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

By

Aastha Lalit Motwani

**Name of Project:**

Integrated NPI Build Optimization Framework for Hardware Development

**Purpose**

The purpose of the **Schedule Management Plan** is to define the processes and procedures for creating, managing, and controlling the project schedule. It ensures that project activities are completed on time and within scope.

**Roles and Responsibilities**

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| --- | --- |
| **Role** | **Responsibility** |
| **Project Sponsor** | Approves the final project schedule and any major schedule changes. |
| **Project Manager** | Develops, manages, and controls the project schedule. Tracks progress and reports milestones. |
| **Dashboard Developer** | Completes tasks related to dashboard and tool development according to the schedule. |
| **Data Analyst** | Provides data modeling and forecasting deliverables on time. |
| **QA Team** | Executes testing activities within the testing phase. |
| **Risk Manager** | Identifies and mitigates schedule risks. |
| **Stakeholders** | Provides timely feedback during milestone reviews. |

**Schedule Development Process**

**Step 1:** Define Project Activities

* Break down deliverables into manageable tasks (Work Breakdown Structure - WBS).
* Assign owners to each task.

**Step 2:** Sequence Activities

* Identify dependencies between tasks.
* Use network diagrams or Gantt charts to visualize relationships.

**Step 3:** Estimate Activity Durations

* Use expert judgment, historical data, and analogous estimating to determine task durations.

**Step 4:** Develop Project Schedule

* Create the project schedule using **Microsoft Project** or **Excel**.
* Assign start and end dates to all tasks.

**Step 5:** Approve and Baseline the Schedule

* Secure stakeholder approval and baseline the schedule for performance measurement.

**Project Schedule (Milestones and Timeline)**

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| --- | --- | --- | --- |
| **Milestone** | **Start Date** | **End Date** | **Owner** |
| Project Charter Approval | Week 1 | Week 2 | Project Sponsor |
| Project Plan Finalization | Week 2 | Week 4 | Project Manager |
| System Design Approval | Week 4 | Week 6 | Project Manager, Stakeholders |
| Prototype Completion | Week 6 | Week 10 | Dashboard Developer, Data Analyst |
| System Testing Completion | Week 10 | Week 16 | QA Team |
| User Acceptance Testing (UAT) Approval | Week 16 | Week 18 | QA Team, Stakeholders |
| Final Deployment | Week 18 | Week 22 | Project Manager, QA Team |
| Project Closure and Handoff | Week 22 | Week 24 | Project Sponsor, Project Manager |

**Schedule Control Process**

* **Progress Monitoring:**  
  The Project Manager will monitor progress weekly using a Gantt chart and task status reports.
* **Variance Analysis:**  
  Variances of more than 10% from the baseline schedule will trigger corrective actions.
* **Schedule Updates:**  
  Updates to the schedule will be documented and shared with stakeholders in weekly status meetings.
* **Change Control:**  
  All schedule changes will go through a formal **Change Control Process** and require Project Sponsor approval.

**Tools and Techniques**

* **Microsoft Project/Excel:** For task tracking and Gantt chart creation.
* **Power BI:** For real-time dashboard updates and milestone tracking.
* **Risk Analysis Tools:** For identifying and mitigating schedule-related risks.

**Schedule Risks and Mitigation**

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| --- | --- | --- |
| **Risk** | **Impact** | **Mitigation Strategy** |
| Resource unavailability | Project delays | Allocate backup resources; cross-train team. |
| Scope creep | Increased timeline | Strict scope control; stakeholder sign-offs. |
| Data inaccuracies impacting development | Task rework | Validate data sources before development begins. |
| Delays in stakeholder feedback | Missed deadlines | Schedule regular stakeholder reviews. |

**Performance Monitoring**

* **Earned Value Management (EVM):**  
  To track schedule performance using Planned Value (PV), Earned Value (EV), and Schedule Variance (SV).
* **Key Performance Indicators (KPIs):**
  + % of tasks completed on time.
  + Variance from the baseline schedule.
  + Milestones achieved vs. planned milestones.

**Reporting and Communication**

* **Weekly Status Reports:** Distributed to all stakeholders.
* **Bi-weekly Meetings:** To review progress and address bottlenecks.
* **Milestone Review Meetings:** Conducted at each major milestone for approvals.

**Approvals**

|  |  |  |
| --- | --- | --- |
| **Role** | **Signature** | **Date** |
| Project Sponsor | Project Sponsor | [Date] |
| Project Manager | Project Manager | [Date] |
| Key Stakeholder | Key Stakeholder | [Date] |

**Conclusion**

This **Schedule Management Plan** ensures that the project is delivered on time, within scope, and aligns with stakeholder expectations. It provides clear accountability and structured monitoring to mitigate risks and control project timelines effectively.