Used Book Sharing System

Software Development Plan (Small Project)

Version 1.6

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
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Table of Contents

**[1.](#_heading=h.1fob9te)****Introduction 4**

[1.1](#_heading=h.3znysh7) Purpose 4

[1.2](#_heading=h.2et92p0) Scope 4

[1.3](#_heading=h.tyjcwt) Overview 4

[1.4](#_heading=h.tyjcwt) References

**[2.](#_heading=h.3dy6vkm)****Project Overview 4**

[2.1](#_heading=h.1t3h5sf) Project Purpose, Scope, and Objectives 4

[2.2](#_heading=h.4d34og8) Assumptions and Constraints 4

[2.3](#_heading=h.2s8eyo1) Project Deliverables 5

**[3.](#_heading=h.17dp8vu)****Project Organization 5**

[3.1](#_heading=h.3rdcrjn) Organizational Structure 5

[3.2](#_heading=h.26in1rg) Roles and Responsibilities 5

**[4.](#_heading=h.lnxbz9)****Management Process 5**

[4.1](#_heading=h.35nkun2) Project Estimates 5

[4.2](#_heading=h.1ksv4uv) Project Plan 5

[4.2.1](#_heading=h.44sinio) Phase Plan 5

[4.2.2](#_heading=h.2jxsxqh) Iteration Objectives 6

[4.2.3](#_heading=h.z337ya) Releases 6

[4.2.4](#_heading=h.3j2qqm3) Project Schedule 6

[4.2.5](#_heading=h.1y810tw) Project Resourcing 6

[4.3](#_heading=h.4i7ojhp) Project Monitoring and Control 6

[4.3.1](#_heading=h.1ci93xb) Requirements Management 6

[4.3.2](#_heading=h.qsh70q) Reporting and Measurement 7

[4.3.3](#_heading=h.1pxezwc) Risk Management 7

[4.3.4](#_heading=h.147n2zr) Configuration Management 7

Software Development Plan (Small Project)

# Introduction

## Purpose

The purpose of the Software Development Plan is to gather all information necessary to control the project. It describes the approach to the development of the software and is the top-level plan generated and used by managers to direct the development effort. It also defines the development activities in terms of the phases and iterations required for implementing the Used Book Sharing System.

The following people use the Software Development Plan:

* The **project manager** uses it to plan the project schedule and resource needs, and to track progress against the schedule.
* **Project team members** use it to understand what they need to do, when they need to do it, and what other activities they are dependent upon.

## Scope

This Software Development Plan describes the overall plan to be used by the Used Book Sharing System project, including deployment of the product. The details of the individual iterations will be described in the Iteration Plans.  
The plans as outlined in this document are based upon the product requirements as defined in the Vision Document.

## Overview

This Software Development Plan contains the following information:

Project Overview — provides a description of the project's purpose, scope, and objectives.  It also defines the deliverables that the project is expected to deliver.

Project Organization — describes the organizational structure of the project team.

Management process — explains the estimated cost and schedule, defines the major phases and milestones for the project, and describes how the project will be monitored.

## References

## Collegiate Sports Paging System’s Software Development Plan, version 1.0

<https://sceweb.uhcl.edu/helm/RationalUnifiedProcess/examples/csports/ex_vision.htm>

1. Course Registration System’s Software Development Plan, version 1.0

https://sceweb.uhcl.edu/helm/RUP\_course\_example/courseregistrationproject/indexcourse.htm

# Project Overview

## Project Purpose, Scope, and Objectives

This project will build an online book sharing system where users can post information about their used books. It makes users easier to share or search for used books.

This project will deliver an online book sharing website along with documents about project requirement, plan, design, implementation, testing.

## Assumptions and Constraints

The system must be available before the end of 2019.

All documents needed for this project will be completed when the final project is released.

## Project Deliverables

### Vision

1. Supplementary Specification

### Use Cases

### Software Development Plan

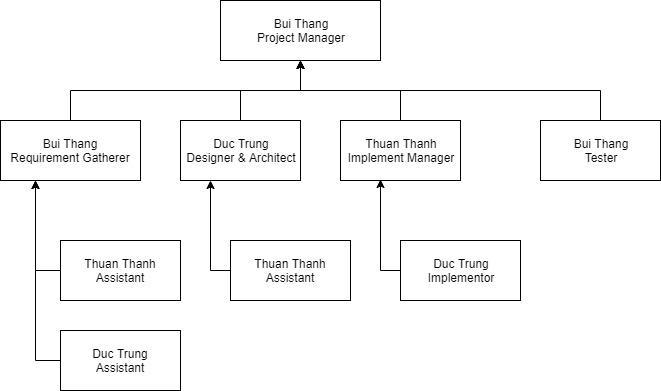
### Software Architecture Document

### Test Summary

### Release Notes

# Project Organization

## Organizational Structure



## Roles and Responsibilities

|  |  |
| --- | --- |
| **Person** | **Role** |
| Bui Thang, Project Manager | Responsible for managing the overall Project Management discipline. Leads the extended Project Management Team. |
| Bui Thang, Requirement Gatherer | Responsible for gathering requirements, analyzing requirements, manage requirements. |
| Thuan Thanh, Requirement Gathering Assistant  Duc Trung, Requirement Gathering Assistant | Assisting Requirement Gatherer fulfill works. |
| Duc Trung, Designer/Architect | Responsible for designing graphical user interface, system architecture. |
| Thuan Thanh, Design Assistant | Assisting Designer in designing Database. |
| Thuan Thanh, Implement Manager | Responsible for implementing system, maintaining system and fixing bugs. |
| Duc Trung, Implementor | Responsible for implement graphic user interface, assisting maintaining system. |
| Bui Thang, Tester | Responsible for testing the system released each iteration, reporting Implement Manager about bugs, giving Implement Manager comments. |

# Management Process

## Project Estimates

The target dates for the end of each phase are shown below.

|  |  |  |
| --- | --- | --- |
| **Phase** | **Duration** | **End date** |
| Inception | 2 weeks | 10/11/2019 |
| Elaboration | 2 weeks | 24/11/2019 |
| Construction | 2 weeks | 8/12/2019 |
| Transition | 2 weeks | 22/12/2019 |

## Project Plan

This section contains the schedule and resources for the project.

### Phase Plan

The development of the will be conducted using a phased approach where multiple iterations occur within a phase. The phases and the relative timeline is shown in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **No. of Iterations** | **Start** | **End** |
| Inception phase | 1 | Week 1 | Week 2 |
| Elaboration phase | 1 | Week 3 | Week 4 |
| Construction phase | 2 (1 week/1 iteration) | Week 5 | Week 6 |
| Transition phase | 1 | Week 7 | Week 8 |

The milestones that mark the end of each phase can be seen in the table below.

|  |  |  |
| --- | --- | --- |
| Description | Description | Milestone |
| Inception phase | The Inception Phase will develop the product requirements and establish the business case for the Used Book Sharing System. The major use cases will be developed as well as the high level Software Development Plan. At the end of the Inception Phase Customer will decide whether to fund and proceed with the project based upon the business case. | Business Case Review Milestone at the end of the phase marks the Go/No Go decision for the project. |
| Elaboration phase | The Elaboration Phase will analyze the requirements and will develop the architectural prototype. At the completion of the Elaboration Phase all use cases selected for Release 1.0 will have completed analysis and design. In addition, the high risk use cases for Release 2.0 will have been analyzed and designed. The architectural prototype will test the feasibility and performance of the architecture that is required for Release 1.0. | The Architectural Prototype Milestone marks the end of the Elaboration Phase. |
| Construction phase | During the Construction Phase, remaining use cases will be analyzed and designed. The Beta version for Release 1.0 will be developed and distributed for evaluation. The implementation and test activities to support the R1.0 and R2.0 releases will be completed. | The R2.0 Operational Capability Milestone marks the end of the Construction Phase. Release 2.0 software is ready for packaging. |
| Transition phase | The Transition Phase will prepare the R1.0 and R2.0 releases for distribution. It provides the required support to ensure a smooth installation including user training. | The R2.0 Release Milestone marks the end of the Transition Phase. At this point all capabilities, as defined in the Vision Document, are installed and available for the users. |

### Iteration Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phase** | **Iterations** | **Description** | **Associated milestones** | **Risks Addressed** |
| Inception phase | Preliminary | Defines business model, product requirements, project plan, and business case. | Business Case Review |  |
| Elaboration phase | Develop Architectural Prototype | Completes analysis & design for all use cases. Develops the architectural prototype. | Architectural Prototype |  |
| Construction phase | C1 Iteration – Develop Beta | Implement and test use cases to provide the Beta Version. | Beta |  |
|  | C2 Iteration – Develop full Release | Incorporate enhancements and defects from initial release.  Develops the full system. | Software |  |
| Transition phase | Software Release | Package, distribute, and install Release. | Software Release |  |

### Releases

This Software Development Plan addresses 2 releases of the Used Book Sharing System. All features critical to users are planned for the first release (beta). Any functionality remaining will be included in software release (some features may be missed).

Beta must contain as a minimum the basic functionality as listed below:

* Visit website
* Search for books
* View book’s details
* Create account
* Offer book

Software release should include:

* Comment, rating
* Edit, delete offering books
* Account management
* Admin user
* Other features…

### Project Schedule

|  |  |  |
| --- | --- | --- |
| **Task name** | **Start** | **End** |
| Inception phase | 27/10/2019 | 10/11/2019 |
| Business Case Review | 10/11/2019 | 10/11/2019 |
| Elaboration phase | 11/11/2019 | 24/11/2019 |
| Architectural prototype | 24/11/2019 | 24/11/2019 |
| Construction phase | 25/11/2019 | 08/12/2019 |
| Beta | 01/12/2019 | 01/12/2019 |
| Software release | 08/12/2019 | 08/12/2019 |
| Transition phase | 09/12/2019 | 22/12/2019 |
| Full-feature Software release | 22/12/2019 | 22/12/2019 |

### Project Resourcing

* + - 1. Staffing plan

There are about 4 types of staff required: requirement business, system designer, implementer, tester. System designer and implementer should have skills about web programming, database accessing. The individuals on this project are named in section 3.1.

* + - 1. Training plan

The following trainings will be needed:

- Introduction to the Rational Unified Process

- Requirement gathering, analyzing, specification

- Graphical user interface designing (create prototype)

- Website: html, css, bootstrap, javascript, nodejs, …

- Database: MySql

- Testing

## Project Monitoring and Control

### Requirements Management

The requirements for this system are captured in the Vision document, Use case model, Supplementary specifications. Requested changes to requirements are captured in Change Requests, and are approved as part of the Configuration Management process.

(Vision document is available now, Use case, supplementary, Change requests will be updated later)

### Reporting and Measurement

Updated cost and schedule estimates, and metrics summary reports will be generated at the end of each iteration.

Weekly reports will be generated each week. These include:

* Tasks were scheduled and members who are responsible for those.
* Tasks are supposed to be done in next week.

### Risk Management

Risks will be identified in Inception Phase using the steps identified in the RUP for Small Projects activity “Identify and Assess Risks”. Project risk is evaluated at least once per iteration and documented in this table. The risks of the greatest magnitude are listed first in the table.

|  |  |  |
| --- | --- | --- |
| **Risk Ranking (High, Medium, Low)** | **Risk Description and Impact** | **Mitigation Strategy and/or Contingency Plan** |
| High | - Requirement missing: both team and customer don’t know what feature is really needed by users until the release of final product.  - Impact: quality of product, user experience | Usually organizing meetings where developing team, customer and users are together construct requirements. |
| High | - New technologies: we are new to web programming. So there are bundles of things that we don’t know about or can’t estimate.  - Impact: Scope, time to design, implement | Planning schedule for training skills for team members. Sharing documentation and experiences between the team members. Buy online course. |
| High | - Feature missing: there are many features to complete, maybe not have enough time to fulfill all of them.  - Impact: time, scope | Identify core features to complete first, then add other features if there is time left. |
| Medium | - Scalability of system: with large amount of posts from users, the system might not be able to work properly. Haven’t have a plan to test those cases with current hardware.  - Impact: performance, user experience, time and effort to update system. | Use specialized tool for HTTP/HTTPS requests (Postman, Insomnia) |
| Medium | - Not find appropriate online server: with little knowledge about deploying system on server, maybe the final system just runs on LAN.  - Impact: scope | Spend time and budget to research and buy online server. |
| Low | - Requirement changes: Customer changes requirements after few phases.  - Impact: time to re-analyze, re-design, re-build,… | Each phases, send customer documents or demo which can demonstrate what we are tending to work.  Design more generally, do not specify so many details. |
| Low | - Member quits: team members who aren’t facilitated in treatment or aren’t scheduled for favorite works may want to quit project.  - Impact: budget, effort, time, resources | Each important task, two or more members will be assign.  Keep track of members, organize informal conversations between team members and manager. |

### Configuration Management

Appropriate tools will be selected which provide a database of Change Requests and a controlled versioned repository of project artifacts.

All source code, test scripts, and data files are included in baselines. Documentation related to the source code is also included in the baseline, such as design documentation. All customer deliverable artifacts are included in the final baseline of the iteration, including executables.