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CS 250 Software Development Lifecycle

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**Final Project: Sprint Review and Retrospective**

**Roles and Contribution:** There were three critical roles in our Scrum-agile team: the Product Owner, Scrum Master, and the Development Team. The Product Owner, with their deep understanding of business objectives, played a pivotal role in maximizing the value of the product. They were responsible for managing the product backlog, clearly defining user stories, and setting their priority. They also took charge of refining the backlog to ensure that it was up-to-date and that each item was clear, concise, and actionable. They communicated these requirements effectively to the Development Team and were involved in the review of completed work. Their constant feedback helped steer the team in the right direction, ensuring that the delivered product was in line with stakeholder expectations.

The Scrum Master was the team's coach, ensuring adherence to Scrum principles and practices. They organized the Scrum events (daily standups, sprint planning, reviews, and retrospectives) and ensured that they added value. Whenever the team encountered impediments, the Scrum Master took the initiative to remove these barriers and facilitated smoother work execution. Their role was instrumental in maintaining team morale, efficiency, and ensuring a focus on the sprint goal.

The Development Team, composed of programmers, testers, designers, and other professionals, was the heart of product development. They collaborated to convert the product backlog items into increments of potentially shippable functionality. By self-organizing their work and using their collective expertise to solve problems, the Development Team was able to consistently deliver value.

**Scrum-agile Approach to SDLC:** Our approach to the software development life cycle (SDLC) involved breaking it down into smaller, manageable pieces that could be executed iteratively and incrementally. At the start of each sprint, we held a planning meeting to select high-priority user stories from the product backlog and decompose them into tasks that the Development Team could work on.

During the sprint, the team worked on these tasks, aiming to deliver a potentially shippable product increment by the end. We held daily Scrum meetings where each team member shared their progress, any obstacles they faced, and plans for the next day. These daily check-ins helped us identify issues early and adapt as needed.

At the end of each sprint, we held a sprint review where the Product Owner and other stakeholders provided feedback on the increment. This allowed us to incorporate stakeholder feedback early and regularly, ensuring that the product evolved to meet changing requirements and market conditions.

After the review, we held a sprint retrospective. This event was our opportunity to reflect on our work process and identify ways to improve in the next sprint. It fostered a culture of continuous learning and improvement, which is at the heart of Scrum-agile.

**Project Interruption:** During the project, we faced an interruption when the business strategy shifted, leading to a change in product requirements. However, the flexibility inherent in the Scrum-agile approach allowed us to handle this change effectively. We held a product backlog refinement session where we updated the backlog to reflect the new requirements. We also reprioritized the user stories to align with the new business strategy. The Development Team estimated the effort for the new and changed stories, and we planned the next sprint accordingly. While this change did cause some disruption, the Scrum-agile approach's adaptability ensured that we could pivot smoothly and continue delivering value.

**Communication:** Communication is crucial in Scrum-agile, and we fostered it through several channels. The daily Scrum meetings were our primary communication platform, where each team member shared their updates. These short, focused meetings ensured that everyone was on the same page and that issues were raised and addressed promptly. We also encouraged open, transparent communication outside of these meetings. The Scrum Master was always available to help team members with any issues, while the Product Owner was open to clarifying requirements or discussing priorities.For remote communication, we used tools like chat applications and video conferencing. We also had a shared workspace where we maintained the product backlog, sprint backlog, and other project artifacts. This ensured transparency and allowed all team members to stay updated on the project's status.

**Organizational Tools and Principles:** The Scrum-agile approach provided us with several tools to manage our work effectively. The product backlog helped us maintain a single, prioritized list of desired product functionality. The sprint backlog helped the Development Team manage their work within each sprint, and the burndown chart visually represented the work remaining, helping us track progress. Scrum's empirical process control theory was key to our approach. By being transparent about our work, inspecting the product increment and our work process regularly, and adapting based on these inspections, we could manage complexity and unpredictability effectively.

**Effectiveness of the Scrum-agile Approach:** Overall, the Scrum-agile approach was very effective for our project. The iterative, incremental approach allowed us to deliver value quickly and frequently. The regular feedback loops ensured that the product evolved to meet stakeholder needs and market conditions. The approach also fostered team collaboration, continuous learning, and improvement. However, there were also challenges. Managing frequent changes and maintaining constant stakeholder involvement were sometimes taxing. The need for self-organization and discipline was also a challenge initially, but we overcame it through regular reflection and improvement.

**Suitability for SNHU Travel Project:** Given the dynamic nature of the SNHU Travel project and the need for regular feedback and adaptability, the Scrum-agile approach was a good fit. It allowed us to deliver a product that met the client's needs effectively and efficiently. While the approach did present some challenges, our ability to learn and adapt ensured that we could overcome them and complete the project successfully. Given the project's success and the alignment between the project needs and the strengths of Scrum-agile, it can be concluded that the Scrum-agile approach was the best approach for the SNHU Travel development project.