**Requirement Management Plan –** Integrated NPI Build Optimization Framework for Hardware Development

By

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**Name of Project:**

Integrated NPI Build Optimization Framework for Hardware Development

**Purpose**

The purpose of this Requirements Management Plan is to define the approach, processes, and tools used to identify, document, prioritize, and manage requirements for the **Integrated NPI Build Planning and Hardware Optimization Framework** project. This ensures that all requirements are aligned with the project objectives and deliverables.

**Requirements Identification**

1. **Sources of Requirements**:
   * Stakeholder interviews and workshops.
   * Market research and industry standards analysis.
   * Reviews of existing processes and tools.
   * Simulation scenarios for hardware NPI processes.
2. **Requirements Documentation**:
   * Each requirement will be uniquely identified with the following attributes:
     + Requirement ID.
     + Requirement Type (Functional, Non-Functional, Technical, Compliance).
     + Description.
     + Priority (MoSCoW Method).
     + Owner/Stakeholder.
     + Acceptance Criteria.
   * Requirements will be maintained in a **Requirements Traceability Matrix (RTM)** for tracking.

**Requirements Prioritization**

The **MoSCoW Method** will be used to prioritize requirements:

* **Must Have**: Essential features critical to project success.
* **Should Have**: Important but not immediately critical features.
* **Could Have**: Desirable features that enhance the project but are optional.
* **Won’t Have**: Features excluded from this project cycle or deferred.

**Requirements Change Management**

1. **Change Request Process**:
   * All changes must be submitted using a **Change Request Form**.
   * Change requests will include:
     + Description of the requested change.
     + Justification and potential impact on scope, schedule, and budget.
     + Approval from the Project Manager and relevant stakeholders.
2. **Impact Analysis**:
   * Assess the effect of changes on project objectives, deliverables, and timelines.
   * Update the RTM to reflect approved changes.
3. **Communication**:
   * Notify all stakeholders of approved changes and updated documentation.

**Requirements Validation and Verification**

1. **Validation**:
   * Stakeholder reviews and walkthroughs will ensure the requirements are clear and aligned with project objectives.
   * Formal sign-offs will be obtained from key stakeholders.
2. **Verification**:
   * Implementation will be tested during pilot builds and quality assurance phases.
   * Verification results will be documented in project reports and cross-referenced with acceptance criteria.

**Roles and Responsibilities**

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| --- | --- |
| **Role** | **Responsibility** |
| **Project Manager** | Oversees requirements management, change control, and stakeholder updates. |
| **Engineering Team** | Provides technical input and validates design-related requirements. |
| **Supply Chain Team** | Ensures procurement and vendor collaboration requirements are met. |
| **Quality Assurance** | Validates quality and compliance requirements. |
| **Stakeholders** | Approves and reviews requirements documentation. |

**Tools and Techniques**

* **Documentation Tools**: Microsoft Word, Excel, Confluence.
* **Project Management Tools**: Asana, Trello, JIRA.
* **Traceability Tools**: Excel or specialized RTM tools.

**Requirements Traceability Matrix (RTM)**

The RTM will link each requirement to the corresponding design, implementation, testing, and validation phases, ensuring complete traceability.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Req#** | **Requirement Description** | **Category** | **Priority (MoSCoW)** | **Source/Stakeholder** | **Acceptance Criteria** | **Design Document Reference** | **Status** |
| 1 | Develop a centralized NPI dashboard | Functional | Must Have | Project Manager | Dashboard displays real-time build matrices and vendor status | NPI\_Dashboard\_Design\_v1 | In Progress |
| 2 | Implement automated BOM management | Functional | Must Have | Engineering Team | Automated BOM workflows are functional with version control | BOM\_Workflow\_Doc\_v2 | Not Started |
| 3 | Integrate vendor collaboration tool | Functional | Must Have | Procurement Team | Vendor lead times and performance metrics are tracked | Vendor\_Collab\_Tool\_v1 | In Progress |
| 4 | Risk mitigation framework for production delays | Functional | Should Have | Project Manager | Risks are identified, assessed, and simulated for resolution | Risk\_Framework\_v1 | Not Started |
| 5 | Material forecasting tool for production scheduling | Functional | Should Have | Supply Chain Team | Forecast aligns material needs with production timelines | Forecasting\_Model\_v1 | Not Started |
| 6 | Conduct pilot production runs for manufacturing readiness | Functional | Must Have | Manufacturing Team | Pilot builds meet quality standards and timeline expectations | Pilot\_Production\_Plan\_v1 | Planned |
| 7 | Implement automated quality checks | Functional | Must Have | Quality Assurance Team | Quality checks automatically flag defects for correction | QA\_Workflow\_Doc\_v2 | In Progress |
| 8 | Generate predictive analytics reports | Non-Functional | Could Have | Project Manager | Reports provide insights on supply chain performance | Analytics\_Reports\_v1 | Planned |
| 9 | Ensure compliance with industry regulations | Compliance | Must Have | Compliance Team | Compliance with ISO, CE, and FCC certifications | Compliance\_Checklist\_v1 | Not Started |
| 10 | Final project documentation and presentation | Functional | Must Have | Project Manager | Completed documentation and presentation delivered | Final\_Project\_Report\_v1 | Planned |

**Approval Process**

* The Requirements Management Plan and subsequent updates will be approved by the Project Manager and stakeholders.
* Formal sign-off will occur for major changes or updates.