Software Development Process at Torry Harris Solutions.

1. Introduction

This report provides an overview of the software development process at Torry Harris Solutions. It focuses specifically on methodologies and practices pertinent to their Software Engineering and Management course. The goal is to examine the company's methodologies and practices and compare them with theoretical concepts covered in their coursework. The case study is derived from an interview with Mr. Rahul, who holds a role as associate software engineer at Torry Harris Solutions Systems.

2. Company Overview

They are specialists in software integration, digital automation and operations, and software strategy for business transformation. As a trusted advisor to governments, Global 2000, and midsize organizations, They are unique in their way of combining CxO-level insights for crafting advanced software-driven value chains and ecosystems with key areas of software strategy and integration. They are a recognized leader in API strategy and delivery, which is central to their capabilities for systems integration, intelligent automation, the internet of things, cloud-native development, and microservices architecture. Not only can They deliver solutions that drive your digital success, but They can also train and mentor your people to do the same.

3. Domain

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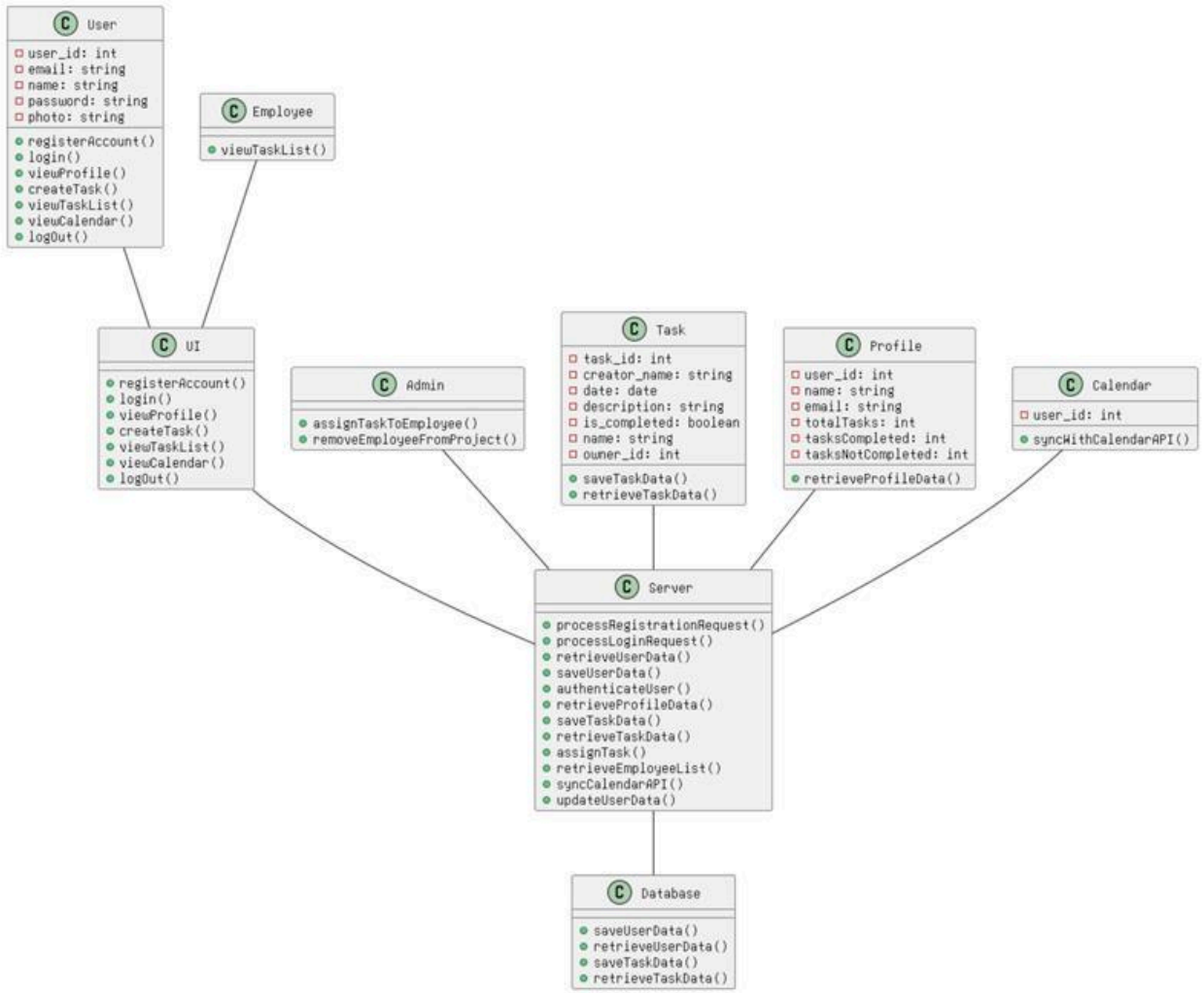
4. Model used in Software Development Process

Citrix utilizes the Agile methodology, particularly the Scrum framework, for its development projects.

Why Agile?

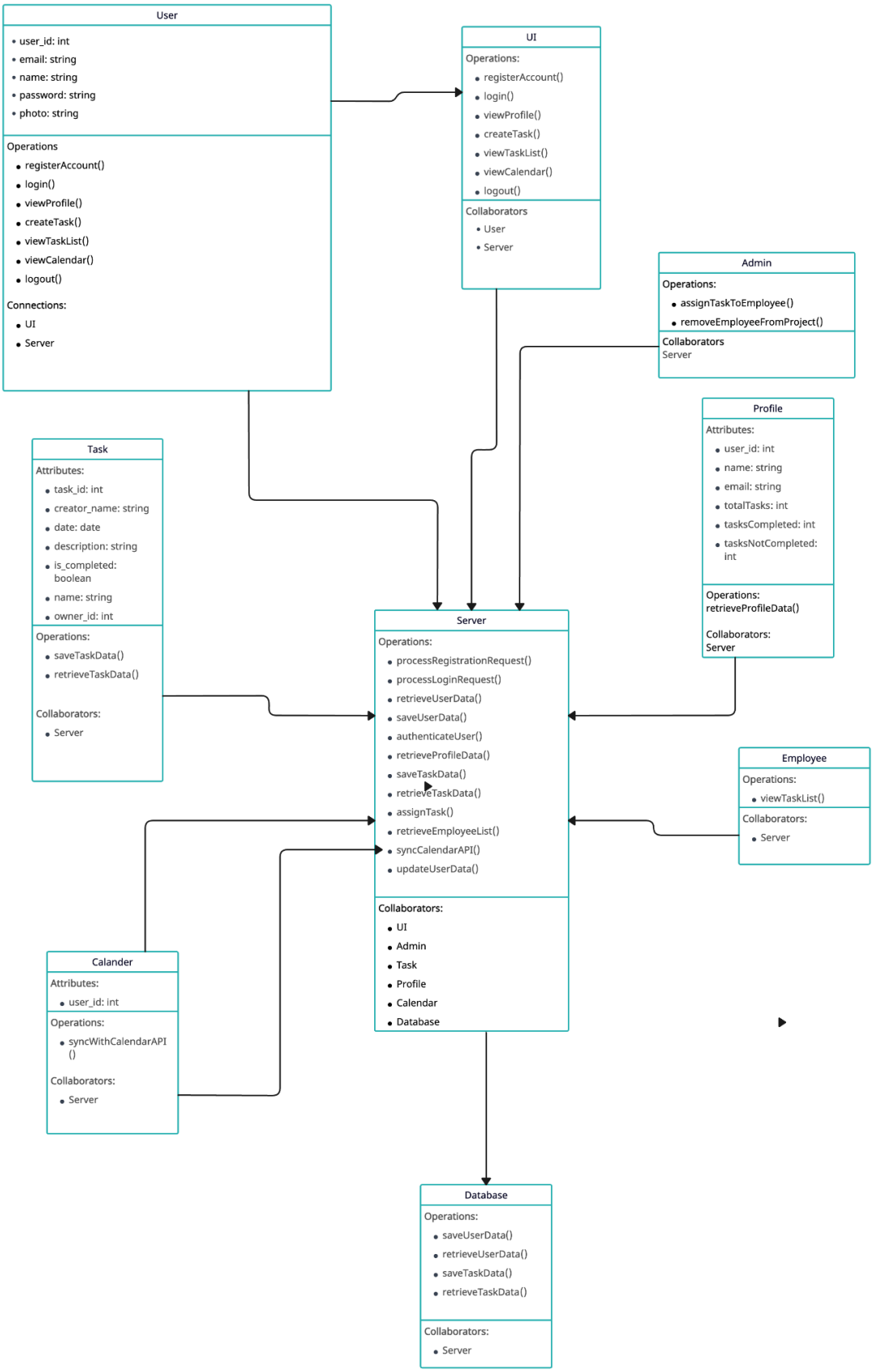
- **Incremental Development**: Agile allows for iterative development and regular delivery of functional components.
- **Customer Demands**: Regular feedback loops ensure alignment with client expectations.
- **Faster Development**: Agile facilitates rapid development and deployment.

Class Diagram



State Diagram

Class Responsibility Collaborators Diagram



5. Development Process

5.1 Requirement Analysis

Requirement Gathering Techniques

- **Techniques**: Client meetings, customer satisfaction surveys (CSAT).
- **Tools**: JIRA is employed for managing and documenting requirements.

Ensuring Clear and Complete Requirements

- **Documentation**: Detailed user stories and acceptance criteria ensure clarity.
- **Stakeholder Collaboration**: Regular meetings ensure all aspects are covered and understood.

5.2 Design Process

Approach to Software Design

- **Architectural Styles**: CxO-level insights for crafting advanced software-driven value chains and ecosystems with key areas of software strategy and integration.
- **Compatibility**: Ensuring compatibility for both customer-managed and Torry Harris Integration Solution managed premises and online services.

5.3 Implementation and Coding

Programming Languages and Frameworks

- **Languages**: Python, JAVA , SQL for database.

Managing Code Quality

- **Code Reviews**: Conducted through Bitbucket's pull request feature.
- **Testing**: Test-Driven Development (TDD) practices.

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5.4 Testing

- For testing, their company will implement a comprehensive testing strategy, including unit testing, integration testing, and user acceptance testing.
- Unit testing will focus on verifying individual functionalities, such as ensuring that a button click correctly navigates to another page.
- Integration testing will ensure that various components of the system, such as payment processing and order placement, work seamlessly together.
- They will employ tools like SOAPUI and Postman to conduct these tests effectively and ensure the highest quality of their software.

5.5 Deployment

- Their company will follow DevOps practices to ensure efficient and reliable deployment.
- They leverage tools such as Docker, Kubernetes, and Siebel Terra services for deploying their applications.
- These tools will enable us to deploy and maintain their applications continuously, ensuring they run smoothly and efficiently in the production environment.

6.Project Management

Since they are using the Agile process, they conduct regular sprints every week. In each sprint, they review development progress and identify any issues. They use Jira to track their progress, document story points, and address difficulties. By continuously tracking and documenting, they ensure that problems are resolved promptly. This approach helps them maintain smooth project progression and avoid last-minute issues. Additionally, they document any challenges faced during the sprint, and another team member raises and clarifies these issues, ensuring effective communication and resolution.

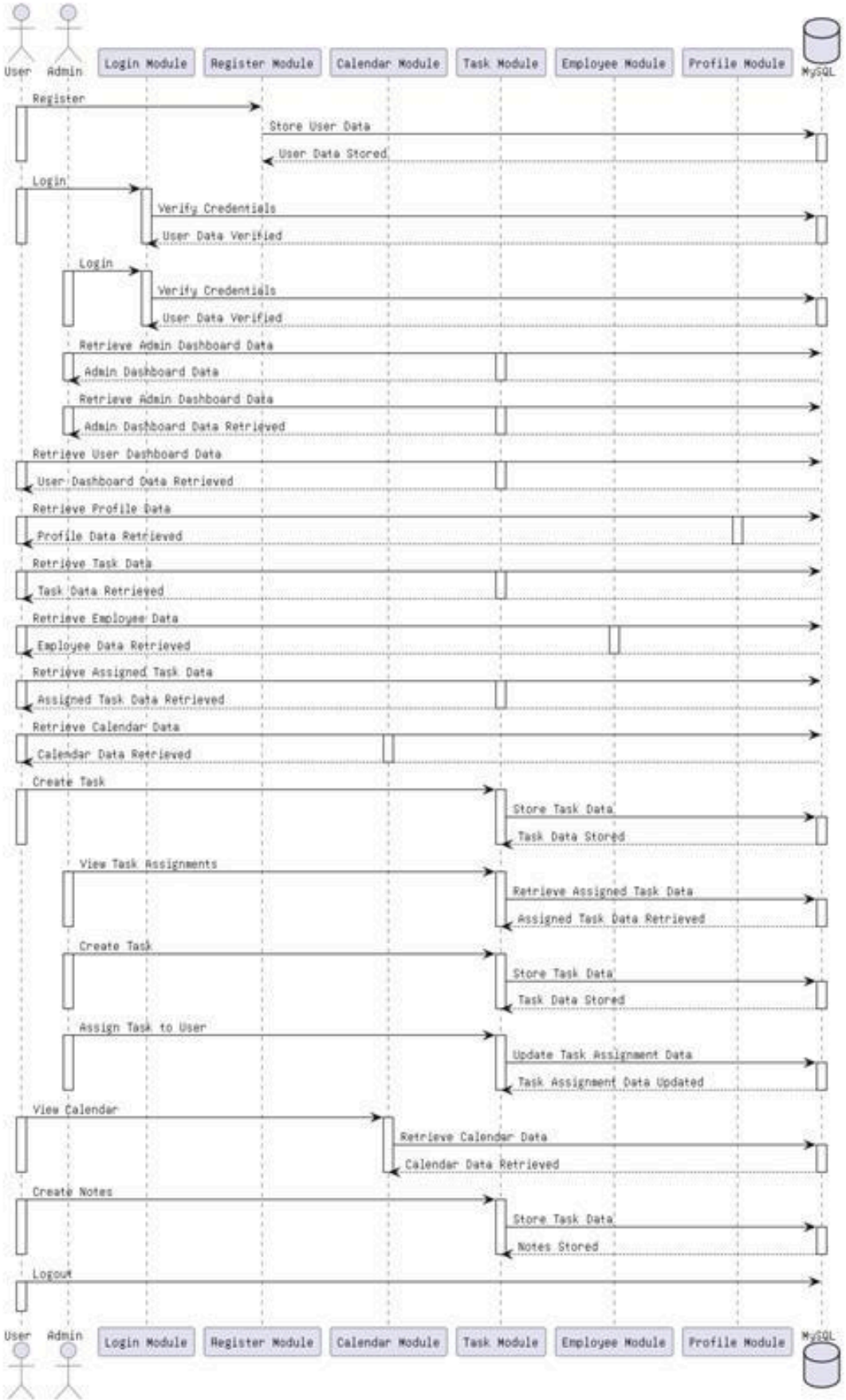
7.Activity Planning

- **Agile Process**: They use an Agile process to manage projects, conducting regular sprints every week.
- **Requirement Analysis**: Initially, they analyze requirements through brainstorming sessions and workshops if product-based, or through customer feedback if not product-based.
- **Sprint Planning**: In each sprint, they review development progress, identify issues, and track tasks using Jira.
- **Identifying and Storing**
- **Documenting Story Points**: They document story points and any difficulties faced during the sprint. These are stored in Jira for tracking.
- **Architectural Diagrams**: They create architectural diagrams, activity diagrams, sequence diagrams, and database diagrams to plan and design the project.
- **Controlling and Managing Tasks**
- **Task Assignment**: Tasks are assigned based on the technology that best suits the requirements, such as choosing between Python and Java.
- **Testing**: They perform unit testing, integration testing, and user acceptance testing using tools like SOAPUI and Postman.
- **DevOps Practices**: Deployment is managed using DevOps tools like Docker, Kubernetes, and Siebel Terra services to ensure continuous integration and delivery.
- **Issue Resolution and Communication**
- **Issue Clarification**: Any challenges or issues documented during the sprint are raised and clarified by another team member.

- **Manager Involvement**: If there are significant delays or issues, the manager will communicate with the client to manage expectations and timelines.

- **Buffer Time**: They plan buffer time within their sprints to accommodate any unforeseen delays and ensure timely project completion.

Activity Planning Diagram



8.Conclusion

Torry Harris Solutions employs a structured Agile approach to software development, emphasizing customer collaboration, adaptability, and continuous improvement. Their comprehensive process and dedication to quality ensure the delivery of high-quality network-based solutions. This report provides insights into the real-world application of software engineering principles relevant to their course.

Screenshot of Meeting