Requirements Management Plan

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Description: PMBOK Requirements Management Plan

Requirements Management Plan

Project: Requirements Gathering Agent

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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, tracked, and managed effectively, contributing to project success and stakeholder satisfaction.

1.2 Scope: This plan covers all aspects of requirements management, from initial elicitation to final verification and validation. It encompasses functional and non-functional requirements, constraints, and assumptions.

1.3 Alignment with Project Management Plan: This Requirements Management Plan is integrated with the overall Project Management Plan, ensuring alignment with project objectives, timelines, and budget. Changes to requirements will be managed through the established change control process defined within the Project Management Plan.

1.4 Integration with Scope Management: The scope management plan and this requirements management plan are closely linked. Requirements define the project scope, and changes to requirements will necessitate updates to the scope baseline, managed through the Change Control process.

2. Requirements Planning

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

- **Document Analysis:** Thorough review of existing project documentation (README.md, specifications, architecture documents, etc.) to identify existing requirements.
- **Stakeholder Interviews:** Structured interviews with key stakeholders (developers, PMs, business analysts) to elicit missing or refine existing requirements.

- **Prototyping:** Creation of prototypes to validate and refine requirements early in the development process.

2.2 Stakeholder Involvement Strategy: Stakeholders will be actively involved throughout the requirements management process. This includes regular communication, feedback sessions, and review meetings to ensure alignment and buy-in. A Stakeholder Register will maintain a detailed record of stakeholder involvement and communication.

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

- **Functional Requirements:** Describe what the system *must do*. (e.g., "Generate a PMBOK project charter," "Integrate with Azure OpenAI," "Support multiple AI providers").
- **Non-Functional Requirements:** Describe how the system *must perform*. (e.g., "System must be responsive within 2 seconds," "System must have 99.9% uptime," "The generated documents must be in valid JSON format").
- **Constraints:** Limitations that impact the project (e.g., budget, timeline, technology restrictions).
- **Assumptions:** Factors assumed to be true during project planning.

2.4 Requirements Prioritization Criteria: Requirements will be prioritized using the MoSCoW method (Must have, Should have, Could have, Won't have) based on stakeholder input and business value. High-level prioritization will be done early, with more detailed prioritization as the project progresses.

3. Requirements Analysis

3.1 Analysis Techniques and Tools: Requirements will be analyzed using techniques such as:

- **Use Case Modeling:** To describe the interactions between users and the system.
- **Data Flow Diagrams:** To illustrate the flow of data within the system.
- **Decision Tables:** To represent complex decision logic.
- **Requirements Traceability Matrix:** To track the relationships between requirements and other project artifacts.

3.2 Requirements Validation Methods: Requirements will be validated through:

- **Peer Reviews:** Expert review of requirements documents to identify errors and inconsistencies.
- **Walkthroughs:** Informal reviews to discuss requirements with stakeholders and address questions.
- **Prototyping:** Creating 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 ensure that the system meets stakeholder expectations.

3.4 Requirements Decomposition Approach: High-level requirements will be decomposed into lower-level requirements using a Work Breakdown Structure (WBS) to facilitate management and tracking.

4. Requirements Documentation

4.1 Documentation Standards and Templates: Requirements will be documented using a consistent format and template. The template will include fields for requirement ID, description, priority, type, status, acceptance criteria, and traceability links.

4.2 Requirements Attributes and Metadata: Each requirement will include relevant attributes such as source, author, date created, date modified, and status.

4.3 Traceability Requirements: A traceability matrix will be maintained to track the relationships between requirements, design, code, and test cases.

4.4 Version Control and Configuration Management: A version control system (e.g., Git) will be used to manage changes to requirements documents. A configuration management process will ensure that all stakeholders are working with the most current version of the requirements.

5. Requirements Communication

5.1 Stakeholder Communication Plan: A communication plan will define how requirements information will be shared with stakeholders, including frequency, methods, and responsible parties.

5.2 Requirements Review and Approval Process: Requirements documents will be reviewed and approved by relevant stakeholders before being finalized.

5.3 Change Communication Procedures: Procedures will be established to communicate changes to requirements to all affected stakeholders.

5.4 Status Reporting and Metrics: Regular reports will be provided to track the status of requirements management activities, including metrics such as the number of requirements completed, outstanding requirements, and change requests.

6. Requirements Change Management

6.1 Change Request Process: A formal process will be used to manage change requests to requirements. This includes submitting a change request form, assessing the impact of the change, obtaining approvals, and implementing the change.

6.2 Impact Analysis Procedures: A thorough impact analysis will be conducted for all change requests to assess their impact on other requirements, the schedule, and the budget.

6.3 Change Approval Authority: Clearly defined authority levels will be established for approving change requests.

6.4 Change Implementation Procedures: Procedures will be established to implement approved changes to requirements efficiently and effectively.

7. Requirements Verification and Validation

7.1 Verification Methods and Criteria: Requirements verification will be performed to ensure that the requirements are correctly documented and consistent. This will involve reviews, walkthroughs, and inspections.

7.2 Validation Approach and Schedule: Requirements validation will be performed to ensure that the requirements meet stakeholder needs and expectations. This will involve prototyping, user testing, and demonstrations.

7.3 Acceptance Testing Strategy: A formal acceptance testing strategy will be developed to verify that the system meets the defined acceptance criteria.

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 to maintain the traceability matrix throughout the project lifecycle.

8.3 Relationship Mapping Requirements: Relationships between requirements will be clearly documented to ensure that changes to one requirement do not unintentionally impact others.

8.4 Coverage Analysis Methods: Methods will be used to analyze the coverage of requirements by test cases to ensure that all requirements are adequately tested.

9. Tools and Techniques

9.1 Requirements Management Tools: A requirements management tool (e.g., Jira, Confluence) will be used to manage requirements throughout the project lifecycle.

9.2 Analysis and Modeling Techniques: Various analysis and modeling techniques will be used as described in Section 3.

9.3 Documentation and Collaboration Tools: Collaboration tools (e.g., Microsoft Teams, Slack) will be used to facilitate communication and collaboration among stakeholders.

9.4 Metrics and Measurement Tools: Metrics and measurement tools will be used to track progress and identify areas for improvement in the requirements management process.

10. Roles and Responsibilities

Role	Responsibilities
Project Manager	Overall responsibility for requirements management
Business Analyst	Requirements elicitation, analysis, documentation, and validation
Development Team	Requirements verification and implementation
Stakeholders	Providing requirements, reviewing requirements documents, and approving requirements
Quality Assurance Manager	Ensuring that the requirements management process is effective and efficient, performing audits and reviews

This Requirements Management Plan will be reviewed and updated as needed throughout the project lifecycle to reflect changes in requirements, processes, and tools.