

Frankfurt University of Applied Sciences

Masters of Engineering

Information Technology

Course: Agile Development in Cloud Computing Environment

Project: 3b Access Platform for Providers (APP)

Authors:

Ankita Talande 1427349

Abstract

"In recent years, the software development industry has been prominently shaped by the adoption of agile methodologies. Agile software development represents a collection of approaches emphasizing iterative development, wherein teams collaboratively craft solutions to problems. This process is facilitated by self-organizing, cross-functional teams. Notably, Scrum and Kanban stand out as two of the most prevalent Agile techniques. Our objective is to develop an application using agile methodologies, specifically designed to interact with other applications. This application will access master agreements and available services within the company, facilitating providers in extending offers to employees.

Keywords: Software Development, Provider Platform, Agile, Sprints, Iterative Methods, Scrum, Kanban.

1. Introduction –

"Agile software development" embodies a spectrum of iterative methodologies where requirements and solutions evolve collaboratively within self-organizing, cross-functional teams. These methods foster a structured project management approach, advocating frequent inspection and adaptation. Embracing a leadership philosophy that emphasizes teamwork, self-organization, and accountability, Agile incorporates engineering best practices to enable the rapid delivery of top-notch software. Moreover, it aligns development processes with client needs and organizational objectives.

Within Agile, Scrum stands as a prominent subset—a popular and lightweight framework for agile development. Distinguished by its specific roles, artifacts, and time boxes, Scrum offers a structured approach that sets it apart from other Agile methodologies.

Kanban boards, on the other hand, serve as visual workflow tools engineered to streamline work processes and bolster productivity by curbing work-in-progress. This visualization tool enhances transparency, enabling the team to identify and address problematic work phases promptly. By fostering increased visibility, Kanban facilitates prompt solutions, ultimately enhancing team efficiency and effectiveness.

1. **Scrum Methodology**

In Scrum, three distinct roles — the ScrumMaster, the Product Owner, and the Development Team — collectively steer the process. These roles collaborate closely, ensuring seamless information exchange and swift problem resolution among their responsibilities.

2.1 **ScrumMaster**

The ScrumMaster shoulders multiple responsibilities aimed at streamlining the process, eliminating obstacles hindering productivity, and orchestrating crucial meetings. This role involves guiding the Product Owner in leveraging Scrum effectively to achieve their objectives and maximize return on investment (ROI). Encouraging empowerment and innovation among the development team to enhance their quality of work life is pivotal. Additionally, improving the team's productivity, refining engineering practices for potentially shippable increments, maintaining everyone's awareness of team progress, and keeping stakeholders updated fall under the purview of the ScrumMaster. Notably, the ScrumMaster acts as an educator and supporter for other roles, possessing in-depth Scrum knowledge.

The ScrumMaster remains vigilant about the project's status, comparing it to anticipated progress, resolving obstacles, and adapting swiftly to emerging challenges. As a liaison between stakeholders, the ScrumMaster shields the Team from external interferences, though task allocation remains the responsibility of the Team themselves.

2.2 **Product Owner**

The Product Owner stands as the custodian of criteria and requirements. Serving as the "single source of truth," they delineate requirements and their intended execution sequence for the Team. Acting as a bridge between the Team and business stakeholders, clients, and their product-related demands, the Product Owner manages inquiries about product requirements. They collaborate closely with the team to articulate user-facing and technical needs, document requirements, determine their implementation sequence, and curate an up-to-date and detailed Product Backlog. Moreover, the Product Owner assesses the readiness of implementations for release, ensuring the requisite functionality and quality, while also setting release timelines for finished work.

2.3 **Development Team**

Comprising self-organizing, cross-functional individuals, the Development Team undertakes the hands-on creation and testing of the product. Empowered to decide how to execute tasks, the Team is responsible for delivering the final output. Hence, the Team self-organizes, determining task allocation and division during Sprints. Ideally, the team size ranges between five to nine members to ensure optimal collaboration and productivity.

2.4 **Sprint**

Sprints define Scrum's iterative work periods, fostering consistency and swift feedback cycles. The shorter duration facilitates continual inspection and adaptation, crucial for efficient workflow management and reducing risks associated with longer cycles. Sprints follow a sequential pattern, immediately commencing after the conclusion of the preceding Sprint, maintaining a cadence for frequent iterations and feedback.

Provider

Evaluate cycles for each provider offers

End of publish

Add the data for each position

Accept the offers

End

Publish master agreement for offers

Create new Master Agreement

Establish master agreement