PROJECT DOCUMENTATION

PROJECT PLAN

Project: **Certichain - A secure certificate verification system for Institute Santha Rita**

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1   Plan Document History

1.1   Document Location

This document is only valid on the day it was printed.
The source of the document will be found on the project's PC in location.

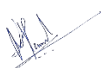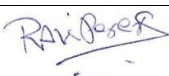## 1.2   Revision History

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Revision date	Previous revision date	Summary of Changes	Changes marked
14/02/2024		First issue	

1.3   Approvals

This document requires the following approvals.
Signed approval forms are filed in the Management section of the project files.

Name	Signature	Title	Date of Issue	Version
Dr. Yasas Jayaweera		Project board	15/02/2024	1.0
A. A. M. N Perera		Project manager	15/02/2024	1.0
Mr. Ravi Muditha		Client	15/02/2024	1.0

1.4   Distribution

This document has been distributed to:

Name	Title	Date of Issue	Version
A. A. M. N. Perera	Project Manager	15/02/2024	1.0
I. Hassaan	Start-up manager	15/02/2024	1.0
Nethrough Wickramasinghe	Quality manager	15/02/2024	1.0
Shenuka Fernando	Risk Manager	15/02/2024	1.0
P. A. Gunawardhana	Scheduling manager	15/02/2024	1.0

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Project Plan

2   Purpose of Document

The purpose of this document is to define the project plan for the implementation of CertiChain, a blockchain-integrated certificate verification system for Santha Rita Institute. Various aspects like client background, scope, objectives, approach, assumptions, constraints, exclusions, and many more are covered.

3   Background

The Santha Rita Institute is a well-known school in Napoli, Italy, with a lengthy history spanning several decades. The credibility of the institution and the integrity of its certification process are seriously threatened by the spread of duplicate or unauthorised copies of academic certificates, which is a result of recent technological breakthroughs. The institute has realised that in order to maintain the security and legitimacy of its certifications, it is necessary to update its certificate management system in response to this problem. The "Certichain" project presents a revolutionary approach that use blockchain technology to tackle these issues and create a resilient certificate management system.

4   Project Definition

4.1   Project Objectives

- To develop a blockchain-powered web application for Santha Rita Institute to upload and manage certificates on blockchain.
- To integrate with suitable permissioned blockchain networks for storing certificates immutably.
- To design and develop intuitive web application front-end for administrators and students with key functions like upload, search, notifications and more.
- To migrate existing certificate data securely to blockchain while maintaining integrity.
- To host the web application on premise and cloud infrastructure leveraging blockchain networks.
- To thoroughly test across components iteratively through unit, integration, and user acceptance testing.
- To train administrators and students on using the new system.
- To gather feedback from users to iteratively improve system performance and user experience.

4.2   Defined Method of Approach

The CertiChain project will leverage an Agile development methodology centred on adaptation, flexibility, and iterative releases. Guided by Agile principles of collaboration and continuous feedback, the project timeline will consist of rapid sprints focused on building working modules with specific capabilities. Cross-functional teams will engage frequently through ceremonies like stand-ups, retrospectives, and planning sessions. Agile project management tools for priority tracking, progress visualization and integration will also be employed. This approach will empower the team to respond swiftly to changing requirements, incorporate user inputs, deliver functionality early and steer the project nimbly towards a cohesive solution that solves Santha Rita's certificate authentication needs.

4.3   Project Scope

The CertiChain project will develop a permissioned blockchain-based web application system tailored to the certificate management needs of Santha Rita Institute. Core functionalities will include certificate registration, storage, and verification to authenticate legitimacy and prevent duplication, administered through intuitive user interfaces with security mechanisms. Key technologies comprise blockchain infrastructure for decentralized storage, cryptographic controls, and interoperability with existing institutional systems. The scope is focused on delivering a robust credential management solution to strengthen integrity and trust in certification processes specifically for Santha Rita.

4.4   Project Deliverables and/or Desired Outcomes

- Comprehensive documentation for system usage and maintenance.
- Development of a secure and decentralized blockchain-based web system specifically designed for storing digital certificates, ensuring immutability, and preventing theft or duplication.
- Integration of blockchain technology to provide a tamper-proof and transparent record-keeping system, eliminating the risk of certificate theft or duplication by ensuring all records are securely stored and traceable.
- Creation of a user-friendly interface for institute staff to upload digital certificates onto the blockchain securely and efficiently, with built-in authentication and authorization protocols.
- To enable students to search and view their certificates issued by the institute on the blockchain through the web application.
- User-friendly interfaces for administrators and students.
- Optimization of system performance to ensure fast and reliable storage and retrieval of certificate data on the blockchain, enhancing efficiency and user experience.
- Compliance with legal and regulatory requirements related to data protection and privacy, ensuring that the Certichain system adheres to relevant laws and standards for storing digital certificates securely on the blockchain.

4.5   Exclusions

The project does not involve physical handling or management of certificate documents. While the system facilitates certificate authentication digitally, it does not address physical document storage, retrieval, or distribution.

CertiChain focuses on the authentication and verification of certificates issued by Santha Rita Institute using blockchain technology. However, the project does not extend to verifying the accuracy or authenticity of the content within the certificates themselves.

While the project addresses digital security aspects through blockchain technology, it does not cover physical security measures such as surveillance, access control, or secure storage facilities for certificate documents.

4.6   Constraints

The CertiChain project operates within constraints of time, budget, and resources. Meeting predefined timelines, efficient spending, and optimal utilization of skills and tools is critical. Fundamental assumptions include target users having access to internet-capable devices, reliable connectivity, and basic cybersecurity awareness. These assumptions enable planning and execution focused on delivering robust system performance and seamless user experience within the specified limitations.

4.7   Assumptions

A number of core assumptions underpin the Certichain project's operations. First and foremost, users should have a basic understanding of web browsing and device operation, as well as internet-enabled devices (such as desktop computers, laptops, tablets, or smartphones) with compatible web browsers. Second, users understand that system performance may be impacted by fluctuations in connectivity and that in order to interact with the blockchain-powered certificate authentication system, they must have access to a secure and dependable internet connection. Finally, it is assumed that users uphold a certain level of awareness concerning internet security protocols, such as creating strong passwords and exercising caution when clicking on dubious links. In spite of these presumptions, the project will include extra security measures to strengthen user data protection and reduce the possibility of unwanted access.

4.8   Legal and ethical

Regulatory Compliance: Adhering to regulatory requirements governing certificate issuance, authentication, and educational institutions to maintain legal compliance.

5 Project Organisation Structure

5.1 Project Management Team Structure

- Project Board/ Executive - Dr. Yasas Jayaweera
- Project manager - A. A. M. N Perera (2324813)
- Start-up manager - I Hassaan (2324788)
- Quality manager - Nethrough Wickramasinghe (2324812)
- Risk manager - Shenuka Fernando (2321608)
- Scheduling manager - P. A. Gunawardhana (2323507)

5.2 Individual Role Descriptions

- **Project Board/ Executive -** Is in charge of giving strategic guidance, decision-making power, and oversight. It helps to guarantee proper resource allocation and budget management, makes important decisions on project deliverables, monitors project performance, and helps the project be aligned with company goals.

- **Project manager -** Accountable for directing the delivery and execution of the project by efficiently managing the team, resources, schedules, and deliverables to guarantee the prompt and successful completion of the website development project.

- **Start-up manager -** Is in charge of ensuring the business's effective launch and initial operations. This comprises activities like strategic planning for the organization, acquiring resources, adhering to the law, establishing a team, managing finances, supervising operations, marketing, and performance evaluation.

- **Quality manager -** Is in charge of guaranteeing the highest standard of quality throughout the company. This entails creating and putting into practice policies for quality assurance, setting quality goals, performing tests and inspections, managing supplier quality, fostering continuous improvement, offering training, tracking customer satisfaction, and making sure compliance with applicable standards and certifications.

- **Risk manager -**Is in charge of locating, evaluating, and reducing risks within the company. This entails identifying potential risks, assessing their possibility and impact, creating mitigation measures, keeping an eye on risk indicators, and informing stakeholders about risks.

- **Scheduling manager -** Is in charge of developing and overseeing the project timeline. Planning project timetables, keeping track of progress, modifying schedules as necessary, working with team members, and communicating routine schedule updates to stakeholders.

6   Communication Plan

https://drive.google.com/drive/folders/1SN7TYjoycUUf2hFvRbT19_xShtPJ7KS4

7   Project Quality Plan

https://drive.google.com/drive/folders/1UC5NLaepuWJFy-2CJo_XZTQi2ZahI7pG

8   Project Controls

A complete set of processes will be put in place to enable efficient control and monitoring of the Certichain project. This includes establishing a project governance structure to define roles and responsibilities, enabling efficient decision-making and communication. The status of the project, its milestones, and any risks or problems that have been found will all be tracked in regular progress reports. To handle request changes and deviations from the project scope, a change management procedure will be put in place. In order to reduce potential hazards' influence on project outcomes, proactive risk management will identify and mitigate them. In order to allow open and timely information sharing among project stakeholders, communication channels will be established.

9   Initial Risk Log

https://drive.google.com/drive/folders/1UC5NLaepuWJFy-2CJo_XZTQi2ZahI7pG