PROJECT DOCUMENTATION

WORK PACKAGE

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

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Client: Mr. Ravi Muditha

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1   Work Package 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.

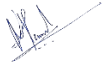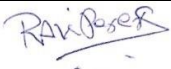## 1.2   Revision History

Date of this revision:
Date of Next revision:

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	16/02/2024	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

2   Table of Content

3   Purpose

Work packages are critical for clearly defining and assigning tasks or deliverables to team leads and members. They provide a systematic approach to organize and manage the work items and outputs produced during a sprint.

The objectives of work packages in this context include - precise task definition, responsibility assignment, deliverable identification, and collection of relevant information. Work packages enable seamless handover of work from project manager to team by providing documented bundles of information.

By issuing formal work packages, the project manager can transfer ownership of tasks and deliverables to team members, empowering them to progress independently with the assigned items. This methodical decomposition and distribution of work enables structured execution while maintaining transparency.

4   Work Package Description

This Work Package document focuses on all the tasks and deliverables related to Sprint 2 of the project. It includes activities such as designing user interface, development of certificate upload, and testing in Sprint 2.

5   Product Description(s)

Design UI: Develop an intuitive user interface tailored for administrators, comprising secure mnemonic entry for authentication, certificate upload workflows with bulk handling capabilities, interactive views to explore certificate data anchored on the blockchain and IPFS, visually appealing certificate showcase, as well as an integrated crypto wallet UI to show the wallet balance - all designed with a focus on usability, responsiveness, and adherence to modern UI/UX standards.

Administrators' login: Provide a safe login system for administrators of the institute that uses a 12-word mnemonic seed. Admins will receive a special 12-word mnemonic at first registration, which serves as a representation of their cryptographic identity. They will need to correctly enter this memory phrase in order to extract their private key and access the certificate management programme during future logins.

Implementation of certificate upload management: Uploaded certificate to be saved in the database and other management of certificates.

Design & develop verification system: Develop the backend for where student able to input the ID of the certificate and the system should response whether valid or not.

6 Techniques / Processes / Procedures

An all-encompassing strategy will be used to satisfy the administrator requirements, combining several methods and procedures to guarantee a user-friendly experience. The mnemonic-based authentication system will be put into place in a secure manner, managing cryptographic identities with the help of encryption techniques. Workflows for uploading certificates will be created with responsiveness in mind, making the procedure easier to handle and guaranteeing device compatibility. Administrators will be able to examine certificate data with confidence, rooted in its authenticity, thanks to interactive views that make use of blockchain and IPFS technology. To increase user engagement and trust, a visually appealing certificate presentation will be designed in accordance with contemporary UI/UX standards. Moreover, an integrated cryptocurrency wallet user interface would give administrators instant access to their wallet balance and a smooth user experience. The interface will prioritise security and user-centric design principles while facilitating efficient certificate administration activities through painstaking attention to usability, responsiveness, and adherence to modern standards.

7 Quality Checking Method

- **Requirements Review:** Detailed evaluation of project documentation by quality personnel to validate completeness and accuracy.

- **Client Inputs:** Incorporate feedback from client on scope, expectations, and parameters to align project execution.

- **Requirement analysis:** Make sure that all features and functionalities are understood and taken into account by carefully going over the project requirements.

- **Design review and prototyping:** To see the layout and design of the user interface, make mockups and prototypes of it. To get input from stakeholders and make sure the interface satisfies aesthetic and usability requirements, conduct design reviews.

- **Usability Testing:** Assess the usability and intuitiveness of the interface by conducting usability testing with a representative sample of users. Based on user input, identify any areas that need improvement or pain spots.

- **Functional Testing:** To ensure that all of the interface's features and functionalities are operating as intended, carry out thorough functional testing. To guarantee robustness and dependability, test a range of scenarios and edge cases.

8 Configuration Management Requirements

The smooth integration of frontend and backend components is at the centre of the configuration management for the functionalities that have been discussed. Robust backend technologies support the user interface (UI) aspects, which include interactive certificate views anchored on IPFS and blockchain, safe mnemonic entry for authentication, certificate upload workflows, an aesthetically pleasing showcase, and an integrated crypto wallet UI. These backend systems consist of blockchain/IPFS networks, database storage, and authentication/certificate management features together with verification systems. While security measures are carefully integrated across frontend and backend levels to safeguard administrator access and certificate data integrity, UI designers and developers work together to ensure responsiveness and adherence to modern UI/UX standards. Administrators will have a unified and intuitive experience thanks to the coordinated development and deployment of these components made possible by configuration management practices.

9 Stage Plan Extracts

10 Sign – Off Requirements

Before sending reports and milestones to the project board and client, the quality manager will thoroughly review them. The project manager will assess all work, including the features of the website built in Sprint 2, to determine whether any changes are necessary. Additionally, the project manager needs to make sure that the client is aware of any new features that need to be included or any features that are missing but cannot be implemented. All of the testing should be done by the risk manager to make sure there are no more flaws or vulnerabilities.

11 Work Return Arrangements

If the client does not like the website, the project team will work together to make changes that meet their needs. However, this is limited to the provisions that were agreed upon by the parties at the time the contract was signed

12 Completion

Email Notification: We formally notify pertinent parties by email when a task or project is completed. In-depth information about the breadth of work finished, any unresolved problems or follow-up steps, and words of gratitude to team members for their contributions are all included in these emails.

Tools for Project Management: Our project management software acts as a central location for monitoring the status of tasks and projects. The programme automatically notifies team members and stakeholders who are involved in the project or have a stake in its success when a task or project is designated as completed.

Meetings or Status Updates: Having regular meetings or status update sessions gives you the chance to let important stakeholders know when tasks or projects are finished. Real-time communication during these meetings enables stakeholders to clarify any doubts they may have and ask questions about the finished product.

Formal documents: We produce official completion reports or documents that include information about the goals attained, the resources used, and any lessons discovered throughout the project. These publications support organisational knowledge management and act as a resource for stakeholders.

13   Independent Quality Checking Arrangements

The quality manager employs rigorous validation testing across all project artifacts including applications, reports, and documentation. Evaluation results are compiled in periodic assessments presented to leadership and clients to enable transparent oversight.

Expert reviews of documents, features and other deliverables are conducted through board meetings for additional perspective. Clients are provided access to quality dashboards and test reports during collaborative working sessions to instil confidence.

By taking an all-encompassing approach to quality control and facilitating multi-level assessments, the project aims to uphold highest standards throughout the development lifecycle.

14   Reporting

Weekly reports and logs are submitted via Google Drive to the project board, and board meetings will be held physically held on campus.

15   Problem Handling and Escalation

A risk/issue log will be maintained with clear classification of risks by priority, impact, and cause. Potential risks that may occur over the course of the project are pre-emptively identified and assessed by the Risk Manager. Corresponding mitigation strategies and contingency plans are defined during risk response planning sessions.

Team members are required to report emerging and potential issues to the Risk Manager for inclusion and tracking in the log.

If any of the assumed risks get manifested, the mitigation plans formulated earlier are to be immediately activated by the team. The Risk Manager monitors their effectiveness through the issue log.