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# Introduction

The project’s concept will specify an area of facilitating quantity estimation and cost-effectiveness for construction industry. Users are enabled to input their data (length, width, height, area, etc..) and receive an estimation of the quantity of raw materials according to the data provided. Also the users are provided with the facility to get an idea for their plan via the architectural and interior designing ideas recommended by the application.

Therefore, the users need not waste their time on discussing and planning their construction idea with construction professionals and mainly the users will not get into any deceptions when it comes to cost management. This makes the user’s work easier.

This is a useful innovation for the Sri Lankan Construction industry as well as a product that suits the user’s budget.

# Objectives

* **Estimation of accurate quantity of raw materials :**

The main objective of this project is to come up with the accurate quantity of the raw materials needed for the user’s construction. It helps to ensure that the raw materials are used efficiently and to reduce waste.

* **Cost Management :**

This includes labor costs, material and equipment costs and any other relevant expenses. The cost estimation is essential for planning and securing the budget of the users.

* **Time management :**

This application helps to save time spent on calculations manually.

* **Labor management :**

It provides the amount of labor needed to be hired for a particular project, So that it makes the process easier for the user. Also the users are able to estimate the labor cost for their project.

* **Providing a model designing platform :**

This allows the user to get an overview of the design they are planning as well as a virtual sketch of it.

# Target Users

* **Engineers**

Engineers must ensure that the project is within financial constraints. Therefore, to design and plan a certain construction project this application allows them to use the data to make accurate estimations and achieve their intentions.

* **Construction workers**

Useful for construction workers working in different trades who needs to compute amounts/ calculate quantities daily. Therefore they can operate more efficiently as well as safely.

* **Contractors**

As shareholders in construction projects, they have a certain criteria depending on the projects they work on. They are allowed with customization options, so they can come up with their specific requirements. Also, they can impact on user satisfaction.

* **Project managers**

This application equip with tools which aid in project and cost management and planning. As they are responsible for carrying out the project efficiently within the budget they can ensure that the project is kept within financial limitations through this application. They also have the option to customize their idea through the application to suit their workflows.

* **Construction software developers**

Gives customization options to fulfill their unique needs of their clients. So, they can serve their clients better.

* **Homeowners**

They can estimate the quantities of the materials like tiles, paint, cement etc.. and come up with a great satisfying idea. Homeowners are able to estimate the cost of the materials relevant to the quantities based on the local prices. Also they are recommended with some of the local suppliers where they can purchase materials. A virtual sketch is provided based on their ideas that are input on the application, therefore they can decide or change their planning ideas without wasting any time on it.

* **Construction estimators**

Can raise the precision or the accuracy and simplify their estimation process via this application to make accurate quantity estimations.

# Application features

* **Dimensions**

User can input the dimensions or the measurements in different units like feet, meters, square meters, cubic meters, inches, square feet etc.. and estimate the quantity of materials required for the project construction.

* **Area**

User can input area dimensions in square feet or square meters required for flat surfaces when estimating the quantity of materials.

* **Volume**

User is allowed to input the volume to calculate the amount of 3-dimensional materials. ( Volume is based on height, width and length).

* **Interior design**

User is provided with some interior design ideas which is similar to their dimensions and ideas.