

# Software Project Management Plan (SPMP) for TechX Innovations Mobile App Development Project

*Baseline version 1.0*

*Issued by: Ribit, Inc.*

*Issued for: TechX Innovations*

*Date of issue: March 25, 2024*

## **Signature**

The following signature indicates approval of the enclosed Software Management Plan

---

TechX Executive Committee Representative

## Change History

Version	Date of Approval	Author	Changes	Approved By
1.0	03/25/2024	Benyamain Yacoob	Initial version	Ara Oladipo

**Comments:** None

## Preface

Ribit Inc. Solutions presents a comprehensive Software Project Management Plan (SPMP) for TechX Innovations Mobile Phone System project. This SPMP outlines the strategic framework to execute this project's software development aspect. This project offers TechX a chance to incorporate leading industry technology into its Decentralized Finance division, through a high-quality mobile application that meets market needs, enhances user experiences, and keeps a competitive advantage.

The project commences on January 1, 2025, and concludes on June 30, 2026, with key milestones and deliverables outlined in the project schedule. Progress reviews and updates will be conducted to ensure timely delivery. The budget includes allocations for personnel, technology, infrastructure, and miscellaneous expenses, ensuring adequate resources.

This SPMP serves several purposes:

- It presents a comprehensive and detailed plan for the project, ensuring that all team members have a clear understanding of the project goals, objectives, and approach.
- It provides a central repository of information, including project plans, processes, and deliverables, enabling easy access and reference for all team members.
- The SPMP serves as a valuable tool for onboarding new team members, allowing them to quickly familiarize themselves with the project's context and requirements.

## Table of Contents

Signature.....	2
Change History.....	3
Preface.....	4
Table of Contents.....	5
List of Figures.....	7
List of Tables.....	8
Project Overview.....	9
1.1 Project Summary.....	10
1.1.1 Purpose, Scope, and Objectives.....	10
1.1.2 Assumptions and Constraints.....	10
1.1.3 Project Deliverables.....	12
1.1.4 Schedule and Budget Summary.....	12
1.2 Evolution of the Plan.....	12
References.....	14
Definitions.....	21
Project Organization.....	24
4.1 External Interfaces.....	25
4.2 Internal structure.....	25
4.3 Roles and Responsibilities.....	26
Managerial Process Plans.....	27
5.1 Project Start-up Plan.....	28
5.1.1 Estimation Plan.....	28
Methods and Techniques:.....	28
Basis of Estimation:.....	28
Sources of Data:.....	28
Frequency:.....	29
Methods and Tools:.....	29
5.1.2 Staffing Plan.....	29
5.1.3 Resource Acquisition Plan.....	32
5.1.4 Project Staff Training Plan.....	34
5.2 Work Plan.....	36
5.2.1 Work Activities.....	36
5.2.2 Schedule Allocation.....	39
5.2.3 Resource Allocation.....	42
5.2.4 Budget Allocation.....	43
5.3 Control plan.....	45

5.3.1 Requirements Control Plan.....	45
5.3.2 Schedule Control Plan.....	47
Reporting and Publication:.....	50
5.3.3 Budget Control Plan.....	50
5.3.4 Quality Control Plan.....	52
5.3.5 Reporting Plan.....	54
5.3.6 Metrics Collection Plan.....	56
Metrics Collection Plan.....	56
5.4 Risk Management Plan.....	57
Risk Management Framework:.....	57
Stakeholder Engagement.....	59
5.5 Project Closeout Plan.....	59
Technical Process Plans.....	62
6.1 Process Model.....	63
6.2 Methods, tools, and techniques.....	64
6.3 Infrastructure Plan.....	66
6.4 Product Acceptance Plan.....	68
Supporting Process Plan.....	70
7.1 Configuration Management Plan.....	71
7.2 Verification and Validation Plan.....	74
7.3 Documentation Plan.....	75
7.4 Quality Assurance Plan.....	78
7.5 Reviews and Audits Plan.....	80
7.6 Problem Resolution Plan.....	84
7.7 Subcontractor Management Plans.....	86
7.8 Process Improvement Plan.....	87
Additional Plans.....	89
Annexes (Appendices).....	91
Closure Checklist.....	92

## List of Figures

Figure Number	Figure Title	Page Number
01	Internal organization chart	26
02	Network diagram	

## List of Tables

Table Number	Table Title	Page Number
01	Definitions	22
02	Roles and responsibilities	27
03	Staffing plan specification	31
04	Work activities	37
05	Resource allocation	43
06	Budget allocation	44
07	Requirements control plan rubric	47
08	Reporting plan	55
09	Product acceptance approval table	63
10	Documentation plan	77
11	External agencies	82



# **Section 1**

## **Project Overview**

## **1.1 Project Summary**

### **1.1.1 Purpose, Scope, and Objectives**

The purpose of the mobile phone system project is to develop and implement a decentralized banking solution using blockchain technology and DeFi principles. This solution will provide secure, transparent, and autonomous access to financial services through decentralized platforms. The project encompasses the end-to-end development of the software, including requirements gathering, design, development, testing, and deployment phases. It includes the creation of both front-end and back-end components, as well as integration with external systems and devices. Additionally, the project covers documentation, training, and support to ensure the successful adoption of the system.

Outside the scope of the project are activities such as hardware procurement, third-party integrations unrelated to core functionality, legal and regulatory compliance beyond software development, financial advisory services, data migration unless specified, physical security measures, and marketing and promotion efforts. The focus of this project remains on the development and implementation of the decentralized banking mobile system.

The objectives of this project are as follows:

- Ensure the timely development and deployment of the decentralized banking platform in alignment with project milestones and deadlines.
- Manage project resources efficiently to adhere to the allocated budget and avoid cost overruns during all phases of the project lifecycle.
- Deliver all project deliverables as outlined in the project scope document, ensuring completeness and quality within the specified timeframes.
- Meet all defined requirements detailed in the Software Requirements Specification (SRS) document for the decentralized banking platform. These requirements include:
  - Implementation of decentralized ledger technology to facilitate transparent and secure financial transactions.
  - Integration with external banking systems and networks for seamless data exchange.
  - Development of user-friendly interfaces for easy access to banking services via web and mobile applications.
  - Ensure compliance with regulatory standards and industry best practices governing decentralized finance (DeFi) and blockchain technology.

### **1.1.2 Assumptions and Constraints**

The project planning process will be based on the following assumptions:

- There will be an availability of experienced blockchain developers and DeFi specialists using technologies such as React Native for front-end development and GoLang for back-end development.
- App stores (Apple App Store, Google Play Store) will approve the app after the submission process.
- The chosen blockchain platform (e.g., Ethereum) will provide well-documented APIs and development tools.
- Initial budget estimates are accurate with a buffer for unforeseen circumstances.
- The web servers required will utilize the Linux operating system as their foundation.
- Relevant regulations and compliance measures concerning DeFi and blockchain technology will remain consistent throughout the development process

The project planning process will factor in the following constraints:

- Budget
  - \$2,000,000
- Timeline
  - 01/01/2025 - 06/30/2026
- Regulations
  - Regulations surrounding DeFi are still under development and vary by region.
- Maintenance
  - Server and mobile application availability is limited to 99.99% uptime or a permissible 52 minutes of downtime yearly due to server constraints
  - Software maintenance costs must be designed so as to not exceed \$50,000 per year
- Risk Management
  - A risk management reserve of 10% (\$200,000) will be set aside from the project budget to address unforeseen risks and uncertainties. This reserve will be used strategically to mitigate risks that could impact project deliverables, schedule, or costs, ensuring proactive risk mitigation without exceeding the overall budget allocation.
- Vendor Management
  - Vendor contracts and outsourcing agreements must not exceed 20% (\$400,000) of the total project budget. This constraint ensures that vendor expenses are kept within reasonable limits and that outsourcing decisions are made judiciously to balance cost-effectiveness with quality and delivery timelines.

### 1.1.3 Project Deliverables

Ribit Inc. will provide TechX Innovations with the following crucial deliverables:

- Released software on the leading application stores such as the Apple App Store and Google Play Store.
- Detailed requirements documentation outlining system features and functionalities.
- Software design documents including architecture diagrams and system workflows.
- Software Documentation:
  - Software Requirements Specification (SRS)
  - Software Design Specification (SDS)
  - Software Test Plan (STP)
  - Software Project Management Plan (SPMP)
  - Software Quality Assurance Plan (SQAP)

### 1.1.4 Schedule and Budget Summary

- Project start date: January 1, 2025
- Project end date: June 30, 2026
- Budget breakdown:
  - Personnel: \$1,000,000
  - Technology and infrastructure: \$700,000
  - Miscellaneous expenses: \$300,000
- Total budget: \$2,000,000
- Projected annual maintenance costs: No larger than \$50,000. This is not included in the total budget cost of \$2,000,000

The Earned Value Management System (EVMS) will be employed to monitor and assess the project's progress.

## 1.2 Evolution of the Plan

The evolution of the plan outlines our approach to keeping the SPMP current and relevant through scheduled and unscheduled updates.

**Scheduled Updates:** We will schedule regular reviews of the SPMP to coincide with project milestones and key moments. These reviews, set at specific intervals, ensure the SPMP stays in sync with any changes in the project. Moreover, these changes will be communicated via email to all the necessary parties.

**Unscheduled Updates:** If unexpected events occur that require changes to the SPMP, swift action will be taken. These updates might be triggered by regulatory shifts, alterations in project scope, or unforeseen challenges. Necessary adjustments will be made promptly through communication via e-mail and online meetings.

**Dissemination of Updates:** Updates to the SPMP will be disseminated through weekly project status meetings, where changes will be discussed and documented in the meeting minutes. Additionally, email notifications will be sent to all project stakeholders, highlighting the key changes and their impact on the project. The updated SPMP will be stored in the project repository, accessible to all team members.

**Configuration Management:** The configuration management process will follow a strict version control system using Git. Each iteration of the SPMP will be tagged with a unique version number, and changes will be tracked using descriptive commit messages. The main branch will always contain the latest approved version of the SPMP. Any proposed changes will be reviewed and approved by the Change Control Board (CCB) before being merged into the main branch. Baselineing will occur at major milestones, and all subsequent changes will be tracked against the baselined version.

## **Section 2**

### **References**

## **2.1 Software Requirements Specification (SRS)**

Version	1.0
Date	March 25, 2024
Author	Andre Price
Path/Name for Electronic Access	\\PROJECTS\\TechX\\SRS\\V1_0.docx
Publisher	Ara Oladipo

## **2.2 Software Design Specification (SDS)**

Version	1.0
Date	March 25, 2024
Author	Andre Price
Path/Name for Electronic Access	\\TechX\\SRS\\V1_0.docx
Publisher	Ara Oladipo

## **2.3 Software Test Plan (STP)**

Version	1.0
Date	March 25, 2024
Author	Andre Price
Path/Name for Electronic Access	\\TechX\\STP\\V1_0.docx
Publisher	Ara Oladipo

## **2.4 Software Quality Assurance Plan (SQAP)**

Version	1.0
Date	March 25, 2024

Author	Benyamain Yacoob
Path/Name for Electronic Access	\\TechX\SQAP\V1_0.docx
Publisher	Ara Oladipo

## **2.5 Software Configuration Management Plan (SCMP)**

Version	1.0
Date	March 25, 2024
Author	Benyamain Yacoob
Path/Name for Electronic Access	\\TechX\SCMP\V1_0.docx
Publisher	Ara Oladipo

## **2.6 Software Verification and Validation Plan (SVVP)**

Version	1.0
Date	March 25, 2024
Author	Benyamain Yacoob
Path/Name for Electronic Access	\\TechX\SCMP\V1_0.docx
Publisher	Ara Oladipo

## **2.7 Quality Software Project Management**

Futrell, R. T., Shafer, D. F., Shafer, L. I. (2002). Quality software project management. Upper Saddle River, N.J.: Prentice Hall PTR.

## **2.8 IEEE Standard 1063-2001**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94976">http://shop.ieee.org/store/product.asp?prodno=SS94976</a>
--------------------	---

## **2.9 IEEE Standard 830-1998**



Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94654">http://shop.ieee.org/store/product.asp?prodno=SS94654</a>
--------------------	---

## **2.10 IEEE Standard 1016-1998**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94688">http://shop.ieee.org/store/product.asp?prodno=SS94688</a>
--------------------	---

## **2.11 IEEE Standard 1058-1998**

Access information <http://shop.ieee.org/store/product.asp?prodno=SS94690>

Access information	
--------------------	--

## **2.12 IEEE Standard 1074-1997**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94600">http://shop.ieee.org/store/product.asp?prodno=SS94600</a>
--------------------	---

## **2.13 IEEE Standard 1012-1998**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94625">http://shop.ieee.org/store/product.asp?prodno=SS94625</a>
--------------------	---

## **2.14 IEEE Standard 1012a-1998**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94677">http://shop.ieee.org/store/product.asp?prodno=SS94677</a>
--------------------	---

## **2.15 IEEE Standard 730-2002**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94995">http://shop.ieee.org/store/product.asp?prodno=SS94995</a>
--------------------	---

## **2.16 IEEE Standard 828-1998**

Access information	<a href="http://shop.ieee.org/store/product.asp?prodno=SS94653">http://shop.ieee.org/store/product.asp?prodno=SS94653</a>
--------------------	---

### ***2.17 Ribit Standard Documentation Template***

Version	1.0
Date	March 25, 2024
Author	Benyamain Yacoob
Path/Name for Electronic Access	\\TechX\TEMPLATES\std1_0.docx
Publisher	Benyamain Yacoob

### ***2.18 Ribit Test Plan Template***

Version	1.0
Date	March 25, 2024
Author	Benyamain Yacoob
Path/Name for Electronic Access	\\TechX\TEMPLATES\tpt1_0.docx
Publisher	Benyamain Yacoob

### ***2.19 Ribit Meeting Minutes Template***

Version	1.0
Date	March 25, 2024
Author	Ara Oladipo
Path/Name for Electronic Access	\\TechX\TEMPLATES\mtgmt1_0.docx
Publisher	Ara Oladipo

### ***2.20 Ribit Meeting Agenda Template***

Version	1.0
Date	March 25, 2024
Author	Ara Oladipo
Path/Name for Electronic Access	\\TechX\\$TEMPLATES\mtgat_0.docx
Publisher	Ara Oladipo

### ***2.21 Ribit Technical Review Summary Template***

Version	1.0
Date	March 25, 2024
Author	Ara Oladipo
Path/Name for Electronic Access	\\TechX\\$TEMPLATES\trst1_0.docx
Publisher	Ara Oladipo

### ***2.22 Ribit Training Plan Template***

Version	1.0
Date	March 25, 2024
Author	Benyamain Yacoob
Path/Name for Electronic Access	\\TechX\\$TEMPLATES\tpt1_0.docx
Publisher	Benyamain Yacoob

### ***2.23 Ribit Quality Audit Template***

Version	1.0
Date	March 25, 2024
Author	Ara Oladipo
Path/Name for Electronic Access	\\TechX\\$TEMPLATES\qat1_0.docx

Publisher	Ara Oladipo
-----------	-------------

## ***2.24 PPA Questionnaire Template***

Version	1.0
Date	March 25, 2024
Author	Ara Oladipo
Path/Name for Electronic Access	\\TechX\\$TEMPLATES\pqt1_0.docx
Publisher	Ara Oladipo

## **Section 3**

### **Definitions**

<b>Term</b>	<b>Definition</b>
DeFi	DeFi, short for Decentralized Finance, refers to a financial system built on blockchain technology that aims to provide traditional financial services, such as lending, borrowing, and trading, without the need for intermediaries like banks or brokerage firms.
Blockchain	A decentralized and distributed ledger technology that securely records transactions across multiple computers in a verifiable and permanent way,
Smart Contract	A self-executing contract with the terms of the agreement directly written into code, automatically enforcing the contract provisions.
IEEE (Institute of Electrical and Electronics Engineers)	A professional association that develops standards for various industries, including software engineering and project management.
EVMS	Earned Value Management System (EVMS) is a project management methodology that integrates cost, schedule, and scope to assess project performance by comparing planned value, earned value, and actual cost, facilitating informed decision-making and project control.
CPI (Cost Performance Index)	A measure of the cost efficiency of a project, calculated as the ratio of earned value to actual cost.
CR (Change Request)	A formal proposal to modify any aspect of the project, including scope, schedule, resources, or budget.
SPMP (Software Project Management Plan)	SPMP stands for Software Project Management Plan. It's a document that outlines the approach and strategies for managing a software development project.
SPI (Schedule Performance Index)	A measure of the schedule efficiency of a project, calculated as the ratio of earned value to planned value.
STP (Software Test Plan)	A document that outlines the approach, objectives, and resources required for testing software.
SDS (Software Design Specification):	A document that describes the architecture, components, interfaces, and data flows of the software system.
SRS (Software Requirements Specification)	The SRS outlines what the software should do, its intended features, behavior, and performance.

SQAP (Software Quality Assurance Plan)	A document that outlines the quality assurance activities and processes to be implemented throughout the software development lifecycle.
Baseline	A reference point used for comparison or measurement, typically representing an approved version of a document or plan.
Scope Creep	The gradual expansion of project scope beyond its original boundaries, often resulting in increased costs and delays.
Risk Management Plan	A document that outlines the approach to identifying, assessing, mitigating, and monitoring project risks throughout the project lifecycle.
Budget Variance	The difference between the planned budget and the actual expenditures incurred during project execution.
Budget Forecast	A projection of future project expenses based on current spending trends and anticipated changes in scope or resources
Deliverables	All the outputs — tangible or intangible — that are submitted within the scope of a project.

## **Section 4**

### **Project Organization**



## 4.1 External Interfaces

**Parent Organization - TechX Innovations:** TechX Innovations serves as our client and the parent organization, providing overarching direction, requirements, and guidance for the project. They are actively involved in decision-making processes and play a pivotal role in shaping the project's outcomes.

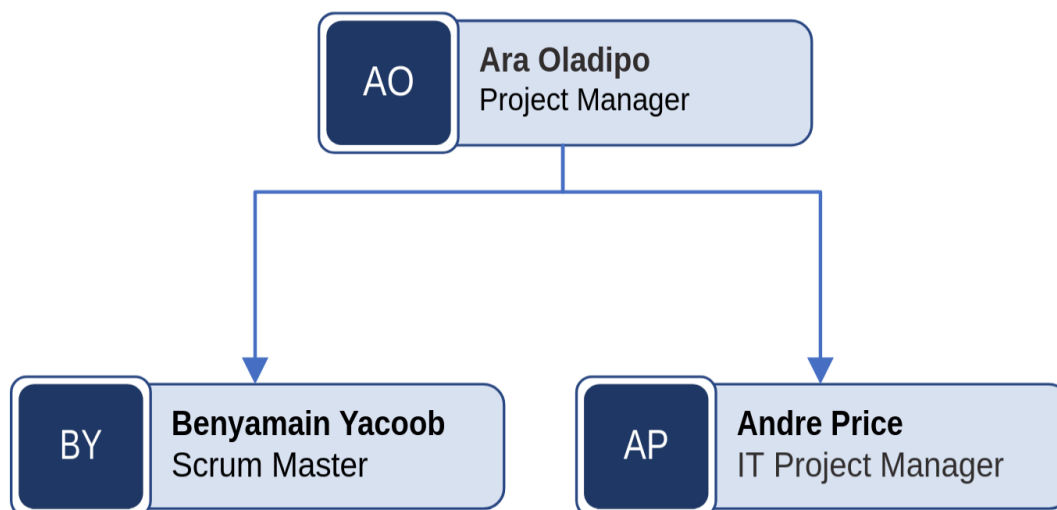
**Acquiring Organization - ProcureTech:** ProcureTech facilitates the acquisition of necessary resources and acts as a liaison between different organizational entities. They ensure seamless coordination and collaboration, streamlining procurement processes and addressing any logistical challenges.

**Subcontracted Organizations - CodeCrafters Ltd:** We engage with specialized subcontractors to enhance our project team's capabilities and address specific requirements. Notable subcontractors include CodeCrafters Ltd, contracted to provide expertise in areas such as testing, and quality assurance.

**Assisting Organizational Entities:** Additionally, our project interfaces with regulatory bodies, industry standards organizations, and third-party vendors supplying essential components or services. These entities ensure compliance with regulations, adherence to industry standards, and access to necessary resources.

## 4.2 Internal structure

The organization chart is shown below:



More details about the different roles are shown below:

**Project Manager (PM):** The PM oversees the project's overall execution, ensuring alignment with organizational goals and stakeholder expectations. They interface with both the Scrum Master and the IT Project Manager to coordinate activities and resources effectively.

**Scrum Master:** The Scrum Master facilitates Agile practices within the development team, ensuring adherence to Scrum methodologies and removing impediments. They collaborate closely with the PM to align sprint goals with project objectives and manage stakeholder communication.

**IT Project Manager:** The IT Project Manager brings technical expertise to the team, overseeing the implementation of technical solutions and managing technical resources. They work in tandem with the PM and Scrum Master to ensure that technical requirements are met and aligned with project goals.

### 4.3 Roles and Responsibilities

Name	Role	Responsibility
Andre Price	IT Project Manager	Oversees system IT teams, vendors and stakeholders to deliver technology solutions.
Ara Oladipo	Project Manager	Responsible for planning, executing and closing project
Benyamain Yacoob	Scrum Master	Facilitates the Scrum process, removes impediments that hinder team progress and facilitate collaboration
Sign-off:		
Comments: None		

## **Section 5**

### **Managerial Process Plans**

## 5.1 Project Start-up Plan

### 5.1.1 Estimation Plan

This estimation plan leverages TechX's extensive repository of past blockchain and DeFi projects to ensure accurate estimates. Moreover, a combination of techniques will be employed in the planning process to improve estimates.

The basis of estimation for this project will be a combination of historical data from similar projects, expert judgment from experienced team members, and industry benchmarks for blockchain and DeFi development. The estimation process will involve breaking down the project into smaller, manageable tasks and assigning story points based on complexity and effort required. The team will use planning poker to reach a consensus on the estimates, ensuring buy-in and commitment from all members.

#### **Methods and Techniques:**

- **Analogous Estimation:** Leverages TechX's previous experience in decentralized finance projects to draw parallels and estimate project cost and schedule based on similarities in scope, complexity, and resource requirements.
- **Parametric Estimation:** Uses TechX's proprietary algorithms and models developed from past projects to estimate cost and schedule based on quantifiable project parameters such as transaction volume, user base, and feature complexity.

#### **Basis of Estimation:**

TechX's Domain Knowledge and industry standards are fundamental to the basis of estimation. This involves leveraging TechX's in-depth understanding of decentralized finance principles, blockchain technology, and Ribit Inc.'s experience with mobile app development to inform estimation techniques and assumptions. Additionally, industry benchmarks and TechX's internal project history data are used to enhance the accuracy and reliability of estimates.

The following estimation techniques will be applied to gauge the timetable and effort required for each task outlined in the WBS (Work Breakdown Structure).

#### **Sources of Data:**

- **TechX's Project Repository:** Accessing TechX's internal database of past projects, including similar decentralized finance initiatives, to extract relevant data and insights for estimation purposes.

- **External Market Research:** Conducting market research and analysis to gather data on industry trends, competitor performance, and user preferences, supplementing internal data with external benchmarks and insights.
- **Collaborative Brainstorming:** Engaging TechX's cross-functional teams in collaborative brainstorming sessions to gather diverse perspectives and inputs for estimation, fostering a culture of collective intelligence and knowledge sharing.

#### **Re-Estimation Process:**

#### **Frequency:**

- Re-estimation will be conducted on a monthly basis, leveraging TechX's agile project management methodologies to adapt to evolving project dynamics and stakeholder needs. Aperiodic re-estimation will be triggered by significant project milestones, changes in scope, or external factors impacting project delivery, ensuring timely adjustments to cost and schedule forecasts. When new estimates are gathered and the schedule is adversely affected (either positively or negatively) by 15%, historical organizational project data will be used to assess the effectiveness of adding additional resources to complete the activity.

#### **Methods and Tools:**

- **Earned Value Management (EVM):** Employing EVM techniques to assess project performance and forecast cost and schedule outcomes.
- **Monte Carlo Simulation:** Utilizing probabilistic modeling techniques to simulate various project scenarios and assess associated risks.
- **Critical Path Method (CPM):** Analyzing the critical path and dependencies to identify potential schedule impacts and adjust estimates accordingly.

As it relates to documentation, re-estimation documentation will be integrated into TechX's centralized project management repository, ensuring accessibility and traceability for all stakeholders. Detailed records of re-estimation activities, including assumptions, rationales, and decision points, will be maintained to provide transparency and accountability in cost and schedule forecasting.

#### **Comments:**

None

### **5.1.2 Staffing Plan**

Personnel Role	Number of Personnel	Project Phases	Duration of Need	Sources of Staff Personnel
Project Manager	2	Initiation, Planning, Execution, Monitoring & Controlling, Closing	Throughout the project lifecycle	Ribit Inc.
Scrum Master	1	Initiation, Planning, Execution, Monitoring & Controlling, Closing	Throughout the project lifecycle	Ribit Inc.
Blockchain Developer	3	Planning, Execution	6 months	New Hire/Contracted
Front-end Developer	2	Planning, Execution	6 months	Internal Transfer/New Hire
Back-end Developer	2	Planning, Execution	6 months	Internal Transfer/New Hire
Quality Assurance Analyst	1	Execution, Monitoring & Controlling	6 months	Internal Transfer/New Hire
UI/UX Designer	1	Planning, Execution	6 months	Internal Transfer/New Hire
Technical Writer	1	Planning, Execution	6 months	Internal Transfer/New Hire
DevOps Engineer	1	Execution	6 months	New Hire/Contracted
Legal Advisor	1	Planning, Execution	6 months	Contracted
Business Analyst	1	Initiation, Planning	3 months	New Hire/Contracted
Marketing Specialist	1	Execution	3 months	Contracted

ProcureTech will facilitate and engage contractors required for essential roles, while TechX Innovators will handle internal transfers or new hires for the necessary positions.

#### **Detailed Explanation of Listed Roles:**

**Blockchain Developer:** Required primarily during the planning and execution phases to develop and implement blockchain-related functionalities. Their expertise is crucial for integrating decentralized finance principles into the application.

**Front-end Developer:** Essential for designing and developing user interfaces during the planning and execution phases, ensuring a seamless and intuitive user experience.

**Back-end Developer:** Involved in planning and execution phases to build the backend infrastructure and implement server-side logic, facilitating data storage and processing.

**Quality Assurance Analyst:** Engaged during execution and monitoring & controlling phases to ensure the quality and reliability of the software through comprehensive testing and quality assurance processes.

**UI/UX Designer:** Collaborates closely with the development team during planning and execution phases to create visually appealing and user-friendly interfaces, enhancing the overall user experience.

**Technical Writer:** Required during planning and execution phases to document project requirements, specifications, and user guides, facilitating effective communication and knowledge sharing within the team.

**DevOps Engineer:** Engaged primarily during the execution phase to streamline the development process, automate deployment, and ensure continuous integration and delivery of software updates.

**Legal Advisor:** Consulted during planning and execution phases to provide guidance on legal and regulatory compliance related to decentralized finance and mobile application development.

**Business Analyst:** Involved in the initiation and planning phases to gather and analyze project requirements, user needs, and market trends, ensuring alignment with business objectives.

**Marketing Specialist:** Engaged during the execution phase to develop and implement marketing strategies, promoting the mobile application and maximizing user adoption and engagement.

#### **Comments:**

None

### 5.1.3 Resource Acquisition Plan

Resource acquisition ensures that the necessary personnel, equipment, and services are procured to support project activities and achieve desired outcomes. Resource acquisition activities will commence during the project initiation phase, coinciding with the development of the Software Project Management Plan (SPMP).

Specific resource acquisition tasks will be integrated into the project schedule, aligning with key project milestones such as requirements gathering, design, development, testing, and deployment phases.

Continuous monitoring and reassessment of resource needs will occur throughout the project lifecycle to address any changes or emerging requirements.

#### **Resource Acquisition Process:**

- Identification of Required Resources: The project team will identify the necessary resources based on project requirements and the Work Breakdown Structure (WBS).
- Evaluation of Resource Options: Procurement options for each resource type will be evaluated, considering factors such as cost, quality, availability, and compatibility with project objectives.
- Selection and Negotiation: ProcureTech will lead the selection and negotiation process for external resources.
- Contracting and Documentation: Formal contracts and agreements will be established with external vendors and service providers, outlining terms, conditions, and deliverables.

Resource acquisition activities will be integrated into the project schedule at critical junctures, including:

- Initial staffing to build the project team and allocate roles and responsibilities.
- Procurement of software tools, development environments, and infrastructure components.
- Scheduling of training programs and knowledge transfer sessions for team members.
- Coordination of external consulting services and vendor contracts for specialized expertise.
- Resource acquisition timelines will be aligned with project milestones to ensure timely availability of resources and minimize disruptions to project workflows.

#### **Resources can come in various forms, including**

- Personnel: Recruitment of project team members, contractors, and specialized consultants.



- Equipment: Acquisition of necessary hardware, software, and tools for project development and execution.
- Training: Provision of training programs and resources to enhance team skills and capabilities.
- Service Contracts: Engagement of external services, such as transportation, facilities, administrative, and maintenance services.

The following subsections outline the detailed plans for acquiring different types of resources essential for project execution and success:

- **Personnel Acquisition Plan (5.1.3.1):**
  - Responsibilities: Clearly define roles and responsibilities for the recruitment team, including HR personnel and project managers.
  - Recruitment Strategy: Detail the approach for sourcing candidates, screening resumes, conducting interviews, and selecting suitable candidates.
  - Onboarding Process: Outline the procedures for orienting new hires, including paperwork, introductions to team members, and initial training sessions.
  - Performance Management: Describe how performance will be assessed, feedback provided, and development opportunities offered to project team members.
- **Equipment Procurement Plan (5.1.3.2):**
  - Equipment Requirements: Specify the types and quantities of hardware, software, and tools needed for project tasks.
  - Vendor Selection Criteria: Define the criteria for evaluating equipment vendors, including cost, quality, reliability, and support services.
  - Procurement Process: Detail the steps for issuing requests for proposals (RFPs), evaluating bids, negotiating contracts, and finalizing purchases.
  - Quality Assurance: Describe measures for ensuring the quality and functionality of acquired equipment, such as testing, warranties, and vendor certifications.
- **Training Resource Plan (5.1.3.3):**
  - Training Needs Assessment: Conduct an analysis of skill gaps and training requirements among project team members.
  - Training Program Selection: Choose appropriate training programs, courses, or workshops to address identified needs, considering relevance, effectiveness, and cost.
  - Delivery Methods: Specify how training will be delivered, whether through in-person sessions, online courses, self-study materials, or a combination of methods.
  - Evaluation and Feedback: Establish mechanisms for assessing training effectiveness, gathering participant feedback, and making adjustments as needed to improve outcomes.
- **Service Contracts Acquisition Plan (5.1.3.4):**

- **Service Requirements:** Define the scope and specifications of required services, such as transportation, facilities management, and administrative support.
- **Vendor Evaluation:** Assess potential service providers based on criteria such as experience, capabilities, references, and pricing.
- **Contract Negotiation:** Outline the process for negotiating contract terms, including service level agreements (SLAs), pricing structures, and performance metrics.
- **Performance Monitoring:** Describe how service delivery will be monitored, evaluated, and reported on to ensure compliance with contract requirements.

#### **Constraints on Resource Acquisition for TechX Innovations:**

- **Budget constraints:** The project budget of \$2,000,000 will dictate resource allocation and procurement decisions, requiring careful prioritization and cost management to optimize project outcomes.
- **Availability of skilled talent:** The demand for blockchain developers and DeFi specialists may outstrip supply in the labor market, necessitating proactive recruitment efforts and competitive compensation packages to attract top talent.
- **Lead times for procurement:** Some resources, such as hardware, software licenses, and external services, may have longer lead times for procurement, requiring early identification and planning to avoid project delays.

### **5.1.4 Project Staff Training Plan**

As DeFi and Blockchain technology are relatively new forms of technology, technical training, along with managerial training will be necessary for project success. This training plan outlines the comprehensive approach to developing technical and managerial skills among the project team, enabling them to effectively contribute to the success of the TechX Innovations Mobile App Development Project.

**Types of Training:** The training program will encompass both technical and managerial skills relevant to the project, including:

- **Technical Training:** Covering topics such as blockchain technology, decentralized finance (DeFi) principles, React Native framework, Go programming language, software architecture, UI/UX design, quality assurance, and DevOps practices.
- **Managerial Training:** Focusing on project management methodologies, risk management, communication skills, leadership development, and stakeholder engagement.

**Numbers of Personnel to be Trained:** All project team members involved in software development, testing, quality assurance, and project management will participate in the training program. The exact number of personnel will be determined based on project roles and responsibilities.

**Entry and Exit Criteria for Training:** Entry criteria will include baseline knowledge in relevant technical and managerial concepts, while exit criteria will involve the successful completion of training modules and assessments.

**Training Methods:** The training program will utilize a variety of methods to accommodate different learning styles and preferences, including:

- Lectures: Formal presentations by subject matter experts to deliver theoretical knowledge and practical insights.
- Consultations: One-on-one or small group sessions with trainers to address specific questions, clarify concepts, and provide personalized guidance.
- Mentoring: Pairing less experienced team members with seasoned professionals to facilitate knowledge transfer, skill development, and professional growth.
- Computer-assisted Training: Interactive e-learning modules, online courses, and virtual labs to provide hands-on experience and self-paced learning opportunities.

#### **Training Schedule Overview:**

- Training activities will be integrated into the project schedule at strategic intervals to minimize disruption to project workflows while ensuring adequate skill development among team members.
- Technical training sessions will be scheduled early in the project lifecycle to familiarize team members with relevant technologies and tools, allowing sufficient time for hands-on practice and experimentation.
- Managerial training sessions will be conducted periodically throughout the project duration to reinforce leadership skills, communication strategies, and project management best practices.

#### **Technical Training Schedule:**

- Blockchain Technology Fundamentals (March 15 - March 18, 2025)
- Decentralized Finance (DeFi) Principles Workshop (March 22 - March 25, 2025)
- Front-end Development Framework Bootcamp (March 29 - April 2, 2025)
- Go Programming Language Crash Course (April 5 - April 9, 2025)
- UI/UX Design Essentials Seminar (April 12 - April 15, 2025)
- Quality Assurance and Testing Strategies Training (August 19 - August 23, 2025)

- DevOps Practices and Continuous Integration Workshop (December 26 - December 30, 2025)
- **Managerial Training Schedule:**
  - Strategic Risk Management Workshop (May 10 - May 13, 2026)
  - Advanced Communication Strategies Seminar (May 17 - May 20, 2026)
  - Project Closure and Evaluation Seminar (May 24 - May 27, 2026)
  - Advanced Stakeholder Engagement Strategies Training (May 31 - June 3, 2026)

### **Training Delivery and Evaluation:**

- Training sessions will be delivered by internal subject matter experts, external trainers, and online learning platforms as needed to address specific training requirements.
- Training effectiveness will be evaluated through pre and post-training assessments, knowledge checks, and feedback surveys to gauge learning outcomes and identify areas for improvement.
- Continuous monitoring and evaluation of training progress will allow adjustments to the training plan to address emerging needs and ensure ongoing skill development among team members.

**Comments:** None

## **5.2 Work Plan**

### **5.2.1 Work Activities**

<b>WBS Code</b>	<b>Work Activity</b>	<b>Resources</b>	<b>Duration (Days)</b>	<b>Work Products</b>	<b>Acceptance Criteria</b>	<b>Predecessor or Activities</b>	<b>Successor Activities</b>
1	Project Management	Project Manager, Business Analyst	540	Project Charter, Stakeholder Analysis Report, Meeting Minutes, Action Items List	Approval from TechX Innovations, Agreement on project scope and objectives	-	2

1.1	Initiation Phase	Project Manager, Business Analyst	30	Project Charter	Approval from TechX Innovations	-	1.2
1.1.1	Develop Project Charter	Project Manager, Business Analyst	5	Project Charter	Approval from TechX Innovations,	-	1.1.2
1.1.2	Stakeholder Identification and Analysis	Project Manager, Business Analyst	5	Stakeholder Analysis Report	Approval from TechX Innovations	1.1.1	1.1.3
1.1.3	Project Kickoff Meeting	Project Manager, Project Team, Stakeholders	1	Meeting Minutes, Action Items List	Agreement on project scope and objectives	1.1.2	1.2
1.2	Planning Phase	Project Manager, Business Analyst	90	Project Management Plan, Risk Management Plan, Resource Management Plan, Communication Plan	Approval of project management plan	1.1.3	1.3
1.2.1	Develop Project Management Plan	Project Manager, Project Team	20	Project Management Plan	Approval of project management plan	1.2	1.2.2
1.2.2	Develop Risk Management Plan	Project Manager, Project Team	15	Risk Management Plan	Approval of project management plan	1.2.1	1.2.3

1.2.3	Develop Resource Management Plan	Project Manager, Project Team	15	Resource Management Plan	Approval of project management plan	1.2.2	1.2.4
1.2.4	Develop Communication Plan	Project Manager, Project Team	10	Communication Plan	Approval of project management plan	1.2.3	1.3
1.3	Execution Phase	Project Manager, Project Team	300	Software Development, Testing, Quality Assurance, Deployment	Completion of deliverables, Approval from stakeholders	1.2.4	1.4
1.3.1	Software Development	Project Manager, Development Team	120	Codebase, Documentation	Completion of coding and documentation tasks	1.3	1.3.2
1.3.2	Testing	Project Manager, Testing Team	60	Test Cases, Test Reports	Completion of testing tasks	1.3.1	1.3.3
1.3.3	Quality Assurance	Project Manager, QA Team	60	QA Reports, Bug Fixes	Completion of QA processes	1.3.2	1.3.4
1.3.4	Deployment	Project Manager, Deployment Team	60	Deployed Application	Successful deployment	1.3.3	1.4
1.4	Monitoring and Controlling Phase	Project Manager, Project Team	120	Progress Reports, Issue Logs	Mitigation of project risks, Timely issue resolution	1.3.4	1.5

1.5	Closing Phase	Project Manager, Project Team	30	Project Closure Report	Acceptance of project closure report	1.4	-
-----	---------------	-------------------------------	----	------------------------	--------------------------------------	-----	---

**Comments:** None

## 5.2.2 Schedule Allocation

### 1. Project Planning Phase

#### Project Kickoff:

- **Date:** January 1, 2025
- **Description:** Official commencement of the TechX Innovations Mobile App Banking Solution project.
- **Activities:**
  - Project initiation.
  - Team onboarding.
  - Kickoff meeting.
  - Stakeholder alignment.

### 2. Requirements Gathering Phase

#### Requirements Gathering Milestone:

- **Date Range:** January 1, 2025 - April 1, 2025
- **Description:** Completion of gathering and documenting all functional and non-functional requirements for the banking solution.
- **Activities:**
  - Stakeholder interviews.
  - Requirement workshops.
  - Documentation review.

### 3. Design and Architecture Phase

#### Design and Architecture Milestone:

- **Date Range:** April 1, 2025 - June 31, 2025
- **Description:** Finalization of the system architecture and design for the Mobile App Banking Solution.

- **Activities:**
  - System architecture design.
  - Database schema design.
  - UI/UX prototyping.

#### 4. Development Phase

##### Development Phase 1 Milestone:

- **Date Range:** July 1, 2025 - January 30, 2026
- **Description:** Completion of the first phase of development, including core functionality implementation.
- **Activities:**
  - Frontend development.
  - Backend development.
  - Database setup.
  - Initial testing.

#### 5. Testing Phase

##### Alpha Testing Milestone:

- **Date Range:** February 1, 2026 - March 15, 2026
- **Description:** Internal testing phase to identify and address any major issues or bugs.
- **Activities:**
  - Alpha testing.
  - Bug fixing.
  - Performance optimization.

##### Beta Testing Milestone:

- **Date Range:** March 16, 2026- April 31, 2026
- **Description:** Release of the beta version for limited user testing.
- **Activities:**
  - Beta release.
  - User feedback collection.
  - Iteration planning.

#### 6. Quality Assurance Phase

##### Quality Assurance Milestone:

- **Date Range:** May 1, 2026 - May 15, 2026



- **Description:** Final testing phase to ensure the solution meets quality standards and regulatory requirements.
- **Activities:**
  - Comprehensive testing (functional, regression, security).
  - Compliance checks.

## 7. Deployment Phase

### Deployment Milestone:

- **Date Range:** May 16, 2026 - June 1, 2026
- **Description:** Official deployment of the TechX Innovations De-Fi Banking Solution for production use.
- **Activities:**
  - Deployment planning.
  - Data migration (if applicable).
  - Release to production.

## 8. Launch Phase

### Launch Milestone:

- **Date:** June 1, 2025
- **Description:** Public launch.
- **Activities:**
  - Marketing campaigns.
  - User communication.
  - Launch event (if applicable).

## 9. Post-Launch Evaluation Phase

### Post-Launch Evaluation Milestone:

- **Date Range:** June 1, 2026 - June 30, 2026
- **Description:** Assessment of the solution's performance and user feedback post-launch.
- **Activities:**
  - Performance monitoring.
  - User feedback analysis.
  - Iteration planning for future enhancements.

### 5.2.3 Resource Allocation

This section details how resources are distributed according to the Work Breakdown Structure (WBS) to support project activities and goals, ensuring effective utilization throughout the project lifecycle.

Work Activity	Personnel (Number)	Required Skill Levels	Computing Resources	Software Tools	Special Facilities	Administrative Support
Project Initiation	1	Project Management	N/A	Project Management Software	N/A	Project Coordinator
Requirements Gathering	3	Business Analysis, Software Engineering	N/A	Requirement Gathering Tools	N/A	Administrative Assistant
Software Design Documentation	2	System Architecture, Technical writing	N/A	Design Tools	N/A	Documentation Specialist
Development Phase	10	Front-end Development, Back-end Development, Database Management, Quality Assurance	High-performance Computing, Servers, Cloud Resources	Integrated Development Environments (IDEs)	Testing Environments, Version Control Systems	Technical Support Staff
Testing and Quality Assurance	5	Quality Assurance, Software Testing	Testing Environments, Virtual Machines, Servers	Testing Tools (e.g., Selenium, JUnit)	Quality Assurance Lab	Quality Assurance Specialist
Deployment and Go-Live	3	DevOps, System Administration	Cloud Infrastructure	Deployment Tools	Deployment Environments	System Administrator
Post-Deployment	2	Technical	N/A	Customer	N/A	Customer

Support		Support,		Support Tools		Support Staff
---------	--	----------	--	---------------	--	---------------

## 5.2.4 Budget Allocation

WBS Data	Activity/Personnel	Personnel Cost	Computing Resources	Software Tools	Testing & Simulation	Administrative Support	Total
Project Management	Project Manager, Business Analyst	\$200,000	-	-	-	-	\$200,000
1.1	Initiation Phase						
1.1.1	Develop Project Charter	\$5,000	\$5,000	-	-	-	\$10,000
1.1.2	Stakeholder Identification and Analysis	\$5,000	\$5,000	-	-	-	\$10,000
1.1.3	Project Kickoff Meeting	\$1,000	\$1,000	-	-	-	\$2,000
1.2	Planning Phase						
1.2.1	Develop Project Management Plan	-	-	\$20,000	-	-	\$20,000
1.2.2	Develop Risk Management Plan	-	-	\$15,000	-	-	\$15,000
1.2.3	Develop Resource Management Plan	-	-	\$15,000	-	-	\$15,000
1.2.4	Develop Communication Plan	-	-	\$10,000	-	-	\$10,000
1.3	Execution Phase						

1.3.1	Software Development	\$120,000	-	-	-	-	\$120,000
1.3.2	Testing	\$60,000	-	-	-	-	\$60,000
1.3.3	Quality Assurance	\$60,000	-	-	-	-	\$60,000
1.3.4	Deployment	\$60,000	-	-	-	-	\$60,000
2.1	Development IDE Licenses			\$50,000	-	-	\$50,000
2.2	Testing Tools			\$25,000	-	-	\$25,000
2.3	Design Software Licenses			\$25,000	-	-	\$25,000
2.4	Project Management Software			\$50,000	-	-	\$50,000
2.5	Communication Tools			\$50,000	-	-	\$50,000
3.1	Testing Environment Setup				\$25,000	-	<b>\$25,000</b>
3.2	User Testing Expenses				\$25,000	-	<b>\$25,000</b>
3.3	Simulation Software Licenses				\$50,000	-	\$50,000
4	Administrative Support						
4.1	Legal and Consulting Fees					\$100,000	\$100,000
4.2	Miscellaneous Expenses					\$300,000	\$300,000

## 5.3 Control plan

### 5.3.1 Requirements Control Plan

Requirements control will be managed using Jira, a powerful issue tracking and project management tool. Each requirement will be entered as a user story, and any changes to the requirements will follow a strict change control process. The impact of each change will be assessed, and the Change Control Board (CCB) will review and approve the changes before implementation. Schedule control will be performed using Microsoft Project, with regular updates to the project timeline based on the progress of each work activity. The critical path will be closely monitored, and any deviations will be promptly addressed to ensure the project stays on track. Budget control will involve tracking actual expenses against the planned budget using Excel spreadsheets. The Project Manager will regularly review the budget status and take corrective actions if necessary, such as reallocating resources or adjusting the scope. Quality control will be ensured through a combination of code reviews, automated testing, and continuous integration/continuous deployment (CI/CD) pipelines. The team will follow a test-driven development (TDD) approach, writing unit tests before implementing the functionality. Code quality will be monitored using static code analysis tools, and any issues will be promptly addressed.

#### **Change Management Procedures:**

- Utilize Jira as the primary change management tool to track and manage change requests related to product requirements.
- Establish clear workflows for submitting, reviewing, and approving changes, with designated roles and responsibilities defined for each step.
- Hold bi-weekly Change Control Board (CCB) meetings chaired by the Project Manager to review and assess change requests, ensuring alignment with project goals.
- Document all change requests in a centralized repository within Jira, including detailed descriptions of proposed modifications and their rationale.
- Conduct impact assessments for approved changes to evaluate their feasibility, resource requirements, and potential risks, focusing specifically on how they impact product requirements.

#### **Impact Assessment:**

Impact assessment will consider the following areas:

- Product functionality: Evaluate the impact of requirements changes on the core functionality and features of the product.
- Technical complexity: Assess the level of technical complexity introduced by requirements changes and their implications for implementation.

- Stakeholder satisfaction: Gauge the effect of requirements changes on stakeholder satisfaction and alignment with user expectations.
- Project timeline: Analyze the impact of requirements changes on project schedule and milestones, considering potential delays or accelerations.
- Budget implications: Determine the financial impact of requirements changes on project budget, including additional costs or savings.
- Resource allocation: Evaluate the impact of requirements changes on resource allocation, such as manpower, materials, and infrastructure.

The following rubric outlines key criteria and scoring guidelines for assessing the impact of requirements changes across various project areas in the decentralized banking project.

Impact Area	Criteria	Score (1-5)
Product Functionality	- Extent to which core features are affected	
	- Importance of the affected features to project objectives	
Technical Complexity	- Level of complexity introduced by the changes	
	- Impact on development efforts and technical resources	
Stakeholder Satisfaction	- Degree of alignment with stakeholder expectations	
	- Potential impact on user experience and satisfaction	
Project Timeline	- Effect on project milestones and deadlines	
	- Likelihood of schedule delays or accelerations	
Budget Implications	- Financial impact, including additional costs or savings	
	- Resource allocation implications	
Resource Allocation	- Impact on manpower, materials, and infrastructure	
	- Ability to reallocate resources	

	effectively to accommodate changes	
--	------------------------------------	--

Team members involved in the decentralized banking project will utilize this rubric during Change Control Board (CCB) meetings and impact assessment sessions.

When a change request is submitted, the CCB will convene to review the request and assess its potential impact on product requirements, project scope, schedule, budget, resources, and risk factors. Each criterion within the rubric will be evaluated based on predefined scoring guidelines, considering factors such as severity, urgency, and overall project impact.

Team members will uphold the integrity of product requirements throughout the project lifecycle by closely monitoring changes to ensure alignment with documented requirements. This involves:

#### **Compliance:**

- Ensure alignment with regulatory standards and industry best practices governing decentralized finance (DeFi) and blockchain technology.
- Conduct regular compliance assessments and audits to verify adherence to project requirements and standards.
- Document compliance findings and implement corrective actions as necessary to address any non-compliance issues.

#### **Communication:**

- Maintain transparent communication channels with stakeholders regarding changes to product requirements, providing regular updates on their status and impact assessments.
- Foster collaboration among project team members and stakeholders to facilitate effective decision-making regarding requirement changes.
- Utilize Jira and Email as a centralized platform for communication and collaboration, allowing stakeholders to access real-time information on requirement changes and their implications.

### **5.3.2 Schedule Control Plan**

This section of the Schedule Management Plan outlines the control mechanisms and tools for measuring progress, comparing actual progress to planned progress, and implementing corrective action as necessary. The plan focuses on assessing the achievement of schedule milestones using objective criteria to evaluate the scope and quality of work products at each milestone.

#### **Progress Measurement**

**Regular Monitoring:** Progress is monitored regularly at major and minor project milestones to evaluate the completion of key deliverables and milestones against the project schedule.

**Software Tools:** The project management software tool Microsoft Project will be utilized to track and visualize progress, enabling real-time monitoring and analysis of project timelines.

### Comparison of Actual vs. Planned Progress

As mentioned earlier in the document, the Earned Value Management System (EVMS) and the Critical Path Method will be used to analyze scheduled variance. Major milestones have been specified in the Schedule allocation section of this SPMP.

WBS	Milestone	Date	Complete When... (for approval responsibility, see section 4.3)
1.1.3	Project Kickoff	January 1, 2025	A kickoff meeting is held amongst all team members and stakeholder alignment is apparent.
1.1.3	Requirements Gathering	April 1, 2025	All functional and nonfunctional requirements for the banking solution are gathered and documented.
1.3	Design and Architecture	June 30, 2025	The system architecture and design the Mobile App Banking Solution are finalized
1.3.1	Development Phase 1	January 30, 2026	The first phase of development, including core functionality implementation are completed.
1.3.2	Alpha Testing	March 15, 2026	Major issues and bugs were identified and addressed within



			an internal testing phase.
1.3.2	Beta Testing	May 1, 2026	The beta version of the software is released for limited user testing.
1.3.3	Quality Assurance	May 15, 2026	A final testing phase is held to ensure the solution meets quality standards and regulations.
1.3.4	Deployment	June 1, 2026	The TechX Innovations De-Fi Banking Solution is deployed for production use.
1.3.4	Launch	June 1, 2026	The solution is launched to the public.
1.5	Post-Launch Evaluation	June 30, 2026	User feedback is brought in to assess the solution's performance.

### Collection of Progress Data:

During the weekly project status meetings, team members will report on the completion of milestones within their assigned tasks. Each participant will provide updates on the sub activity milestones achieved, aligning with the corresponding "% complete" values associated with each milestone. This data will be integrated into the project schedule maintained in Microsoft Project for accurate progress tracking.

### Measurement of Progress:

The following Earned Value measurements will be used to monitor schedule progress:

- **Budgeted Cost of Work Scheduled (BCWS):** The planned cost of work scheduled for each activity, automatically updated in Microsoft Project.

- **Budgeted Cost of Work Performed (BCWP):** Calculated based on the "% complete" activity status entered into Microsoft Project.
- **Schedule Variance (SV):** Indicates the variance between BCWS and BCWP, automatically calculated by Microsoft Project.
- **Schedule Performance Index (SPI):** Derived from SV, reflecting schedule performance relative to the planned schedule.
- **Estimated Time At Completion (ETAC):** Estimation of the project completion date based on schedule progress.
- **Critical Ratio (CR):** Composite measurement dependent on CPI and SPI, providing insights into the project's overall performance.

#### **Schedule Performance Indicator (SPI) Thresholds:**

- SPI within 0.90 and 1.10 is considered acceptable.
- SPI exceeding these limits prompts investigation into potential causes and remedies, with an associated elevation in the risk rating of the "Schedule fit" risk item.

#### **Schedule Variance (SV) Thresholds:**

- SV within +/- 5% of BCWS is considered acceptable.
- SV exceeding this threshold triggers investigation into potential causes and remedies, elevating the risk rating of the "Schedule performance" risk item.

#### **Critical Ratio (CR) Thresholds:**

- CR below 0.85 or above 1.15 prompts investigation into potential causes and remedies, leading to an elevation in the risk rating of the "Project performance" risk item.

#### **Reporting and Publication:**

Progress measurements will be extracted from Microsoft Project and published to the project reporting website bi-weekly. This ensures stakeholders have access to timely progress data, facilitating informed decision-making and proactive management of project performance.

### **5.3.3 Budget Control Plan**

This sub clause of the Software Project Management Plan (SPMP) and the associated Budget Control Plan outlines the control mechanisms for measuring the cost of work completed, comparing planned costs to budgeted costs, and implementing corrective actions when actual costs deviate from the budget.

## **Cost Measurement:**

To accurately assess and control the financial implications of the project, a robust cost measurement process is essential. This process involves meticulously tracking and documenting all expenses incurred throughout the project lifecycle. These costs are systematically categorized into predefined cost categories to ensure transparency and facilitate efficient cost management.

### **1. Personnel Costs:**

- Salaries, wages, and benefits of employees directly involved in the project
- Includes project managers, developers, testers, technical writers, and support staff
- Calculated based on hourly rates or monthly salaries

### **2. Software Development:**

- Costs associated with the actual development of the software application
- Includes programming, coding, and debugging
- May also include the purchase of third-party software or libraries

### **3. Testing:**

- Expenses related to testing and quality assurance activities
- Includes manual testing, automated testing, and performance testing
- Ensures the software meets the functional and non-functional requirements

### **4. Documentation:**

- Costs associated with creating and maintaining project documentation
- Includes requirements documents, design documents, user manuals, and technical documentation
- Essential for effective communication and knowledge sharing

### **5. Training:**

- Expenses incurred in providing training to users and support personnel
- Includes developing training materials, conducting workshops, and providing hands-on support
- Ensures smooth adoption and efficient utilization of the software

### **6. Support:**

- Costs related to providing ongoing support to users after the software is deployed
- Includes answering user queries, resolving technical issues, and providing updates
- Crucial for customer satisfaction and long-term success of the software

**Budget Comparison:** Planned costs will be meticulously compared to budgeted costs to promptly identify any discrepancies. During the planning phase, budgeted costs for each project phase will be meticulously established, serving as crucial reference points for comparison.

**Corrective Action Implementation:** In the event of actual costs deviating from budgeted costs, swift corrective actions will be implemented to address the variance. For instance, if the

budgeted cost for the software development phase is set at \$500,000 but the actual cost exceeds this by 10%, reaching \$550,000, the following specific corrective actions may be taken:

- Identifying areas of overspending and assessing the feasibility of reducing expenses without compromising project quality or objectives.
- Implementing targeted cost-saving measures, such as renegotiating contracts with vendors or minimizing non-essential project expenses.
- Enhancing oversight and conducting rigorous reviews of project expenditures to prevent further cost overruns.
- Adjusting future budget allocations to accommodate the variance and ensure sufficient funds are available for remaining project phases.

**Reporting Intervals:** Cost reporting will be conducted at defined intervals, providing stakeholders with timely updates on project expenditures and budget performance. The frequency of reporting intervals will be determined based on the project schedule and the necessity for budget reviews.

**Tools and Methods:** Sophisticated budget management tools, including advanced accounting software and robust project management platforms, will be actively utilized to meticulously track expenses and monitor budget performance throughout the project lifecycle. Additionally, the application of Earned Value Management (EVM) techniques will be explored to systematically assess the cost and schedule performance of the project, ensuring adherence to budgetary constraints and project timelines.

### 5.3.4 Quality Control Plan

In the event that the quality of deliverables falls below acceptable standards or the output does not meet the predetermined quality criteria, the project team will implement a comprehensive quality improvement plan. The plan will involve the following steps:

Identification of Quality Issues:

- By the 15th of each month, the quality assurance team, led by the IT Project Manager, will conduct thorough reviews of deliverables to identify and document any quality issues.
- Utilize feedback mechanisms such as user testing, peer reviews, and automated testing tools to identify areas of concern.

Root Cause Analysis:

- Within three business days of identifying a quality issue, a cross-functional team comprising developers, designers, and quality assurance specialists, facilitated by the IT Project Manager, will conduct root cause analysis to understand the underlying reasons.
- The analysis will be completed no later than the 20th of the month following the identification of the issue.

**Metrics Collection:** Quality-specific metrics will be gathered and tracked using our internal quality management system. These metrics include:

- **Bug Density:** The ratio of open defects to closed defects over a specified time period.
  - **Trigger:** If the rate of increase of open defects exceeds 0.8 times the rate of increase of closed defects over the past 2 weeks.
- **Code Complexity:** Measured using Cyclomatic Complexity metrics.
  - No specific trigger value. Aim to maintain code complexity below industry-standard thresholds.
- **Code Coverage:** Percentage of code covered by automated tests.
  - **Trigger:** Maintain code coverage above 80% throughout the project lifecycle.
- **Defect Density:** The number of defects identified per thousand lines of code.
  - **Trigger:** If the defect density exceeds 12 defects per KLOC, initiate further investigation and corrective actions.

**Remediation Strategy:** Within five business days of completing the root cause analysis, the IT Project Manager will develop a remediation strategy outlining specific actions to address the identified quality issues. The strategy will be communicated to the relevant stakeholders by the end of the same month, with oversight from the Scrum Master.

**Resource Allocation:** Upon approval of the remediation strategy, the IT Project Manager, in collaboration with the Scrum Master, will assess the need for additional resources, such as skilled programmers, designers, or quality assurance specialists, to support the quality improvement efforts. By the 5th of the following month, necessary funds and time will be allocated to acquire and onboard new resources as needed to supplement the existing team.

**Training and Skill Development:** Monthly training sessions or workshops will be conducted by the Scrum Master to enhance the skills and capabilities of team members involved in addressing quality issues. The training schedule will be finalized by the 10th of each month, with sessions commencing by the 20th of the same month.

### 5.3.5 Reporting Plan

This subclause of the SPMP shall specify the reporting mechanisms, report formats, and information flows to be used in communicating the status of requirements, schedule, budget, quality, and other desired or required status metrics within the project and to entities external to the project. The methods, tools, and techniques of communication shall be specified in this subclause. The frequency and detail of communications related to project measurement and control shall be consistent with the project scope, criticality, risk, and visibility.

The stakeholders involved in the project are as follows:

- Ribit Inc. Executive Committee
- Ribit Inc. Steering Committee
- TechX Mobile Banking Project Manager
- TechX Innovations CEO

Information requirements:

Stakeholder	Description	Format(s)	Frequency
Ribit Inc. Executive Committee	Schedule	Paper, electronic	Monthly
Ribit Inc. Executive Committee	Performance reports	Electronic	As needed
Ribit Inc. Steering Committee	Schedule	Paper, electronic	Monthly
Ribit Inc. Steering Committee	Performance reports	Electronic	As needed
TechX Mobile Banking Project Manager	Specification documents	Paper, electronic	When created/changed
TechX Mobile Banking Project Manager	Performance reports	Electronic	As needed
TechX Mobile Banking Project Manager	Status updates	Oral	Monthly
TechX Mobile	Minutes Plans	Paper, electronic	As created

Banking Project Manager			
TechX Innovations CEO	Schedule	Paper, electronic	Weekly
TechX Innovations CEO	Performance reports	Electronic	As needed

## Performance Reporting

The project will report performance to plan with the following metrics:

- Earned Value
- Budgeted Cost of Work Scheduled (BCWS) vs. Budgeted Cost of Work Performed (BWCP)
- Schedule Variance (CV)
- Budgeted Cost of Work Performed (BCWP) vs. Actual Cost of Work
- Performance (ACWP)
- Cost Variance (CV)
- Cost Performance Index (CPI)
- Schedule Performance Index (SPI)
- Critical Ratio (CR)
- Estimated Cost at Completion (ECAC)
- Estimated Time at Completion (ETAC)

## Requirements

- Requirements change count
- Configuration
  - Configuration churn

## Quality

- Open defects vs. closed defects over time
- Lines of code (LOC)
- Comment percentage
- Defects per LOC

## Risks

- Risk exposure

- Top 10 risks
- Weekly risk change

This information will be accessible electronically via a web browser supporting the HTTP protocol. Updates will occur bi-weekly, with additional special updates provided upon reaching project milestones.

### **Approvals**

The following approvals signatures are required in order to confirm consent to and validity of any reporting plan.

Name	Role	Date	Signature
Ara Oladipo	Project Manager		
Benyamain Yacoob	Director of IT Operations		
Andre Price	Ribit Inc. CEO		

## **5.3.6 Metrics Collection Plan**

### **Metrics Collection Plan**

This section outlines the metrics to be collected by the project and the methods to be used for their collection. The metrics are categorized into Effort, Reviews, and Change Requests.

#### **Effort Metrics:**

Effort metrics will be collected through electronic timesheets filled out by project team members. Each team member will log in to the electronic timesheet software and allocate time to specific categories related to their project role. To ensure accuracy, team members will enter timesheet data regularly, preferably on a weekly basis. With the completion of each milestone, team members will update their effort data in the timesheet to facilitate milestone-related reporting.

To emphasize the importance of effort metrics collection, a portion of every second weekly project status meeting will be dedicated to reviewing effort metrics. During these meetings,



questionable metrics will be clarified, and the summarized metrics will be highlighted to inform decision-making.

#### **Review Metrics:**

Review metrics will be collected from review meeting forms, where each reviewed problem will be identified as either "errors" or "defects." The note taker during review meetings will ensure the identification of each problem on the report forms and will enter the metrics into the metrics database.

#### **Change Request Metrics:**

Change request metrics will be automatically collected as they are entered into the project's change management database. TechX's established change management process requires change requesters to fill out an electronic form, specifying the type of change (Corrective, Adaptive, Preventive, or Perfective) and the project ID. The combination of change request information and project ID will serve as the basis for change request metrics collection.

By implementing these methods for metrics collection, the project ensures accurate and timely data collection, facilitating informed decision-making and performance monitoring.

## **5.4 Risk Management Plan**

The Risk Management Plan for the Decentralized Banking Mobile System Project aims to establish a robust framework for identifying, analyzing, prioritizing, and mitigating risks that may impact project objectives. This detailed plan outlines a comprehensive approach to risk management, incorporating industry best practices and tailored strategies to address the unique challenges associated with DeFi, blockchain, mobile app development, and related domains.

#### **Risk Management Framework:**

##### **Risk Identification and Assessment:**

- **Holistic Approach:** The project team will adopt a holistic approach to risk identification, leveraging expertise from various domains, including blockchain technology, DeFi principles, mobile app development, cybersecurity, regulatory compliance, and more.
- **Stakeholder Engagement:** Stakeholders at all levels will be actively involved in the risk identification process through workshops, interviews, surveys, and brainstorming sessions.
- **Risk Taxonomy:** A comprehensive risk taxonomy will be developed to categorize risks based on their nature, source, impact, and likelihood of occurrence.

### **Risk Analysis and Prioritization:**

- **Quantitative and Qualitative Analysis:** Risks will undergo both quantitative and qualitative analysis to assess their potential impact on project objectives, probability of occurrence, and detectability.
- **Scenario Analysis:** Various scenarios will be explored to understand the potential outcomes of different risk events and their implications on project outcomes.
- **Risk Prioritization Matrix:** A risk prioritization matrix will be utilized to prioritize risks based on their severity, urgency, strategic importance, and controllability.

### **Risk Mitigation Strategies:**

- **Proactive Mitigation:** Proactive measures will be implemented to mitigate high-priority risks before they materialize into issues, including preemptive actions, risk avoidance strategies, risk-sharing agreements, and risk transfer mechanisms.
- **Contingency Planning:** Contingency plans will be developed to address unforeseen risks, providing predefined responses and escalation procedures to minimize their impact on project timelines, budget, and quality.
- **Continuous Improvement:** Risk mitigation strategies will be regularly reviewed, refined, and optimized based on lessons learned, emerging threats, and changes in project dynamics.

### **Risk Monitoring and Control:**

- **Real-time Monitoring:** Risks will be continuously monitored throughout the project lifecycle using automated risk management tools, dashboards, and reporting mechanisms to track risk indicators, trigger events, and key performance metrics.
- **Issue Management:** Risks that materialize into issues will be promptly addressed through established issue management processes, ensuring timely resolution and minimal disruption to project activities.
- **Adaptive Risk Response:** The project team will remain agile and adaptive in responding to evolving risk landscapes, adjusting mitigation strategies, resource allocations, and project plans as needed to mitigate emerging threats and capitalize on opportunities.

### **Risk Reporting and Communication:**

#### **Top 10 Risks Report:**

- The Top 10 Risks Report will provide an overview of the most critical risks facing the project, including their potential impact, likelihood of occurrence, current status, mitigation strategies, and responsible parties.

- Detailed risk profiles will be prepared for each of the top 10 risks, outlining their root causes, interdependencies, risk triggers, and recommended actions for mitigation.

#### **Risk Response Report:**

- The Risk Response Report will document the status of each identified risk, including their current risk rating, mitigation efforts, progress updates, and any deviations from the planned risk response strategies.
- It will highlight key risk indicators, trends, and emerging threats, providing stakeholders with actionable insights to make informed decisions and adjust project plans accordingly.

#### **Weekly Risk Change Report:**

- The Weekly Risk Change Report will track changes in the risk landscape over time, including fluctuations in risk rankings, new risk additions, risk removals, and changes in risk severity or likelihood.
- It will analyze the effectiveness of risk mitigation measures, identify emerging trends, and provide recommendations for proactive risk management strategies.

#### **Stakeholder Engagement**

Effective communication and collaboration with project stakeholders are essential for successful risk management. The project team will engage stakeholders at all levels through:

- **Stakeholder Workshops:** Interactive workshops will be conducted to involve stakeholders in risk identification, analysis, and mitigation planning.
- **Risk Review Meetings:** Regular risk review meetings will be held to discuss the status of identified risks, review mitigation progress, and solicit feedback from stakeholders.
- **Executive Briefings:** Executive briefings will be organized to provide senior management with high-level insights into project risks, mitigation strategies, and overall risk posture.
- **Stakeholder Reports:** Comprehensive risk reports will be distributed to stakeholders on a regular basis, providing them with timely updates on project risks, mitigation efforts, and risk management performance.

## **5.5 Project Closeout Plan**

This sub clause of the Software Project Management Plan (SPMP) details the comprehensive plan for the orderly closeout of the software project, ensuring all necessary tasks are meticulously executed before the final day, June 30, 2026.

1. Staff Reassignment Plan:

- By June 15, 2026: Finalize staff reassignment plan in consultation with HR department, considering individual skill sets, project needs, and organizational goals.
  - June 20-25, 2026: Conduct exit interviews with departing team members to gather feedback, insights, and suggestions for improvement.
  - June 28, 2026: Communicate finalized staff reassignments to team members, ensuring clarity regarding new roles and responsibilities.
2. Archiving Project Materials:
    - By June 25, 2026: Assemble and organize all project documentation, including design documents, test plans, meeting minutes, and correspondence.
    - June 26-28, 2026: Transfer digital files to designated project archives or repositories, ensuring proper labeling, version control, and accessibility.
    - June 30, 2026: Complete archiving of all project materials, including physical documents, digital files, and relevant artifacts.
  3. Post-Mortem Debriefings:
    - June 28, 2026: Schedule and conduct post-mortem debriefing sessions with project personnel, facilitating open discussions on project successes, challenges, and lessons learned.
    - June 29, 2026: Document key findings and recommendations from debriefing sessions, categorizing insights into actionable items for future projects.
  4. Preparation of Final Report:
    - June 25-27, 2026: Compile and draft the final report, encompassing a comprehensive analysis of project objectives, achievements, challenges, and recommendations.
    - June 28-29, 2026: Review and refine the content of the final report, ensuring accuracy, coherence, and alignment with project goals and stakeholder expectations.
    - June 30, 2026: Prepare the final report for dissemination, incorporating feedback from project sponsors, stakeholders, and team members.
  5. Dissemination of Final Report:
    - July 1, 2026: Distribute the final report to project stakeholders, senior management, and relevant departments, utilizing both electronic and physical distribution channels.
    - July 5, 2026: Present key findings and insights from the final report to stakeholders and management, highlighting project accomplishments, lessons learned, and recommendations for future endeavors.
    - July 10, 2026: Solicit feedback on the final report from recipients, encouraging constructive criticism and suggestions for improvement to inform future project management practices.
  6. Project Closure:

- June 30, 2026: Formalize project closure by obtaining sign-off from project sponsors and stakeholders, acknowledging successful completion of project deliverables and objectives.
- June 30, 2026: Notify all project team members, stakeholders, and vendors of the project's closure, expressing gratitude for their contributions and dedication throughout the project lifecycle.
- June 30, 2026: Complete administrative tasks, such as closing project accounts, terminating contracts, and releasing project resources, ensuring compliance with organizational policies and procedures.
- July 1, 2026: Celebrate the successful completion of the project with a closing ceremony or event, recognizing and honoring the efforts and achievements of all project participants.

### **Final Report Format:**

Title Page: Project title, date, project team members, and key stakeholders.

Executive Summary: Concise overview of project objectives, achievements, challenges, and recommendations.

Introduction: Background information, project scope, objectives, and methodology.

Project Accomplishments: Detailed summary of project milestones, deliverables, and outcomes, including quantitative and qualitative metrics.

Lessons Learned: Comprehensive analysis of project successes, challenges, best practices, and areas for improvement, accompanied by actionable recommendations for future projects.

Conclusion: Final reflections, acknowledgments, and expressions of gratitude to project sponsors, stakeholders, team members, and contributors.

Appendices: Supplementary materials, such as project schedules, budgets, risk registers, meeting minutes, and post-mortem debriefing notes, providing additional context and supporting documentation.

Throughout the closeout process, regular meetings will be scheduled and documented to ensure transparent communication, proactive risk management, and adherence to project timelines and quality standards.

## **Section 6**

### **Technical Process Plans**

## 6.1 Process Model

The development process model for the decentralized banking mobile system project will follow an Agile methodology, specifically the Scrum framework. Agile methodologies are well-suited for dynamic and complex projects like ours, enabling iterative development, continuous feedback, and rapid adaptation to changing requirements.

### Key Components of the Development Process Model:

#### 1. Project Initiation:

- At the outset of the project, a kickoff meeting will be conducted to align stakeholders, establish project objectives, and define roles and responsibilities.
- The project charter will be created to formally authorize the project, outlining its scope, objectives, deliverables, and constraints.

#### 2. Sprint Planning:

- The project will be divided into time-boxed iterations called sprints, typically lasting 2-4 weeks.
- Sprint planning meetings will be held at the beginning of each sprint to prioritize backlog items, define sprint goals, and estimate the effort required for each task.
- The product backlog, containing user stories and tasks, will be refined and prioritized based on stakeholder feedback and project requirements.

#### 3. Daily Stand-ups:

- Daily stand-up meetings will be conducted to synchronize team members, discuss progress, and identify any impediments or challenges.
- Each team member will provide updates on their tasks, including what they accomplished since the last stand-up, what they plan to work on next, and any blockers they are facing.

#### 4. Sprint Execution:

- During the sprint, development activities will take place according to the sprint backlog, focusing on delivering the highest-priority features first.
- Continuous integration and testing will be performed to ensure code quality, functionality, and adherence to acceptance criteria.

#### 5. Sprint Review:

- At the end of each sprint, a sprint review meeting will be held to demonstrate the completed work to stakeholders and gather feedback.
- Stakeholders will have the opportunity to provide input, suggest changes, and validate whether the sprint goals were met.

#### 6. Sprint Retrospective:

- Following the sprint review, a retrospective meeting will be conducted to reflect on the sprint process, identify areas for improvement, and implement corrective actions.

- Team members will discuss what went well, what could be improved, and actionable steps to enhance team performance in subsequent sprints.

#### **7. Project Termination:**

- Upon reaching the project end date, a project closeout meeting will be held to review project achievements, deliverables, and lessons learned.
- Final documentation, including the project final report, lessons learned report, and handover materials, will be prepared and distributed to stakeholders.
- The project team will be disbanded, and resources reallocated to other projects or initiatives within the organization.

#### **Tailoring of Process Model:**

While Scrum will serve as the primary development framework, certain elements of other Agile methodologies, such as Kanban, may be incorporated based on project needs and team dynamics.

Tailoring of the process model will be indicated through adjustments in sprint duration, meeting frequency, and documentation requirements to align with project constraints and stakeholder preferences.

## **6.2 Methods, tools, and techniques**

The project will adopt Agile methodologies, specifically the Scrum framework, to facilitate iterative development and accommodate evolving requirements. Scrum's emphasis on collaboration, flexibility, and continuous improvement aligns well with the project's dynamic nature and the need for frequent stakeholder feedback. By breaking down the project into manageable iterations or sprints, the team can prioritize tasks, adapt to changes quickly, and deliver value incrementally.

#### **Programming Languages and Notations:**

##### **1. Front-end Development:**

- React.js and React Native: Leveraging these popular frameworks, developers can build responsive and scalable web and mobile applications. React's component-based architecture facilitates code reuse and simplifies UI development.

##### **2. Back-end Development:**

- Go (Golang): Chosen for its simplicity, performance, and concurrency support, Go is well-suited for building robust and scalable back-end systems. Its built-in features, such as goroutines and channels, enable efficient handling of concurrent tasks.



- Gin-Gonic and Echo: These lightweight and fast web frameworks for Go simplify the development of RESTful APIs and microservices, providing routing, middleware support, and HTTP request handling.
3. **Blockchain Development:**
    - Solidity: As the primary language for smart contract development on blockchain platforms like Ethereum, Solidity enables the creation of decentralized applications (DApps) with self-executing smart contracts. It follows Ethereum's programming standards and facilitates secure and transparent transactions.
    - Truffle Suite and Hardhat: These development frameworks offer essential tools and utilities for smart contract testing, debugging, and deployment. They streamline the development workflow, automate tasks, and provide a standardized environment for Ethereum development.

## **Tools and Techniques:**

1. **Version Control:**
  - Git: The project will utilize Git for version control, enabling collaborative development, code branching, and tracking of changes. Git repositories hosted on platforms like GitHub or GitLab will centralize code management and facilitate team collaboration.
2. **Integrated Development Environments (IDEs):**
  - Visual Studio Code and JetBrains GoLand: These feature-rich IDEs provide advanced code editing capabilities, syntax highlighting, code refactoring, and debugging tools. Integrations with Git and project management platforms enhance developer productivity and collaboration.
3. **Continuous Integration/Continuous Deployment (CI/CD):**
  - Jenkins and GitLab CI/CD: CI/CD pipelines will automate the build, test, and deployment processes, ensuring rapid and reliable delivery of software updates. Automated testing and deployment workflows will enhance code quality, reduce manual errors, and accelerate time-to-market.
4. **Testing Frameworks:**
  - Jest and React Testing Library: These testing frameworks will be used for front-end unit testing, validating the behavior and functionality of React components. Test suites will cover various scenarios to ensure the reliability and performance of the user interface.
  - Go Testing Package: Go's built-in testing package will facilitate unit testing of back-end services and APIs. Test cases will verify the correctness of business logic, error handling, and data processing functions, enhancing the overall quality and stability of the application.
5. **Documentation Tools:**

- Markdown and AsciiDoctor: These lightweight markup languages will be used for creating technical documentation, README files, and project wikis. Markdown's simplicity and readability make it ideal for documenting project specifications, API endpoints, and development guidelines.

### **Technical Standards, Policies, and Procedures:**

- Development activities will adhere to industry-standard coding conventions, design patterns, and architectural principles to ensure consistency, maintainability, and scalability across the codebase.
- Code reviews will be conducted regularly to enforce coding standards, identify potential issues, and promote knowledge sharing among team members. Reviews will cover aspects such as code quality, performance, security, and adherence to best practices.
- Documentation will follow established standards, emphasizing clarity, accuracy, and completeness. Comprehensive documentation, including system architecture diagrams, API documentation, and user guides, will facilitate project understanding, collaboration, and maintenance.
- Security best practices will be integrated into the development process to mitigate potential vulnerabilities and ensure the confidentiality, integrity, and availability of sensitive data. Measures such as input validation, authentication, and encryption will be implemented to safeguard against security threats and attacks.

## **6.3 Infrastructure Plan**

The infrastructure plan outlined in this subclause delineates the comprehensive strategy for establishing and maintaining the development environment essential for the successful execution of the software project. It encompasses hardware, operating systems, networks, software tools, facilities, policies, and procedures necessary to support project activities effectively.

### **Hardware Infrastructure:**

The project will utilize modern hardware configurations to provide developers with robust computing resources for efficient software development. Workstations equipped with high-performance CPUs, ample RAM, and SSD storage will empower team members to execute development tasks seamlessly. Additionally, dedicated servers will be deployed to host development, staging, and production environments, ensuring scalability, reliability, and optimal performance.

### **Operating System Environment:**

Linux-based operating systems, specifically Ubuntu Server and CentOS, will serve as the foundation for the project's infrastructure. Renowned for their stability, security, and flexibility, these Linux distributions offer a conducive environment for hosting web applications, databases, and version control systems. By leveraging Linux, the project can capitalize on its open-source ecosystem, robust command-line interface, and extensive package repositories to streamline development operations.

### **Network Infrastructure:**

A secure and reliable local area network (LAN) will interconnect team members' workstations and servers, facilitating seamless communication and collaboration. Gigabit Ethernet switches and routers will ensure high-speed data transmission, while firewalls and intrusion detection systems will safeguard network integrity and confidentiality. Virtual private network (VPN) technologies will enable secure remote access to project resources, allowing team members to work flexibly from diverse locations while adhering to stringent security protocols.

### **Software Tools and Environments:**

A comprehensive suite of software tools will be deployed to support various stages of the software development lifecycle. Version control systems such as Git will enable collaborative code management and version tracking, ensuring code integrity and traceability. Integrated development environments (IDEs) like Visual Studio Code and JetBrains GoLand, along with Continuous integration/continuous deployment (CI/CD) pipelines orchestrated by Jenkins and GitLab CI/CD will automate build, test, and deployment processes, fostering rapid iteration and continuous delivery of software updates.

### **Facilities and Support Services:**

The project will provide dedicated office space equipped with ergonomic furniture, spacious desks, and ample lighting to enhance productivity and comfort for team members. Janitorial services will maintain cleanliness and hygiene in the workspace, ensuring a conducive environment for focused work and collaboration. Administrative personnel will assist with administrative tasks, scheduling meetings, coordinating logistics, and managing documentation, optimizing team efficiency and workflow.

### **Security Measures:**

To fortify the project's infrastructure against potential threats and vulnerabilities, robust security measures will be implemented at multiple levels. Access control mechanisms, including role-based access control (RBAC) and multi-factor authentication (MFA), will restrict unauthorized access to sensitive resources and data. Regular security audits and vulnerability assessments will identify and remediate potential security weaknesses, ensuring compliance with

industry standards and regulatory requirements. Physical security measures, such as surveillance cameras and access control systems, will safeguard server rooms and critical infrastructure from unauthorized access or tampering.

### **Policies, Procedures, and Standards:**

The project will adhere to established policies, procedures, and standards governing development activities, infrastructure management, and security practices. Documentation standards will ensure clarity, consistency, and completeness in project documentation, facilitating knowledge transfer and project continuity. Change management procedures will govern the implementation of modifications to the infrastructure, ensuring minimal disruption and optimal resource utilization. Compliance with relevant industry standards, such as ISO/IEC 27001 for information security management, will underscore the project's commitment to maintaining the confidentiality, integrity, and availability of project assets and data.

## **6.4 Product Acceptance Plan**

**Objective:** The Product Acceptance Plan delineates the acceptance criteria and procedures for the deliverables outlined in section 1.1.3 of the project plan. This plan ensures that all deliverables meet the specified quality standards and functional requirements agreed upon by Ribit Inc. and TechX Innovations.

### **Acceptance Criteria:**

1. **Functional Requirements:** Deliverables must fulfill the functional requirements detailed in the project scope document and Software Requirements Specification (SRS).
2. **Quality Standards:** Deliverables must adhere to established quality standards, encompassing reliability, security, performance, and usability.
3. **Compliance:** All deliverables must comply with relevant industry standards, regulations, and best practices.
4. **Documentation:** Each deliverable must be accompanied by comprehensive documentation, including user manuals, technical specifications, and installation guides.
5. **Testing:** Rigorous testing is required to verify functionality, identify defects, and ensure reliability.

### **Acceptance Methods:**

1. **Testing:** Deliverables will undergo extensive testing, encompassing both manual and automated techniques, to validate functionality and identify any discrepancies.
2. **Demonstration:** Live demonstrations of deliverables will be conducted to exhibit functionality, usability, and compliance with requirements.

3. **Analysis:** Expert analysis will evaluate design, architecture, and performance to ensure alignment with project objectives.
4. **Inspection:** Formal inspections will be conducted by designated review teams to identify any deviations from requirements and ensure quality.

#### **Approval Process:**

1. **Initial Review:** Upon completion, each deliverable will undergo an initial review by the project manager and stakeholders to assess completeness and readiness for acceptance.
2. **Formal Acceptance Meeting:** A formal acceptance meeting will be scheduled between Ribit Inc. and TechX Innovations to review deliverables, discuss issues, and reach a consensus on acceptance.
3. **Approval Signatures:** Representatives from both Ribit Inc. and TechX Innovations will sign a formal acceptance document upon agreement, indicating approval and commitment to the deliverable.
4. **Documentation:** All acceptance decisions and related documentation will be recorded and maintained for future reference.

The following approval signatures are required in order to confirm consent to and validity of the above acceptance plan.

<b>Name</b>	<b>Role</b>	<b>Date</b>	<b>Signature</b>
Ara Oladipo	Project Manager		
Benyamain Yacoob	Director of IT Operations		
Andre Price	Ribit Inc. CEO		

## **Section 7**

### **Supporting Process Plan**

## 7.1 Configuration Management Plan

The Configuration Management Plan outlines the approach and procedures for managing configuration items throughout the project lifecycle. Configuration management ensures consistency, integrity, and traceability of project artifacts, facilitating efficient collaboration and change control.

**Configuration Management Roles:** Unless otherwise specified, configuration management activities are performed by the Configuration Manager, as outlined in section 4.2 of the project plan.

**Configuration Management Tools:** Configuration management functions will be supported by the following tools:

- GitLab: Used for version control and collaborative development.
- Jira: Utilized for issue tracking, change management, and workflow automation.

**Configuration Identification Method:** Configuration identification will be executed in three stages:

1. **Identifying:** Identification of items to be placed under configuration control.
2. **Naming:** Specification of an identification system for assigning unique identifiers to each item.
3. **Acquiring:** Procedure for placing identified items into the appropriate library.

**Configuration Control Method:** Configuration control mechanisms include:

- **Change Requests:** Changes to configuration items will be requested through Ribit Inc.'s issue tracking system on Jira.
- **Change Evaluation:** Evaluation of change impact based on perceived risk vs. benefit, involving budget, schedule, and impact assessment.
- **Change Approval/Rejection:** Permission to change configuration items will be approved or rejected by the Change Control Board (CCB), consisting of the Change Management specialist.

**Status Accounting Method:** The configuration management software will track and provide data on each configuration item, including:

- Latest approved version
- Configuration control status
- Implementation status

**Evaluation Method:** Change evaluations will be performed by a dynamically formed Change Control Board (CCB), comprising team members relevant to the change's impact and configuration items affected.

**Release Management Method:** Releases will be defined in the configuration management system by the Configuration Manager, ensuring all configuration items are suitable for delivery to TechX Innovations.

**Procedure for Baselining a Work Product:** To baseline a work product, the following procedure will be followed:

1. **Label Baselined Version:** The Configuration Manager labels the configuration item according to organizational naming conventions.
2. **Announce Baseline:** The Configuration Manager notifies the project team via email, specifying whether it's a new baseline or the creation of a baseline for a new configuration item.

Step	What	Who
1	Label baselined version <ul style="list-style-type: none"><li>• Label configuration item according to organizational standard naming conventions</li></ul>	Configuration Manager
2	Announce baseline to project team <ul style="list-style-type: none"><li>• Email notification</li><li>• Include specification of whether baseline is a new baseline oof an existing configuration item, or the creation of a baseline for a new configuration item</li><li>• Include reminder that the work product is now a configuration item and may not be changed without submitting a change request</li></ul>	Configuration manager

**Procedure for Change Logging:** Change requests must be logged with the configuration management system:



1. **Enter Change Request:** The change requestor enters change details into the system and submits the request.
2. **Determine Nature of Change:** The Configuration Manager determines if the change is trivial or non-trivial, proceeding accordingly.

Step	What	Who
1	Enter change request <ul style="list-style-type: none"> <li>• Enter change details into the configuration management system</li> <li>• Submit change request</li> </ul>	Change requestor
2	Determine name of change request <ul style="list-style-type: none"> <li>• Determine whether change is trivial or non-trivial               <ul style="list-style-type: none"> <li>○ If trivial, approve request</li> <li>○ If nontrivial, schedule a Change Control Board meeting to review it.</li> </ul> </li> </ul>	Configuration Manager

**Procedure for Change Control Board Review of Changes:** Changes are reviewed and updated by the Change Control Board and Configuration Manager:

1. **Review Change Request:** The Change Control Board analyzes the change's importance and impact on the project.
2. **Approve or Reject Change Request:** The Board determines the change's worthiness and communicates the decision to the Configuration Manager.
3. **Update Change Request Status:** The Configuration Manager updates the change request status in the system accordingly.

Step	What	Who
1	Review change request <ul style="list-style-type: none"> <li>• Analyze change's importance</li> <li>• Analyze change's impact on the project</li> </ul>	Change Control Board
2	Approve or Reject Change Request <ul style="list-style-type: none"> <li>• Determine whether change importance is</li> </ul>	Change Control Board

	worth the change impact <ul style="list-style-type: none"> <li>• Communicate decision to configuration manager</li> </ul>	
3	Update change request status <ul style="list-style-type: none"> <li>• Change the status of the change request to “Approved” or “Rejected”</li> </ul>	Configuration Manager

## 7.2 Verification and Validation Plan

This section of the Software Project Management Plan (SPMP) outlines the verification and validation plan for the software project. It covers the scope, tools, techniques, responsibilities, and organizational relationships pertinent to verification and validation work activities. The plan aims to ensure the quality and correctness of the software deliverables throughout the development lifecycle.

**Scope:** The verification and validation plan encompasses all phases of the software development process, including requirements analysis, design, implementation, testing, and deployment. It ensures that the software meets specified requirements, adheres to quality standards, and satisfies user needs.

**Tools:** The following tools will be utilized for verification and validation activities:

1. Testing Frameworks: Selenium, JUnit
2. Issue Tracking Systems: Jira, Bugzilla
3. Version Control Systems: Git, Subversion
4. Code Review Tools: GitHub, Bitbucket
5. Continuous Integration Tools: Jenkins, Travis CI

**Techniques:** Verification planning will employ the following techniques:

1. Traceability: Establishing links between requirements, design elements, and implementation artifacts to ensure alignment.
2. Milestone Reviews: Periodic evaluations of project progress against predefined milestones to assess adherence to schedules and deliverables.
3. Progress Reviews: Regular assessments of development progress to identify and address any deviations from the plan.
4. Peer Reviews: Collaborative reviews of code, documents, and designs among team members to identify defects and improve quality.

5. Prototyping: Building prototypes to validate design concepts and gather feedback from stakeholders.
6. Simulation: Simulating real-world scenarios to validate system behavior under different conditions.
7. Modeling: Creating models to visualize system architecture, behavior, and interactions.

Validation planning will incorporate the following techniques:

1. Testing: Executing test cases to verify the functionality, performance, and reliability of the software.
2. Demonstration: Showcasing software features to stakeholders to validate user requirements and gather feedback.
3. Analysis: Analyzing software artifacts to ensure compliance with specifications, standards, and best practices.
4. Inspection: Thorough reviews of code, documents, and deliverables to identify defects, inconsistencies, and areas for improvement.

**Responsibilities:** The verification and validation activities will be carried out by dedicated team members, including:

1. Verification Engineers: Responsible for verifying that the software meets specified requirements and adheres to quality standards.
2. Validation Engineers: Responsible for validating the software against user needs and expectations through testing, demonstration, and analysis.
3. Quality Assurance Analysts: Responsible for ensuring the overall quality of the software deliverables through rigorous testing, reviews, and inspections.
4. Development Team: Collaborates with the verification and validation team to address issues, implement improvements, and ensure the integrity of the software.

**Organizational Relationships and Degrees of Independence:** Clear boundaries will be established between development and verification/validation activities to maintain independence and objectivity. While the development team focuses on building and implementing the software, the verification and validation team conducts assessments to ensure its correctness, quality, and suitability for its intended purpose.

**Automated Tools:** Automated testing, version control, issue tracking, and continuous integration tools will be leveraged to streamline verification and validation processes, enhance efficiency, and ensure traceability and accountability throughout the development lifecycle.

## 7.3 Documentation Plan

This section outlines the plan for both deliverable and non-deliverable documentation work products of the project. All deliverable work products are listed in section 1.1.3.

The table headings are as follows:

- **Document:** Describes the documentation work product detailed in the row
- **Template/Standard:** Indicates the template or standard used for the document, which may be organizational or external (refer to section 2 for details)
- **Preparer:** Identifies the individual responsible for preparing the document
- **Reviewer:** Identifies the individual responsible for reviewing the document
- **Review copy due:** Specifies the deadline for the document to be available for review by the designated reviewer
- **Baseline version:** If applicable, denotes the version of the document representing the baseline
- **Distribution list:** Lists the expected recipients of review copies and baseline versions of the document
- **WBS #:** If relevant, indicates the WBS activity associated with the creation of the document

Document	Template/Standard	Preparer	Reviewer	Review copy due	Baseline version	Distribution list	WBS #
Project Charter	SPMP Template	Project Manager, Business Analyst	Stakeholders, Project Sponsor	Day 5	Version 1.0	Stakeholders, Project Sponsor	1.1.1
Stakeholder Analysis Report	SPMP Template	Business Analyst	Project Manager	Day 5	Version 1.0	Project Manager, Stakeholders	1.1.2
Meeting Minutes	Meeting Minutes Template	Project Manager	Project Team, Stakeholders	Within 1 day	Version 1.0	Project Team, Stakeholders	1.1.3
Action Items List	Action Items List Template	Project Manager	Project Team, Stakeholders	Within 1 day	Version 1.0	Project Team, Stakeholders	1.1.3

Risk Management Plan	SPMP Template	Project Manager, Business Analyst	Stakeholders, Project Sponsor	Day 20	Version 1.0	Stakeholders, Project Sponsor	1.2.2
Resource Management Plan	SPMP Template	Project Manager, Business Analyst	Stakeholders, Project Sponsor	Day 15	Version 1.0	Stakeholders, Project Sponsor	1.2.3
Communication Plan	SPMP Template	Project Manager, Business Analyst	Stakeholders, Project Sponsor	Day 10	Version 1.0	Stakeholders, Project Sponsor	1.2.4
Codebase	Coding Standards	Development Team	Project Manager	Day 120	Version 1.0	QA Team, Deployment Team	1.3.1
Documentation	Documentation Standards	Development Team	Project Manager	Day 120	Version 1.0	QA Team, Deployment Team	1.3.1
Test Cases	Test Case Template	Testing Team	Project Manager	Day 60	Version 1.0	QA Team, Deployment Team	1.3.2
Test Reports	Test Report Template	Testing Team	Project Manager	Day 60	Version 1.0	QA Team, Deployment Team	1.3.2
QA Reports	QA Report Template	QA Team	Project Manager	Day 60	Version 1.0	Stakeholders, Project Sponsor	1.3.3
Bug Fixes	Bug Tracking System	Development Team	QA Team	Continuous	N/A	QA Team	1.3.3
Deployed Application	Deployment Plan	Deployment Team	Project Manager	Day 60	Version 1.0	Stakeholders, Project	1.3.4

						Sponsor	
Progress Reports	Progress Report Template	Project Manager	Project Team, Stakeholders	Weekly	Version 1.0	Project Team, Stakeholders	1.4
Issue Logs	Issue Log Template	Project Manager	Project Team, Stakeholders	Continuous	N/A	Project Team, Stakeholders	1.4
Project Closure Report	Closure Report Template	Project Manager	Stakeholders, Project Sponsor	Day 30	Version 1.0	Stakeholders, Project Sponsor	1.5

## 7.4 Quality Assurance Plan

This section outlines the strategies for assuring that the quality of delivered work products aligns with project expectations. Additional details will be provided in the external Software Quality Assurance Plan (SQAP), as outlined in section 2.4 and developed by Quality Analyst 1.

### Scope

The processes used for the following products will be monitored:

- Software Requirements Specification (SRS)
- Software Design Specification (SDS)
- Software Project Management Plan (SPMP)
- Software risk management plan
- Software Test Plan (STP)
- Software Quality Assurance Plan (SQAP)
- Software Configuration Management Plan (SCMP)
- Software Verification and Validation Plan (SVVP)
- Software product object code
- Software product binaries
- End-user training program
- End-user documentation

### Reviews

Quality reviews will ensure adherence to standards for documentation products (as per section 7.3) and that non-documentation work products adhere to the plans/designs laid out by their input prerequisites.

Quality reviews of documentation work products will occur upon completion, while reviews of non-documentation work products will take place weekly during active production periods. Each quality review will be conducted in a meeting format and require the attendance of the Project Manager, Quality Analyst 1, Configuration Manager 1, and Lead team members of involved teams.

A closure review will be held after all work products have been delivered, aimed at gathering "lessons learned" and identifying process improvement opportunities.

### **Audits**

Brief, informal functional audits of in-scope work products will be conducted during software testing and integration phases, with findings documented. Physical audits of software source code will assure a minimum level of documentation quality. Additionally, a quantity (% of documentation to code) will be measured to provide an indicator of internal documentation adequacy.

Scheduled audits of other work products will not be conducted routinely but may be initiated at the request of a project manager or senior executive. The procedure for requesting an audit involves making a formal, written request to the project manager, scheduling the audit session with required resources, distributing the audit agenda, conducting the audit session, and disseminating the audit results.

Step	What	Who
1	<ul style="list-style-type: none"><li>● Make a formal, written request for an audit to the project manager<ul style="list-style-type: none"><li>○ Specify configurations item(s) to be audited</li></ul></li></ul>	Audit requestor (must be a project manager or executive)
2	<ul style="list-style-type: none"><li>● Schedule audit session with resources required for audit session<ul style="list-style-type: none"><li>○ Quality analyst 1</li><li>○ Project manager</li><li>○ Anyone else requested by audit</li></ul></li></ul>	Project manager
3	<ul style="list-style-type: none"><li>● Distribute audit agenda to resources<ul style="list-style-type: none"><li>○ Date of audit</li></ul></li></ul>	Project manager

	<ul style="list-style-type: none"> <li>○ Required resources</li> <li>○ Purpose of audit</li> <li>○ Item(s) to be audited</li> </ul>	
4	<ul style="list-style-type: none"> <li>● Hold audit session</li> </ul>	Project manager
5	<ul style="list-style-type: none"> <li>● Distribute audit results <ul style="list-style-type: none"> <li>○ Date of audit</li> <li>○ Audit participants</li> <li>○ item(s) audited</li> <li>○ Conclusion</li> <li>○ Recommendations</li> </ul> </li> </ul>	Project manager

## **Risk Management**

The Software Quality Assurance (SQA) team will assist in mitigating risk factors outlined in the "Risk Categorization Table" by ensuring process adherence, reviewing the SRS for adherence to standards, and maintaining a documented quality assurance approach.

## **7.5 Reviews and Audits Plan**

This subclause of the Software Project Management Plan (SPMP) outlines the schedule, resources, methods, and procedures for conducting project reviews and audits. The plan encompasses joint acquirer-supplier reviews, management progress reviews, developer peer reviews, quality assurance audits, and acquirer-conducted reviews and audits. Additionally, it identifies external agencies responsible for approving or regulating project products.

### **Schedule**

The schedule for project reviews and audits will be determined based on project milestones, critical phases, and the need for timely feedback. Regular reviews and audits will be integrated into the project timeline to ensure continuous monitoring and improvement.

### **Resources**

Resources allocated for project reviews and audits will include personnel with relevant expertise, meeting facilities, documentation, and any necessary tools or technologies. The availability of resources will be ensured to conduct reviews and audits effectively.

### **Methods and Procedures**



Various methods and procedures will be employed for conducting different types of project reviews and audits:

1. **Joint Acquirer-Supplier Reviews:** These reviews will involve collaboration between the project acquirer and supplier to assess project progress, deliverables, and alignment with requirements. Joint review meetings will be scheduled as needed to facilitate communication and decision-making.
2. **Management Progress Reviews:** Regular progress reviews will be conducted by project management to evaluate progress against established plans, identify risks and issues, and make necessary adjustments to project strategies. These reviews will involve key stakeholders and decision-makers.
3. **Developer Peer Reviews:** Developer peer reviews will involve team members reviewing each other's work products, such as code, designs, and documentation, to ensure quality, consistency, and adherence to standards. Peer review sessions will be scheduled during development phases.
4. **Quality Assurance Audits:** Quality assurance audits will be conducted to evaluate adherence to quality processes, standards, and procedures defined in the project Quality Assurance Plan (QAP). These audits will be performed periodically by the Quality Assurance team to identify areas for improvement and ensure compliance with quality objectives.
5. **Acquirer-Conducted Reviews and Audits:** Reviews and audits conducted by the project acquirer will involve assessing project deliverables, performance, and compliance with contractual requirements. The acquirer may conduct independent assessments or participate in joint reviews with the supplier as necessary.

## **External Agencies**

External agencies responsible for approving or regulating project products will be listed in the project documentation. Any interactions with external agencies will be documented and coordinated according to project requirements and contractual obligations.

<b>Review/Audit</b>	<b>Schedule</b>	<b>Resources</b>	<b>Method</b>	<b>Procedure</b>
---------------------	-----------------	------------------	---------------	------------------

Joint Acquirer-Supplier Progress Review	Monthly, to be completed by the 5th business day of the month	<ul style="list-style-type: none"> <li>- TechX Innovations Representatives</li> <li>- Ribit Inc. Project Manager</li> <li>- Ribit Inc. Development Team Leads</li> </ul>	Review project progress using Earned Value Management System (EVMS), discuss revised cost/schedule estimates, and address other agenda items	<ol style="list-style-type: none"> <li>1. Meeting scheduled by Ribit Inc. Project Manager</li> <li>2. Agenda distributed by Ribit Inc. Project Manager 1 week prior</li> <li>3. Meeting held via video conference to review agenda items and create issue resolution plan</li> <li>4. Meeting minutes distributed by Ribit Inc. Project Manager</li> </ol>
Ribit Inc. Management Progress Review	Quarterly, on the 2nd Friday of the month	<ul style="list-style-type: none"> <li>- Ribit Inc. Executive Team</li> <li>- Ribit Inc. Project Manager</li> </ul>	Review project status, budget, schedule, and resource allocation	<ol style="list-style-type: none"> <li>1. Meeting scheduled by Ribit Inc. Executive Team</li> <li>2. Agenda distributed by Ribit Inc. Project Manager 1 week prior</li> <li>3. Meeting held at Ribit Inc. headquarters to review agenda items and discuss strategic decisions</li> <li>4. Meeting minutes distributed by Ribit Inc. Project Manager</li> </ol>

Developer Peer Reviews	Weekly, during development phases	<ul style="list-style-type: none"> <li>- Ribit Inc. Project Manager</li> <li>- Development Team Members</li> </ul>	Review code, designs, and documentation for quality, consistency, and adherence to standards	<ol style="list-style-type: none"> <li>1. Peer review sessions scheduled by Development Team Leads</li> <li>2. Work products distributed at least 24 hours prior to the review session</li> <li>3. Review sessions conducted to provide feedback and identify areas for improvement</li> <li>4. Review summary distributed by Development Team Leads</li> </ol>
Quality Assurance Audits	Monthly, during development phases	<ul style="list-style-type: none"> <li>- Ribit Inc. Quality Assurance Team</li> <li>- Ribit Inc. Project Manager</li> </ul>	Evaluate adherence to quality processes, standards, and procedures defined in the Quality Assurance Plan (QAP)	<ol style="list-style-type: none"> <li>1. Audits scheduled by Quality Assurance Team Lead</li> <li>2. Relevant documentation and work products provided to the Quality Assurance Team</li> <li>3. Audits conducted to assess compliance with QAP and identify areas for improvement</li> </ol>

				4. Audit report distributed by Quality Assurance Team Lead
Acquirer Acceptance Review	Once, upon completion of the project	<ul style="list-style-type: none"> <li>- TechX Innovations Representatives</li> <li>- Ribit Inc. Project Manager</li> <li>- Ribit Inc. Quality Assurance Team</li> </ul>	Review the final product for compliance with requirements, functionality, and quality standards	<ol style="list-style-type: none"> <li>1. Review scheduled by TechX Innovations and Ribit Inc. Project Manager</li> <li>2. Final product and relevant documentation provided to TechX Innovations</li> <li>3. Review conducted to assess product acceptance criteria</li> <li>4. Acceptance review report distributed by TechX Innovations</li> </ol>

## 7.6 Problem Resolution Plan

### Problem reporting

All problems must be reported to the project manager using the designated problem reporting form. When complete, the form should be submitted electronically via email.

### Problem analysis

Reported problems will be analyzed to assess their impact on the project's schedule, resources, and budget. The analysis will involve:

- Evaluating the problem against the Risk Categorization Table (section 5.4) and updating risk status if needed
- Engaging appropriate team members to analyze the problem, determine resolution steps, and estimate resolution time Mandatory participants include:

- Project Manager
- Configuration Manager
- Quality Analyst

As the project prioritizes adherence to the timeline, the analysis will focus on the problem's impact on the project schedule. This includes assessing the impact of diverting resources from planned activities to problem resolution.

Root cause analysis will be performed if time permits and/or a serious process flaw is suspected. Possible process improvements will be documented by the Quality Analyst.

### **Problem prioritization**

Problems will be prioritized based on their impact on the project schedule if left unresolved:

- Critical: impacts delivery time of critical path activities
- High: impacts non-critical path activities but may affect critical path if unresolved
- Medium: ongoing schedule impact but not expected to affect critical path
- Low: one-time or minor impact not affecting critical path

### **Problem processing**

A problem summary document will be created, including:

- Unique problem ID
- Priority level
- Resources required for resolution
- Resolution activities and resource assignments

Electronic timesheets will track time spent on each assigned problem resolution. Problems will be addressed in order of severity. If resource constraints exist when multiple resolutions are ready, the highest priority will be implemented first. Problem resolution effort should be billed separately using designated time codes to track rework.

### **Roles**

<b>Team Function</b>	<b>Role(s)</b>
Project Manager	<ul style="list-style-type: none"> <li>- Receives problem reports</li> <li>- Organizes meetings</li> <li>- Authors problem summary</li> </ul>
Configuration Managers	<ul style="list-style-type: none"> <li>- Participates in resolution meetings</li> <li>- Analyzes impact on configuration items</li> </ul>

Quality Analysts	<ul style="list-style-type: none"> <li>- Participates in resolution meetings</li> <li>- Gathers data on process deficiencies (root cause analysis)</li> </ul>
Verification & Validation	<ul style="list-style-type: none"> <li>- Verifies &amp; validates resolution for affected work products</li> <li>- Reapplies V&amp;V to previously verified work products affected by changes</li> </ul>
CCB	<ul style="list-style-type: none"> <li>- Reviews changes to configuration items from problem resolution</li> <li>- Approves changes</li> </ul>
Other functions	<ul style="list-style-type: none"> <li>- Participate as needed in problem resolution</li> </ul>

## 7.7 Subcontractor Management Plans

### Selection Criteria

Subcontractors will be selected based on the following criteria:

- Proven expertise in blockchain, DeFi, and mobile app development
- Experience delivering projects of similar scope and complexity
- Alignment with Ribit Inc.'s quality standards and development methodologies
- Competitive pricing and favorable contract terms
- Positive referrals from trusted sources

### Subcontractor Requirements Management

Subcontractor requirements will be clearly defined in the contractual agreement and closely aligned with the overall project requirements. Key aspects include:

- Detailed scope of work specifying deliverables, quality standards, and acceptance criteria
- Adherence to project timeline, milestones, and delivery schedules
- Compliance with Ribit Inc.'s development processes, tools, and frameworks
- Regular progress reporting and participation in project review meetings
- Intellectual property rights and confidentiality obligations

### Monitoring Subcontractor Technical Progress

Subcontractor progress will be closely monitored and integrated with overall project tracking:

- Subcontractors will submit weekly progress reports detailing completed work, upcoming tasks, and any issues or risks
- Subcontractor deliverables will be reviewed and validated against agreed-upon acceptance criteria
- Subcontractors will participate in regular project status meetings and technical reviews
- Performance metrics will be tracked and any deviations promptly addressed

### **Subcontractor Schedule and Budget Control**

- Subcontracts will include clear milestones linked to payment schedules to ensure timely delivery
- Subcontractor invoices will be carefully reviewed against delivered work before approval
- Any proposed changes impacting schedule or budget will require formal approval via change control process
- Earned Value Management will be used to monitor subcontractor cost and schedule performance

### **Subcontractor Product Acceptance Criteria**

- Comprehensive acceptance criteria will be established upfront for each subcontractor deliverable
- Deliverables will be formally reviewed and tested against the acceptance criteria
- Identified defects or deviations must be rectified by subcontractor before acceptance sign-off
- Final payment will be linked to successful completion of acceptance process

### **Subcontractor Risk Management**

- Key subcontractor risks will be identified and incorporated into the project risk register
- Subcontractors will provide regular risk status updates for assessment and mitigation planning
- Joint risk reviews will be conducted to ensure effective risk management across all parties
- Contractual terms will include risk sharing provisions and relief events as appropriate

### **Subcontract Documents**

All subcontract documents, including master agreements, statements of work, and amendments, will be securely stored in the project repository. Key points of contact for each subcontractor will be maintained in the project directory.

## **7.8 Process Improvement Plan**

### **Periodic Process Assessments (PPAs)**

PPAs will be conducted at the end of each major project phase to identify potential process improvements:

- Participants will provide feedback on process effectiveness and suggest enhancements
- Improvement ideas will be evaluated based on value, feasibility, and organizational impact
- High-priority improvements will be implemented in subsequent project phases

- Longer-term improvements will be documented and transitioned to the organizational level

### **Problem Resolution Input**

Process improvements identified during problem resolution (section 7.6) will be managed as follows:

- Quality Analyst will work with Project Manager and key resources to develop process changes
- Organizational process issues will be addressed via temporary workarounds and logged for future evaluation
- Effective project-specific workarounds will be considered for broader organizational rollout
- Process changes will be communicated to the team and reflected in updated documentation

### **Other Improvement Opportunities**

While PPAs and problem resolution are the primary drivers of mid-project process improvement, the team is encouraged to raise improvement suggestions at any time:

- Suggestions should be submitted to the Project Manager with supporting rationale and metrics
- High-value suggestions may be implemented mid-project at the Project Manager's discretion
- Other suggestions will be logged and revisited during project closure and process improvement reviews

By continuously evaluating and optimizing processes, the project team aims to boost efficiency, quality, and stakeholder satisfaction throughout the engagement.



## **Section 8**

### **Additional Plans**

There are no additional plans.

## **Annexes (Appendices)**

## Closure Checklist

Item	Needed? (Y,N)	Due Date	Person Responsible	Done (√)
Communicate decision			Ara Oladipo	
Identify remaining work			Ara Oladipo	
Deliver released software			Benyamain Yacoob	
Get customer approvals			Andre Price	
Perform personnel evaluations			Andre Price	
Conduct final project review			Ara Oladipo	
Release project resources			Ara Oladipo	
Facilitate lessons learned session			Benyamain Yacoob	
Address post-deployment issues			Andre Price	
Publish collected metrics			Benyamain Yacoob	