Australian National University

NFT2.0 - Immutable Qualification

Australian National University TechLauncher Audit 1

22-S2-2-C Immutable Team

Table of Content

Project Intro

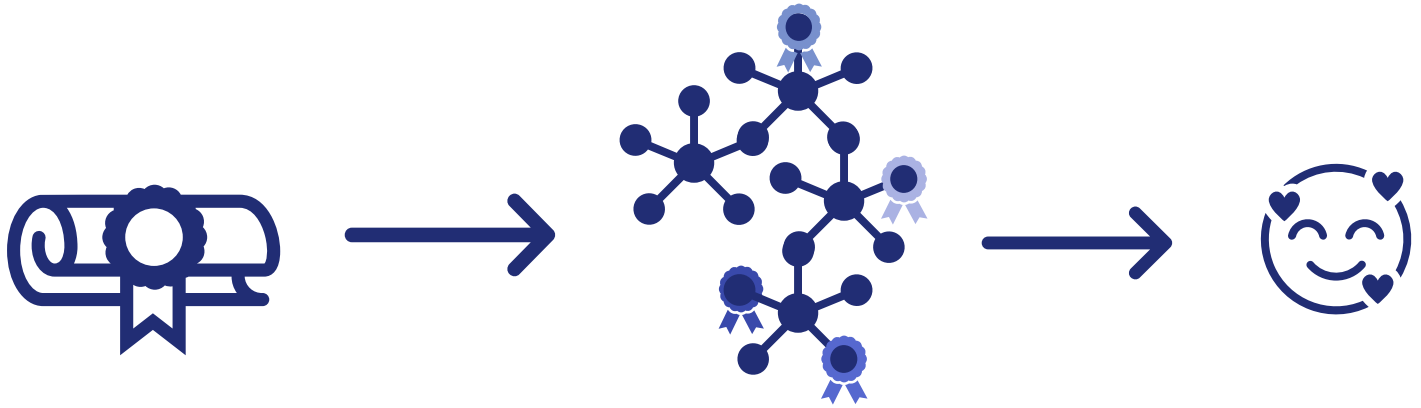
Have you ever experienced :

→ Lost / Damaged

How long
and
how much could cost?

1-3 weeks + shipping
$150 each time

Project Background:



Credentials

Immutable Qualification platform

Save time & money

Project Content & Resource:

Front-end	React
Back-end	Node.js, Spring boot, and Solidity

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Decentralized storage (Blockchain)	IPFS
Testnet	Sepolia testnet
Off-line data storage	MySQL

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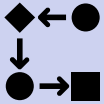
Testnet	Sepolia testnet
Off-line data storage	MySQL
Hardhat & Etherscan (Smart contract tools)	ERC-721

Milestone

Milestones	Estimated Delivery Date
1. **Initiate the Project Repo/Onboarding**	07/03/2024
2. **Project Audit 1**	08/03/2023
3. **National Microcredential Framework Compliance**	28/03/2024
4. **Project Audit 2**	29/03/2024
5. **Institution Verification Process Uplift**	28/04/2024
6. **Project Audit 3**	10/05/2024
7. **Decentralized Hosting Research and Launch**	19/05/2024
8. **Immutable MVP v3.0 Release**	24/05/2024
9. **Showcase Package Release**	28/05/2024 [TBD]

Milestones

Project Maintenance



Application Process Uplift

Decentralised Hosting

Microcredential Framework Compliance

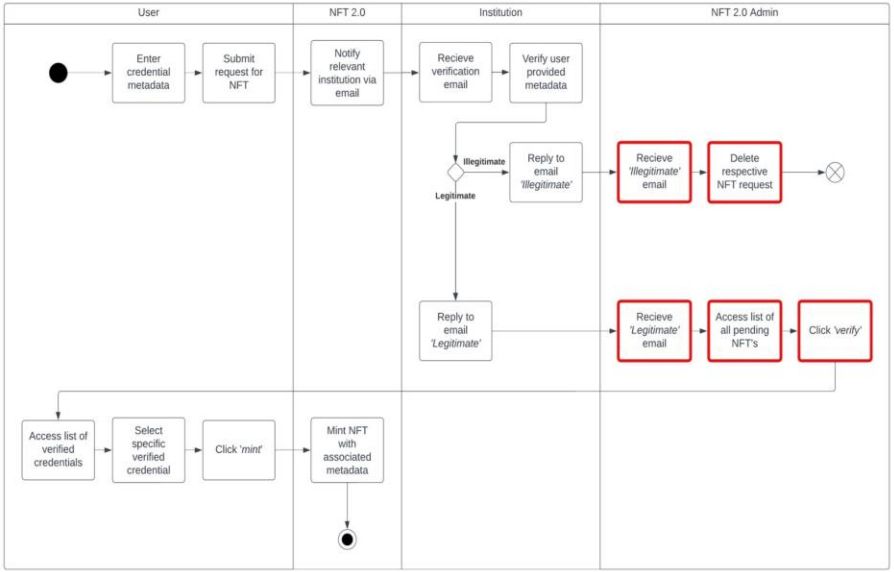
Continuous Tasks

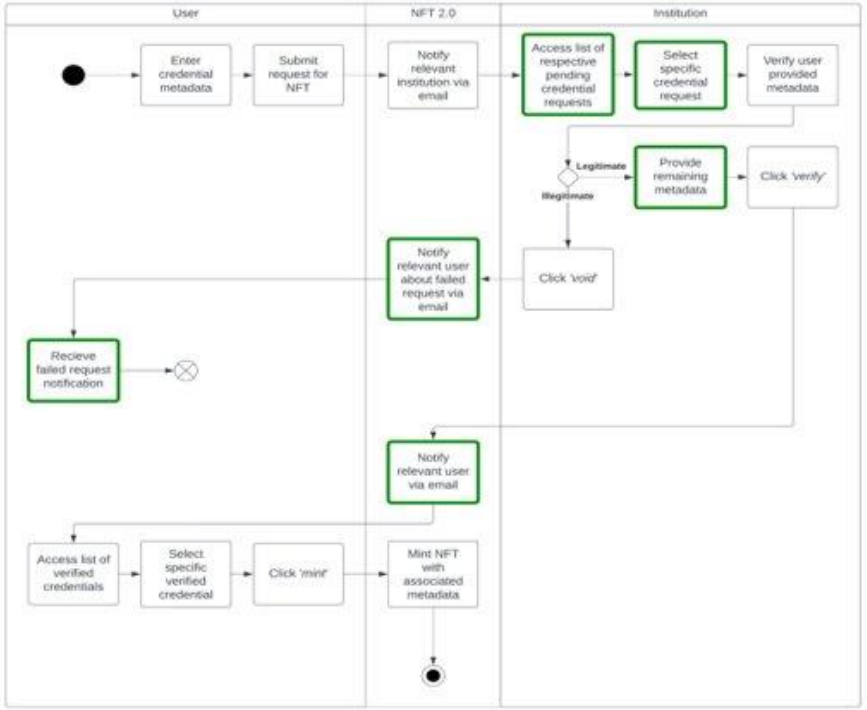
Additional UI/UX Bug Fixes

Systems Architecture Document (SAD) Upkeep

Project Output

Institution Verification Process Uplift





Enhanced Design structure

- User Layer
- Request Layer
- Verification Layer
- Authentication Layer
- Mint Layer
- Display Layer

Updates to User Layer
-for improved interaction

Compliance Check
-Conduct a compliance check with the Department of Education's Qualification Framework

Decentralized Web Hosting
-to bolster platform security and reliability

Comprehension
-read and comprehend the National Microcredential Framework

Update Website
-Update website to NFT request page to include all critical and recommended metadata stated in National Microcredential Framework (Outlined on section 4.0)

MVP (Minimum Viable Product) v3.0

MVP v3.0 main goal:

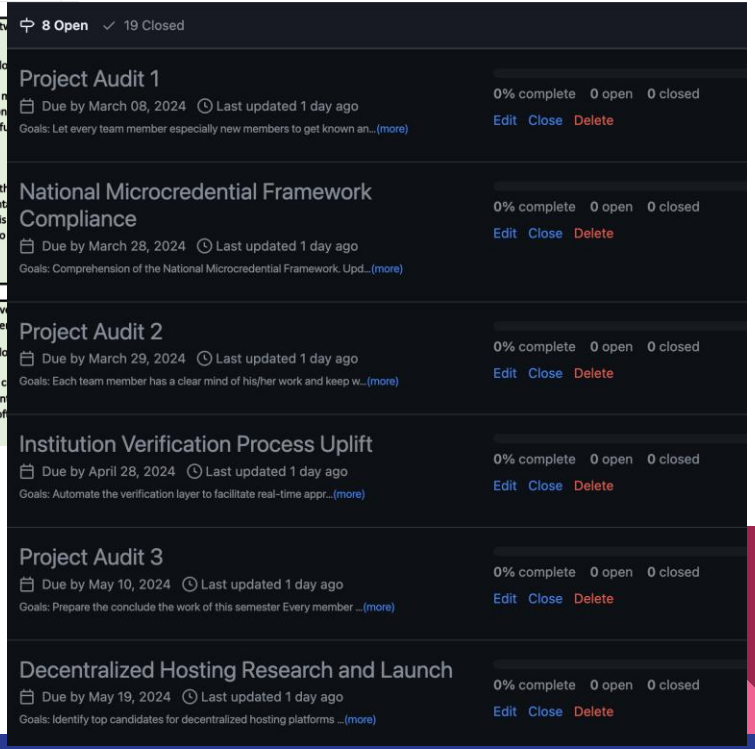
- ***Microcredential Framework Compliance***
- ***Application Process Uplift***
- ***Decentralised Hosting***
- ***Project Maintenance***

User Story Map

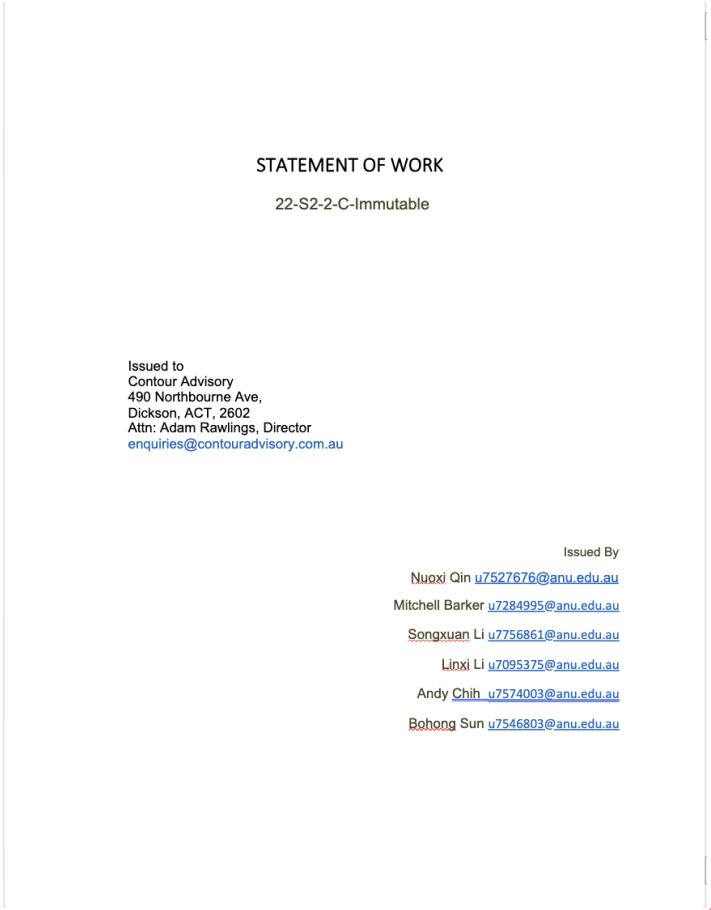
	K. NFT 2.0 Compliance	L. System Architecture Document		M. Decentralize Host	
J.3 Digital Ledger Research	K.1 Compliance with consortum standard	L.1 First Half of SAD	L.2 Second half of SAD	M.1 Decentralize Host Research	M.2 Decentralize Host Research
J.3.1 Digital Ledger Research As a product owner, I want to know about what is the operating principle of the digital ledger so that I can know about the security of the digital ledger	K.1.1 Data Process Compliance Research As a tech leader, I want to know how to make NFT 2.0 compliant with the digital consortium data process standards so that our project can have the oppotunity to be integrated to one of the consortium blockchian in the future after altering our data process according to their standard	L.1.1 Introduction As a user, I want to have one single document about the application so that I could know about the details of this application just by reading this one single document	L.2.1 Workflow As a user, I want to see a diagram depicts the workflow of this application so that I could understand this product intutively	M.1.1 Understanding As a developer, I want to know the key concept of decentralized technologies. So that the future implementation will be smooth.	M.2.1 Softw backup As a develo I want to n duplication currently fu software. So that if th implementa wrong, it is possible to
	K.1.2 Database schema standard As a developer, I want to see how NFT 2.0 can comply with the database schema standards laid out in the documents	L.1.2 System components As a product owner, I want to know how does this application is composed and what is the structure of front-end or back-end	L.2.2 Justification of architecture As a product owner, I want to see a paper justifies the useful aspects of this product	M.2.2 Potential cost As a project manager, I want to know the differences and prices between different host platforms.	M.2.2 Serv environme As a develo I want to c docker con run the soft

Navigation:
Home -> Output -> User Story Map

Navigation:
Home -> Output -> Milestones



Statement of Work (SoW)



STATEMENT OF WORK

22-S2-2-C-Immutable

Issued to
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Navigation:
Home -> Initiation Files -> 2024S1-Statement of Work

Decision Making

Impact-Risk Decision Making Matrix

High impact, high risk: go through the process

High impact, low risk: go through the process

Low impact, low risk: make the decision within team

Low impact, high risk: reconsider whether this decision is necessary and if there are other options

Impact-risk decision-making matrix can simplify the process of making decisions

Decision Log

Date	Category	Decision	Responsible Party	Rationale	Option	Action Items	Outcome	Result	Risk	Impact	Communication Action
29/2/2024	Team	Continue to use the templates of administrative files from last semester	Project Team	The templates of administrative files from last semester are specific and comprehensive enough for us to use	Choose to find and use new templates	Keep using the previous templates	Team and client agreed to keep using the previous templates	Complete	Low risk. It is convenient for us to use the previous template and based on the experience before, it is useful for our project management	Low impact These templates won't truely affect the pratical project work much, such it is a way to manage our work instead of the development code	Decided by team
3/3/2024	Client	Set up the main goal for this semester	Client and Team	The client analysed the outcome of last semester and decided our main goal for this semester	The team determine the project goal for this semester	Having the clear goal for team	Create relevant issues and milestones based on this	Complete	High risk. Setting up the inappropriate goal could cause the time and work waste	High impact The later it is for the development phase, the higher for the cost of changing the project goal and work	Decided by client
4/3/2024	Team	Create a documentation named tutorial log and assign one member to responsible for it	Project Team	The tutor has pointed out some defects of our project and provided useful suggestions on those defects	Casually record the suggestions from tutor during workshop	Create the tutorial log	One team member will be recording tutor's feedback	Complete	Low risk It nearly has any risk since it is a doc to help note down the pratical suggestions and feedback from the tutor and shadow team	High impact Some feedback or suggestions could be very useful in improving our working effiency in project management	Decided by team
6/3/2024	Team	Reallocate the tasks in the user story map to each team member	Project Team	The previous allocation could be inappropriate since new team members are not familiar with the blockchain and pratical codes, so they shall needs to do the easier task first and self-study the development method in the mean time	Keep the primitive work allocation	Reallocate the tasks	New team members will start doing the easier tasks and have time to self-study	Complete	Low risk The way of allocating the tasks won't genuinely affect the output since we have the acceptance criteria of each task though it can slow down the work speed	Low impact Misallocation could lead to the low working effiency of the development speed	Decided by team

Fields:

Date, Category, Decision, Responsible Party, Rationale, Option, Action Items, Outcome, Result, Risk, Impact, Communication Action, Comment

Teamwork

Team Role

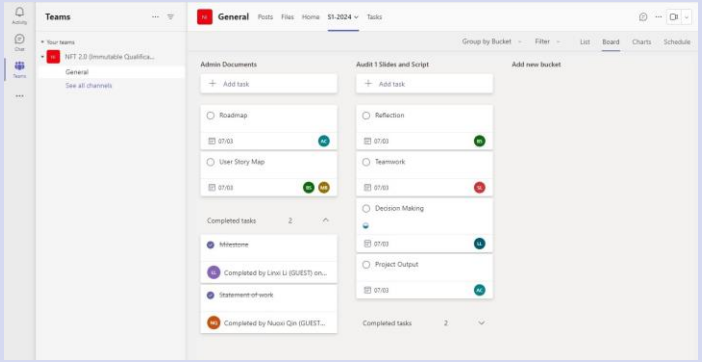
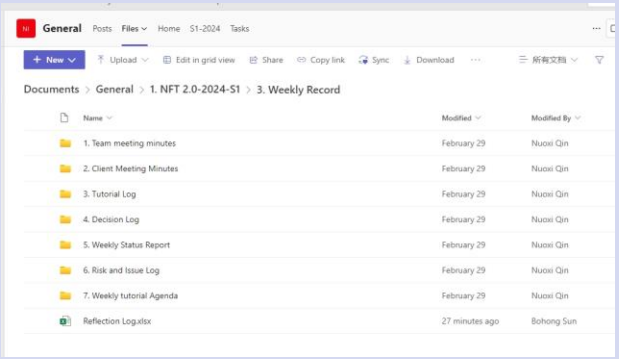
	Role(Coding Work)	Role(Daily Record)
Nuoxi Qin	Project Manager, Web developer	Team Meeting Minutes
Bohong Sun	DevOps engineer, Database developer	Risk log, Weekly tutorial agenda
Linxi Li	UI designer, Full-stack developer	Decision Log
Songxuan Li	Front-end developer, Back-end developer	Weekly Status Report, Client Meeting Agenda
Andy Chih	Full-stack developer	Tutorial Log
Mitchell Barker	Technical Lead, Quality Assurance	Client Meeting Minutes

Team Meetings

Client Meeting
Every Wednesday. To do: Decide product develop direction. Report project progress. Collect client’s requirement.

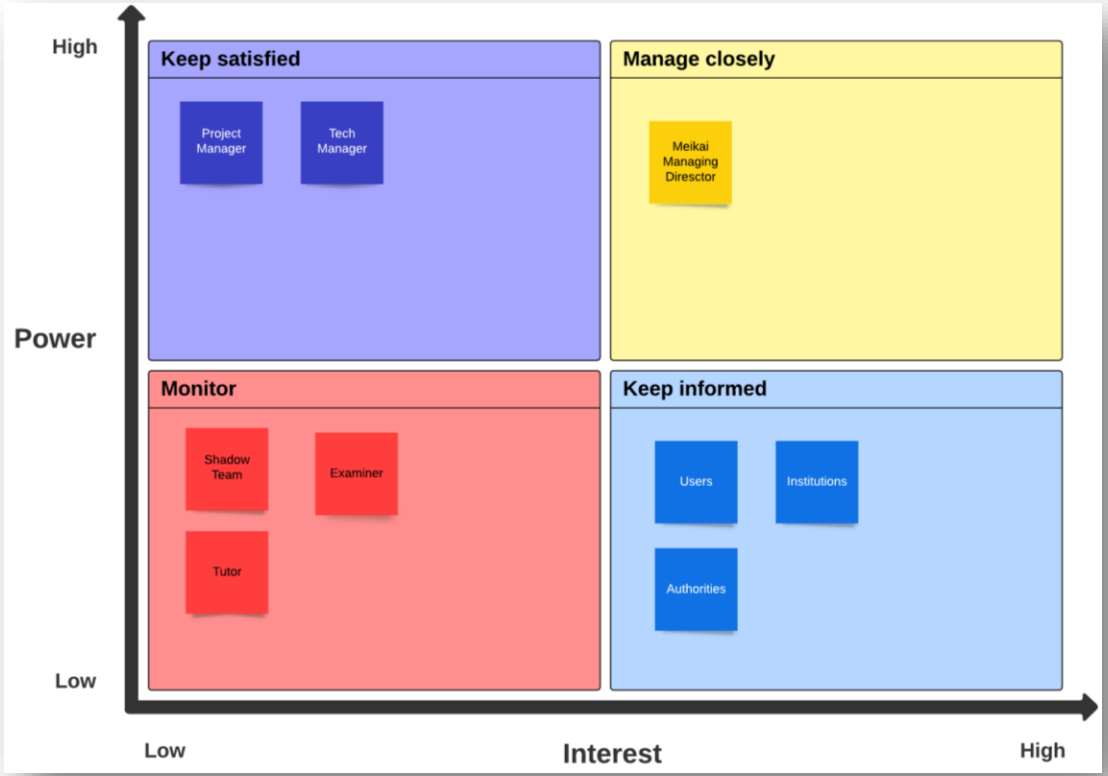
Team Member Meeting
Flexible time. To do: Discuss the support needed from other team members. Determine details in coding part.

Work Record

Teams road map	
Record files	

Stakeholder Engagement

Stakeholder Map



Project Mentors: 1:00 pm Wednesday on-campus/online

Tutor, Shadow: 12:00 pm Friday

Meeting

Navigation

1. Landing Page -> Stakeholder Engagement -> Client Meeting Minutes
2. Landing Page -> Teamwork -> Teams General Channel

Project Mentors: 1:00 pm Wednesday
on-campus/online

Tutor, Shadow: 12:00 pm Friday
All feedback added to Reflection Log file

Navigation

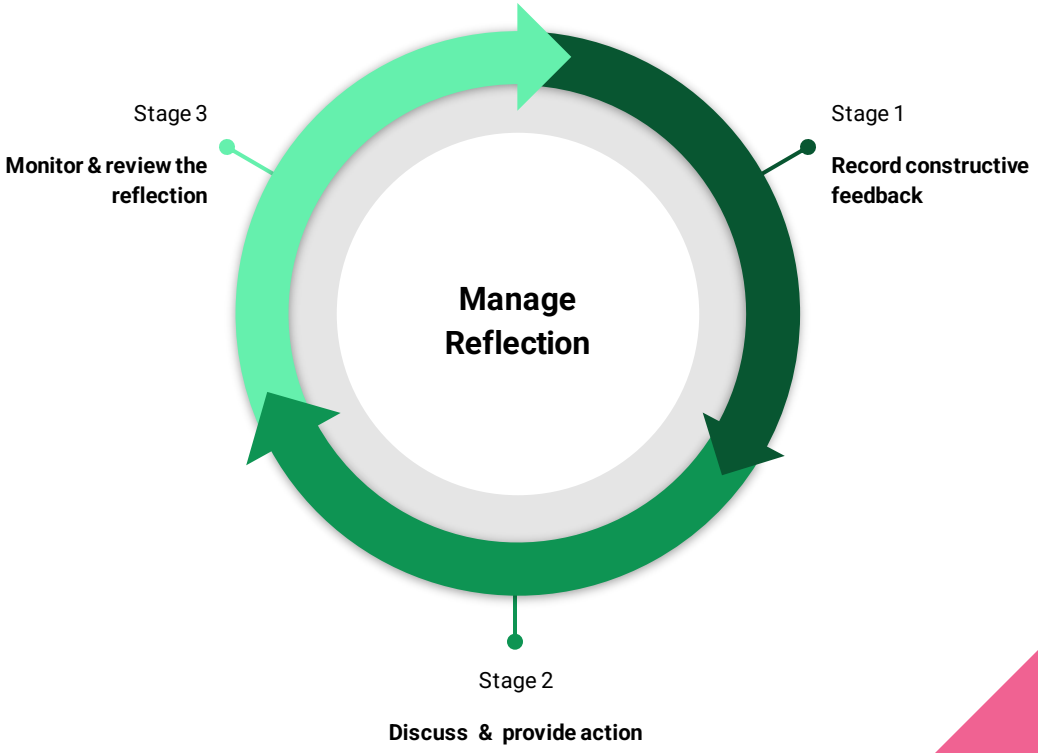
1. Landing Page -> Teamwork ->Team Charter

Communication Plan

W=Weekly D=Daily O=On demand A=As needed	Teams Post: Summary Status Report	F2F: Summary Status Report	Teams Post: Detailed Status	F2F: Detailed Status	Teams Post: New Release Notify	Teams Post: Project Threads	F2F: Project Threads
Project Owner	W	O			O		O
Project Mentors	W	W		A	O	O	A
Tutor, Shadow Team	W	W			O		A
Examiner	W	A			A		A
Immutable Team	W	W	D	W		O	A

Reflection

Reflection


Stage 3
Monitor & review the reflection
Stage 1
Record constructive feedback
Manage Reflection
Stage 2
Discuss & provide action

Reflection

- Identify bugs and keep improving code.
- Understand the National Microcredential Framework .
- Add a verification layer to automatically receive the approvals.
- Research on decentralized Hosting.

Overview for our reflection log

Title	Identification Date	Description	Action	Reflection from	Action status
Microcredential Framework Complia	1/03/2024	Understand the National Microcredential Framework Compliance.	Researching the government requirements and ensuring the software suits it.	Client	ongoing
Verification laye	1/03/2024	Add a verification layer to automatically receive the approvals.	Research previous code to see how to modify based on it. Produce UML.	Client	ongoing
Decentralized Hosting	1/03/2024	Research on decentralized Hosting.	Research on different cloud platforms and understand their usage.	Client	ongoing
Bugs of code	1/03/2024	Identify bugs and keep improving code	Read and test the existed code.	Client	ongoing

Questions & Answers