

Software Engineering and Project Management – Assignment - 4

IEEE Standard for Software Project Management Plan

Group No -5

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SOFTWARE PROJECT MANAGEMENT PLAN

For

NEWSPAPER BILLING SYSTEM

Client :

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Signature Page

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Preface

The purpose of this document is to specify the project plan to develop a Newspaper Billing Software. The primary audience is our professor Dr. Ashutosh Kulkarni. This document outlines a brief plan about how the project is to be shaped and also include milestones and deliverables. Updates of this document will serve to record the progress of the project

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1. Overview

This Software Project Management Plan is prepared according to IEEE Std. 1058-1998, IEEE Standard for Software Project Management Plans.

1.1 Project summary

1.1.1 Purpose, scope and objectives

Purpose

Our client Mr. Shirude owns a newspaper agency. He has to do customer billing manually. The current manual system is very time consuming and error prone. He is need of a software/system which will generate bills for him. Purpose of the system is to reduce the extra time and remove any calculation errors while generating customer bills.

Newspaper agencies do not have an automated billing system because of the flexible and unpredictable nature of newspaper subscriptions. Hence a manual billing process is the only option that's left which is very complicated, confusing and time consuming. Same is the case with our client Mr. Shirude, who owns a newspaper agency in Nashik. This project will provide a newspaper billing software which can calculate the bill without the client having to do the manual work

The project is a billing-software designed for newspaper agencies. Software will give calculate the bill according to subscriptions that are uploaded in the software by the user. It will calculate bill accurately considering the weekend price differences and any cancellations. The bill will be stored in a PDF format in client's computer. This software will have Administrator and Super-administrator who will have to login to use the software. Super-administrator will have more privileges like adding/modifying/deleting other administrators. In case any admin forgets his/her password, a new password will be shared to him/her through email.

Scope

1. It is a standalone system
2. Making an easy-to-use software- No need to install any app for each customer instead client will be setting the user's account and all other records with high due security.

Objectives

1. To provide a software that can reduce the tedious task of billing each and every person manually
2. To design and build a software which can be used by the client for billing purpose.

3. To store data of customers
4. Software should be easy to use and understand.
5. It must be error free.
6. Main goal of the software is to keep data of all customers and generate monthly bills for the client.
7. Reminders should be generated and sent to the customers regarding the newspaper bills.

1.1 2 Assumption and constraints

Assumptions

1. Project team member will have the resources they need to complete their individual tasks on time.
2. No additional cost will be required to finish the project.
3. The scope of the project will not change throughout the life cycle.

Constraints

1. Schedule/ Timeline - Project should be completed within a time-span of 1.5 to 2 months.
2. Budget - No monetary requirements to complete this project, it will be done free of cost
3. Resources - JDK, Netbeans IDE and MySQL is required. External jar files have to be downloaded to carry out certain tasks within the project.

1.1 3 Project deliverables

- Software
- User manual
- User tutorials
- User training

1.1 4 Schedule and budget summary

There is no budget as project is developed free of cost

Work, duration and personnel requirements are as follows :

- Requirements workflow (1 week, five team members)
- Analysis workflow (1 weeks, five team members)

- Design workflow (2 weeks, five team members)
- Implementation + new feature design workflow (4 weeks, five team members)
- Testing workflow (1 week, five team members)

Total development time was 9 weeks and total internal cost is Rs.0.

1.2 Evolution of the project management plan

All changes to the project management plan must be agreed to by the team before they are implemented.

2. References

[1] IEEE STD 1058-1998, IEEE Standard for Software Project Management Plans

3 Definitions

JDK – Java Development Kit

4. Project organization

4.1 External structure

All the work on this project will be performed by Shaunak, Aditya, Aishwarya, Akash, Kirti. Any changes or modifications will be discussed with the client before implementing

4.2 Internal structure

The development team consists of Shaunak Khatavkar (group leader), Aditya Sodani, Aishwarya Shahane, Akash Shirdue, Kirti Alkari.

4.3 Roles and responsibilities

All workflow (refer 1.1 4) will be performed by all 5 group members.

5. Managerial process plan

5.1 Start-up plan

5.1.1 Estimation plan

As previously stated, the total development time is estimated to be 10 weeks and total internal cost is Rs. 0. These figures were obtained by taking into consideration the deadline of the project and the main requirements of project.

5.1 2 Staffing plan

All 5 members will contribute in all the workflow processes. All members will report to the group leader with the progress they've made.

5.1 3 Resource acquisition plan

All necessary hardware, software and any other tools required for the project are already available. The product will be desktop software.

5.1 4 Project staff training plan

No additional staff training is needed for this project.

5.2 Work plan

5.2 1 Work activities and schedule allocation. Shown in following table. (Table 1)

Week 1	(Completed) Met with client and determined requirements of the project. Inspected the requirements artifacts.
Week 2	(Completed) Produced analysis artifacts and inspected analysis artifacts. Produced objectives, scope, functional and non-functional requirements.
Week 2	(Completed) Produced software requirements specification document. Inspected software requirement specification document.
Weeks 3,4	(Completed) Developed product design. Inspected product design details.
Weeks 5,6,7,8	(Completed) Implementation of the design. Inspect implementation. Develop better product design for new features. Inspect new design and implement. (repeat)

Week 9	Testing and documentation inspection.

5.2 2 Resource allocation

The five members will work separately with their assigned work. Shaunak's role will be to monitor daily progress of the members. Team members will meet (virtually) in every week or any time in between to discuss problems and progress.

5.2 3 Budget allocation

No additional cost is needed for this project

5.3 Control plan

5.3 1 Requirements control plan

A group meeting (virtual) will be called by the leader every week. All members will share their progress and discuss any problems faced. Shaunak will make sure that the project implementation process does not leave out any requirements and does not go beyond the scope of the project.

5.3 2 Schedule control plan

Schedule for the team will be maintained in a Google document that will be shared with all the members. The progress of work will be discussed every week. Members shall contact with Shaunak in case of any problems at any time in between the week. Shaunak will be responsible for ensuring that the project is completed on time. This will be accomplished through weekly meetings with the team members and getting daily updates from the members.

If slippage occurs in the plan then the team shall make corrective measures to (1) Make a more reasonable schedule and (2) Make sure that the schedule is followed

5.3 3 Budget control plan

No additional costs are needed for this project

5.3 4 Quality control plan

All group members will take care of the quality of the product. If any changes are needed to improve quality of the project then leader will be responsible to convey those messages to the members.

Main drivers for quality control are :

- Make sure that the project artifacts meet certain quality criteria
- Be able to find and remove defects in the earlier stages of the project

5.3 5 Reporting plan

All the daily reports from group members will be done through the team WhatsApp group. For documentation, a google document will be shared with all the members where all can make changes. Weekly meets will happen via Google Meet where members will present their progress and discuss problems. Additionally ,each of the team members will have regularly scheduled personal meetings with the leader.

5.3 6 Metrics collection plan

The metrics for the project shall be limited to collecting the time spent on the project's tasks. The details about the time collection process are outlined in Section 5.3 2

5.4 Risk management plan

The risk factors and the tracking mechanisms are as follows

There is not existing product with which the project can be compared. Hence ,it will not be possible to run the product parallel with the existing one. Therefore extensive testing is required.

Client can use computers but he is a bit inexperienced with computers. The product has to be made as user-friendly as possible.

Because of the need of extensive testing, modules of the product will be tested separately by members.

Elaborative user manual has to be provided to the client.

The information must meet the specified requirements. There should not be any major problem, this will be monitored by all the group members.

There is also a slim chance of hardware failure at the client's side, in which case all the data can get deleted. In this case a backup option shall be given to client so he won't lose the data in case of any hardware failures. This will be covered in software warranties given by us.

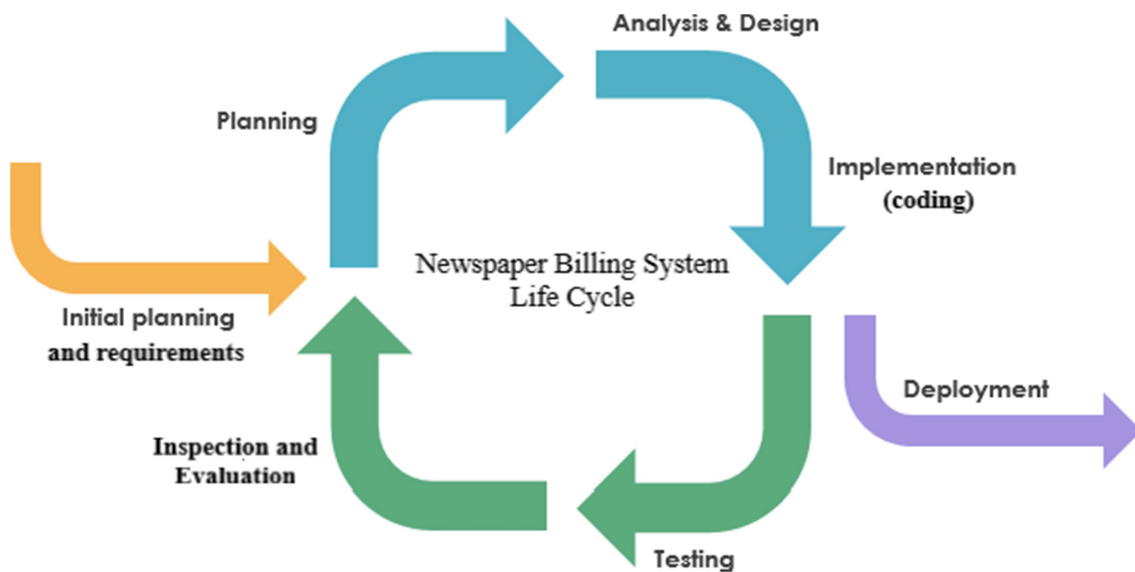
5.5 Project closeout plan

Not applicable

6. Technical process plans

6.1 Process model

The process model used for this project is "Iterative model". First focus on the initial, simplified set user features which then will gain more complexity and a broader set of features until the targeted system is complete. (Figure 1)



Initially, the product is made to only satisfy the primary requirement. Then new features are added to improve the system until the product is good enough to deploy.

6.2 Methods, tools and techniques

The workflows will be performed in accordance with the Iterative proves model.

Java shall be the programming development environment and user interface environment. Netbeans IDE will be used to program. MySQL database management system shall be used for storing and processing data. Launch4j software will be used to convert the java software into executable desktop software. The main tools for documentation shall be Microsoft Word 2010 for documents, Paint for ER diagrams, Lucidchart online tool for Data Flow Diagrams (DFD).

IEEE Std. 830-1998, IEEE Recommended Practice for Software Requirements Specification, IEEE Std. 1058-1998, IEEE Standard for Software Project Management Plans will be used for standardization of the documents.

6.3 Infrastructure plan

During the development of the project, group members shall user their own hardware and software environments. The hardware used shall be minimum of 4GB RAM. MySQL database management system and Netbeans IDE shall be installed on the computers of the group members. Any internet browser shall be required to attend virtual meetings and upload codes online.

6.4 Product acceptance plan

- The documents be submitted on predefined dates.
- The documents must be prepared according to IEEE Standards.
- Each document shall be updated and established after the consultant (College Professor) has reviewed the document.
- The product shall be demonstrated at the end of the semester.

7. Supporting process plans

7.1 Configuration management plan

None

7.2 Verification and validation plan

All group members are responsible for verification activities. Validation is the process of making sure that the product is being built correctly. At the completion of each milestone, a validation analysis should be done. The validation will be performed by group member during internal reviews to make sure that the delivered products are right.

Goals of verification and validation

- Enhancing the product through cost-effective, timely detection of defects
- Enhancing the effectiveness of testing by detecting errors prior to testing.

7.3 Documentation plan

All members will contribute in the documentation process. Shown in following table (Table 2)

Week 1	Requirements from client (Assignment 1)
Week 2	Scope, objectives and functional & non-functional requirements (Assignment 2)
Week 3	Software requirements specification document (Assignment 3)
Week 4	Software Product Management plan document (Assignment 4)

7.4 Quality assurance plan

The project team will take weekly meetings where they shall present work updates. Quality of the work will be inspected in those meetings.

7.5 Review and audits plan

After gathering requirements SRS and SPMP will be created. Group members will participate in meetings where in the project progress will be reviewed by group leader. All members will participate in verification and validation process during these meets. If some corrections are necessary then those are made during these meetings. The group members will correct their faults and establish a newer version.

7.6 Problem resolution plan

Any problems that will appear will be resolved through group members.

7.7 Subcontractor management plan

Not applicable

7.8 Process improvement plan

None

8. Additional plans

Security : A login system with password is implemented. A password will be needed to use the product. In case of password recovery, an email with new password will be sent to that particular admin.