**Project 2**

Justin Phillips

Southern New Hampshire University

CS-250 Software Development Life Cycle

Joseph Martinez

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**Sprint Review**

1. **Role Contributions**.

Throughout the sprint cycle, it was very important to ensure that each member of the team fulfilled the purpose and responsibilities of their role. While Scrum-Agile promotes self-organization, it is imperative to the function of any team those responsibilities get fulfilled, and that each member of the team is playing for the betterment of the team and the finished result. As the Scrum Master, I am very proud of every member of my team for this project, and I want to bring attention to all our strengths and role fulfilment in this sprint cycle.

Throughout the sprint, my responsibility was to act as a facilitator and coach for the Scrum team. I ensured that we followed the Scrum-Agile methodology and as you know I did my best to have one-on-one talks throughout our sprint and gain insight into our ideas and contributions. I facilitated the daily Scrum meetings as well as our sprint planning meetings, and I’m now facilitating our sprint review. I’ll also be facilitating a retrospective later on in this meeting. I also received some concerns from members of the team in terms of productivity issues and miscommunications. I know that our testers felt like they didn’t have quite enough information to understand what was or was not a new feature, or which specific user story was being tested, which led to the implementation of better processes including addendums in regards to version changes and the changelog for the test branch. Solving issues like these and facilitating better Scrum-Agile development is what I’m here to do, so I’m always open to learn about new issues and improve our process further.

The Product Owner was instrumental in prioritizing user stories based on their business value, viability, and ability to build a better product. The Product Owner was also instrumental in maintaining a vision, communicating to stakeholders, communicating to customers, and communicating to our Scrum team the vision these important people had for the functioning of our product. Pushing the new profile customization options on our site was a remarkable example of this great prioritization and focus on meaningful improvements for our product to the benefit of our company. This sprint cycle was all about getting vacation packages up that the end user would be interested in, so adding new customization options to the search engine behind our site was a must for this cycle. As well, our backlog was meaningfully reduced this cycle by implementing new related features to do with our vacation package offerings. Maintaining the user stories was another one of their vital responsibilities throughout the sprint cycle, as the user stories gave detailed goals and interactivity expectations from the perspective of the end user, and as we all know, accomplishing a user story is accomplishing a real-world feature, and is always a milestone in our development. Another thing our Product Owner did great was organizing meetings with our stakeholders and our clients, receiving feedback and affirmation from them, communicating this feedback to our Scrum team, and keeping the development team in the loop on what their expectations are. Something specific that the Product Owner did during this sprint cycle was recognize the popular preference of a slideshow layout as opposed to the list layout we had originally been working towards. Organizing a plan for this conversion and a list of relevant features, and understanding the demand for this, was a great display of the communication skills, vision, and anticipation of needs a Product Owner should display in their daily role. Excellent work!

Our Tester was also a crucial part of our Agile team. They were responsible for evaluating how our product reflected our user stories, and how viable our user experience design was in a user setting. By taking advantage of user stories, which are one of the many vertebrae in our process backbone, our tester created their process and test criteria and ensured they were fulfilled to the expectations of the end users and stakeholders. While quality is a responsibility of our entire team, the active communication and collaboration between the tester and developer is a core component of the process that builds quality into the product. Defects and flaws are identified and reported, and the customer’s perspective is utilized to test the product in a meaningful way that improves on the user experience. The opportunity for our tester to join our programmer in pair programming, thinking of test cases before they come up during the code writing process, is another important step our tester was able to take to work quality into the foundation of our product. Great work!

Our Developer was also foundational in our team and its success towards the SNHU Travel site sprint. The Developer ensured the production of working, sustainable, and maintainable software. Much of this was creating usable increments for the end user on the site, contributing to the design, content, and overall form of the application. Our developer also worked closely with the product owner to assess the backlog and help determine the priorities of items from it, their developmental difficulties, and the goals with relation towards each other. The developer also kept the tester up to date on codebase changes and distributed versions for testing before merging changes to the main developmental branch. Like the tester, the developer was driven by user stories, and from the product owner and tester received workable responses which strengthened their understanding of the project, its necessary functionality, and the overall ambition of the sprint. The developer was also strengthened by agile’s incremental development process and the flexibility of agile. Something our developer did this sprint cycle was reorganize the list view we had originally anticipated for the project into a slideshow view in response to feedback about the design direction. This was while retaining the important functionality of the site, such as vacation booking and searching, and keeping clickable, intuitive, and accessible links to booking pages. Development is about not only writing functional software but also communicating the changes, understanding the needs, gaining feedback, and working that feedback in. Excellent work!

1. **User Stories**

Our user stories were a critical part of organizing our sprint and its smaller and larger goals, and implementing functionality into the work we did. For each of our user stories, it was critical that each role took part in communicating and organizing around the user stories we felt were a priority. We began with the context of the user story and the situation the user envisioned as a possibility on the SNHU Travel site. Then, the Product Owner listed components of this end goal envisioned by the end user. The developer helped break this down into sub-goals, and the tester used these to produce workable tests and success criteria. Our first user story was the desire for relevant travel destinations based upon the previous locations booked through SNHU Travel, the profile of the end user, and the preferences set by the end user. Scrum-agile recognizes the necessary incremental delivery needed to work on this larger-scale goal. The goal was broken down into more manageable components, such as the ability to click a link to a page displaying personalized travel recommendations, the need for destination filtering, and the ability to sort by popularity. Using this, the developer and tester produced a functioning framework for recommended travel packages and the ability to use this page to book travel packages before the conclusion of our cycle.

Our second user story was the ability to filter the list by vacation types, so that a user could choose specifically to engage with cruises, museum tours, or eco-travel trips as examples from a list of travel package categories. This ability to filter had the team converge to determine the best way to produce a package tagging system over the course of one of our daily scrums. Our conclusion was that listers should be able to choose from a variety of prefabricated tags, or add custom tags which have a pending moderator approval before being visible on the public version of the listing. This provides our system with a flexibility in adding new package types as they develop in the travel world, while still ensuring the quality of our listings and retaining the importance of tags in our filtering system. The product owner took the prototype for this system, which was extensively tested through the perspective of a typical end user lister and a typical end user traveler and demonstrated the system for the stakeholders at a meeting, for which the product was well-received.

Our third user story of focus throughout this sprint was the ability to list the preferred vacation types in the user profile, which was a smaller goal which would eventually tie into the other vacation sorting and recommending systems. The end user wanted to list preferred vacation types in their profile, so that they could influence the results on their personalized page. This meant specifically preferring and disallowing specific vacation type tags, from cruises and island communities to tiny homes and lakeside lodging. This small feature was also demonstrated with the personalized page and list filtering system, and added a new depth of personalization and preference-setting to the end user’s profile.

One last user story I found of note for this sprint cycle was the ability to see popular, relevant deals on the front page of our site to promote more travel and better savings towards our userbase, for which we elected a revolving carousel display on our home page. This involved sketching a new thumbnail of our page, and having the tester verify it was functioning to specifications. Our developer also helped test the page for new bugs related to the carousel approach for displaying these packages, which also included a link to view the carousel as a slideshow, as well as view the listings for each slide displayed. This also relied on the recommendation framework we worked on before and made our site more attractive and accessible. We have no doubt this will be a sales-driver for SNHU Travel!

1. **Changing Direction**

A major development challenge was the adaptation from the list layout to the slideshow layout. Our developer had to adapt the functionality of the old layout into the new layout, and our tester also had to be informed of this transition and adapt their tests to the new layout accordingly. This is something we realized needed thumbnails and a special focus in order to make the layout as intuitive as possible for the end user. We were able to take advantage of the new layout to show larger, better-quality photos, and to move on from our previously imperfect photo rescaling for our listings. Thanks to Scrum-Agile, we were able to utilize iterative development to change our course and adjust our processes in response to the layout change, as well as continue developing other features alongside this transition. For instance, the code for displaying parts of the list was adapted for displaying slides on the slideshow, and the new functionality of opening and closing a slideshow allowed us to give a focus to each vacation package and give more information in the recommendation pages as well as the other pages the end user would browse. If a waterfall approach was used, this pivot in direction would not have gone as smoothly. While development largely continued as normal after the layout change with our scrum-agile methodology, waterfall would have implied a ‘too late in production to change’ attitude or otherwise discouraged a massive design shift or slowed it down as a larger scale release project rather than a rapid change to our live service.

**Retrospective**

1. **Communication Highlights**

One of the topics I hope to highlight in this retrospective is how well we communicated as an agile-scrum team. I’ve collected some stand-out communication between the team throughout the course of our sprint. This email was addressed to me and all of us by our product tester.

TO: SCRUM.MASTER@SNHUtravel.com

CC: …[SCRUM TEAM]…

Dear Team,

I hope this email finds you well. I’m writing to you as the product tester for the travel booking software project. I’ve been working on developing test cases based on the provided user stories.

Thank you for the great work, collaboration, and support throughout the project, the user stories have been very helpful in understanding the user’s needs, goals, and expectations for the product. I’ve used the provided user stories to create test scenarios and to plot out steps and expected results for each feature of the product this cycle. However, I’ve encountered some difficulties in understanding the decisions and changes made in accordance to each user story as well as the anticipated site layout. This has impacted my testing process, and I have had to make assumptions and guesses on what is a new feature designed to address the story, what is a relevant feature to the story’s end goal, and what the sight’s design direction will be. This could lead to inaccurate or incomplete test cases and testing outcomes.

Please be sure going forward to include a brief addendum whenever possible to address these two factors. I will be bringing any user stories I have questions about to tomorrow’s daily Scrum meeting. Thank you very much for your time and attention.

Cordially, Justin Phillips, Product Tester

This email stands out to me in its cordiality and its incitement for collaboration between our team. The clarity of the email – Its recognition of the difficulties caused by the change of the site layout and the lack of information attached to the testing copies being distributed – is important in highlighting parts of the process to further improve, and precisely which issues we are tackling by improving our process. We’ve now made it standard to include changelogs as well as, whenever relevant, thumbnail sketches of what our site will look like.

TO: PO.BigFella@SNHUtravel.com;

Hi Product Owner,

I’m messaging you to inform you about my latest experimental branch build. This week I focused on implementing the “Select desired vacation types” and “List Preferred Vacation Types in Profile” user stories you brought up at Monday’s daily scrum, as well as implemented the new Slide Show layout and updated the list to be more in line with the Detox and Self Care themed packages. Before we embark on the next phase of development, I wanted to reach out and ensure that we have the necessary information established to proceed with maximum efficiency:

- What is the priority list for the upcoming sprint cycle?

- What user stories would you like to me to focus on next, and what is the acceptance criteria?

- How do you feel about the latest build’s changes? Is this done to satisfaction?

As always, thank you for your time, and I’m looking forward to any updates. If there are any additional details you need, please let me know. Thank you.

Justin Phillips

This email is from the Developer to the Product Owner. Like the last, it expresses needs concisely, respectfully, and professionally. There is a pre-emptive planning focus on the questions the developer puts forwards towards the product owner. The questions are about the upcoming sprint and its goals and backlog targets, as well as feedback the developer needs from the product owner to ensure the work is meeting or exceeding the standards and the vision the product owner has for the final product.

TO: TestyTestBoy@SNHUtravel.com;

Hi Tester,

I’m messaging to inform you about my latest build in the experimental branch. The following user stories have been fulfilled and are in need of testing and validation:

- 3) List Preferred Vacation Types in Profile

- 6) Select desired vacation types

- 19) Implement Slide Show view for better UX

Acceptance criteria are visible in the database. I would like to receive copies of your test data, access to the testing environment Friday evening if possible before the next sprint cycle begins, feedback on the code changes, and a list of any bugs, missing functionality, or other issues that arise, as well as opinions on user story fulfillment. Your response will greatly assist me in maintaining momentum and delivering features that meet or exceed the product expectations, so as always I appreciate the help.

If there are any additional details you need, please let me know. Thank you.

Justin Phillips

This is the last notable example of communication, in my opinion. It exemplifies the communication between the tester and developer; The communication is short, concise, and practical. It communicates the build changes, based on the user stories motivating the changes made. It also lists the feedback the developer expects to see from the tester and opens the door for further discussion or questions from the tester towards the developer. All these emails demonstrate a respect for the team, the roles, and the goals of the sprint. They are concise and well-worded facilitators of collaboration between the members of the team, opening the door for further discussion and betterment of the project.

1. **Organizational Tools and Scrum-Agile Principles**

There were a variety of tools and principles we employed throughout this sprint cycle that I think are worth talking about. Throughout this project, we maintained a general atmosphere of transparency, adaptability, and flexibility. We kept our communication open and as collaborative as possible. This was done through the use of our tools, from our sprint planning session to our daily scrum meetings. Daily use of our communication tools, especially things like Microsoft Teams which allowed instant messaging between our team members, allowed us to make meaningful discussions possible and share information on the goals, vision, and changes made. Tackling challenges collaboratively was also important. Our planning tools, like Jira, made it far easier as well to track our development and changes, our user stories, our backlog, and general sprint goals and progress made towards them. I also think that our sprint review today is helping us discuss our core strengths and weaknesses, figure out avenues of improvement, and appreciate everything we did right throughout this sprint.

1. The Effectiveness of Agile

Agile is the right approach for this project, and I believe that it is the right approach for live-service applications and software and website development here in the internet age. The pros of Agile development are self-apparent. Scrum promotes incremental delivery, allowing the team to release valuable features, many of which will build into each other later, early. It delivers essential functionalities in smaller increments throughout the course of development, meaning user needs are met sooner, bug fixes go out faster, and development is generally far more flexible than it would be in a development approach like waterfall. Scrum-agile also enables flexibility when responding to changing requirements, such as new form factors a site must display on or new industry standards, such as a new type of vacation coming out of obscurity, like trendy vacation packages such as detoxing or cleansing. When the project faced interruptions with changes to the UI and the general functionality of the site, the team was able to adjust priorities and adapt the backlog and their workload to be receptive to these. Agile also promotes transparency and collaboration. The team sizes for the project are small enough to be manageable and allow direct communication, and regular meetings were held to foster the transparency and communication that the scrum-agile structure brings to the table. Another strength was the clear definition of roles and the accountability of each role. Scrum defines clear roles, such as the Scrum Master, the Product Owner, the Developer, and the Tester. Each team member understands their responsibilities, and this leads to better and stronger coordination. In a traditional development environment, it is easy to foresee how large teams and unclear roles often may lead to a bystander effect in the workplace, which is no good. The cons of the agile approach are the time-boxed sprints, which while encouraging efficiency also may create workplace stress and may prevent developers from striving towards goals which may take longer to achieve than the given time estimation. Tight deadlines can create pressure, and not everyone can strive and thrive under pressure. As well, proper planning and realistic time commitments are essential – An improperly estimated sprint and bad time management skills from the Scrum Master can create more stress and leave the team demotivated or even hating scrum-agile. Overall, well organized scrum-agile was hands down the best approach for the project. The project required flexibility and adaptability and this is where the scrum-agile process particularly shined, but there were also tangible benefits by adding smaller user stories into the development cycle that incrementally developed and built into each other. The current release has crucial functionality that makes the product more attractive and accessible for stakeholders and for the end user.