



Advance Software Engineering Lab

CS6471

Assignment I Problem Definition Document

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August 30, 2023**

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1. Project Title

Motor Part Shop Software (MPSS)

2. Problem Statement

A small automobile spare part shop faces difficulty while managing their inventory for sales and ordering supply on regular basis. As there exists various spare parts manufactures for different vehicle types, it makes maintaining inventory of each part to optimal level difficult and subsequently it results in either unavailability of parts or over inventory costs. With another point of view the manual process of managing inventory is also error prone and time consuming which makes it candidate for replacement with a software solution.

3. Project Objectives

The project objectives are as follows:

- To Develop a Software MPSS to handle inventory management consisting of sales tracking and generation supply ordering report.
- To process average weekly sales for each individual parts and calculate optimal supply order threshold that can eliminate the possibility of unavailability or inventory overflow.
- Generate supply order on daily basis with part number, the amount required and the address of the vendor supplying the part to ease ordering process.
- Generate daily and monthly revenue reports and statistical graph representing sales for each day of month.

4. Preliminary Ideas discussion with the user or past experience

It is evident that by replacing the manual process via automated software it can lead to better management of inventory, error prone and time saving ordering process. With added benefit of accurate revenue reports and easiness of supply ordering process.

5. Project Scope

The project scope has following components:

- Development of the Motor Part Shop Software (MPSS) to handle inventory management, sales tracking, and supply ordering.
- Creating sales tracking mechanism to record daily sales data.
- Implementation of algorithms to calculate optimal inventory thresholds based on one week's average sales.
- Developing functionality of creating daily order lists with part details and vendor information for efficient supply ordering.
- Implementing generation of daily revenue reports to monitor financial performance.
- Generation of monthly sales graphs using the available sales data.

Rough Cost estimation for MPSS is as follow:

- Development cost
 - Hiring manpower including UI/UX designer, developer, database engineer and project manager
 - Technical expenditure as per tools being used.
- Maintenance Cost
 - Maintenance and support after completion of project

Keeping above costs into account, this project might cost 25000-30000 Rupees which is estimated rough cost.

6. Feasibility Study

- **Economical:**

The software once complete will optimize the inventory management which will result in higher revenue due to better availability of parts, cost cutting on parts that does not sell well and releasing man power needed for manual inventory management. Which indicates that the benefit outweigh the costs.

- **Technical:**

All technology which is required for implementation of said project is already available, which makes this project technically feasible.

- **Operational:**

The software will be operational same as current system pertaining Just In Time philosophy which is to optimize inventory to be available all time as per customer demands.