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5/10/23

Final Project

The process by which the Scrum-Agile Team works together to achieve a successful project for a client is very detailed. In this essay I will be explaining how each role of the Scrum-agile team was important in contributing to the success of the SNHU Travel project, how a Scrum-agile approach to the SDLC helped each of the user stories come to completion, how a Scrum-agile approach supported project completion when the project was interrupted and changed direction, how the team communicated effectively, what organizational tools and Scrum-agile principles helped the team to be successful, and **the effectiveness of the Scrum-agile approach for the SNHU Travel project.**

The Product Owner is responsible for Initiating the Backlog Refinement meeting after the Development Team has Sprint Planning Meeting in which all members of the Scrum Team must attend. Before each sprint the Product Owner has an interview/meeting with the clients, users, customers, and/or stakeholders asking them ‘How they want us to improve upon or implement their product?’. Based on this information if there is a high level of uncertainty an agile approach would be chosen. But if the project has a high level of certainty containing most of the necessary details before the project begins a more Waterfall approach can be considered. The Product Owner/Owner makes that decision. He takes down all of the client’s ideas and creates a User Backlog for the Scrum Team with the size of each user story task, the priority level of each user story by business value, the party that asked for each user story, what they would like to have improved or implemented, and why they would like to have it improved or implemented.

Based on the level of uncertainty, the Product Owner must create an estimated price for the completion of the project that will continually be updated on based on Project Level Planning, Release Level Planning, and/or Sprint Level Planning with each level having higher levels of uncertainty, longer project completion time horizon estimates, higher levels of planning, and lower levels of price estimate accuracy in ascending order. The amount of time a User Story will take to come to completion is usually measured using Story points which is a relative measure of the level of difficulty of a particular story relative to other stories. With inexperienced teams this is harder for the Product Owner to apply so the story point is started at one man-day of work or used ideal days until the team becomes more experienced. Ideal days is defined as a unit for estimating the size of product backlog items based on how long an item would take to complete if it were the only work being performed, there were no interruptions, and all resources necessary to complete the work were immediately available. These methods help accurately create an estimate for each user stories completion therefore giving the Product Owner the ability to create an initial price estimate for the project’s completion. As the project moves further to completion the team’s sprint velocity is used to update Story Points thereby helping the Product Owner to accurately adjust the price estimate to be updated.

The Scrum Master and Product Owner work very closely together because the at times the Scrum Master must be the intermediate between the Product Owner and the Development Team because the Product Owner can be too busy to communicate at times. The Product Owner, Scrum Master, Architects, and other IT leaders also have an hour-long meeting call the Scrum Powwow before each sprint so that they can collaborate on the current sprint, next sprint, and roadmap dependencies which is communicated to the rest of the team at the Sprint Planning Meeting. The Scrum Master Sets the standards and practices for the daily scrum meetings after both the Sprint Planning Meeting and the Backlog Refinement meeting. The Scrum Master is also in charge of making sure that the rest of the scrum team is aware of and following agile practices.

The Developers are in charge of creating and modifying the code that needs to be programmed for the design. The Developer must communicate their needs from the rest of the team before the project begins in order to be able to create and modify their code as the project moves forward. This is crucial because the code the Developer creates will need to be able to meet the customer’s standards and the User Stories created by the Product Owner and the Test Cases created by the Tester assure that this comes to fruition.

It is the Tester’s job to make sure that the code completed by the Developers is accurate and efficient by creating and running test cases. They also update the code accordingly. The Tester works very closely with the Developers and The Product Owner. Both the Tester and Developers as the ‘Development Team’ have a Sprint Planning Meeting to decide the length of each sprint. The tester works with the Product Owner to design Test Cases and coded tests to make sure that each user story assigned by the Product Owner functions properly after each sprint. At the end of each sprint (Or in between the sprint, if necessary), the tester will check the code to make sure that it is efficient and produces the results assigned in the user stories.

There are many ways that the Scrum-agile approach to the SDLC helped each of the user stories come to completion. The Daily Scrum Meetings made communication between the scrum master (when they attend) and the development team more effective because it allowed each team member to communicate what tasks they have completed, what tasks they will be working on next, and what tasks they are being impeded by. The Daily Scrum also gives the Scrum Master the opportunity to guide the development team to using Scrum practices more effectively. Communication between all of the scrum team is further enhanced by using a task board to show backlog refinement, which tasks have not been started, which tasks are in progress, and which tasks have been completed.

Because the Product Owner (and maybe the Scrum Master) hold an interview/meeting with the clients, users, customers, and/or the stakeholders before every single sprint what is being developed by the Scrum Team stays on track to meet their expectations the clients, users, customers, and/or stakeholders’ expectations and backlog refinement can be up to par. And because the Tester works so closely with the Product Owner’s user stories, he updates Test Cases before the sprint based on the user stories giving the developers a guide to follow because the Test Cases will provide them with what their code needs to strive for in completion. The tester is absolutely necessary to make sure that user stories come to a ‘done’ status at the end of each sprint.

When the project was interrupted and changed direction the Scrum Agile approach did help to support project completion. The daily scrum meetings help support project completion when the project is interrupted or changed direction by allowing the team to communication obstacles that impede them from completing the project to the higher chain of command if they are unable to resolve the impediment themselves.

Because an Agile-Scrum approach supports finishing the current sprint before changing what the Scrum Team should be working on the Product Owner does not change the user stories mid sprint. This helps process improvement speed for the sprint. However, at the end of each sprint the Product Owner (and maybe the scrum master) does meet with the clients, customers, users, and stakeholders after the sprint to communicate with them on what has been done so that they can give direction on what needs to improved, changed, or implemented moving forward. This is usually communicated to the team during the sprint planning meeting before the start of the next sprint. This process makes it much easier for the Scrum Team to adapt interruptions or changes in direction for the project.

When there are discrepancies or more information is needed in the user stories the Tester must speak to the Product Owner so that this can be resolved. The Product Owner will either already know the answer based on the Customer, Clients, or Stakeholders or will have to go speak to them to obtain the answers to the Tester’s questions. Then the Product Owner or Scrum Master will give this information to the Tester so that they can apply this information to the Test Cases. In some cases, the user stories may need to be updated by the Product Owner before the next sprint.

When there is an interruption or change in direction for the project each member of the Scrum-Agile team has a role. The Product Owner must adjust the Product Backlog to prioritize the most important tasks that need to be completed. Product Owner and Scrum Master must decide whether to stick to the current time schedule for completion of the project or if more time will be needed to accommodate to the changed direction of the project. The developer must look to see if the code that needs to be reworked is feasible given the current timeframe set for the project’s completion. If the redesign is feasible the code must be reworked to fit the customer, client, or stakeholder’s request. If the redesign is not feasible then the Product Owner is left to make the call on what to do. And the tester must rework his Test Cases based on the Product Owner adjustments from the Product Backlog.

There are many ways that the Scrum-Agile team used agile practices to effectively communicate. The Product Owner has a meeting with the Client so that he knows what the Client wants us to initially accomplish in the product design. He takes down all of the client’s ideas then either the Product Owner or Scrum Master communicates this to the team during sprint planning meeting. Then, in the Backlog Refinement Meeting the Product Owner communicates to the rest of the team through user stories the top items on the product backlog to work on with, the size of each user story task, the priority level of each user story by business value, the party that asked for each user story, what the party would like to have improved or implemented, and why the party would like to have it improved or implemented. Also, if the development team has questions regarding the Test Case details, they can pass that information to the Tester who will then reach out to the Product Owner for that information.

The development team has the Sprint Planning Meeting so that every member of the development team can come to an agreement on how long each sprint will be. The scrum master effectively communicates with the team during the daily scrum so that they are guided toward project completion by making sure that they are using agile practices. This is done by each member answering questions similar to ‘what did I do yesterday to help meet the spring goal?’, ‘what will I do today to help meet the spring goal?’, ‘what impedes us from meeting the sprint goal?’. This helps the Development Team to know what tasks have not been started, which tasks are in progress, which tasks still need to be completed, who needs help with a task, and who has or will be working on which tasks.

The user stories created by the Product Owner give the Tester the information he needs to create Test Cases as a guide for the developers to base their code on in the next sprint. And at the end of the sprint the Tester checks to see if the code is efficient and meets the customer’s specific needs based on the Test Cases. This helps the User Stories pass inspection so that they can be properly presented to the Product Owner, Customers/Clients, and Stakeholders before they can be considered ‘Done’. This process must happen with each User Story.

Scrum-agile principles are applied in the Scrum Team process by allowing the project to be easily adaptable as each sprint occurs. The Backlog Refinement Meeting, Sprint Planning Meeting, and Daily Scrum allows each member of the Scrum Team to communication so that they know what to accomplish in their individual roles as the project moves forward. This is because with each day there is an adaptation to the project based on the daily scrum between members of the scrum team. The Scrum Tasks are updated on a viewable or online Task Board to show the team what tasks have not yet been started, what tasks are in progress, and which tasks have been completed so that everyone on the team can be on the same page. This supports the agile principle “Iterative, sprint working delivers customer values through continuous progress and momentum.” At the end of each sprint there is communication with the Client and Product Owner so that the Client’s ideas and corrections can be implemented into the design. This supports the agile principle “Primary focus is on customer need facilitated by constant improvement of customer experience”.

Before a Tester can correctly create Test Cases for the developer team to use, they must evaluate if the user stories require extra information to be efficient and accurate. This individuality allows for the Tester to check the Product Owner’s work to make sure it is accurate. If it is not, the customers/clients and stakeholders will have to clarify. This shows the user of the Agile Principles, “to support relentless and sustainable innovation and progress because Change is constant, and the pace never slows” and “Strategies and tactics are highly adaptive, responsive, and change is welcomed.”

The Scrum-Agile approach for the SNHU Travel project was effective in completing the project. There were pros and cons to using this approach. The Pros of using this approach are that the project can be completed with the minimal amount of details needed before the project starts, change is welcomed and easily adapted into the project design due to the project being completed in sprints and the communication between the Product Owner and the clients, customers, users or stakeholders, and there is usually less of a problem reworking the project if there is an interruption of change of direction in the project plan. The cons of using the Scrum-Agile approach are that the completion time for the project may vary and the efficiency and accuracy of the completed project are highly based on the experience of the Scrum-Team completing the project. The Scrum-Agile approach was the best approach for the SNHU Travel development project because not all the details were given to us up front. Some details were given to us mid project. For a Waterfall approach this would mean a lot of re-work needed to be done. Because we were using the Scrum-Agile approach these mid project details didn’t hinder the completion of the project as much as a it would have if we were using a Waterfall approach.