

Feasibility Study

Project: Estima

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Description

In the field of building construction there is a need for the preparation of a document called Bills of Quantities (BOQ) to estimate the usage of resources for the project and value them. Usually civil engineers, quantity surveyors make BOQ's for a project after drawing the plan of the project. This process generally involves repetitive calculations, and standard calculations that are time consuming and susceptible to human errors. Therefore there exists a need for a software solution to automate this process.

Possible Solutions

There are several software solutions that are available in the market which tries to automate the process of making BOQ's. They are "Billest" and "Primavera"

Solution Feasibility

"Billest" is developed using macros in Microsoft Access. The software is closed source prone to regular program crashes. Also the user interface design and user interaction is not up to standard. The software is not free.

"Primavera" is a closed source enterprise solution for managing building construction projects (not only making BOQ's). The product is very costly and it's not affordable for small construction companies and for private use.

None of the available solutions are free. Even the free versions available are trial versions or reduced in functionality.

Recommended Solution

After considering the solutions available the conclusion was to implement a free and open source software solution that would be similar to "Billest" with some improved capabilities. The solution would cater the market segments such as small construction companies, university students and individuals who do private consultancy work in building construction.

Technical Feasibility

The project needs to be done in a language which gives cross platform capability and an object oriented approach, as the project need to be extensible and maintainable. After doing some background research Java and C++ became the candidates for the project. Since responsive GUI's and speed of the

program is a concern C++ with the Qt framework was selected. This framework provides cross platform widget library plus other libraries such as “QThreads”, “Qstrings”, “QDatabase” etc. Technical support for this Qt framework is stable and is backed by Nokia.

For database implementation, hassle free (configuration less) SQLite database will be used. This is only for maintaining the local database. Only a database connector will be provided to connect to remote databases (As there is no standard implementation of remote database available).

Budget and time constraint feasibility

As this is an open source project and all the tools and technologies used for production are free and open source there are no cost constraints for this project.

The project needs to be completed within 3 months’ time. Even though the working environment is new, with the technical support available for Qt and my competence in “Java” and “C” language I will be able to complete the project on time with the required features.

Overall feasibility

As detailed above the recommended solution is feasible under requirements of the project, technical feasibility, budget and time-constraint feasibility.

References

Matthias Kalle Dalheimer. (n.d.). Qt vs. Java: A Comparison of Qt and Java for Large-Scale, Industrial-Strength GUI Development.

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