
**Estima
Vision**

Version <1.0>

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Vision (Small Project)	Date: 29 / 12 / 2011

Revision History

Date	Version	Description	Author
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1. Introduction

The purpose of this software is to automate the process of making Bills of Quantities (BOQ's) in a building construction project. The users of this software, civil engineers, quantity surveyors, construction firms, make BOQ's for a project after drawing the plan of the project. The process generally involves repetitive calculations, and standard calculations that can be automated. "Estima" Software solution drastically reduce the time consumed in the manual preparation of BOQ's by automating the process and removing the human errors in calculations

1.1 References

Sri Lanka Standard 573: 1999 [UDC 69(083.74)] : Method of Measurement of Building Works (first revision)

2. Positioning

2.1 Problem Statement

The problem of	Repetitive calculations done in preparation of BOQ's
affects	Quantity Surveyors, Civil Engineers
the impact of which is	Wastage of time in the pre planning process / bidding process construction projects.
a successful solution would	Save time, reduce errors; give the ability to do sensitivity analysis of material on project value.

2.2 Product Position Statement

For	Quantity Surveyors, Civil Engineers, Construction firms
Who	Want to prepare BOQ's regularly for initial planning stages in construction work
The Estima	is a software product
That	Automates the preparation of BOQ's
Unlike	Manual preparation of BOQ's which is susceptible to errors in calculations
Our product	Automates this process of calculations eliminating repeating activities and error prone calculations.

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3. Stakeholder and User Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
Project Advisor	Staff member who is assigned as the project advisor who oversees the project work	Monitors the project progress and evaluates the project. Approves project features and proposed changes to the project
Sri Lanka Standards (SLS) Institute	The governing body which is responsible of making SLS in preparation of standard methods of measurement of building works.	The software has to adhere to the standard BOQ preparation process implied by the SLS standard methods of measurement of building works.
Quantity Surveyors	A professional working within the construction industry concerned with building costs.	Ensures that the system provides a user friendly method to prepare BOQ's and manipulate methods of calculating data (unit rates)
Civil Engineers	A professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment	Ensures that the system provides the relevant automation of the process of preparing BOQ's and gives the ability to extract other relevant data that's useful in managing a construction project
Students	Students who study building economics.	Ensures that the system will aid in preparing BOQ's and doing sensitivity analysis of building material .

3.2 User Summary

Name	Description	Responsibilities	Stakeholder
Construction Firms	Uses the system to prepare BOQ's of their projects	Produce BOQ's using the system. Produce reports using the BOQ's	Self-represented
Students	Uses the system to do projects work.	Prepare BOQ's. Analyse sensitivity of material on the project value and Quantity.	Self-represented
Civil Engineers and Quantity surveyors	Uses the system to prepare BOQ's	Prepare BOQ's Adjust calculation methods in BOQ's Update database details of standard rates. Analyse sensitivity of material on the project value and Quantity.	Self-represented

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3.3 User Environment

The user community of this software is mostly professionals who are fluent in building economics and construction work. But not so fluent in computer knowledge, therefore the system shall be easy to install (simple installation) and intuitive to work on.

BOQ preparation stage comes after preparing the plan and “taking off” of measurements and quantities from it. Depending on the project “taking off” will have varying time. Usually one individual will be involved in preparing the BOQ.

The data from the BOQ’s will be used in preparing the project plan; different software will be used for this purpose. Main user environment used will be desktop computers and will run different operating systems depending on the user.

3.4 Summary of Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
Better user interface	High	User interface design	User interface crashes, issues in user interaction.	Highly responsive user interface with the use of wizards and other user interface methods to produce and intuitive user interface.
Formatted output of the BOQ (pdf, ps etc)	High	Presentation of data	Satisfactory	-
Update databases	Moderate	Manipulating databases	Can update, But cumbersome (have to search the database for an item). No method to identify the updated date	Easy to use method to update individual values and batch update of data in database.
Update day work rates (material cost and labour charges) using common database	Low	Interfacing with remote databases	None	An interfacing method to connect to remote database and update the local database
Amount of automation in the process	High	Automation	Minimal. Have to manually update most of the variables in calculations	An effective way to automatically fill derived variables in calculations to automate the process.
Ability to change unit rate formulae	moderate	Implementation of business logic	The formulae in concern can’t be changed.	Easy to use method to change unit rate calculation formulae.
Free software solution	High	Licensing	Current solutions are closed source and costly	Free and open source software solution.

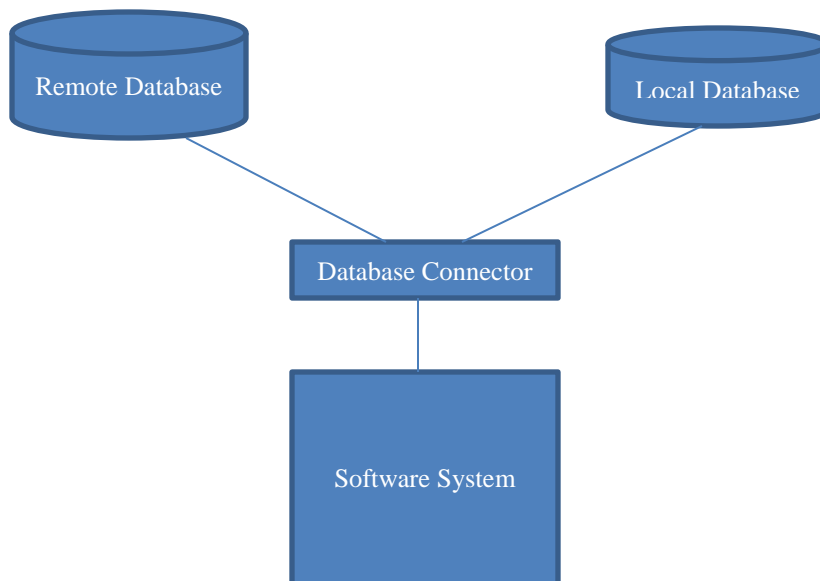
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3.5 Alternatives and Competition

There are few software solutions available in the markets which are closed source. For example “Primavera”, “Billest”.

4. Product Overview

4.1 Product Perspective



System shall be able to connect to local and remote databases to get data through database connectors. Most of the other parts of the software is self-contained

5. Product Features

This section defines and describes the features of the Estima System. Features are the high-level capabilities of the system that are necessary to deliver benefits to the users.

- Automated BOQ generation.
Simply inputting the data from the “taking off” process of data from the plan BOQ shall be prepared.
- Save / Load work
User shall be able to save his work and resume after loading..
- Save in formatted output.
User shall be able to export the BOQ’s into standard pdf form.
- Dynamically update underlying formulae
As users are professionals they shall have the luxury to change the underlying formulae according to their preference.
- Update and view standard rates.
User shall be able to change the values and view current rates of building material. There shall be a method to search items.
- Update database.
User shall be able to update database using a remote database or manually entering data or using spreadsheets.

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6. Other Product Requirements

User interfaces shall be responsive and intuitive.

Users shall be able to use short keys to do routine work and shall have a minimum learning curve.

Shall be easy to deploy and required level of computer literacy shall be minimum. (No database configuration and setup needed)

Application shall be cross platform.

User manual and a help shall be provided for the user to get started and improve his skill in using the software.