COSC 31093 - Enterprise Software Design and Architecture

Group Project Proposal
Group Number : 03

Project Proposal: Tea Export Factory Management System

Client Information:

Company Name: UniWorld TEAS (Pvt) Ltd

Contact Person: Subasingha Gamage Peddrik

Contact Information: 0718951458

Project Team:

1. PS/2019/279 - S.Arshana (Leader)
2. PS/2019/024 - P.D.Lakmini
3. PS/2019/124 – W.K.Thisari
4. PS/2019/228 – G.R.Dilhani
5. PS/2019/233 – D.D.Anuradha
6. PS/2019/083 – L.A.M.S.N.S.Bandara
7. PS/2019/289 – H.B.G.Handuwala
8. PS/2019/013 – S.A.S.Lakshan
9. PS/2019/271 – W.M.S.Priyadarshana
10. PS/2019/140 – K.A.T.L.Kodithuwakku

Project Overview:

The proposed project aims to design and develop an Enterprise Resource Planning (ERP) system for UniWorld TEAS (Pvt) Ltd. This ERP system will streamline the process of collecting tea powders from various sources across Sri Lanka and efficiently manage the exportation process to international markets.

Project Description:

UniWorld TEAS (Pvt) Ltd is a prominent tea exporting company that collects tea powder from local tea producers and exports it to various international markets. To streamline their operations, enhance efficiency, and maintain high-quality standards, we propose the development of a comprehensive Tea Factory Management System(TFMS).

The TFMS will be a robust software solution designed to manage the entire tea production process, from tea leaf collection to packing and export. This system will enable UniWorld TEAS(Pvt) Ltd to monitor and control each aspect of their operations, resulting in improved productivity and quality control.

Project Objectives and Deliverables:

1. Design and Develop an ERP system tailored to the needs of UniWorld TEAS (Pvt) Ltd.

2. Create a centralized database for tea powder inventory management.

3. Implement modules for procurement, production, quality control, and export management.

4. Develop a user-friendly web-based interface for easy access and monitoring.

5. Integrate reporting and analytics features to provide valuable insights.

6. Ensure data security and compliance with relevant regulations.

Project Approach:

We propose an iterative enhancement approach, ensuring that we can adapt to changing requirements and incorporate feedback from stakeholders throughout the project lifecycle. This approach allows us to refine the system incrementally, improving its functionality and usability.

High-Level Project Plan:

1. Requirement Analysis

2. System Design and Architecture

3. Development

4. Quality Assurance and Testing

5. User Acceptance Testing

6. Deployment

7. Training and Documentation

8. Ongoing Support and Maintenance (Post-Deployment)

Communication Strategy:

We will maintain regular contact with UniWorld TEAS (Pvt) Ltd. through:

- Weekly status meetings to discuss progress, issues, and upcoming tasks.[Once a week(Monday) at 9.00 am to 10.00am]

- By-weekly progress reports highlighting accomplishments and upcoming milestones.

- Email communication for day-to-day queries and updates.

- Collaborative tools like Slack for real-time communication within the project team.

- A dedicated project portal for document sharing and tracking.

Risk Evaluation and Contingency Measures:

1. Delays due to external factors (e.g., regulatory changes): We will continuously monitor regulations and adapt our development accordingly.

2. Technical challenges: We have a team of experienced developers and will seek external expertise if needed.

3. Scope changes: We will follow a formal change request process to assess the impact and adjust timelines accordingly.

4. Data security breaches: Robust security measures and regular audits will be in place.

Technical Prerequisites:

1. Hardware and infrastructure for hosting the ERP system.

2. Database management system (e.g., MySQL or PostgreSQL).

3. Web server (e.g., Apache or Nginx).

4. Development tools and IDEs.

5. Collaboration and communication tools.

Selected Approach or Methodology

We propose to adopt an Agile development methodology for this project. This approach emphasizes collaboration, flexibility, and incremental development, allowing us to adapt to changing requirements and deliver a high-quality product iteratively.

<u>Functional Requirements</u>

1. **Inventory Management:**

Features:

- Real-time inventory tracking.

- Barcode scanning for accurate stock updates.

- Batch and lot tracking for quality control.

- Supplier and product categorization.

Benefits:

- Minimize stockouts and overstocking.

- Improved inventory accuracy and reduced shrinkage.

- Efficient utilization of warehouse space.

2. **Quality Control:**

Features:

- Quality inspection workflows.

- Documented quality assurance processes.

- Integration with inventory for quality monitoring.

- Historical quality data tracking.

Benefits:

- Improved supplier performance monitoring.

- Enhanced brand reputation for quality.

- Historical data for quality improvement initiatives.

3. **Supplier Management:**

Features:

- Supplier performance evaluation.

- Supplier collaboration portal.

- Supplier onboarding and qualification.

- Communication tools for feedback and negotiations.

Benefits:

- Improved supplier relationships.

- Cost-effective procurement.

- Enhanced transparency in the supply chain.

4. Order Processing:

Features:

- Order entry and processing workflows.

- Real-time order status tracking.

- Customer order history.

- Automatic order confirmation and notifications.

Benefits:

- Faster order processing.

- Improved order accuracy.

- Enhanced customer satisfaction.

- Streamlined order fulfilment.

5. Shipping and Logistics Integration:

Features:

- Automated shipment planning.

- Real-time shipment tracking.

- Customs documentation management.

Benefits:

- Reduced shipping costs.

- Faster and more efficient logistics operations.

- Improved on-time delivery rates.

- Better control over shipping expenses.

6. Financial Management:

Features:

- Expense tracking and management.

- Financial reporting and analytics.

- Budgeting and forecasting.

- Multi-currency support for international transactions.

Benefits:

- Improved cash flow management.

- Efficient financial reporting.

- Compliance with financial regulations.

7. Forecasting and Demand Planning:

Features:

- Demand forecasting algorithms.

- Sales and demand data analysis.

- Seasonal demand prediction.

Benefits:

- Improved demand prediction accuracy.

- Reduced excess inventory.

- Enhanced customer service with better product availability.

- Cost savings through efficient inventory management.

8. Customer Relationship Management (CRM):

Features:

- Customer contact management.

- Sales lead tracking and conversion.

Benefits:

- Improved customer engagement.

- Better understanding of customer needs.

- Faster resolution of customer issues.

9. Staff Management:

Features:

- Employee records management.

- Attendance tracking and leave management.

- Performance appraisal and feedback.

Benefits:

- Efficient HR processes.

- Improved workforce productivity.

- Accurate payroll processing.

- Enhanced employee satisfaction.

- Compliance with labor regulations.

- Employee development and training.

We are excited to collaborate with UniWorld TEAS(Pvt) Ltd on this project, and we are confident that our expertise in enterprise software design and architecture will deliver a robust and efficient ERP system. We look forward to your feedback and the opportunity to discuss this proposal further.