

Software Project Management Plan for “Online Library Management System”

1. Introduction

In the project, a system has to be designed to support library management system. The software application to be made consists of at least three main functions, which must interact using the internet. The application may involve the basic e-commerce activities, such as members' login, browsing, issuing and reserving books. The entire system has to be developed (in JAVA) in a way that it is easy to maintain and extend.

I. Project Overview

This project is to create a prototype of library management system. It is an online application like a virtual library on the Internet where customers can borrow books and as well as read books with interest. The customer can create their own user id for accessing this system frequently. The customer will be asked to fill payment information of fine for late returning the books such as credit card number. A notification is sent to the customer's email as soon as the transaction will be done and every time notification will be sent to the users after a successful reserving of a book.

II. Project Deliverables

| | |
|---|-------------------------|
| 1. Preliminary Project Plan | 23.08.2023 |
| 2. Requirements Specification | 07.09.2023 |
| 3. Analysis [Object model, Dynamic model, and User interface] | 07.10.2023 |
| 4. Architecture Specification | 06.11.2023 |
| 5. Component/Object Specification | 26.11.2023 |
| 6. Source Code | 27.10.2023 - 05.01.2024 |
| 7. Test Plan | 06.01.2024 - 27.01.2024 |
| 8. Final Product Demo | 28.01.2024 - 04.02.2024 |

III. Evolution of this document

This document will be updated as the project progresses. Updates should be expected in the following sections:

- i. **References** - updated as necessary.
- ii. **Definitions, acronyms, and abbreviations** - updated as necessary.
- iii. **Organizational Structure** will be updated as the team leaders are assigned for each phase.
- iv. **Technical Process** - this section will be revised appropriately as the requirements and design decisions become clearer.

- v. **Schedule** – as the project progresses, the schedule will be updated accordingly.

Revision History

| Revision | Date | Updated By | Update Comments |
|----------|------------|-------------------|--------------------------|
| 0.1 | 12.09.2023 | Arkapratiim Ghosh | First Draft |
| 0.2 | 20.09.2023 | Arkapratiim Ghosh | Second Draft/Final Draft |

IV. References

- i. Team Website
<http://www.wis.win.tue.nl/2M390/projects/spingrid/spmp.pdf>
- ii. Project Scope
<http://www.wis.win.tue.nl/2M390/projects/spingrid/spmp.pdf>
- iii. Case Studies
 - <http://allrecipes.com/recipe/10926/cake-mix-cookies-iv/>
 - <http://www.costco.com/cakes-cookies.html>
 - <http://www.cakescookiesandcraftsshop.co.uk/>

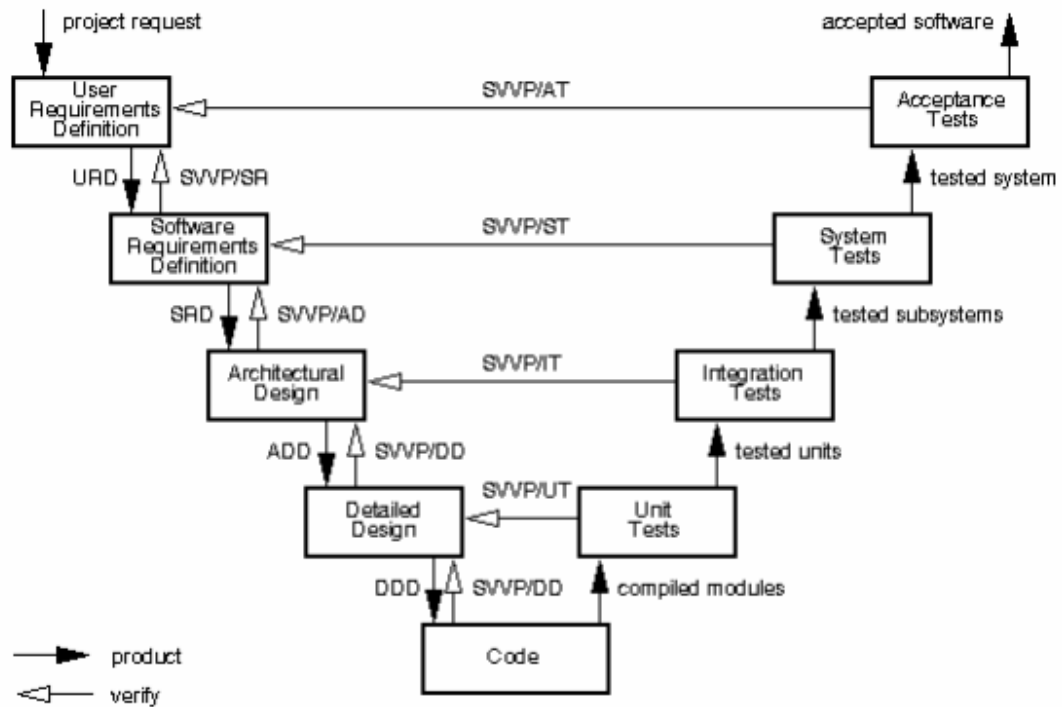
V. Definitions, Acronyms, and Abbreviations

- I. SRS: Software Requirements Specification
- II. API: Application Programming Interface
- III. UI: User Interface
- IV. UX: User Experience
- V. GUI: Graphical User Interface
- VI. SQL: Structured Query Language
- VII. DBMS: Database Management System
- VIII. HTTP: Hypertext Transfer Protocol
- IX. HTTPS: Hypertext Transfer Protocol Secure
- X. URL: Uniform Resource Locator

2. Project Organization

I. Process Model

The process used for this project will be a V-model such that each stage of the model allows us to do testing after completing a phases. Referring to the diagram below, each phase is tested after completion.



II. Organizational Structure

Team Members –

- i. Arkapratim Ghosh
- ii. Bipin Pal

| Name | Organization/ Position | Contact Information |
|------------------|---------------------------|--|
| Arkapratim Ghosh | ITech Project Manager | arkapratimghosh1264@gmail.com 9330450430 |

| Days | Deliverable | Team Leader | Deliverable Description |
|------|-------------|------------------|--------------------------------|
| 15 | 1 | Arkapratim Ghosh | Project Plan |
| 20 | 2 | Bipin pal | Requirements Specification |
| 30 | 3 | Bipin pal | Analysis |
| 30 | 4 | Bipin pal | Architecture Specification |
| 20 | 5 | Arkapratim Ghosh | Component/Object Specification |
| 40 | 6 | Arkapratim Ghosh | Source Code |
| 22 | 7 | Bipin pal | Test Plan |
| 8 | 8 | Arkapratim Ghosh | Final Deliverable |

III. Organizational Boundaries and Interfaces

Team leaders throughout each development of the phases will be responsible for coordinating team meetings, updates, communications, and team deliverables.

IV. Project Responsibilities

For the most vital responsibilities per phase of each team members, please refer to segment 2.2. Ultimately the project team is responsible for the successful delivery of the product. The team member tasks per deliverable according to expertise and the phases are as given below:

1. Project Plan – Whole Team
2. Requirements Specification – TBD
3. Analysis – TBD
4. Architecture Specification – TBD
5. Component/Object Specification – TBD
6. Source Code – TBD
7. Test Plan – TBD
8. Final Deliverable – Entire Team

| Name | Organization/ Position | Role/Responsibilities |
|------------------|---------------------------|--|
| Arkapratin Ghosh | ITech Project Manager | <ul style="list-style-type: none"> Managing and leading the project team. Developing and maintaining a detailed project plan. Monitoring project progress and performance. Managing project evaluation and dissemination activities. Develop corrective actions when necessary. |
| Bipin pal | ITech Business Analyst | <ul style="list-style-type: none"> Prepare reports on project plans, status, progress, risks, deadlines and resource requirements. Develop and perform work flow analysis to find out the |

| | | |
|-----------|----------------|--|
| | | difficulties in reaching goals. <ul style="list-style-type: none"> • Provide project cost estimates. |
| Bipin Pal | ITech Designer | <ul style="list-style-type: none"> • Propose effective design solutions to meet project goals. • Prepare design layouts and sketches according to company design standards. • Keeping of records and files. |
| Bipin pal | ITech Staff | <ul style="list-style-type: none"> • Documentation of daily activities. • Making kick-off meeting reports. • In-charge of materials needed for team building activities. |

3. Managerial Process

I. Management Objectives and Priorities

The management objective is to deliver the product in time and of high quality. The PM and QAM work together to achieve this by respectively checking that progress is made as planned and monitoring the quality of the product at various stages.

II. Assumptions, Dependencies, and Constraints

In this project plan, a number of factors are taken into account. The following list shows the way milestones on various project phases have been scheduled:

- The team budget of 2 people's x 365 hours = 730 hours
- The project deadline of February 28th.
- The final presentation is on February 28th.
- The peer evaluation deadline is on February 27th.

- Other days the weekends holiday is closed (August 27th, September 3rd, September 10th, September 17th, September 24th, October 1st, October 8th, October 15th, October 22nd).

NOTE: Due to the deadline of 25th October 2023, running out of time will have its reflection on the product, and not on the duration of the project. By assigning a priority to every user requirement, a selection can be made of user requirements that may be dropped out if time runs out.

III. Risk Management

This section mentions any potential risks for the project. Also, schedules or methods are defined to prevent or to reduce the risks as below:

- i. Technology risk
- ii. People risk
- iii. Financial risk
- iv. Market risk
- v. Structure/process risk

The following are the possible risks to be encountered during the development of the project and how they can be prevented.

1. Miscommunication

Prevention: Team members should not hesitate to ask and re-ask questions if things are unclear. Team members should have a written copy of the tasks assigned to them every meeting.

Correction: When it becomes clear that miscommunication is causing problems, the team members should gather in a meeting to clear things up.

2. Time shortage

Prevention: Care is taken to plan enough spare time. *Correction:* When tasks fail to be finished in time or when they are finished earlier than planned the project planning is adjusted

3. Illness or absence of team members

Prevention: Team members should warn their team leader or the PM timely before a planned period of absence.

Correction: Work can be taken over quickly by someone else or be distributed among the team members if a person gets ill.

Monitoring and Controlling Mechanisms:

The monitoring of progress is done by the PM using the following means:
Project Kick-off Meetings

The project group meetings take place within the class room or through chat. These meetings are meant to inform each other of the progress made on various tasks and to assign new tasks.

Progress Report

Progress report is done every Friday. This is meant to inform and show the progress in the development of the project and how things are going.

IV. Monitoring and Controlling Mechanisms

The monitoring of progress is done by the PM using the following means:

- i. Weekly project status meetings
- ii. Shared document repository
- iii. Project tracking by MS project plan
- iv. Tracking utilizing baselines in MS project

4. Technical Process

I. Methods, Tools, and Techniques

The project will be implemented utilizing V-model methodology, and tools such as Dreamweaver, Microsoft Project, Star UML, Java, MySQL, QTP, and Load Runner will be utilized. The risks for each category are listed to complete the project successfully. For each risk, a description, a probability of occurrence, the associated action and the impact of the risk are given.

II. Software Documentation

Documentation such as Project Charter, Business Requirement Document, Functional Specification document, Cost Benefit Analysis, Technical Specification document, Detail Design Document, Test Plan, Implementation Plan, Detailed Project Report, and Benefit Realization document.

III. Project Support Functions

All project support documents will be completed in applicable phases.
















5. Work Elements, Schedule, and Budget

- I.** The project is accounted for project resources, technologies and tools required to whole analysis, implementation, and test of the application.
- II.** The project lead will be rotated for each phase within 2 team members.
- III.** The document for all phases will be revised in subsequent phases if applicable.

Budget and Resource Allocation

| | |
|--|------------------------|
| Salary | 2,50,000.00 |
| Office Operations/Supplies/Equipment/Consumables | 40,000.00 |
| Miscellaneous | <u>10,000.00</u> |
| Total | Rs. 3,00,000.00 |

Schedule

| Task Mode ▾ | Task Name ▾ | Duration ▾ | Start ▾ | Finish ▾ |
|---|--|------------|--------------|--------------|
|  | Identify the company | 4 days | Thu 20-07-23 | Tue 25-07-23 |
|  | Conceptualize the | 1 day | Wed 23-08-23 | Wed 23-08-23 |
|  | Establish the vision, mission, objectives | 3 days | Wed 23-08-23 | Fri 25-08-23 |
|  | Identify scope of the project | 1 day | Wed 23-08-23 | Wed 23-08-23 |
|  | Develop preliminary schedules and cost estimates | 1 day | Wed 23-08-23 | Wed 23-08-23 |
|  | Create Project charter | 1 day | Wed 23-08-23 | Wed 23-08-23 |
|  | Develop business case for the project | 1 day | Wed 23-08-23 | Wed 23-08-23 |
|  | Select development tools | 2 days | Wed 23-08-23 | Thu 24-08-23 |
|  | Identify Customer Needs | 3 days | Wed 23-08-23 | Fri 25-08-23 |
|  | Establish Target Specifications | 2 days | Wed 23-08-23 | Thu 24-08-23 |
|  | Generate Product Concepts | 2 days | Wed 23-08-23 | Thu 24-08-23 |
|  | Refine Product Specifications | 2 days | Wed 23-08-23 | Thu 24-08-23 |
|  | Plan the Remaining Development Project | 1 day | Wed 23-08-23 | Wed 23-08-23 |
|  | Detail Design | 4 days | Wed 23-08-23 | Mon 28-08-23 |
|  | 3D Modelling | 4 days | Wed 23-08-23 | Mon 28-08-23 |