**Agile Development Process Framework and the Role of**

**Personal Experiences in Workplace Culture**

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**Software Development Using Agile**

**Project Development and Communication**

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**Part 2: Initial Product Development Increment**

For the first increment of the software product, the focus was on developing core features through two key user stories. These user stories represent vital customer needs and establish a foundation for overall product development.

**User Stories**

User Story 1: "As a customer, I want to create an account so that I can track my orders."

User Story 2: "As a user, I want to receive notifications when my order status changes."

A screenshot of a computer

Description automatically generated

(https://ui-patterns.com/patterns/AccountRegistration)

These user stories were selected to address critical functionalities that enhance user engagement and satisfaction, guiding the development team's focus and ensuring that the most important features are prioritized from the outset (Schwaber & Sutherland, 2020).

Breaking Down User Stories into Work Items:

To manage the workload effectively for the sprint, each user story was broken down into specific, actionable work items. This breakdown ensured that every team member understood their responsibilities and how their tasks contributed to the sprint goals.

User Story 1: Account Creation

Work Item 1.1: Design and create the user interface for the account creation process.

Work Item 1.2: Develop back-end logic to manage user data (e.g., passwords, emails).

Work Item 1.3: Set up a secure database schema for storing user accounts.

Work Item 1.4: Implement basic validation for user input (e.g., checking emails, password strength).

Work Item 1.5: Perform unit tests to ensure that the account creation feature works as expected.

User Story 2: Notifications

Work Item 2.1: Implement the back-end logic to track order status changes.

Work Item 2.2: Design and implement the notification settings page, allowing users to choose their notification preferences.

Work Item 2.3: Integrate with an email/SMS API service to send notifications.

Work Item 2.4: Test that notifications function correctly for different order statuses (e.g., shipped, delivered).

This structured approach allowed for a clear allocation of tasks, enabling seamless collaboration among team members with varying expertise (Rubin, 2012).

Sprint Planning and Product Backlog:

During the sprint planning session, work items were broken down based on priority and estimated effort using story points. This facilitated a focused approach for the first sprint. Here’s a quick breakdown of the prioritized tasks for Sprint 1:

* Design account creation UI (4 points)
* Develop back-end logic for account creation (6 points)
* Set up database schema (4 points)

A Sprint Backlog was created to monitor progress, utilizing a Burndown Chart to visualize sprint achievements. This chart provided transparency and helped the team stay on track throughout the sprint.

A graph showing a shortcut curve

Description automatically generated with medium confidence

This table effectively showcased progress and identified areas requiring more attention, ensuring accountability within the team (Scrum.org, 2022).

|  |  |  |
| --- | --- | --- |
| Day | Story Points Remaining | Tasks Completed |
| Day 1 | 14 | None |
| Day 3 | 10 | UI Design Done |
| Day 5 | 6 | Back-end Logic Done |
| Day 7 | 2 | Database Setup Done |

**Sprint Review, Demonstration, and Retrospective:**

At the end of the sprint, a Sprint Review was conducted, demonstrating the account creation feature to stakeholders. This demonstration covered the entire user journey, from filling out the account registration form to successfully saving user data in the database. Stakeholder feedback proved invaluable in refining the approach and understanding user expectations for future increments.

In the Sprint Retrospective, the team reflected on the sprint’s successes and areas for improvement. It was noted that collaboration between the front-end and back-end teams was particularly effective, while time estimates for database setup were found to be insufficient. Moving forward, the team agreed to refine planning techniques for tasks involving greater complexity, such as database configurations (Schwaber & Sutherland, 2020).

**Design Screenshots and Code Repository:**

As part of documentation and transparency efforts, design screenshots of the account creation UI and notification settings page will be included in the final submission. These visuals help stakeholders understand design choices and development progress.

GitHub Repository: <https://github.com/ezmoney59/Purdue_Assignments>

Linking the code repository allows stakeholders to view the actual implementation, fostering trust and transparency in the development process.

**Velocity and Testing:**

The Sprint Velocity for this sprint was fourteen points. This metric serves as a benchmark for future sprints and provides insights into the team's capacity and productivity. Thorough testing was conducted, focusing on both unit tests (e.g., verifying valid email inputs) and integration tests (e.g., ensuring user data is accurately saved in the database). This rigorous testing approach helps maintain high quality and functionality in deliverables (White Paper: Towards an Agile Culture, 2020).

**Conclusion**

The initial increment of the software product, structured around the Scrum framework, has effectively addressed critical user needs while fostering collaboration among team members. By breaking down user stories into manageable tasks, conducting thorough planning, and emphasizing continuous feedback, a solid foundation for ongoing development has been established.

Moving forward, the team will apply lessons learned from the initial sprints to enhance processes and ensure that Agile practices align with both project goals and stakeholder expectations. A commitment to transparency, collaboration, and continuous improvement will be key to success in subsequent sprints.

**References**

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