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Estimation of essential metrics in the IT industry

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ABSTRACT

In this article, we have written about the software which helps in creating other software.

Keywords— IT, Software, MS Access, Java, Swing

1. INTRODUCTION

Technology used in the project development:

- Oracle
- Java JDK 6 using Swing Package (AWT) and JDBC that is Java Database Connectivity.
- Database used:
- Microsoft Access

I have used COCOMO as underlying estimation model. I have implemented this project using my assumptions, problem scenario and other criteria that may differ from original techniques.

The project will run as a tool or Windows based GUI application in one PC/local host. No browser, no internet involved. Modules in this project will consist of:

- (a) Home Screen
- (b) Fixed Password Screen
- (c) Model Selection... Basic or Intermediate ... Using drop down menu
- (d) Calculation of estimated lines of code using functional specifications and operational constraints of any project including project class.
- (e) Output: Estimated Effort, Time and People required in project.

2. BODY

This research paper is based on my project “Estimation of Essential Metrics in the IT Industry”. This project consist of various technologies which we will discuss now:

- **Java Swings:** Swing is the primary Java GUI widget toolkit. It is part of Oracle's Java Foundation Classes (JFC) — an API for providing a Graphical User Interface (GUI) for Java programs.
- **Java Database Connectivity (JDBC):** JDBC is a Java-based data access technology (Java Standard Edition platform) from Sun Microsystems, Inc. It is not an acronym as it is unofficially referred to as Java Database Connectivity. This technology is an API for the Java programming language that defines how a client may access a database. It provides methods for querying and updating data in a database. JDBC is oriented towards relational databases. A JDBC-to-ODBC bridge enables connections to any ODBC-accessible data source in the JVM host environment.
- **MS access:** Microsoft Office Access, previously known as Microsoft Access, is a database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. It is a member of the Microsoft Office suite of applications, included in the Professional and higher editions or sold separately.
- **COCOMO:** COCOMO was first published in 1981 Barry W. Boehm's Book Software engineering economics as a model for estimating effort, cost, and schedule for software projects. It drew on a study of 63 projects at TRW Aerospace where Barry Boehm was Director of Software Research and Technology in 1981. The study examined projects ranging in size from 2,000 to 100,000 lines of code, and programming languages ranging from assembly to PL/I. These projects were based on the waterfall model of software development which was the prevalent software development process in 1981.

3. CONCLUSION

Now, we will discuss inputs and o used in this project. These are:

- **Login password:** In this page, we fill username and password.
- **Estimated Effort, Time & People (as per 'Basic' COCOMO model):** In this page, we fill details based on Basic COCOMO Model.
- **Estimated Effort, Time & People (as per 'Intermediate' COCOMO model):** In this page, we fill details based on Intermediate COCOMO Model.
- **Detailed Analysis details:** 'Basic' COCOMO - In this page, we see the detailed analysis details we received on the basis of Basic COCOMO Model.
- **Detailed Analysis details:** 'Intermediate' COCOMO - In this page, we see the detailed analysis details we received on the basis of Intermediate COCOMO Model.
- **Detailed Analysis details retrieved:** In this page all outputs derived till yet