# Planning Document

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## Introduction

The purpose of this project is to create a software application that allows construction companies to estimate the cost of the materials required to build a new home. It will allow the user to enter items, their material, a description of the item, the quantity of that item, and the cost for 1 of that item. The program will calculate the total cost for that item and add all the costs together to get the total cost for all the house materials. Note: the only thing this program will automatically calculate is the total cost for an item, and the total estimated cost to build the house. Every other parameter (item, material, unit cost, ect.) will have to be entered manually by the user.
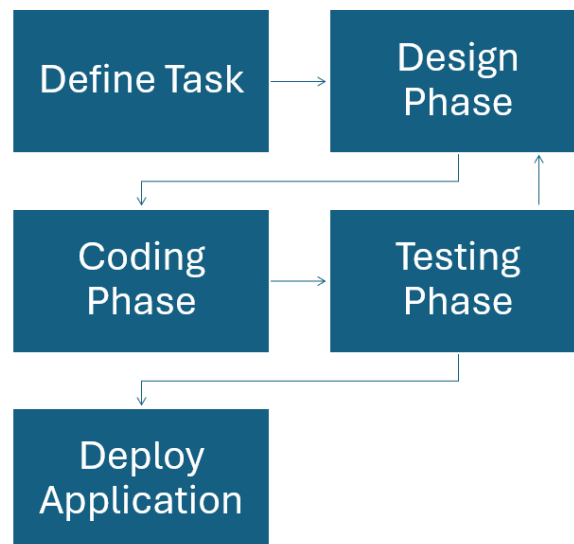
## Project Organization

- Naylan Swarens - leader/programmer - Responsible for managing the team and ensuring all the tasks are completed on time and sufficient  to meet the requirements of the document as well as programming the code for the project.
- Nathaniel Huizar - Designer/programmer - Responsible for designing the GUI for the project and ensuring it is easy to understand and aesthetically pleasing to the user as well as programming the code for the project.
- Logan Metcalfe - Testing/Programmer - Responsible for testing the application to ensure it performs as expected and the user is not able to behave in a way that is unexpected as well as programming the code for the project.

## Hardware and software requirements

This software application will require a personal computer with a Windows OS in order to be used. The application will be developed using the C# programming language and with a Windows Forms App (.NET Framework) to create the GUI for it. We will also be using the Visual Studio IDE in order to facilitate the development of the software application.

## Process Flow Diagrams

**Project Schedule/Work Breakdown**
**Planning and Design Phase:**
Start Date: September 16, 2024
End Date: September 22, 2024
**Tasks:**
Define project requirements and scope.
Design the user interface and user experience.
Create initial mockups.
Plan the project timeline and assign tasks.
**Development Phase:**
Start Date: September 23, 2024
End Date: October 6, 2024
**Tasks:**
Implement the user interface
Develop functionality
Integrate components.
Conduct unit testing and debugging.
**Testing and Refinement Phase:**
Start Date: October 7, 2024
End Date: October 8, 2024
**Tasks:**
Perform thorough testing of the application.
Gather feedback from group members.
Fix any identified issues and refine the application.
**Final Review and Submission:**
Date: October 9, 2024
**Tasks:**
Conduct a final review of the application.
Ensure all requirements are met.
Prepare and submit the final project.

**Weekly Breakdown**
Week 1 (Sep 18 - Sep 22): Planning and Design
Week 2 (Sep 23 - Sep 29): Initial Development
Week 3 (Sep 30 - Oct 6): Continued Development and Integration
Week 4 (Oct 7 - Oct 9): Testing and Refinement/Final Review and Submission

## Monitoring and reporting mechanisms

- Discord - Our team will be using a discord server to communicate with each other. We will create text channels for reporting our progress on the project and have a voice channel to have live meetings.
- GitHub - GitHub will be used to host the code that will ultimately form the application and be used by the team members to propose the changes they plan on making to the code so that it can be evaluated and implemented if the change is acceptable.

## Appendix

| Activity # | Activity Description | Time to complete activity | Activity Dependencies |
|---|---|---|---|
| 1 | Planning | 3 days | Meeting/ Communication |
| 2 | Outline | 2 days | Plan/ agreed upon design |
| 3 | Structure | 5 days | Outline/ Layout |
| 4 | Bulk code | 3 days | Structure |
| 5 | Polish | 2 days | Bulk code |
| 6 | Bug testing | 2 days | Bulk code |
| 7 | Final compile | 1 day | Bug Testing |