## Requirements Management Plan

**Project:** Requirements Gathering Agent

**Date:** October 26, 2023

**Version:** 1.0

### 1. Overview

**1.1 Purpose:** This plan outlines the processes and procedures for managing requirements throughout the Requirements Gathering Agent project lifecycle. It ensures that requirements are clearly defined, documented, analyzed, traced, and managed effectively, leading to the successful delivery of a high-quality product that meets stakeholder needs.

**1.2 Scope:** This plan covers all aspects of requirements management, from initial elicitation to final validation and verification. It encompasses functional and non-functional requirements, user stories, and other relevant documentation.

**1.3 Alignment with Project Management Plan:** This Requirements Management Plan is integrated with the overall Project Management Plan and supports the project’s objectives, scope, schedule, and budget. Changes to requirements will be managed through the project’s formal change control process.

**1.4 Integration with Scope Management:** This plan is closely integrated with the Scope Management Plan. Requirements will be used to define the project scope, and any changes to requirements will be assessed for their impact on the project scope.

### 2. Requirements Planning

**2.1 Requirements Gathering Approach:** A mixed approach will be used, combining:

* **Document Analysis:** Reviewing existing documentation (README, project specifications, user stories, etc.) to identify existing requirements.
* **Stakeholder Interviews:** Conducting interviews with key stakeholders (developers, PMs, business analysts) to elicit additional requirements and clarify ambiguities.
* **Prototyping:** Creating prototypes to validate and refine requirements.

**2.2 Stakeholder Involvement Strategy:** Key stakeholders will be identified and involved throughout the requirements lifecycle. Regular communication and feedback mechanisms will be established to ensure alignment and address concerns. A stakeholder register will be maintained to track stakeholder involvement and communication.

**2.3 Requirements Categories and Types:** Requirements will be categorized as:

* **Functional Requirements:** Describe the specific functions and features the system must perform.
* **Non-Functional Requirements:** Describe the system’s quality attributes (performance, security, usability, etc.).
* **User Stories:** Describe features from the user’s perspective (As a …, I want …, so that …).

**2.4 Requirements Prioritization Criteria:** Requirements will be prioritized based on:

* **Business Value:** The contribution of the requirement to the overall business objectives.
* **Risk:** The potential impact of not meeting the requirement.
* **Feasibility:** The likelihood of successfully implementing the requirement within the project constraints.
* **Dependencies:** The relationship between requirements.

### 3. Requirements Analysis

**3.1 Analysis Techniques and Tools:** Requirements will be analyzed using:

* **Use Case Diagrams:** To model system behavior and user interactions.
* **Data Flow Diagrams:** To model data flow within the system.
* **Decision Tables:** To represent complex decision logic.
* **Requirements Traceability Matrix:** To track the relationship between requirements, design, and test cases.

**3.2 Requirements Validation Methods:** Requirements will be validated through:

* **Requirements Reviews:** Formal reviews with stakeholders to ensure accuracy, completeness, and consistency.
* **Prototyping:** Creating and testing prototypes to validate the feasibility and usability of requirements.

**3.3 Acceptance Criteria Definition:** Clear and measurable acceptance criteria will be defined for each requirement to determine whether it has been successfully implemented.

**3.4 Requirements Decomposition Approach:** High-level requirements will be decomposed into more detailed, manageable sub-requirements. This will facilitate implementation and testing.

### 4. Requirements Documentation

**4.1 Documentation Standards and Templates:** A consistent set of templates and standards will be used for documenting requirements. These will ensure clarity, consistency, and ease of understanding.

**4.2 Requirements Attributes and Metadata:** Each requirement will include the following attributes:

* **ID:** Unique identifier.
* **Description:** Clear and concise description of the requirement.
* **Type:** Functional or non-functional.
* **Priority:** High, medium, or low.
* **Source:** The origin of the requirement (e.g., stakeholder interview, document analysis).
* **Status:** Proposed, approved, implemented, verified, etc.
* **Rationale:** The justification for the requirement.

**4.3 Traceability Requirements:** A traceability matrix will be maintained to track the relationships between requirements, design components, test cases, and other project artifacts.

**4.4 Version Control and Configuration Management:** Requirements will be managed using a version control system (e.g., Git) to track changes and ensure that all stakeholders are working with the latest version.

### 5. Requirements Communication

**5.1 Stakeholder Communication Plan:** A communication plan will be developed to ensure that all stakeholders are kept informed of requirements-related activities and decisions.

**5.2 Requirements Review and Approval Process:** A formal review and approval process will be established to ensure that requirements are accurate, complete, and consistent before they are implemented.

**5.3 Change Communication Procedures:** Procedures will be established for communicating changes to requirements to all affected stakeholders.

**5.4 Status Reporting and Metrics:** Regular status reports will be provided to track the progress of requirements management activities and identify any potential issues.

### 6. Requirements Change Management

**6.1 Change Request Process:** A formal change request process will be established for proposing, evaluating, and implementing changes to requirements.

**6.2 Impact Analysis Procedures:** Any proposed change to a requirement will be analyzed for its potential impact on other requirements, the schedule, and the budget.

**6.3 Change Approval Authority:** A designated authority will be responsible for approving or rejecting change requests.

**6.4 Change Implementation Procedures:** Procedures will be established for implementing approved changes to requirements.

### 7. Requirements Verification and Validation

**7.1 Verification Methods and Criteria:** Requirements will be verified to ensure that they are correctly documented and consistent with the overall project objectives.

**7.2 Validation Approach and Schedule:** Requirements will be validated to ensure that they meet the needs of the stakeholders. This will be done through prototyping, testing, and user feedback.

**7.3 Acceptance Testing Strategy:** An acceptance testing strategy will be developed to ensure that the system meets the acceptance criteria defined for each requirement.

**7.4 Quality Assurance Procedures:** Quality assurance procedures will be implemented to ensure that the requirements management process is effective and efficient.

### 8. Requirements Traceability

**8.1 Traceability Matrix Development:** A traceability matrix will be created to track the relationships between requirements, design, code, and test cases.

**8.2 Traceability Maintenance Procedures:** Procedures will be established for maintaining the traceability matrix throughout the project lifecycle.

**8.3 Relationship Mapping Requirements:** The relationships between requirements will be clearly documented and maintained.

**8.4 Coverage Analysis Methods:** Methods will be used to analyze the completeness of requirements traceability.

### 9. Tools and Techniques

* **Requirements Management Tool:** Jira, Confluence, or similar tool will be used to manage requirements.
* **Analysis and Modeling Techniques:** Use Case Diagrams, Data Flow Diagrams, Decision Tables.
* **Documentation and Collaboration Tools:** Confluence, Google Docs, or similar tools.
* **Metrics and Measurement Tools:** Metrics will be tracked to monitor the effectiveness of the requirements management process.

### 10. Roles and Responsibilities

* **Project Manager:** Overall responsibility for requirements management.
* **Business Analyst:** Responsible for eliciting, analyzing, and documenting requirements.
* **Developers:** Responsible for implementing requirements.
* **Testers:** Responsible for verifying and validating requirements.
* **Stakeholders:** Provide input and feedback on requirements.

This Requirements Management Plan will be reviewed and updated as needed throughout the project lifecycle. Any changes to this plan will be communicated to all relevant stakeholders.