

JUST THE FACTS

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LTRC Project Management and Tracking System

PROBLEM

Management of research projects can be quite cumbersome, as it involves keeping track of the timing and status of various committee meetings and research personnel meetings as well as the actions resulting from the meetings. The actions may be relative to the time, monies, and progress (work plan) defined in the research project. Another important aspect of the monitoring process is the tracking of the review and publication status of various reports (progress, interim, final, and implementation) required of the research personnel responsible for the conduct of research. A web based application for project management and tracking can alleviate the tedious process of managing the research project from the initial problem statement stage through development of a full scale research project to the final stage—implementation of research findings. Such a system can provide timely information to the various disciplines involved in the management of projects.

OBJECTIVES

The objective of this research is to design and implement a web based application that will facilitate the management and tracking of LTRC research projects and will be accessible to all intended users. Such an application will enhance inter-organizational coordination and will impact both the overall business process and the end users of the application. The benefits of the effort are manifold. The mission is to maximize efficiency by providing centralized data and decreasing the need to collocate data between offices. This system will automate some of the manual processes and enhance the overall productivity of the existing system. Users will be granted the responsibility to maintain their specific details online. Employees located at different offices will have easy access to current information directly from the web browser. Online assessments allow simple collection, management, and tracking of results.

PROJECT WORK FLOW & APPROACH

A formalized software project management process will be adopted during the implementation of this initiative. Specifically, the project is broken down into the following distinct phases: Requirements Analysis, System and Architecture Design, Module Design, Coding, Testing at

SPECIAL POINTS OF INTEREST:

- Problem Addressed
- Objectives of Research
- Methodology Used
- Implementation Potential

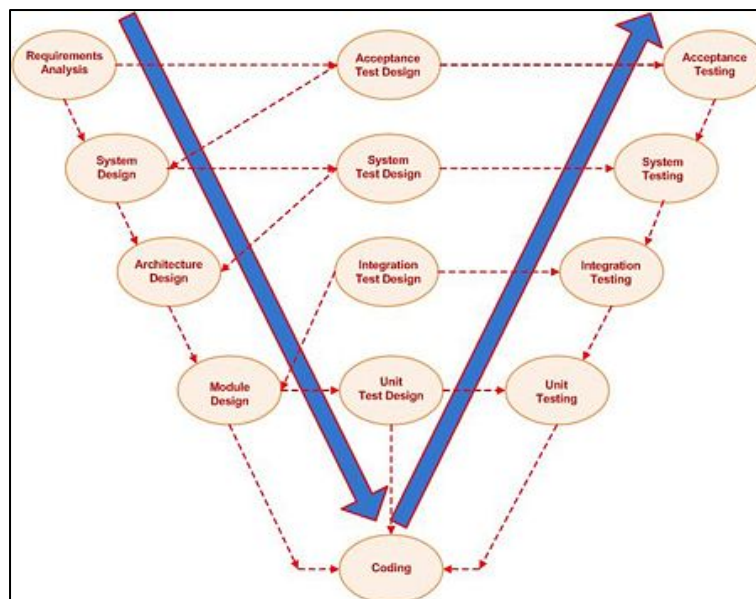


Figure 1 "V" Model

Module Level, System Level , UATs, and Implementation/ Assessment.

The project lifecycle will be based on the “V” Model of software development. As shown in Figure 1, the V-model deploys a well-structured method in which each phase can be implemented through detailed documentation of the previous phase. At each testing stage, the corresponding planning stage is referred to; such ensures that the system accurately meets the goals specified in the analysis and design stages. The tasks are categorized as follows:

Task 1: Requirements Analysis

The requirements of the proposed system will be collected by analyzing the needs of the user(s). The requirements will be gathered by interviewing the users, and the User Requirements document will be created. Said document will describe the system’s functional, physical, interface, data, and security requirements.

Task 2: System and Architecture Design

In the system and architecture design stage, the system designer will analyze and gain an understanding of the proposed system by studying the User Requirements document and figuring out possible techniques for use in implementing user requirements.

Task 3: Module Design

The module design phase can also be called the low-level design phase. The designed system will be broken into smaller units or modules that will allow the programmer to start encoding directly.

Task 4: Coding

The coding task involves the process of writing, testing, debugging, and troubleshooting the source code of computer programs.

Task 5: Unit Testing

Unit testing implies the first stage of the dynamic testing process. It involves analysis of the written code with the intention of eliminating errors.

Task 6: Integration Testing

In integration testing, the separate modules will be tested together to expose faults in the interfaces and in the interaction

between integrated components. Testing is usually black box, as the code is not directly checked for errors.

Task 7: System Testing

System testing will involve comparing system specifications with the actual system. The system test design is derived from the system design documents and is used in this phase.

Task 8: User Acceptance Testing

The purpose of acceptance testing is to verify the system according to the original needs of the user, functionality, performance, interface quality, and ease.

Task 9: Prepare and submit final reports

Presentations will be made as required to report on the project status and planned tasks in view of the progress of the project. A final report documenting the entire effort regarding implementation of the project will be submitted upon conclusion of the project. The final report will include the following:

- System design
- System architecture design
- Module design and data flow

DELIVERABLES

The deliverables for this project will include the database and web application, final report, design documents, and a user manual.

IMPLEMENTATION POTENTIAL

Once developed, the application will be used by LTRC personnel in the management and tracking of projects. Meanwhile, the application can also be made available to other agencies for reference and for aid in managing their research activities, if such is requested.

The web application will be hosted on the Internet Information Services (IIS) web hosting server provided at LTRC by Louisiana State University. The data will be stored on the SQL 2005 database, with periodic backups taken as required to recover any accidental losses.