**CS-250 Final Project**

**Sprint Review and Retrospective**

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In the interest of ChadaTech, our team was transformed provisionally into an agile-scrum team during our work with the SNHU Travel agency. During the 5-week project, our team undertook a series of changes and accomplishments that would not have been possible under a waterfall, plan-driven approach. This retrospective aims to analyze the processes and successes of that project to assess the value of transitioning the entire ChadaTech company to agile-scrum teams.

First, we will take a look into the value provided by the scrum roles implemented into the project’s organization. For this project, we assigned the team a Scrum Master, Product Owner, Testers, and Developers. Each played a pivitol part in the success of the team as a whole. The product owner had the important job of taking stakeholder feedback and desires and transforming them into acceptance criteria, divided into backlog items to be implemented by the developers. This was especially important in the context of agile development, because the stakeholders were given various opportunities to provide this feedback during each iteration and significantly impacted the course of the website being developed. The Scrum Master was responsible for making sure every member of the team was equipped with knowledge of the processes of Scrum as well as the tools they needed to accomplish the team’s goals. The Scrum Master’s direction over the scrum events, like the daily standup meeting, provided the team opportunities to go over their trials and accomplishments throughout the project, keep everyone on the same page, and allow the developers to organize themselves based on the work that needed to get done the most. The testers are indespensible in a high velocity environment common to agile projects, as they develop tests around the acceptance criteria and ensure that each iteration delivers a product that is aligned to stakeholder needs. Of course, one cannot make software without developers, who took initiative on divvying up backlog items and communicating clarification on acceptance criteria from the product owner.

One critical way to evaluate the success of any project is to review how well it completed user stories. This directly ties the project to the value it created to its users. In agile, the product owner helps to organize the user stories into priority levels based on the input of stakeholders. For this reason, the team quickly delivered and gathered more detail into high priority items, like the ability to see the 5 most popular travel destinations, and left less well-defined and lower priority items, like destinations recommended based on user travel history, to be researched and implemented in a future sprint after the top value items were already delivered. In cases like ours where the delivery time is very short, the ability to finish user stories based on priority allows a team to deliver as much value as is possible within their given timeframe.

To compound to this idea, let’s examine the key differences that agile brings to the software development lifecycle to enable these particular successes. Rather than have a single phase of planning, development, and final testing, agile development follows iterations of these phases so that each takes place during every sprint. The ability to plan only what can be known allowed for our team to produce deliverables on the highest priority and most well-defined items first. This also meant that testing was able to more rapidly weed out discrepencies between the product and the user story acceptance criteria, or even eliminate them before they exist due to the hightened communication among the team.

This iterative lifecycle is what allowed the project to thrive in a rapidly changing environment, as well. During our production of the SNHU Travel website, the stakeholders wished to adapt the top destinations list to a top destinations slideshow, drastically changing the direction that had to be taken. Because no planning beyond what was necessary was created for the sprint, there were fewer plans in place to be disrupted by this change. This cycle also ensures that at any point in time, there is some product available to produce value to the stakeholder. Each iteration has a tested, working deliverable, and the value in that is greater the shorter the project timeframe is. Compared to a waterfall approach in the same time frame, when the requirements had been changed, the entire project would have been disrupted, gone back to the planning phase, and perhaps have to be redone entirely. It is highly unlikely that the waterfall approach would have had a working deliverable in such a case, unless it had never integrated this stakeholder feedback, in which case the deliverable would have been of less value.

One of the most important aspects of agile development is the focus on person to person interaction and strong communication skills. During our SNHU Travel project, this focus allowed the testers to seek clarification on the product owner’s provided user stories as soon as they were submitted. In a plan based approach, some of these questions may not have been surfaced until the moment the work was to be implemented, and then a good deal of existing features may have been needed reworking based on these clarifications.

There were also a greater amount of opportunities for these types of communication to take place, due to the interactive scrum events like the daily standup and sprint planning, which involve all members of the team and allow everyone a time to contribute to the discussion. During our daily scrum, we were also able to relay to the product owner, along with the rest of the team, what we had accomplished throughout the most recent sprint. This creates a more transparent process with the stakeholders, who are also in direct communication with the product owner, and demonstrates to them the value that is coming from the development team.

To conclude our evaluation, we will summarize the advantages and disadvantages that the team experienced throughout this project. The benefits of agile provided: speed in delivering the final product to the client, continual integration of client feedback into the project, a means to always know the state of functionality of the software, and the adaptability to change course when feedback necessitated larger changes to the project. The lack of complete forward-planning did, however, mean that some user stories were not accepted into the project, as they remained ill-defined at the time of project completion. Despite this, it is my belief that, for the reasons listed in this report, an agile approach was the best method of successfully providing the client SNHU Travel with a functional and high-value product in the given timeframe.