**iBudget**

**Software Project**

**Management Plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Approvals: | L. Assayah | LA | date: | 2/27/12 |
|  | C. Leung | CL | date: | 2/27/12 |
|  | Q. Pham | QCP | date: | 2/27/12 |
|  | V. Velev | VV | date: | 2/27/12 |
|  | J. Reimels | JR | date: | 2/27/12 |
|  | V. Dineva | VD | date: | 2/27/12 |

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Author** | **Version** | **Reason** |
| 2/12/12 | V.Velev | 1.0 | First Draft |
| 2/12/12 | Q.Pham | 1.0 | Draft Schedule |
| 2/12/12 | V.Velev | 1.1 | Added Budget and Resource Allocation section. |
| 2/12/12 | V.Dineva | 1.1 | Risk Management Contribution |
| 2/12/12 | Q.Pham | 1.1 | Risk Management Contribution |
| 2/13/12 | Q.Pham | 1.2 | Add TOC and Reference Section. Modify Schedule. |
| 2/26/12 | Q.Pham | 1.3 | Update Schedule |
| 2/26/12 | V.Velev | 1.4 | Updated Process Model |
| 3/26/12 | QP & VV | 1.5 | Update Schedule  Update Risk Analysis |
| 5/6/12 | QP | 1.6 | Update Schedule |

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# Introduction

## Project overview

iBudget is planned as a personal financial management software tool that produces as an output a thorough and simple analysis of one’s financial statements. The user should be able to use iBudget to easily and efficiently attain an overview of his or her finances as well as create a budget.

## Project deliverables

At the end of the school semester, the team shall deliver a working software program as well as all the necessary documentation.

## Evolution of the SPMP

This document shall be maintained on a weekly basis by the project leader. It is subject to configuration management by means of the SCMP.

## Project deliverables

Source code for the *iBudget* project and all necessary documentation.

## Acronyms

QA – quality assurance

SCMP – Software Configuration Management Plan

SPMP – Software Project Management Plan

SRS – Software Requirements Specification

SDD – Software Design Document

STP – Software Test Plan

# Project Organization

## Process Model

The project will be executed using the Unified Process. This iterative and incremental approach will consist of the following phases: Inception, Elaboration, Construction, and Transition. Over the course of the project different emphasis will be put on the process disciplines. For example, emphasis on design will be highest at the beginning of the project and decrease as the project progresses.

## Organizational Structure

The team will consist of members with designated roles. The roles are team leader, the configuration management leader, the quality assurance leader, the requirements management leader, the design leader, and the implementation leader. These roles are shown in figure 2.2.



Figure 2.2: iBudget Project Organization

## Project Responsibilities

The responsibilities of the participants in the project are shown in table 2.3.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Member | Team Leader | CM Leader | QA Leader | Requirements Management Leader | Design Leader | Implementation Leader |
|  |  |  |  |  |  |  |
| Document Responsibility | SPMP | SCMP | SQAP  STP | SRS | SDD | Code Base |

Table 2.3: Project Responsibilities

Being responsible for the document includes the following:

* Making sure the document is completed in time.
* Keeping the document up-to-date throughout the project life cycle

# Management Process

## Management objectives and priorities

### The highest management priority shall be the completion of the project on time before the end of the school semester. This also includes that the project be on schedule. The second priority shall be meeting a degree of quality as specified by the quality parameters. The third priority shall be to include as many features as were planned throughout the project lifecycle.

## Assumptions, Dependencies and Constraints

### None.

## Risk management

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| # | Risk Title | Likelihood to Occur  1-10 | Impact  1-10 | Retirement Cost  1-10 | Priority | Retirement or Mitigation Plan | Responsible Engineer | Target Completion Date |
| 1 | Requirements Inflation | 3 | 8 | 2 | 48 | Add additional features depending on time. | All | 04/02 |
| 2 | Poor Productivity | 7 | 10 | 10 | 40 | Keep developers engaged and motivated. | Project Leader | 04/30 |
| 3 | Shortfalls in 3rd party software | 4 | 3 | 6 | 336 | Analyze software capabilities in advance. | TBD | 04/15 |
| 4 | Insufficient time | 8 | 9 | 5 | 30 | Follow schedule. | Project Leader | 04/30 |
| 5 | Unforeseen software defects | 7 | 7 | 5 | 45 | Allocate enough time for defect resolution. | All | 04/16 |

Risk #1: Overpromising and under delivering on specified requirements will result in the failure of the project. The team has decided on a basic feature set and will add additional functionality depending on time left in the semester.

Risk#2: Time constraints and other personal/professional responsibilities can result in poor productivity. The team leader is responsible for keeping other team members engaged.

Risk#3: Functionality of 3rd party tools might not suffice. The team should analyze each tool in advance.

Risk#4: The team is required to finish the project by the end of the school semester. The team leader is responsible for making sure that all deadlines are met.

Risk#5: Software defects are inevitable. All developers should allocate enough time to debug their code and resolve any uncovered defects.

## Monitoring and controlling mechanism

There will be a weekly project meeting on Mondays from 5PM to 6PM. The team will discuss all issues pertaining to the project at that time. Further discussion will take place via email or telephone. In case the need arises for addition meetings, the team will schedule one or more on a week-by-week basis depending on the availability of all team members.

Each team member’s progress will be tracked by the team leader. Each member is responsible to submitting a weekly report to the team leader, indicating the tasks he or she has worked on throughout the week as well as the tasks planned for the following week. The team member must also specify an estimated time needed to complete planned tasks as well as the actual time spent on already completed tasks.

## Staffing Plan

Team member roles are specified as in Table 3.5.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Team Leader | CM Leader | QA Leader | Requirement Management Leader | Design Leader | Implementation Leader |
| Vladimir Velev | X |  |  |  |  |  |
| Jonathan Reimels |  | X |  |  |  |  |
| Vanya Dineva |  |  | X |  |  |  |
| Laurene Assayah |  |  |  | X |  |  |
| Churk Leung |  |  |  |  | X |  |
| Quan Pham |  |  |  |  |  | X |

Table 3.5: iBudget Staffing Plan

# Technical Process

The SRS will describe the technical process in detail. This section describes aspect of the process which is not explicitly stated in the SRS.

## Methods, tools and techniques

The iBudget project will use Apache server, MySQL, and will be implemented in PHP.

## Software Documentation

Refer to the SQAP.

# Resources and schedule

## Budget and resource allocation

Estimate before beginning requirement analysis.

Estimate LOC:

FP = (∑UFP\_i)\*GCF

UFP\_i = 3 (EI) + 4 (EO) + 3 (EIN) + 7 (ILF) + 5 (ELF) = 22

GCF = 0.65 + 0.01 \* 42 = 1.07

FP = 23.54

LOC = 23.54 \* (600 LOC/FP) = 14 KLOC

COCOMOI:

Effort Applied (E) = 3.0 \* (14)^1.12 = 57 man-months

Development Time (D) = 2.5 \* (57)^0.38 = 11 months

People required (P) = 57/11 = 6

## Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| **Scope** | **Mon 1/30/12** | **Mon 2/6/12** |  |
| Define Project Scope | Mon 1/30/12 | Mon 1/30/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Define Development Tools and Hosting Environment | Mon 1/30/12 | Mon 1/30/12 | Churk Y. Leung |
| Define Roles and Responsibility | Mon 2/6/12 | Mon 2/6/12 | Vladimir Velev |
| Define Deliverables | Mon 2/6/12 | Mon 2/6/12 | Vladimir Velev,Quan Pham |
| Scope Complete | Mon 2/6/12 | Mon 2/6/12 |  |
| **Analysis/Software Requirements** | **Mon 2/13/12** | **Mon 2/27/12** |  |
| Team Discussion and Software Requirements Gathering | Mon 2/20/12 | Mon 2/27/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Produce SRS with Ucase and Mockups | Mon 2/20/12 | Mon 2/27/12 | Vladimir Velev,Laurene Assayah |
| Team Review software specifications | Sun 2/26/12 | Fri 3/9/12 | Churk Y. Leung,Jonathan Reimels,Quan Pham,Vanya Dineva |
| Incorporate Changes into Schedule | Mon 2/13/12 | Fri 3/16/12 | Quan Pham |
| Develop delivery timeline | Mon 2/20/12 | Tue 3/20/12 | Vladimir Velev,Quan Pham |
| Analysis complete | Mon 2/27/12 | Mon 2/27/12 |  |
| **Design** | **Mon 2/13/12** | **Mon 3/19/12** |  |
| Review preliminary software specifications | Mon 2/13/12 | Mon 3/12/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Develop functional specifications - front end | Tue 2/14/12 | Fri 3/23/12 | Vanya Dineva,Quan Pham |
| Develop functional specifications - back end | Sat 2/18/12 | Mon 4/16/12 | Churk Y. Leung,Jonathan Reimels |
| Review functional specifications | Mon 2/27/12 | Fri 4/27/12 | Laurene Assayah,Vladimir Velev |
| Design complete | Fri 4/27/12 | Fri 4/27/12 |  |
| **Development** | **Mon 2/27/12** | **Fri 4/27/12** |  |
| Identify modular/tiered design parameters | Mon 2/27/12 | Mon 3/19/12 | Churk Y. Leung |
| Develop code | Mon 2/27/12 | Fri 4/20/12 | Churk Y. Leung,Jonathan Reimels,Quan Pham,Vanya Dineva |
| Developer testing (primary debugging) | Mon 3/5/12 | Fri 4/27/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Development complete | Fri 4/27/12 | Mon 4/30/12 |  |
| **Testing** | **Mon 4/2/12** | **Mon 4/16/12** |  |
| Develop test plans | Mon 4/2/12 | Mon 4/9/12 | Vanya Dineva,Laurene Assayah |
| Review test plans | Mon 4/9/12 | Mon 4/16/12 | Churk Y. Leung,Jonathan Reimels,Quan Pham,Vladimir Velev |
| Implement Test Plans | Mon 4/9/12 | Mon 4/30/12 | Vanya Dineva,Laurene Assayah |
| Unit testing complete | Mon 4/30/12 | Mon 4/30/12 |  |
| **Documentation** | **Mon 2/6/12** | **Fri 4/27/12** |  |
| Project Proposal | Mon 2/6/12 | Mon 4/9/12 | Churk Y. Leung |
| SPMP Document | Mon 2/6/12 | Mon 5/7/12 | Quan Pham,Vladimir Velev |
| SQAP Document | Mon 2/6/12 | Mon 5/7/12 | Laurene Assayah,Vanya Dineva |
| SCMP Document | Mon 2/6/12 | Mon 5/7/12 | Jonathan Reimels |
| Develop Project Schedule | Mon 2/6/12 | Mon 5/7/12 | Quan Pham |
| Develop user & system manuals | Mon 2/6/12 | Mon 5/7/12 | Churk Y. Leung,Jonathan Reimels,Quan Pham,Vanya Dineva,Vladimir Velev |
| Review all user documentation | Mon 4/9/12 | Mon 5/7/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Incorporate user documentation feedback | Mon 4/9/12 | Mon 5/7/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Documentation complete | Mon 5/7/12 | Mon 5/7/12 |  |
| **Final Presentation** | **Mon 4/23/12** | **Mon 4/30/12** |  |
| Determine final presentation strategy | Mon 4/23/12 | Mon 4/30/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Prepare Powerpoint Slide | Mon 4/23/12 | Mon 4/30/12 | Quan Pham,Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Vanya Dineva,Vladimir Velev |
| Prepare & Print Poster | Mon 4/23/12 | Mon 4/30/12 | Quan Pham |
| Presentation complete | Mon 4/30/12 | Mon 4/30/12 |  |
| **Post Presentation Review** | **Mon 4/30/12** | **Mon 5/7/12** |  |
| Document lessons learned | Mon 5/7/12 | Mon 5/7/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Update Various Documents | Mon 5/7/12 | Mon 5/7/12 | Churk Y. Leung,Jonathan Reimels,Laurene Assayah,Quan Pham,Vanya Dineva,Vladimir Velev |
| Update Schedule | Tue 5/1/12 | Mon 5/7/12 | Quan Pham |
| Popst presentation preview complete | Mon 4/30/12 | Mon 5/7/12 |  |
| **Deliverables** | **Mon 1/30/12** | **Mon 5/7/12** |  |
| Week 1 Team Report | Mon 1/30/12 | Mon 1/30/12 | Vladimir Velev |
| Week 2 Team Report | Mon 2/6/12 | Mon 2/6/12 | Vladimir Velev |
| Week 3 Team Report | Mon 2/13/12 | Mon 2/13/12 | Vladimir Velev |
| Week 4 Team Report | Mon 2/20/12 | Mon 2/20/12 | Vladimir Velev |
| Week 5 Team Report | Mon 2/27/12 | Mon 2/27/12 | Vladimir Velev |
| Week 6 Team Report | Mon 3/5/12 | Mon 3/5/12 | Vladimir Velev |
| Week 7 Team Report | Mon 3/19/12 | Mon 3/19/12 | Vladimir Velev |
| Week 8 Team Report | Mon 3/26/12 | Mon 3/26/12 | Vladimir Velev |
| Week 9 Team Report | Mon 4/2/12 | Mon 4/2/12 | Vladimir Velev |
| Week 10 Team Report | Mon 4/9/12 | Mon 4/9/12 | Vladimir Velev |
| Week 11 Team Report - SKIP DUE TO EXAM | Mon 4/16/12 | Mon 4/16/12 |  |
| Week 11 & 12 Team Reports | Mon 4/23/12 | Mon 4/23/12 | Vladimir Velev |
| Week 13 Team Report | Mon 4/30/12 | Mon 4/30/12 | Vladimir Velev |
| PHASE I | Mon 2/13/12 | Mon 2/13/12 | The iTeam |
| PHASE II | Mon 2/27/12 | Mon 2/27/12 | The iTeam |
| PHASE III | Mon 3/26/12 | Mon 3/26/12 | The iTeam |
| FINAL PRESENTATION | Mon 4/30/12 | Mon 4/30/12 | The iTeam |
| Complete All Documentations | Mon 4/30/12 | Mon 5/7/12 | Churk Y. Leung,Jonathan Reimels,Quan Pham,Vanya Dineva,Vladimir Velev |
| Submit Final Version of All Documentations | Mon 5/7/12 | Mon 5/7/12 | Vladimir Velev |
| Delivarables complete | Mon 5/7/12 | Mon 5/7/12 |  |

# References

1. Software Engineering: Modern Approaches / Eric J. Braude, Michael E. Bernstein, 2nd Ed. Wiley, 2011.