

CS5002NI Software Engineering

20% Group Coursework

Milestone number: 1

AY 2024-2025

Credit: 30

Group Name: Group 6			
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Assignment Due Date: 26th November

Assignment Submission Date: 26th November

I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

BUSINESS CASE

REASON FOR THE PROJECT

Global Tech is looking to implement an inventory management system to address the inefficiencies in its operations. The lack of said automation is causing delays in order processing, leading to dissatisfaction among customers. Mismanaged resources and unclear inventory levels as well as frequent budget overruns are resulting in significant financial losses. A proper management system will streamline the operations as well as reduce processing time improving user satisfaction and saving costs supporting efficiency.

PROCESS AND METHODOLOGY

After careful consideration and weighing several options, the spiral model seems to be fit for this project as it is a combination of design as well as prototyping. This model provides a structured and also flexible approach. The spiral model is also preferred as it stresses continuous assessment of risks, allows incorporation of new demands based on the stakeholder's evolving needs. This model with its iterative design promotes constant evaluation and hence amplification of the project resulting in a smooth sailing project and quality product.

BENEFITS

With proper administration, this project can yield numerous advantages and enhancements. With automation of manual procedures, this project will increase productivity and speed, leaving minimal room for errors. With timely deliveries and better customer service the customers will be much more satisfied. This project also has the potential to puff out along with the company to house larger such warehouses and in different locations. Real time data reports and analytics will allow for better and quicker data centric decisions by giving conception into sales patterns and warehouse stocks.

RISK ANALYSIS

- The project scope and requirements should be studied carefully as lack of a clear scope could lead to increased cost due to project delays. The company seeks to complete a large project which requires a lot of work in which the stakeholders might not have enough experience in. Technological risks such as outdated systems could obstruct integration as well as risk data breaching. Furthermore,

lack of proper testing before deployment could cause the system to breakdown once deployed leading to more costs to fix it as well as customer dissatisfaction. And lastly, lack of proper maintenance and monitor post deployment could result in it being outdated after a few years.

COSTS

Initial Costs	
Development Costs - 2,50,000	Testing Costs - 1,00,000
Hardware and Infrastructure - 5,00,000	Licensing and Software Tools - 50,000
Training and Documentation - 1,00,000	Contingency Costs (10%) - 1,50,000
Initial Deployment and Launch - 1,50,000	Total Initial Costs for Development: Rs.13,00,000
Ongoing Costs	
System Maintenance - 50,000	Technical Support - 50,000
Server Hosting and Storage - 50,000	Total Annual Ongoing Costs: Rs.1,50,000
ROI	
Total Initial Costs: Rs. 13,00,000	Annual Savings/Benefits: Rs. 5,50,000
Break-even Timeline:	
<ul style="list-style-type: none">Payback Period: 2.4 years	Total Net Gains Over 5 Years: Rs. 14,50,000

SCHEDULE

Project Timeline:

- Total Duration:** 6 months including 1 month for any delays.

Cycle 1 (1 Month): Initial Planning and Requirement Analysis

Objective: Development of Business Case and SRS.

Cycle 2 (1 Month): Initial Development Phase and System Design

Objective: Creating wireframes and designs as well as developing basic functional modules.

Cycle 3 (2 Months): Development and Testing of Prototypes

Objective: Gradually building all system modules.

Cycle 4 (1 Month): QA Testing

Objective: Validating the system's overall functionality and efficiency.

Cycle 5 (1 Month): Final Deployment

Objective: Launching the system and training end-users.

ASSESSMENT AND RECOMMENDATION

The failure to address inventory management issues can lead to operational risks, an increase in budget as well as customer dissatisfaction. Furthermore, poor inventory tracking causes stock misplacement and delays reducing profitability. Delays in key tasks like packing and shipping disrupt supply chains and erode customer trust. Lack of communication prompts errors such as incorrect dispatches and missed deliveries. Thus, implementing an efficient management improves communication, smoother workflows and reduces errors. Investing in proper budgeting, staff, and technology upgrades secures efficiency, growth, and long-term success.