INVENTORY MANAGEMENT SYSTEM PROJECT PLAN

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Project Charter

Project Title:

Inventory Management System Development

Project Start Date:

July 1, 2024

Project End Date:

December 31, 2024

Project Manager Assigned:

Kosala K.A.

Project Purpose:

The purpose of this project is to develop a new Inventory Management System (IMS) to replace the current manual, error-prone process. This system will streamline inventory updating, ordering, stock level monitoring, and reporting, ultimately improving supply management and meeting customer demands more effectively.

Project Objectives:

- **Efficiency Improvement:** Reduce the time spent on manual inventory updates by 70%.
- **Error Reduction:** Decrease inventory-related errors by 80%.
- **Automation:** Automate the ordering processes to ensure timely restocking.
- **Monitoring:** Implement real-time stock level monitoring.
- **Reporting:** Provide detailed, customizable reports on inventory status and trends.

Project Description:

This project aims to develop and implement a new Inventory Management System (IMS) for Innovative IT Solutions. The project involves gathering detailed requirements, designing the system architecture, and developing the IMS to automate and streamline inventory processes. Key components include real-time inventory updates, automated ordering, stock level monitoring, and comprehensive reporting. The project also includes integration with the existing ERP system, thorough testing, and user training. The final phase will focus on system deployment and rollout to ensure a seamless transition from the current manual processes to the new automated system.

Success Criteria:

- The system meets all specified requirements and passes all test cases with minimal defects.
- Users are trained and able to use the system effectively.
- The system is deployed on time and within the allocated budget.
- Achieves the defined objectives of efficiency improvement and error reduction.

High-Level Requirements:

- User-friendly interface for managing inventory data.
- Real-time updates and alerts for stock levels.
- Automated reordering based on predefined thresholds.
- Detailed reporting functionality.
- Integration with the existing ERP system.
- Secure access controls.

Deliverables:

Requirements Document

The Requirements Document will capture all functional and non-functional requirements for the new Inventory Management System. It will outline:

- **Functional Requirements:** Specific functionalities the system must support, such as inventory updating, order processing, stock level monitoring, and reporting features.
- **Non-functional Requirements:** Performance criteria, security standards, usability, and scalability need.

Design Document

The Design Document will provide a detailed blueprint of the system architecture. It will include:

- **System Architecture:** Overview of the system's structure, including hardware, software, network components, and interfaces.
- **Detailed Design**: Descriptions of individual modules, their interactions, data flow, and algorithms.
- **Data Models:** Database schema and data models that will be used to manage inventory data.

Developed System

The Developed System is the actual software solution built according to the design specifications. It will include:

- **Codebase:** The complete code written for the system.
- **Databases:** Configured databases containing inventory data.
- **User Interfaces:** Front-end interfaces for users to interact with the system.

Test Plans and Reports

Test Plans and Reports will ensure the system works as intended and meets all requirements. They will include:

- **Test Plans**: Strategies and methodologies for testing the system, including unit tests, integration tests, system tests, and user acceptance tests.
- **Test Cases:** Specific scenarios to be tested, along with expected results.
- **Test Reports**: Documentation of test outcomes, including any defects found and their resolutions.

User Manuals

User Manuals will provide instructions on how to use the new Inventory Management System. They will cover:

- **Installation Guide:** Steps for installing the system.
- **User Guide**: Detailed instructions for using system features, tailored for different user roles (e.g., warehouse staff, managers).
- **Troubleshooting Guide:** Common issues and solutions.

Training Materials

Training Materials will help ensure users can effectively use the new system. They will include:

- **Training Sessions:** Scheduled sessions for different user groups.
- **Training Guides:** Step-by-step guides for performing key tasks in the system.
- **Tutorial Videos:** Visual demonstrations of system features and workflows.

Deployment Plan

The Deployment Plan will outline the steps to transition from the old manual system to the new Inventory Management System. It will include:

- **Deployment Strategy**: Approach for deploying the system, such as phased rollouts or a big-bang implementation.
- **Cutover Plan:** Specific activities and timeline for the transition period, including data migration and system integration steps.
- **Rollback Plan**: Procedures for reverting to the old system in case of critical issues during deployment.
- **Support Plan:** Post-deployment support and maintenance arrangements.

Project Boundaries:

In-Scope:

- Development
- Testing and deployment of the IMS
- Integration with the current ERP system
- Training of end-users.

Out of Scope:

- Development of mobile applications
- Post-deployment maintenance and support

Milestones

- **Project Start:** July 1, 2024
- **Requirements Complete:** July 21, 2024
- **System Design Complete:** August 10, 2024
- **Development and Unit Testing Complete:** September 14, 2024
- **System Integration and Testing Complete:** October 12, 2024
- **User Training and Deployment Complete:** November 2, 2025
- **Project End/Go-Live:** December 31, 2025

Preassigned Resources:

- **Project Manager:** Kosala K.A.
- **Business Analyst:** Dilhani K.A.K.
- **System Architect:** Heshanee E.K.R
- **Developers:** Dilrangana K.H.O | Athapaththu A.M.P.B
- **QA/Testers:** Nadee M.S.I
- **IT Support:** Devindi W.N.

Funds:

Total Budget: Rs. 750,000

Facilities:

- Office space
- development and testing environments
- training rooms

Key Risks:

- **Scope Creep:** Managed by implementing strict change control processes.
- **Technical Challenges:** Mitigated by conducting thorough testing and involving skilled team members.
- **Resource Availability:** Addressed by advanced scheduling and having backup resources.

Constraints:

- **Time:** Project must be completed within 6 months.
- **Budget**: Project budget is capped at Rs. 750,000.

Assumptions:

- Key stakeholders will be available for requirements gathering and feedback.
- Necessary hardware and software resources will be available.
- Team members will have the required skills and expertise.
- The existing ERP system can integrate with the new IMS.

Approval:

Project Sponsor: Innovative IT Solutions Date: 31.07.2024

Project Manager: Kosala K.A. Date: 01.08.2024

Key Stakeholder: Dilrangana K.H.O Date: 10.08.2024

Project Team Lead: W.N. Devindi Date: 12.18.2024

Project Scope Statement

Project Name: Innovative IT Solutions Inventory Management System (IMS)

Objectives: The primary objective of the Innovative IT Solutions Inventory Management System (IMS) project is to develop a comprehensive software solution that addresses the company's manual and error-prone inventory tracking process. By implementing the IMS, the company aims to achieve the following objectives:

1. Eliminate manual errors: Automate inventory tracking processes to reduce human errors and improve data accuracy.
2. Enhance efficiency: Streamline inventory updating, ordering, and monitoring processes to optimize resource utilization and minimize operational delays.
3. Improve inventory visibility: Provide real-time insights into inventory levels, stock movements, and usage trends to facilitate proactive decision-making.
4. Enable seamless ordering: Simplify the procurement process with intuitive features for placing orders, managing vendors, and tracking deliveries.
5. Generate actionable insights: Empower stakeholders with customizable reporting functionalities to analyze inventory performance, identify bottlenecks, and optimize stocking strategies.
6. Enhance customer satisfaction: Ensure timely fulfillment of customer orders by maintaining optimal stock levels and minimizing stockouts.

Deliverables:

1. Requirement Analysis Report: Documenting the functional and non-functional requirements gathered from stakeholders.
2. System Design Document: Detailing the architecture, modules, interfaces, and data flow of the IMS.
3. Fully functional Inventory Management Software: Developing and deploying the IMS software with features such as inventory tracking, ordering, reporting, and user management.
4. User Manuals and Documentation: Providing comprehensive guides for system installation, configuration, usage, and troubleshooting.
5. Testing Reports: Conducting rigorous testing to ensure the stability, reliability, and security of the IMS software.
6. Rollout Plan: Planning and executing the deployment of the IMS across relevant departments, including training sessions and post-rollout support.
7. Training Materials: Developing training materials, presentations, and tutorials to educate end-users on IMS functionality and best practices.

Boundaries:

In Scope Boundaries:

1. IMS Development: Design and development of the Inventory Management System (IMS) software.
2. Feature Implementation: Inclusion of core features necessary for the IMS functionality.

3. Testing: Conducting unit, integration, and user acceptance testing for the IMS.
4. Documentation: Creation of user manuals, technical documentation, and training materials related to the IMS.
5. Training: Providing initial training sessions for end-users on how to use the IMS.
6. Data Migration: Assisting with the migration of existing inventory data into the new IMS.
7. User Interface (UI) Design: Development and refinement of the user interface for the IMS.
8. User Feedback Incorporation: Gathering and incorporating user feedback during the development phase.

Out of Scope Boundaries:

1. Hardware and Infrastructure: Procurement or upgrades of hardware infrastructure required for IMS deployment.
2. ERP Integration: Integration with existing Enterprise Resource Planning (ERP) systems.
3. Third-party Software and Services: Procurement of third-party software licenses or external vendor services for IMS development.
4. Maintenance: Post-deployment maintenance, support, and enhancements.
5. Regulatory Compliance: Ensuring compliance with industry regulations and standards, which is the responsibility of the company's regulatory affairs team.
6. Post-Deployment Support: Long-term support and troubleshooting after the initial deployment phase.
7. Custom Development for External Systems: Any custom development work required to integrate the IMS with external systems not specified in the initial requirements.
8. Additional Feature Requests: Implementation of new features or significant changes requested after the initial scope has been defined.
9. Cost Overruns: Covering any additional costs that exceed the allocated project budget.

Acceptance Criteria:

1. Accuracy: The IMS accurately reflects inventory levels, transactions, and updates in real-time.
2. Usability: End-users can perform key tasks such as inventory tracking, ordering, and reporting with minimal training and effort.
3. Reliability: The IMS operates consistently without system crashes, data loss, or performance degradation.
4. Security: The IMS implements robust security measures to protect sensitive inventory data from unauthorized access, manipulation, or breaches.
5. Reporting: The IMS generates comprehensive reports that provide actionable insights into inventory status, trends, and performance metrics.
6. Compliance: The IMS complies with company policies, industry regulations, and data privacy standards.
7. Budget and timeline: The project is completed within the allocated budget of Rs. 750,000 and the stipulated timeframe of 6 months.

Assumptions:

1. Resource availability: Sufficient skilled resources, including developers, testers, and project managers, are allocated to the project.
2. Stakeholder engagement: Stakeholders are actively involved in requirements gathering, reviews, and approvals throughout the project lifecycle.
3. External dependencies: Dependencies on regulatory approvals, external vendors, or third-party integrations do not significantly impact project timelines or costs.
4. Decision-making authority: The project team has the authority to make timely decisions and adjustments within the defined scope to ensure project success.
5. Infrastructure readiness: The company's existing infrastructure can support IMS deployment without major upgrades or modifications.
6. Training feasibility: End-user training can be conducted efficiently within the project timeline and budget constraints, leveraging existing training resources and materials.
7. Change management: Necessary change management processes are in place to address organizational changes resulting from IMS implementation.

Constrains:

1. Budget Constraint: The project has a fixed budget of Rs. 750,000. All project activities, resources, and deliverables must be planned and executed within this budget.
2. Time Constraint: The project must be completed within a 6-month timeframe. This includes all phases such as requirement analysis, system design, development, testing, deployment, and training
3. Resource Constraint: Availability of skilled personnel (developers, testers, project managers) is limited and must be optimally utilized to stay within the budget and timeline.
4. Scope Constraint: The project scope excludes hardware and infrastructure upgrades, ERP integration, procurement of third-party software licenses, and ongoing post-deployment maintenance.
5. Quality Constraint: The IMS must meet specific quality standards for accuracy, usability, reliability, security, and reporting capabilities, as outlined in the acceptance criteria.
6. Stakeholder Engagement: Continuous and active engagement of stakeholders is required for requirements gathering, reviews, and approvals. Delays in stakeholder availability or response could impact project progress.
7. Infrastructure Constraint: The existing company infrastructure must be sufficient to support IMS deployment without requiring major upgrades or modifications.
8. Regulatory Constraint: The project must comply with relevant industry regulations and data privacy standards, as enforced by the company’s regulatory affairs team.
9. Training Constraint: End-user training must be completed efficiently within the project timeline and budget, utilizing existing training resources and materials without additional costs.
10. Change Management Constraint: Effective change management processes must be in place to handle any organizational changes resulting from the IMS implementation, without exceeding the project budget or timeline.

High-Level Project Plan

Project: Inventory Management System

Project Scope

Objectives

- Efficiency Improvement: Reduce the time spent on manual inventory updates by 70%.
- Error Reduction: Decrease inventory-related errors by 80%.
- Automation: Automate the ordering processes to ensure timely restocking.
- Monitoring: Implement real-time stock level monitoring.
- Reporting: Provide detailed, customizable reports on inventory status and trends.

Deliverables

- Requirements Document: A detailed document outlining the functional and non-functional requirements.
- Design Document: A comprehensive system design blueprint.
- Developed System: The completed Inventory Management System with all specified features.
- Test Plans and Reports: Documents outlining the testing strategy, test cases, and testing results.
- User Manuals: Guides for end-users on how to use the new system.
- Training Materials: Materials for training sessions.
- Deployment Plan: A plan for the smooth transition and rollout of the system.

Boundaries

- In-Scope: Development, testing, and deployment of the IMS; integration with the current ERP system; training of end-users.
- Out of Scope: Development of mobile applications; post-deployment maintenance and support.

Schedule

Milestone	Date
Project Start	July 1, 2024
Requirements Complete	August 15, 2024
System Design Complete	September 15, 2024
Development and Unit Testing Complete	November 20, 2024
System Integration and Testing Complete	December 20, 2024
User Training and Deployment Complete	January 20, 2025
Project End/Go-Live	January 31, 2025

Resources

People

- Project Manager: Kosala K.A.
- Business Analyst: Kosala Dilhani
- System Architect: Oshani Dilrangana
- Developers: Ransika Heshani
- QA/Testers: Irima Nadee
- IT Support: Nimna Devindi

Equipment

- Development workstations
- Testing environments
- Server for deployment
- Training facilities

Materials

- Software licenses
- Documentation tools
- Training materials

Communication Plan

Stakeholders

- Project Sponsor
- Project Manager
- Key Stakeholders (e.g., department heads, end-users)
- Project Team Members

Communication Methods

- Status Meetings: Weekly progress meetings with the project team.
- Monthly Reports: Detailed monthly project status reports to stakeholders.
- Email Updates: Regular email updates on project progress and milestones.
- Workshops/Training Sessions: Conducted for end-user training.

Frequency

- Weekly team meetings
- Monthly stakeholder updates
- Ad-hoc as needed for urgent matters

Risk Management

Potential Risks and Mitigation Strategies

- Scope Creep: Implement strict change control processes.
- Technical Challenges: Conduct thorough testing and involve skilled team members.
- Resource Availability: Advanced scheduling and having backup resources.
- Integration Issues: Early and continuous testing with the existing ERP system.
- Budget Overruns: Regular financial monitoring and contingency planning.

Quality Management

Quality Standards

- Adherence to software development best practices
- Compliance with company and industry standards
- Meeting all specified requirements and user acceptance criteria

Processes

- Requirements Review: Ensure all requirements are clear and testable.
- Design Reviews: Conduct peer reviews of the system design.
- Code Reviews: Regular code reviews to ensure quality and adherence to standards.
- Testing: Extensive unit, integration, and user acceptance testing.
- User Feedback: Gather feedback during training and initial deployment.

Change Management

Change Control Process

- Change Request Submission: Formal submission of change requests.
- Impact Analysis: Assess the impact of the change on scope, schedule, and budget.
- Approval Process: Obtain approval from the change control board (CCB).
- Implementation: Plan and implement the change if approved.
- Communication: Inform all stakeholders of the change and its implications.

Time Constraints:

Project Start: July 1, 2024

Requirements Complete: July 21, 2024 (3 weeks)

System Design Complete: August 10, 2024 (3 weeks after requirements completion)

Development and Unit Testing Complete: September 14, 2024 (5 weeks after system design completion)

System Integration and Testing Complete: October 12, 2024 (4 weeks after development and unit testing completion)

User Training and Deployment Complete: November 2, 2024 (3 weeks after system integration and testing completion)

Project End/Go-Live: December 31, 2024 (8 weeks after user training and deployment completion)

Budget Constraints:

Category	Estimated Cost (Rs.)	Justification
Personnel Costs	Rs. 375,000	Salaries for developers, testers, and project manager.
Software and Tools	Rs. 150,000	Costs for development tools, database platform, and cloud hosting (initial setup).
Testing and QA	Rs. 112,500	Testing tools and resources for unit, integration, and UAT testing.
Training and Documentation	Rs. 37,000	Training materials and sessions for users on the new system.
Contingency	Rs. 75,000	Unforeseen expenses or additional features within budget constraints.
Total	**750,000.00**	