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**Semester Project Proposal**

**Submitted To:** Sir Ali Sher Kashif

**Subject:** Object Oriented Programming

**COMSATS University Islamabad, Sahiwal Campus.**

**Marble and Granite Factory**

**Management System**

**Title**: Marble and Granite Factory Management System

**Date**: 11/11/2024

**Project Overview**

The Marble and Granite Factory Management System aims to digitize essential administrative functions within a marble and granite factory, allowing for efficient management of products, billing, customer records, and sales reports. This system will provide a user-friendly interface where the administrator can manage products, generate customer bills, and track sales performance. The project will use MySQL as the database to securely store product and customer data, and Java for the main application logic and GUI.

**Problem Statement**

Manual record-keeping for product details, billing, and customer data can be time-consuming and error-prone. This project addresses these challenges by providing a digital solution for managing key administrative tasks in a marble and granite factory, which improves accuracy, operational efficiency, and customer satisfaction.

**Scope of the Project**

* **Inclusions**:
  + **Product Management**: The administrator can add, edit, and delete products. Product data will include name, price, and category but will exclude quantity (as inventory management is outside the project’s scope).
  + **Customer Management**: Capture and manage customer details, including name, address, and contact number.
  + **Billing and Sales Reporting**:
    - Generate bills for customers based on products selected and prices.
    - Save bills in the database for future reference and reporting.
  + **Sales Report**: Generate sales reports based on stored billing data, allowing the administrator to view historical sales performance and make data-driven decisions.

**Proposed Solution**

The system will be developed with Java for the backend application and user interface, using JavaFX for the GUI, and MySQL as the database. JDBC will handle database interactions. The application will be organized into several modules to manage products, customers, billing, and sales reporting.

**Project Structure**

* **Backend**: Java (for core logic)
* **Frontend**: Java Swing (for the graphical user interface)
* **Database**: MySQL (for data storage and retrieval)

The system will support one main user role:

* **Administrator**: Manages products, generates bills, and views sales reports.

**Expected Outcome**

The Marble and Granite Factory Management System will enable the administrator to effectively manage products, streamline billing, store customer data, and analyze sales reports. This digital approach will reduce manual errors, improve operational efficiency, and offer valuable insights through sales reporting.

**Conclusion**

This project will provide a robust, easy-to-use solution for a marble and granite factory’s core administrative tasks, offering efficient management of products, customer information, and sales. By adopting this system, the factory can better serve customers, streamline billing, and gain insights from sales data.