PROJECT DOCUMENTATION

WORK PACKAGE

Project:	**A Secure Certificate Verification System For Institute Shantha Rita**
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PRINCE2

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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: 11/08/2023
Date of Next revision:

Revision date	Previous revision date	Summary of Changes	Changes marked
18/03/2024	-	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	17/03/2024	1.0
A.A.M.N Perera		Project Manager	17/03/2024	1.0
Mr. Ravi Muditha		Client	17/03/2024	1.0

1.4 Distribution

This document has been distributed to:

Name	Title	Date of Issue	Version
A. A. M. N Perera	Project Manager	17/03/2024	1.0
Nethrough Wickramasinghe	Quality Manager	17/03/2024	1.0
Shenuka Fernando	Risk Manager	17/03/2024	1.0
P. A. Gunawardhana	Scheduling Manager	17/03/2024	1.0
I Hassaan	Start-up Manager	17/03/2024	1.0

2 Table of Contents

Work Package

3 Purpose

This document's main objective is to provide information on the benchmarks that must be met in order to formally assign tasks to each team member. With a WBS component, the team members can list the tasks required to complete the project. Additionally, this work package document offers a method for project cost estimation that guarantees no significant results are compromised. With work packages, team members can work on multiple project areas concurrently. This paper is also useful for resource allocation.

4 Work Package Description

This Work Package document focuses on all the tasks and deliverables related to Sprint 4 of the project. It includes activities such as developing off-chain connection with blockchain, Implementation of IPFS result with off-chain, and testing Sprint 4.

5 Product Description(s)

Establish Offchain Connection with Blockchain: Create the required interfaces and connections to allow offchain data to be synchronised with the blockchain. Assure smooth connectivity between the blockchain network and the offchain system.

Integrate IPFS Results with Off-chain Data: Put in place systems to combine offchain data with outcomes from the InterPlanetary File System (IPFS). Make sure that the information on IPFS is synchronized with offchain records and can be accessed.

Enable Real-Time Updates for Offchain, Blockchain & IPFS: Incorporate real-time update features to ensure that IPFS, blockchain, and offchain system modifications are synchronized. To preserve data consistency, make sure that updates are quickly transmitted across all related systems.

Test: Verify the synchronization process between offchain and blockchain systems by doing extensive testing. To guarantee data dependability and integrity, test a range of scenarios and edge situations.

6 Techniques/Processes/Procedures

Blockchain is too be connected by means of the Tatum API, which functions as an intermediary for connecting to blockchain. It should be possible to add data to the blockchain by using it. First, files should be stored to the IPFS, after which returning data will be saved in offchain and updated, and lastly, all data should be saved on the blockchain. Data is added onto the blockchain by minting once synchronization has occurred both off-chain and within the IPFS. Thus, real-time updates ought to be made to everything.

7 Interfaces

- IPFS interface – Depicts the records of files with the CID and the status.
- Blockchain interface – Depicts the certificates block data, date, and status of it.

8 Quality Checking Method

- Document review: Conduct a thorough review of project documents by the quality manager.
- Client feedback: Gather feedback from the client and adjust all necessary requirements.
- Expert reviews: Seek reviews from subject matter experts.
- Risk analysis: Conduct a risk analysis session by the risk manager to identify potential risks.
- Quality assurance checks: Perform all quality checks by the quality manager.

9 Configuration Management Requirements

Offchain Data Integration Module: Integrating offchain data with the blockchain and IPFS platforms requires this sub-product. Need to synchronize IPFS storage and blockchain records with offchain data.

Blockchain Interaction Module: Essential for facilitating communication between the blockchain network and the Certichain website. Necessary for transmitting and receiving transactional and certificate record data to and from the blockchain.

IPFS Integration Module: Essential for connecting the Certichain website to the InterPlanetary File System (IPFS). Necessary for the decentralized IPFS network to store and retrieve certificate records.

Real-Time Update Mechanism: Need to enable real-time updates for IPFS, blockchain, and offchain systems. Need to ensure data consistency and guarantee the immediate propagation of changes made in one system to others.

10 Stage Plan Extracts

11 Agreements

The client is responsible for paying the project's expenses. The client has approved a budget of 96,500 LKR, which the team is able to spend. Every team member is assigned a specific duty by the project manager to guarantee optimal performance and timely completion of the allocated timeframe.

12 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 4, 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.

13 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.

14 Completion

- ✓ Approximately 99% of the proposed project has been completed.

The project manager, quality manager, risk manager, schedule manager, and start-up manager comprise the five members of the project team. A.A.M.N. Perera, the team's project manager, is responsible for the project's accomplishment. Nethrough Wickramasinghe, the project's quality manager, will conduct testing and improve the project's overall quality. Shenuka Fernando, the risk manager, is responsible for identifying possible risks that can materialize and affect the project and supporting the team in reducing and eliminating them. The scheduling manager, P. A. Gunawardhana, is in responsibility of overseeing the plan and timeline in order to achieve the project's objectives. I Hassaan, the project start-up manager, is in charge of communicating with the customer and the project team to effectively satisfy the client's needs and accomplish the project's milestones. In addition to I Hassaan, Shenuka Fernando handles front-end development, while A.A.M.N. Perera concentrates on back-end development.

15 Constraints

There are a few things to think about when it comes to constraints.

- Time: Sprint 4 is time-bound, limited time frame
- Resources: The availability of resources, including personnel and expertise, may be limited.
- Testing and Quality Assurance: To find and address any problems or defects that might occur during the development process, proper testing and quality assurance are crucial.

16 Independent Quality Checking Arrangements

Since all the necessary components of Sprint 4 have been completed, the product will be presented to the client to conduct an independent quality assessment and obtain comments.

17 Reporting

Every week, reports were submitted via Google Drive to the project board. The weekly team meetings are anticipated to be attended by every team member. In addition, a weekly board meeting was arranged in conjunction with the project board. Zoom was utilized for the Zoom platform client meetings.

18 Problem Handling and Escalation

Using the risk log and a risk plan in the event of a risk occurrence, the risk manager supplied a mitigation strategy to address the hazards that were identified. The project manager will be notified if the risk manager is unable to resolve the highlighted problem. Issues of this nature will be brought to the attention of the project board, who will attempt to find a solution if the project manager is also unable to resolve them within the team.