Software Project Management Plan

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1 Introduction

1.1 Project Overview

Warehouse managers constantly try to optimize the amount of staff they employ and ensure that employees are productive. If warehouse managers have too many employees, and not enough work, then they have to pay employees to wait for work. If too much work exists and not enough employees are available, customer orders are not shipped on time, or warehouse accuracy suffers. Labor Management enables warehouse managers to track the amount of time each user takes to complete a set of tasks, their work hours, their non-work hours, etc. It records this information at both specific and generic levels. It records the task type, material transacted, and source and destination locations.

The system has a recruitment model where each new labourer can register themselves to apply for a job and they are selected based on an their capabilities and a series of procedure. After Labor Management records the information, it analyzes it for two primary purposes, employee management and employee evaluation. Because the system knows the amount of time and expected work required to complete each task, it can predict how much time or staff is necessary to complete the work in the warehouse. Employee evalution compares the time performance of employees against their colleagues or engineered standards for labor productivity, and rates employees on their performance level. It helps the warehouse manager to make decisions about staffing, compensation, training, and work assignment.

1.2 Project Deliverables

The List of all the Deliverable file as follows:
1. LabourManagementSystem.exe - The main file which contains all the executables for running the whole system.
2. Product Manual - Instructions for using the System.
3. Technical Manual - Instructions for managing and maintaining the system.
4. Software Requirement Specification Document.
5. Risk Management Model Document.
6. Software Project Management Plan Document.

2 Project Organization

2.1 Software Process Model

In this project the Software Process Model to be used is Iterative Process Model.Iterative process starts with a simple implementation of a subset of the software requirements and iteratively enhances the evolving versions until the full system is implemented. At each iteration, design modifications are made and new functional capabilities are added. The basic idea behind this method is

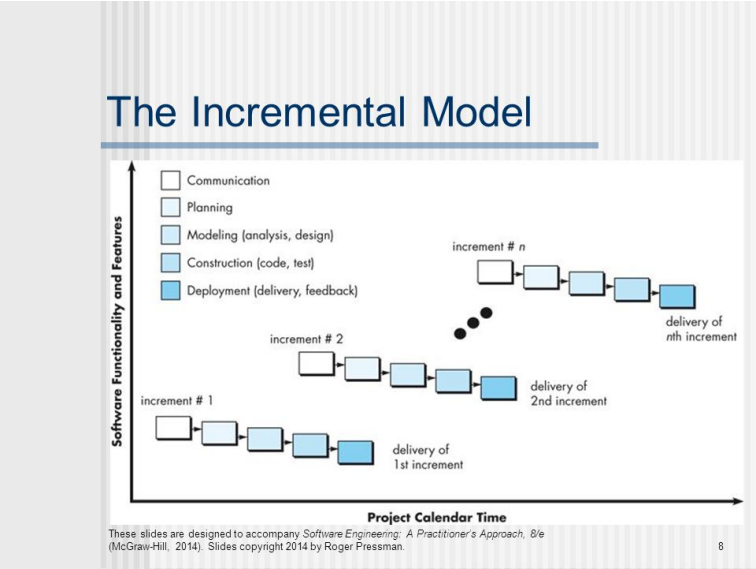

Figure 1: Iterative Process Model

to develop a system through repeated cycles (iterative) and in smaller portions at a time (incremental).

Iterative and Incremental development is a combination of both iterative design or iterative method and incremental build model for development. "During software development, more than one iteration of the software development cycle may be in progress at the same time." This process may be described as an "evolutionary acquisition" or "incremental build" approach.". In this incremental model, the whole requirement is divided into various builds. During each iteration, the development module goes through the requirements, design, implementation and testing phases. Each subsequent release of the module adds function to the previous release. The process continues till the complete system is ready as per the requirement.

2.2 Roles and Responsibilities

Ayush Shah-1614109 - Group Leader
Meet Shah-1614107 - Tester
Ameya Tathavadkar-1614117 - Developer
Tanish Shah-1614110 - Designer

After gathering the requirements and understanding the project, the designer should start designing the various functionalities in terms of webpage designs.

Together with the cooperation of designer, the developer must start developing the designs that are suggested by the designer. These developed designs can be then tested for any errors by the Tester. All of the above activities must be coordinated by the Group Leader. Thus after each iteration produced it can be given to the customers for review.

2.3 Tools and Techniques

For the preparation of SRS Document we require the ShareLatex or OverLeaf websites.

For developing all the UML Diagrams we have to use to the LucidChart website or StarUML software.

For the Frontend of the system, programming languages such as HTML, CSS, Javascript, Boostrap will be used. There are no special softwares or tools required to run these files, just a browser and and working internet connection are enough to test these files.

For the Backend of the system, we are going to use PHP programming language for the database as well as for all the mapping with front end. To test and run this php code we require a software XAMPP which serves the purpose of setting up a server for our database and all the interaction with the database.

After the complete system is built and is tested for the errors any of the online platforms can be used for deploying and hosting of the website so that it can be used by everyone.

The versions for the Respective Technologies are :
1.HTML5
2.CSS3
3.BOOTSTRAP 4.0
4.PHP 3
5.XAMPP 5.6.37
6.ShareLatex any version.
7. StarUML 3

3 Project Management Plan

3.1 Tasks

3.1.1 Task-1

Gathering and Analyzing the Requirements.

3.1.1.1 Description

Initially have a meet with the concerned shareholders to understand the exact scope and need of the software.Based on that acquire the needed requirements and have a proper discussion so that there are no conflicts among the shareholders.

3.1.1.2 Deliverables and Milestones

After this task we will have delivered a complete and up to date SRS documentation which will be used to guide our development process.

3.1.1.3 Resources Needed

Paper/Board or any documentation software as suitable(eg.Latex)

3.1.1.4 Dependencies and Constraints

Optimum amount of Investors must be present so as to fund/invest in the project.The cost of production put forth by the shareholders should be both feasible and realistic.The time frames put forth by the stakeholders for each iteration of the project must be realistic.

3.1.1.5 Risk and Contingencies

Possibility that during the production phase some stakeholders may back out or some stakeholders may change resulting into a new set of requirements.

3.1.2 Task-2

Developing the Structure via UML Diagrams using technologies like Rational Rose.

3.1.2.1 Description

In order to give a certain structure to the development process and to put forth the functionality clearly to the developing teams UML diagrams are generated .Depending upon the requirement and nature of the feature which UML diagrams to implement must be decided.

3.1.2.2 Deliverables and Milestones

Different types of UML diagrams depicting the interaction between the user and software and describing the different stages and components of the software itself.

3.1.2.3 Resources Needed

Softwares like Rational Rose and Star UML.

3.1.2.4 Dependencies and Constraints

The UML diagrams are highly dependent on the requirements gathered in the earlier step, and thus cannot be implemented until and unless all requirements are documented properly.

3.1.2.5 Risks and Contingencies

It may happen that several actors and roles might arise even after discussing the requirements. These are those actors and roles that might not be visible during the discussion phase but prove essential while developing the system.

3.1.3 Task-3

Feedback.

3.1.3.1 Description

During the developing phase prototypes will be created in order to see whether the product is being developed as imagined by the stakeholders.

3.1.3.2 Deliverables and Milestones

Working prototype of the software developed so far.

3.1.3.3 Resources Needed

Software such as Brackets,SpringBoot,PHP to implement the web application as well as a deployable DB like MySQl and an application server like TOMCAT depending upon the choice of stakeholders

3.1.3.4 Dependencies and Constraints

Php must be used as a scripting language. The website GUI must be Dynamic and responsive.

3.1.3.5 Risks and Contingencies

In cases when the prototype created is completely different from what the stakeholders had in mind ,we may have to discard the whole prototype and start a fresh. It may be possible that the software/programming language constraints put forth by the stakeholders may not be compatible with each other.

3.1.4 Task-4

Designing the Pages

3.1.4.1 Description

This website is basically a recruitment portal where we connect the candidates to their respective companies depending upon the interview and experience.So in our website there are 2 logins :-
1)Company login
2)Cadidate Login
There is an additional feature if the candidate does not have a resume we have created a page where the candidate can generate his/her resume.
We also show popular companies that have collaborated with us and the position they are looking for.

3.1.4.2 Deliverables and Milestones

Complete and working GUI.

3.1.4.3 Resources Needed

We used Atom for the code and web Browser. We also used Bootstrap dependencies.

3.1.4.4 Dependencies and Constraints

Language to be used for the front end are HTML5,CSS3,Bootstrap,jQuerry,Javascript.

3.1.4.5 Risks and Contingencies

The GUI expected by the stakeholders may be different than the GUI made by the designer.

3.1.5 Task-5

Development Approach

3.1.5.1 Description

One of the most important tasks related to software development is manner in which the business logic is implemented. The business logic will define how the client and the server side will interact with each other with respect to the website. It will handle the resolution of the HTTP requests and their corresponding mapping in the database.

3.1.5.2 Deliverables and Milestones

After the development phase is completed the software will be complete and functioning to its full capacity. The software will be ready for testing process.

3.1.5.3 Resources Needed

Any Application server.

3.1.5.4 Dependencies and Constraints

Scripting language used must be PHP.

3.1.5.5 Risks and Contingencies

The business logic/server may fail due to some unforeseen errors. In some cases data loss may occur resulting into inconsistent state of database.

3.2 Assignment

Task-1 : Ayush Shah, Tanish Shah.

Task-2 : Tanish Shah, Ameya Tathavadkar, Meet Shah.

Task-3 : Ayush Shah.

Task-4 : Tanish Shah, Ameya Tathavadkar.

Task-5 : Tanish Shah, Ameya Tathavadkar, Meet Shah.

3.3 Time Table

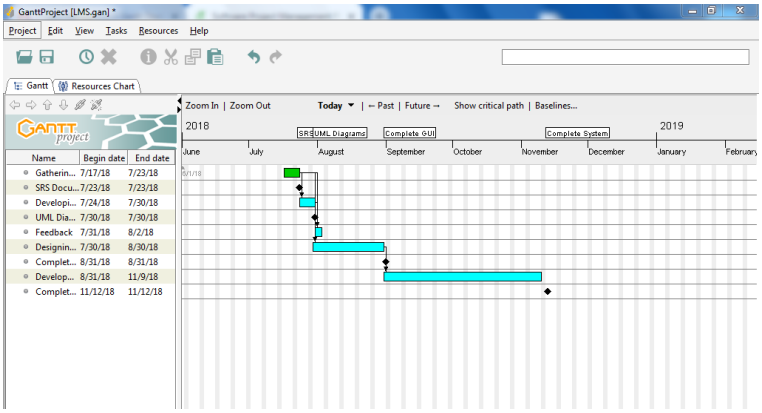

Figure 2: Gantt Chart