CS 250

Final Project

June 21, 2024

Applying Roles

Scrum Master

During development I, the Scrum Master, ensured all team members understood their roll within the Scrum process, followed the rules of the Scrum framework, and removed any obstacles that may have impeded productivity such as helping team members with their impediments or making sure the work environment is not distracting. I also facilitated Scrum events, daily stand ups and sprint reviews, ensuring events did not go over time and stayed on topic. At times I would also assist the Product Owner with managing the Product Backlog to ensure that the Dev Team would understand it.

An event I was directly responsible for was planning the daily Scrum meeting which included the allotted time, what team members will go over in the meeting, and deciding the three questions that framed the meeting.

Product Owner

The Product Owner was in charge of managing the Product Backlog for the Dev Team. This involved getting and refining user stories that would become items in the backlog, organizing the items in the backlog so the team knows what to work on next, and ensuring clarity of items and project requirements to the rest of the team. To do this the Product Owner would gather input from users and identify what type of user they were, what action they wanted to perform, and what goal they were trying to achieve. They would then take these user stories and

place them in the backlog based on difficulty of the task so the team could later decide when to work on these.

Dev Team

The Dev Team chose tasks to work on each Sprint during Sprint meetings with the entire team to determine what would get done that iteration. They chose tasks based on complexity and level of importance so that they would be able to complete all their tasks before the sprint was over. They participated in daily stand ups where they would go over their tasks for the day, what they completed the day before, and what impedes them.

They were able to implement the listing for the booking software for SNHU Travel while maintaining the flexibility communication Agile allows which let them quickly adapt to a change in the initial layout of the listings.

Tester

The tester used user stories to develop tests that the rest of the Dev Team would use when creating deliverables to ensure quality and completeness using the “just enough” methodology. The tester was also responsible for setting up and maintaining the testing environment the team used and providing useful feedback during development on not only product quality but process quality. They also worked closely with the Product Owner to define acceptance criteria for tasks and to clear up any uncertainties in user stories.

User Stories

User stories are developed by the Product Owner from customer and executive input. These are broken down and refined to a simple statement of "As a <user> I want to <perform some task> so that I can <achieve goal>" that are then added to the project backlog. At each sprint planning, items are taken from the backlog, chosen by the team based on priority and complexity, then added to the sprint backlog where the items will be completed during the sprint by the dev team. Before they are worked on however the Testers create test cases for the user stories that define when the task is completed. These are used by the team during sprints.

During the project our user stories went through this process before getting implemented as features. The user stories were passed through this pipeline, refined for clarity, then implemented by the Dev Team.

Interruptions

When plans are changed during the project Agile allows for flexibility. Utilizing the project backlog and the user story pipeline, items may be moved around or even demoted in priority by the product owner, while new items are added with higher priority to match these changes. The team may then work on implementing these in the next sprint, allowing for quick adaptation using schedule management at the cost of losing some lesser priority items but keeping the project on the same deadline and cost. This is also already an expectation in agile development as the backlog changes during development naturally as user stories are refined by the product owner.

A change was faced during the development of the SNHU Travel listing software where the requirements changed the format of the expected listings. This was handled by the Product Owner prioritizing features and the Dev Team implementing them in the next sprint.

Communication

Communication is a big part of Agile and thus we had many emails sent during the development. This open communication between team members allowed for clarification on requirements, such as when our tester needed more details on user stories to properly make the tests. They communicated with our Product owner to get the information needed, allowing them to finish making the test requirements and update them.

This was good communication as only the tester would be concerned with this information at the time so they could update the sprint backlog for everyone else, and the Product Owner was the right person to contact since they are in charge of gathering this user information. This also proves to be a good example of the collaboration between Scrum Teams because it demonstrates the communication needed in the Scrum environment in order to deliver a good product, opposed to Waterfall in which this information would already be planned out making the communication unnecessary but also making it difficult when change or bad planning is found.

Organization

The Scrum-Agile approach has many tools and principles that help the team stay organized and be successful. The backlog may be one of the biggest as it is the backbone of the workflow. All members interact and use the backlog to track progress and establish what needs to be done while organizing it to allow for effective sprint planning. Apart from the Product Owner managing the backlog the rest of the team helps organize it by assigning items complexity values during Sprint Meetings using methods like Planning Poker or Affinity Grouping, which allow all members to provide input on the possible complexity of an item.

Along with this Scrum prompts a very communication heavy workflow that also prioritizes the Dev Team which is a large proponent to the success of the team. This high level of

collaboration allows the team to do what they know they can handle in the time given without management overhead while spreading the workload more evenly through paired programming and iteration.

Apart from these methodology tools there are software tools that assist with organization and help with certain processes such as Jira and Microsoft Azure Boards. These software tools act as a communication platform as well as a digital backlog, allowing all members easy access to the backlog.

Evaluation

During the development of the SNHU Travel project it became clear that Agile is the better option for this project. This is due to Agile's ability to adapt and spread the work load. Previously, before switching to Agile, our team had issues where some people would have too many tasks they had to get done while others had too few. Agile fixed this issues by making all Dev Team members no longer specialized and allowing for paired programming, allowing the work to be more evenly spread increasing output. Agile's agility also allowed us to quickly make changes to the project when needed, as well as being a good fit due to the project requirements not being clear in the beginning which would have made planning in the Waterfall framework impossible.