For its goals to be achieved, a key concept in agile software development is continuous improvement. (Perkusich, et al., 2017) As the Scrum Master who worked on the SNHU Travel Project, I was intent on continuous improvement throughout the software lifecycle.

In the development of the SNHU Travel Project, the roles of developer and software tester in achieving the goals defined for each sprint, attending the daily Scrum meetings, ensuring the User Stories, and creating and testing software deliverables, puts the various pieces together to implement a finished software project. I think that the role of the tester and developer to bring the project to life within the constraints of design and functionality is extremely important. The Development Team is made up of professionals who work to deliver a potentially releasable increment of “Done” products at the end of each Sprint. These professionals are the Scrum developers. (QRP, 2022)

The Development Team is responsible for:

* understanding the business requirements specified by the Product Owner
* estimating the user stories in the sprint backlog
* developing the product/service (deliverables).

The SNHU Travel project relied on developers to add additional code and additional photos of travel destinations that the user would use in their travel decisions. The tester used their abilities to debug and code testing to ensure that the finished project worked well within the specification determined by the Product Owner and Scrum Master. During the Scrum review and retrospective, the User Stories added positive aspects to the final project.

The utilization of User Stories helped to recognize and pinpoint certain aspects of functionality that added to the user experience. Using the Scrum-Agile techniques of breaking the project into smaller pieces helped in realizing a better and more user-friendly finished project. The questions that were posed during the Sprint Review and Retrospective were modeled around “who, what, and why?” in referencing upgrades to product functionality and any problems that may be foreseeable in the future use of the project application. The fact that the initial project photos were grainy and out of -focus created the need to find higher-resolution travel pictures. These issues were identified by the team throughout the sprint review by analysis of the User Stories.

During the project, the team managed interruption in a very flexible and efficient manner where the constraints of the project or issues of the functionality of the project were in question. The ability to reassess and work on aspects of the SNHU Travel Project is built into the Scrum-Agile methods and the team was able to re-evaluate and revise the application by testing and re-writing the codebase. The project was hampered by miscommunication at first, but as the team aligned with the Scrum-Agile methodology, the communication process became easier and more fluid. Matt Jones expressed in an email message “Is there something I missed that the team would like to implement? Is there anything further I can provide as a tester on the team? I look forward to hearing from you all soon.” This communication helped in forming a good bond between the distinct roles in the team. (Jones, 2022) As a developer, I researched the ability to use Jira and Atlassian to document the SNHU Travel Project and the expected timeline and various additions to the code that I had implemented. The use of organizational tools such as Jira to add to the structure of the Scrum meetings and be able to update the online tools whenever necessary, I feel, was a tremendous help in getting the project to the status of “done.”

I think that the use of the Scrum-Agile methods in conjunction with the SNHU Travel Project created an environment of positive communication between members of the team. The Agile approach allows for an increased ability to assess, build and plan projects. The beauty of Agile is that there is not just one way to accomplish a goal, but many ways to integrate the philosophy so that working on a project is outlined by the Agile beliefs:

* The highest priority is customer satisfaction.
* Welcome changing requirements.
* Deliver product frequently.
* Build projects around motivated individuals.
* The best structures, designs, and requirements emerge from self-organizing teams.

In the transition from Waterfall to Scrum-Agile, the SNHU Travel Project was enhanced when the customer became the highest priority when the team welcomed changing requirements, and the best results are realized from self-organizing teams. My perception of collaborating with a team has changed due to the Scrum-Agile approach and I feel that the SNHU Travel Project has benefitted a great deal from the change in methodology.

References:

Perkusich, M., Gorgonio, K. C., Almeida, H., & Perkusich, A. (2017). Assisting the continuous improvement of Scrum projects using metrics and Bayesian networks. JOURNAL OF SOFTWARE-EVOLUTION AND PROCESS, 29(6), e1835. <https://doi-org.ezproxy.snhu.edu/10.1002/smr.1835>

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