Money Hub

Modest Software Engineering Project (MSEP)

Software Management Plan

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CSCI 463- Software Engineering

2/20/2020

# Table of Contents

Revision Summary ………………………………………………………………………..2

1. Introduction…………………………………………………………………………………..3
   1. Project Summary……………………………………………………………………..3
      1. Project Development Strategy………………………………………......3
   2. Product Description………………………………………………………………..3
      1. Product Purpose………………………………………………………………3
      2. Product Scope………………………………………………………………….4
2. Project Planning…………………………………………………………………………….4
   1. Schedule…………………………………………………………………………………..4
      1. Milestones and Deliverables……………………………………………4
      2. Team Resource Allocation………………………………………………5
   2. Estimation……………………………………………………………………………….5
      1. Effort Estimation…………………………………………………………….5
      2. Cost Estimation………………………………………………………………6

# Revision Summary

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| --- | --- | --- | --- | --- | --- | --- |
| Revision | | Name | Description of Change | | | Date |
| 1.0 | Sam Dressler  John Neis | | | Initial report design and layout,  Cost and Effort Estimation | 2/20/20 | |
| 1.1 | Sam Dressler | | | Introduction, Project Description, Product Description, Schedule, Milestones | 2/23/20 | |
|  |  | | |  |  | |

# 1 Introduction

## Project Summary

The development of Money Hub will be developed over a timeframe beginning with January 21st and ending no later than May 14th, 2020. To complete this project, a team of two members was created for which the technical work will be equally split. An additional role of team leader will be assigned during the development process. The team member that takes this position will be responsible for the management and assigning of tasks as well as communication between members and with the project assigner henceforth known as the *customer*.

The Money Hub project, henceforth referred to as the *project*, has multiple process requirements that must be completed before the final delivery. The team must analyze constraints and specify requirements, as well as design, implement and, test a prototype before demonstrating the functionality of the final system. Sections in the report will provide more detail on each of these tasks.

### 1.1.1 Project Development Strategy

These steps will be developed incrementally following an Agile workflow. Development sprints will have an average length of 30 days. At the end of each sprint a deliverable will be presented. Finally, in order to assure the integrity of the system, the development process will follow the guidelines outlined by common software engineering principles.

## 1.2 Product Description

For the remainder of the report, the Money Hub system will be referred to as the *system* or *application*. The system being created during this project will fit the requirement of being an information system. Furthermore, this system will be a query-based information system that will be used for the tracking and monitoring of financial information.

### 1.2.1 Product Purpose

The purpose of designing such a system is too ease the stress burden that most people face when they are trying to manage their finances. Our team believes that having an account that a user can open and then have access to every important piece of financial will give certainty in a world filled with uncertainties.

### 1.2.2 Product Scope

The scope of the project is to give a user a snapshot of there finances all in a single place. This means that the user will be able to see their net worth, account balances, debt, and many more useful pieces of information. For example, an account within the application will be able to add their account information for a checking account they have with Capital One, loan information they have with Direct Loans, and finally an investment portfolio opened in Robinhood. \*\*

The benefits of a financial hub that includes all this information is the accurate representation of a user’s net worth. Other applications that generate your net worth do not include the user’s debts that may be in a separate account.

\*\**Disclaimer - The company names used in this section are currently not affiliated with the Money Hub System and were just used as an example of what the scope of the project could include.*

# Project Planning

Planning is the first crucial step in the development of the project. The customer expects us to develop and present a schedule as well as a budget. In addition to the development of these items, the customer also expects us to operate as close to the bounds of these as possible.

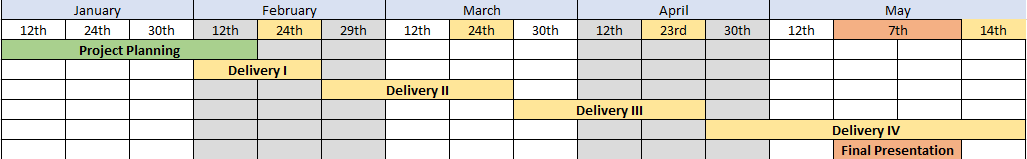
## Schedule

As stated in the project summary, the development of the project began mid-January and will continue through the beginning of May 2020. The development cycle for this prototype is quite short so the complexity of the prototype will need to be adjusted accordingly while still having the expected functionality.

### 2.1.2 Milestones and Deliverables

According to the team project specification in the syllabus for the course, there will be four deliveries as well as the final presentation that demonstrates a proof of concept for the product.

|  |  |  |  |
| --- | --- | --- | --- |
| Milestone | Deliverables | Date Started | Date Due |
| Delivery I | * Cost & Effort Estimation * Project & Product Specification * Schedule | 2/18/2020 | 2/24/2020 |
| Delivery II | * Project Plan Documentation * Software Requirements Specification | 2/18 | 3/24/2020 |
| Delivery III | * Software Design Documentation | - | 4/23/2020 |
| Delivery IV | * Software Test Documentation * Project Source Code | -  1/18/2020 | 5/14/2020 |
| Presentation | * PowerPoint Presentation | - | 5/5/2020-5/7/2020 |

 \**The deliverables past the first are subject to change due to possible changes to the syllabus as well as possible changes communicated during class.*

### 2.1.2 Team Resource Allocation

## 2.2 Estimation

### 2.2.1 Effort Estimation

A COCOMO II early design model was used to calculate the time frame for project completion, as well as the dollar price. The purpose of these estimations is so that the development has a set budget. Additionally, the time estimation will be used during the design phase to know what features will be able to be developed before the final delivery.

In this equation, Effort is measured in person months, A is a constant of 2.94, B is the complexity factor ranging between 1.01 and 1.24, and M is a multiplier which considers reliability and complexity of the product (RCPX), reuse of the product (RUSE), difficulty of the platform (PDIF), experience of the personnel (PREX), the capability of the personnel (PERS), required schedule (SCHED), and personnel support facilities (FCIL), and size is measured in thousands of lines of code.

Factors for M:

The values which contribute to the final value of M were chosen from a standardized table based on a rating from 1 to 5, where 1 is low priority and 5 is high priority. This does not necessarily mean the values shown for RUSE, PREX, and FCIL are low priority, it simply means the priority was used to determine the value of the factor.

Factors for B:

The value which contribute to the final value of B were ranked on a scale from to where is considered extra high, and extra low. This is counterintuitive, but this is the convention of the model.

The size of the system is estimated to be about 1,250 or 1.25 thousand lines of developer written code. Auto generated code is not considered in the effort estimation.

With these calculations completed, we can now estimate the time frame for the project.

### 2.2.2 Cost Estimation

The estimated time frame, from beginning to completion of the system will be about 3.61 months. Using this time frame, the dollar amount of the developmental prototype of the system is $48,000.

## Appendix

### Figures

### Tables