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4 Dudes Construction

Materials List Estimation Application - Design Document

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**Materials List Estimation Application Design Document**

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**1. Introduction**

The Materials List Estimation Application is designed to assist a construction company in estimating materials costs for building homes. It is a user-friendly GUI application developed using C# and the .NET Framework, with a focus on Windows operating systems (Windows 7 or later).

**Constraints**

Project Duration: 8 weeks

Team Size: 7 members

Development Tools: Microsoft Visual Studio (2019 or later)

Programming Language: C#

Platform: .NET Framework for Windows Forms

**2. System Architecture**

The system will follow a client-server architecture, where the client-side is the Windows Forms-based GUI application, and the server-side includes the necessary business logic and data storage.

**3. User Interface Design**

The GUI designer, Donovan Atkins, will create an intuitive and user-friendly interface with forms, buttons, and layouts.

The design will go through prototyping and revision phases to gather feedback from stakeholders.

Finalized graphical design elements will be incorporated into the application.

**4. Data Schema**

The database schema design will be crucial for storing item details and cost calculations.

The specifics of the database technology (e.g., SQL Server, SQLite) and schema design will be decided during the development phase.

**5. Programming and Implementation**

The programmer, Ben Vuko, will write the code for the application.

Key functionalities will include data input, cost calculations, and user interface development.

Continuous testing and debugging will take place as features are developed.

**6. Testing and Quality Assurance**

Tyler Dishneau will oversee testing and quality assurance.

Thorough testing will be conducted to identify and resolve defects and ensure the application meets user requirements.

All identified issues will be tracked and resolved.

**7. Documentation**

Tyler Dishneau will be responsible for creating user documentation, including manuals and help guides.

Documentation will accompany the application to facilitate user understanding and support.

**8. Project Schedule**

The project schedule is divided into specific activities and durations:

**Week 1-2:** Project Planning and Scope Definition

**Week 3-4:** GUI Design and Prototyping

**Week 5-6:** Programming and Implementation

**Week 7:** Testing and Quality Assurance

**Week 8:** Documentation, Deployment, and Conclusion

**9. Monitoring and Reporting Mechanisms**

Regular status meetings will be held every week to monitor project progress.

An online project management tool will be used to track task completion and milestones.

Team members will provide updates and discuss issues during these meetings.

This design document provides an overview of the key aspects of the Materials List Estimation Application, including system architecture, user interface design, data schema, programming, testing, documentation, project schedule, and monitoring/reporting mechanisms. Detailed technical specifications, design patterns, and code will be developed in alignment with this document during the project's execution.