James Soto

10-13-22

CS-250 Software Development Lifecycle

7-1 Final Project

During the Software Development Lifecycle of the SNHU travel project, I took on many roles that make up an Agile Team. The first role I undertook was of the Scrum Master, in which I learned the importance a scrum master plays during the development lifecycle. The role of the Scrum Master is important because they are responsible for establishing rules and schedules for the development team while also ensuring the tasks and backlogs are being completed during each sprint. The Scrum Master is also in charge of the daily scrum meetings where the team answers three key questions:

1.What did you do yesterday to help the development team meet the sprint goal?

2. What will you do today that will help the development team meet the sprint goal?

3. Do you see any impediments in your tasks that will prevent you from meeting the sprint goals?

These questions enable the development team to see the progress each member has made with their tasks in the prior 24 hours but also see what each member has planned to accomplish for that day. This is beneficial to the scrum master who can track the progress of the project, by tracking the backlog items by seeing what has yet to be started, what is currently in progress and by who, and finally what tasks have been completed.

The next role I played was as the Product Owner. As the Product Owner, we are constantly engaging with users and stakeholders, listening and understanding their requirements while maintaining open lines of communication. As the Product Owner, engaging the stakeholders after a sprint, showing them the progress of the product and having them review the progress while providing feedback is an important part of maintaining transparency and open collaboration. It is also important to manage expectations, working to clarify what is expected, which helps breaks down the projects into deliverables, stories and tasks. User stories can be extremely helpful in helping the Scrum Team deliver the highest value by focusing on the small and immediate customer needs. The Product Owner uses the user stories and actively prioritizes them in terms of user value, risk, and business value to significantly increase the value delivered by the scrum team. With user stories, the product is built incrementally, with an option being having the ability to change directions and add or remove features. As the product continues to incrementally grow the value of the product keeps increasing.

The next role I performed was as the development team tester. In many Scrum Teams there is no specific role for a tester since it can be carried out by any member of the development team. As the tester having complete and transparent user stories with the elements needed for the acceptance criteria ensured that the software was performing as expected and was meeting expectations. The acceptance criteria allow us to identify potential areas where the software is experiencing problems or is lacking in specific features, like in our test case for SNHU travel, having the ability to filter by user price and rating.

The next role I played was as a team developer. A developer is one of the main roles in a Scrum Team since we are responsible for developing the requirements of the client, producing the deliverable code, and ensuring all the project backlog is completed. For the developer to be successful the product owner needs to have all user stories updated and prioritized with the stakeholders’ requirements, the product backlog updated with new tasks and completion date. From the tester the developer would need that all existing and new user cases be updated with the current information based on feedback and feature requests. When having a clear picture of what is expected and what the priorities are, the development team gets to focus directly on their work.

Each of the roles within an agile team plays a vital role in the overall success of the team. Each role contributes in their own way, but the overall goal is to work as a team to meet the customer’s needs. When compared to working under the Waterfall Method, teams that use waterfall have a higher chance of encountering errors in the final product due to the lack of testing until the very end and any changes would need to completely rework the project. Agile methodology allows the team to constantly test the different code that make up the final product allowing them to make any necessary adjustments, while also having the flexibility to make changes along the way.

For the SNHU travel project the Scrim-agile approach helped the team complete the user stories by filling out the product backlog and then creating the user story details which gave the team an acceptance criteria for each user story allowing the team to focus on specific tasks. From there we created test cases which included inputs and expected results. With the expected criteria for each user story the team was able to focus and what was needed to be accomplished. We were able to work on the product backlog user stories based on priority and importance. The user stories were extremely useful in our success due to each user story being a specific tasks that SNHU requested, which ultimately meant we provided them with the value they were looking for.

When the project was interrupted and changed direction, having the Scrum-agile methodology allowed the team the flexibility to make the necessary changes on the fly. Since Agile allows for changes at any time, the code was able to be changed to fit the new customer needs. SNHU requested a minor change to the presentation of how they wanted their information displayed which only needed minor code alterations, which the Scrum Master or Product Owner updated the user stories and refined the product backlog to include the changes. This approach is different when compared to Waterfall where changes are not usually made once a project starts and any changes that are made, means the entire project will need to be reworked. One of Agile benefits is that code is written in iterations, which allows for changes to be implemented at anytime during the entire project.

Communication plays a vital role in the success of any company or project. One of the most important aspects of communication within a Scrum-agile team is the daily scrum meeting, which as the Scrum Master I used to help the team stay focused and staying on track. A daily scrum meeting, to paraphrase is a short 15-minute meeting where every team member gives a quick update on what they did the day before, what they are working on today and if they are encountering any impediments affecting their progress. By having this meeting this ensures that everyone on the team is aware of all progress or impediments but also on what other members are working on. Two more important ways of communication in a scrum-agile team is face to face communication and sprint reviews. Sprint reviews allow the team to meet after every sprint and review the completed work and demo it to the stakeholders and users. During this meeting the main benefit is to receive feedback from everyone involved, which ensures that the project is moving in the right direction. During the SNHU travel project I communicated with the team while playing multiple roles. As a tester I needed to communicate with the Product Owner to ensure I had the necessary information to complete the tests cases for each user story. The following email was part of that communication:

Hello,

My name is James Soto, and I am working on testing the travel-booking software, so far I have taken a look at your user stories and have been developing test cases for the different features to determine whether they pass or fail. I need further information on the functionality of the software and more specific details to define my test cases. Can you answer the following questions:

What are the criteria for when the user first starts to search for a vacation. In my testing, I used the travel dates and outbound location.

Would you like to include how many travelers will be going on the trip? Would the price of the packages be broken down by traveler or total amount based on how many people will be in the group?

Would you like to include the option to rent a car?

What specific details should each listing contain. In our testing the listings contained a destination picture, package price, a short description, user ratings, a link to book the travel packages and a link to view activities that could be done while on the vacation.

Should the resulting webpages have a specific theme based on each location. For example should a trip to Hawaii contain colors more suited to the location or should every resulting page contain the same UI design throughout.

Would you like to include ads, showing different packages that your company offers?

Should the top travel destinations be on the main page with each location having a destination picture and name or should it be a banner that says top traveler destination where the user clicks the link to move onto the travel destinations page.

Would you like the traveler to have the ability to build a vacation package with multiple locations and travel dates.

Thank you, I look forward to hearing from you

James

During my role as a developer I had to communicate with the Product Owner and Tester via email to have all the updated requirements after SNHU Travel changed direction. The following email was part of that communication:

To: ProductOwner; Tester;

From: James Soto

Subject: Project Requests – High Importance

Hello,

The following message is of high importance.

I am sending out the email to asks for some requests that I need in order for the development team to move forward with the new changes to the project.

Please respond with either the necessary information requested or feel free to schedule a meeting where we could talk about the requests and what the development team teams to move forward.

Product Owner:

We need that based on the newly updated requirements from the customer that the user stories be updated and prioritized based on importance and expected completion iterations. We would like an updated product backlog that includes the new stories, tasks and requirements.

Tester:

We need that all existing and new test cases be updated as needed with the current information based on feedback and feature requests that the customer has submitted. Please send the revised versions to us promptly.

By receiving these requests, this will help the development team have a redefined outlook of what is expected, what tasks need priority, what are the new deadlines, and what changes need to be implemented.

I look forward to promptly hearing from you

James Soto

The organizational tools and Scrum-agile principles that helped the team be successful were:

1. Planning and estimating: We used planning and estimation techniques to help us understand the scope of work for each user story and task, and to create a realistic schedule for completing the work.

2. Daily Stand-ups: We held regular stand-up meetings to help keep everyone on the team stay up to date on the work that was being completed, and to identify any impediments that were blocking any progress. The standup meetings helped the team be successful by ensuring that the was working towards the same goals, and that we were able to identify and resolve any issues that were preventing the team from making progress.

3. Project Management Tools: An excellent agile project management tool is Microsoft Azure. The tool helps a team coordinate and improve efficiency by displaying all the tasks on a board which is available to everyone. The tasks are separated based on the team’s needs, for example new tasks, active tasks, resolved and closed. Every member of the team is able to see what needs to be done, who is working on specific tasks, they could offer help if a tasks has an issue. Azure also offers the ability to track sprints in scrums, use product backlogs to add, prioritize, organize and assign work, create a delivery plan where thew team can view and track the progress in a calendar view, and connect to GitHub repositories. Azure is a feature rich tool that would help any agile team manage their software projects.

The pros and cons that the Scrum-agile approach presented during the SNHU travel were:

Pros

Requirements are dynamic and could be changed at anytime due to flexibility and adaptability of the team

Communication between all involved was essential to the success

Clients and stakeholders did not have to wait to see changes implemented

Continuous quality checks to

Cons

Tight timeline of 5 weeks meant work needed to be rushed

Lack of long-term planning since we worked on iterations and short sprints

For the SNHU travel project, the agile methodology worked great and was the best approach the team could have taken. The agile methodology approach allowed the team to communicate better using all the resources I talked about earlier, have flexibility to changes throughout the project, and create and strong performing team.