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This Sprint was an iteration of the SNHU travel project in conjunction with Chada Tech. Our team was assigned to develop an application for the SNHU Travel agency. This project aims to increase customer count and travel packages purchased. Our team recently switched from the Waterfall methodology to the Agile framework. Our team consisted of the Scrum Master, Product Owner, and Developers. The Scrum Master and Product Owner are single individuals, while the Developers consist of a small group of individuals being sorted into a subgroup such as developers and Testers. The Scrum team consisted of no more than ten people, which is suggested in the Scrum guidelines. This Sprint Retrospective will consist of what each role contributed to the Sprint, how the Scrum team handled change, how the team adhered to Scrum guidelines, how effective Scrum was for the project, and the conclusion of the Scrum-Agile framework.

The main priorities of the Scrum Master are to establish a firm definition of the Scrum-Agile framework and help with the transition from the waterfall methodology. Scrum is a framework that relies on empiricisms. There are five primary values that Scrum depends on for success: commitment, focus, openness, respect, and change. The Scrum Master is the servant leader who ensures these values are understood and implemented. They provide by leading by example and by being a mentor/coach. For instance, during our first Sprint for the project, the Scrum Master helped deploy the daily stand-up at the same time and place every day. This helped reduce complexity and allowed the entire team to understand what was completed the previous day, what will be worked on the current day, and any impediments that any individual may be facing. The daily stand-up allows for the Developers to adjust the current Sprint. While the Scrum Master was not required to attend the daily stand-up, they made it a purpose to attend daily and help facilitate and mentor the meeting. As a result, this helped keep everyone engaged and open communication flowing between the entire team. In addition, the Scrum Master created a project charter that allowed the whole team to see the goals for the project and the purposes of each team and provided clarification on the technical and business aspects of the project. For example, the project charter shows what the Product Owner wants the team to prioritize and how complex and high the risks are. Although the project charter is not a vital component of the Scrum-Agile framework, it was helpful during the iterations of the projects for everyone on the Scrum team. It helped create a generic framework of the project, allowing everyone on the team to know and understand what is expected.

The main priorities of the Product Owner are to ensure that the Scrum Team is producing the maximum value for the product being developed. To ensure the product is delivered at total value, they help establish and maintain the product backlog. The backlog is typically an ordered list of what needs to be added to the product to increase its value. To produce quality components to the project, the Developers need to understand each aspect of the backlog clearly. Our Product Owner ensured the Developers had a clear understanding by participating in backlog refinement and creating user stories. With the user stories, the Product Owner and Developers created a chart for each backlog entry, giving them a prioritization rank and a number scaling the difficulty. This allows for each member of the Scrum team to have a better understanding of the backlog. As a result, this will create more accurate Sprints after each iteration and ensure maximum quality and value are added to the project. Like the project charter, the user stories are not a key component of Scrum that provides helpful information and data to the entire Scrum team. However, our product owner understood the needs and wants of the stakeholders and worked alongside the Developers to ensure the project's goal was met at the end of each Sprint.

The main priorities of the Developers are to ensure after each Sprint that usable increments are being added to the project that increases its values. The Developers commit to this by implementing the five values of Scrum. Every day during the daily stand-up, they need to adapt to any impediments to ensure they meet the goal of the current Sprint. Our Developer team consists of two subgroups: Developers and Testers.

The Testers are handed the product to the Developers, which is to release at the end of the Sprint. Once provided with the item, the Testers ensure that it meets quality standards and expectations and the team's Definition of Done (DoD). If the item does not meet the Testers expectation, it is returned to the Developer team to correct. During the portion of the Sprint, the Testers would create a test case document for each item they were testing. In each documentation, the Tester would include what aspects of the item they tested and the expected results. From here, they can document any bugs and errors they find. Once the testing is complete, the Tester sends the item, test case documentation, and feedback to the Developers. This allows the Developers to understand what was tested and want did not work correctly. Therefore, they would better understand what precisely needed to be fixed in the code.

During this portion of the Sprint, our Developers work on creating usable increments. To make useable increments ready to be released, they work with the user stories and the test case documentation provided by the Testers. In addition, they work alongside the Scrum Master and Product Owner to add or change items based on the stakeholder's needs. While the stakeholders often ask for new items and changes to be made in a current Sprint, the Developers must ensure they meet the Sprint goal. Therefore, if something being asked is too large of an undertaking, it should be moved to the next Sprint.

Throughout the project, the Scrum team used open communication using the daily stand-ups, backlogs, backlog refinement, user stories, and test case documentation. The backlog and backlog refinement are part of core Scrum and provide detailed information about items the stakeholders want to implement. This includes the involvement of the Developers and Product Owner, ensuring communication is flowing between the two teams, and allowing for an accurate timeline to be created. Using poker planning as an estimation technique during the Sprint Planning is another excellent use case to ensure everyone on the team is provided input. In addition, both the user stories and test cases are both aspects of open communication and a way to implement further organization into the project. Using different charts and graphs allows for the creation of easy-to-read documents. With more teams becoming remote, organizational software has never been more critical. Software tools like Mural and Jira can be used to create interactive boards that can be used for Scrum boards and backlogs.

The project completed by the SNHU Travel team is a perfect example of why the Scrum-Agile framework is essential. The Scrum-Agile framework is ideal for complex and chaotic projects. We can determine whether a project is complex or straightforward based on the requirements vs. the known ratio. Since this project had many conditions and little was known on the implementation, this is complicated to the complex sector. If Chada Tech were still using the Waterfall method for this project, it would be much more time-consuming, and less value would be created as a result. For instance, during the middle of a Sprint, the stakeholders asked to change how images are displayed for a travel package. If the Waterfall method were being used, the team would have needed to start from the beginning again. This creates an issue with creating an accurate timeline for product releases. Therefore, it's essential to understand the project's complexity before beginning it to ensure the correct methodology or framework is being implemented.