**Software Project Plan**

**Version 2.2**

**Project Management App**

**Team A**

**CSC-354**

**Fall 2015**



10/01/2015

Author: Tyler Mariano

Submitted To: Dr. Joo Tan

**TABLE OF CONTENTS**

Revision History…………………………………………………………………………………..ii

1.0 Introduction……..………………………………………………………………………….….1

1.1 Product Description…………………………………………………………………...1

1.2 Product Scope……………………………………………………….………………...1

1.3 Major Functions…………………………………………………………………….....2

1.3.1 Project Leader………………………………………………………….……2

1.3.2 Project Member………………………………………………….…………..3

1.4 User and User Environment…………………………………………………………...3

2.0 Project Estimates………………………………………………………………………………4

2.1 Historical Data………………………………………………………..……………….4

2.2 Effort Estimates……………………………………………………………………….4

2.3 Resources………………………………………………………..…………………….4

2.4 Project Feasibility…...…………………………………………..…………………….5

2.4.1 Economic Feasibility ……………………………...………………………..5

2.4.2 Development Costs………………………………………………………….5

2.4.3 Technical Feasibility……………………………………………………..….5

2.4.4 Schedule Feasibility ………………………………………………………...5

2.5 Team Structure…………………………………………………..…………………….6

3.0 Risk Management…………………………………………..…………………………………7

4.0 Project Schedule/Activities………………………………………………………………...….8

5.0 Tracking and Control Mechanism………………………………………………...……..…..10

5.1 Version Control…………………………………………………………………...….10

5.2 Quality Assurance and Quality Control……………………………………………...10

6.0 Diagrams…………………………………………………………………………………..…11

6.1 Context Diagram……………………………………………………...………..…….11

6.2 System Architecture………………………………………………..………..……….12

7.0 Software Quality Attributes………………………………………………..………………...13

8.0 Appendix………………………………………………………….………..………………...14

8.1 Acronyms and Abbreviations………….…………………………..………………...14

**REVISION HISTORY**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Author | Description | Date |
| 1.0 | Tyler Mariano | I created the first draft. | 09/07/2015 |
| 2.0 | Tyler Mariano | I made revisions based on the feedback from the first draft. My changes included changing sections to all capital letters, adding an appendix section, and correcting the context diagram. | 09/17/2015 |
| 2.1 | Jennifer Li | I made a few grammatical changes which include adding commas and semicolons, removing roles and editing the date. I have also identified unclear sentences that must be clarified. | 9/23/2015 |
| 2.2 | Tyler Mariano | I have add additional features for the leader and member role as directed by our client, Dr. Hussain. | 10/01/2015 |

**1.0 INTRODUCTION**

This document provides a description of our proposed app. Within this document are the project’s goals, functionalities, economic estimates, feasibility, and etc. The purpose of this document is to inform and explain what we plan to accomplish by making this app and how we plan on implementing it.

**1.1 Project Description**

The Project Management App is an application that allows the user to create a project and assemble a team to complete the project in an organized fashion. In addition to that, the application allows the authorized user to add members and to keep track of the percentage of completion of the project. The user who creates the project is automatically assigned the leader role; which entitles the user the power to add and or delete members of the project. Once a project is created, each member is added by the leader. After being assigned to the project, they will receive a notification of whether he or she will accept the proposed project. Once the accepted request is received, the leader will be able to start assigning roles and delegating tasks to each member.

**1.2 Project Scope**

There are high expectations for our project management mobile app. The goal is to eventually have it available for download in the android app store. By trying to make the app as universal as possible so it can be used to model any team projects scenarios in the real world.

This app will allow its users to create and join projects and add members to help complete the project. The leader can assign tasks with due dates, descriptions, and priority levels to the project members. The cost of creating apps for the android market is absolutely free. However, buying resources like books and/or videos on app creation may become necessary because this is such a complicated topic.

**1.3 Major Functions**

This section describes the functionalities that the project leader and project member are able to perform within the proposed app.

**1.3.1 Project Leader**

The main purpose of the leader role is to add, remove, and assign tasks to each member. He or she will be able to check the overall percentage of completion of the project and each individual member’s progress. Each assigned task should contain a task description, a due date, and a priority. Also, the leader is responsible for reviewing submitted tasks and reassigning them if there is some discrepancy between what was expected and what was delivered.

* The project leader can add members.
* The project leader can remove members.
* The project leader can create a task.
* The project leader can add a description to each task.
* The project leader can add a due date to each task.
* The project leader can add a priority level to each task.
* The project leader can create a dependency hierarchy for each task.
* The project leader can assign tasks to the project members.
* The project leader can review each task.
* The project leader can update each task as complete or incomplete.
* The project leader can update the entire project as complete.
* The project leader can reassign a task if it was not completed as expected.
* The project leader can check the project’s progress via graphical chart.
* The project leader can check each member’s individual task progress via graphical chart.
* The project leader can update the progress of the project by marking tasks as complete.
* The project leader can create custom member roles.
* The project leader can message team members via the app messaging system.
* The project leader can create a WBS which will be visible for all members to view.
* The project leader can create the project description which will contain project goals, cost estimates and other useful information.

**1.3.2 Project Member**

The members can view their assigned tasks and submit the tasks once they are completed. However, they will not be able to view other members’ tasks. But, the project leader will have the capability to view each member’s individual progress and the overall progress of the project. Additional features of this application will give the users the capability to upload documents, view deadlines via calendar, instant message other team members via the app with questions, and accepting custom created member roles (designer, developer, manager, etc.).

* The project member can join projects upon receiving an invite from the project leader.
* The project member can receive assigned tasks.
* The project member can work on assigned tasks.
* The project member can update their task’s progress.
* The project member can read their task’s description.
* The project member can read the project’s description.
* The project member can view dependency hierarchy for each task.
* The project member can view the project’s WBS.
* The project member can view their task’s due date via calendar view.
* The project member can view their task’s priority level.
* The project member can view their progress as a whole.
* The project member can view the project’s progress.
* The project member can message team members via the app messaging system.

**1.4 User and User Environment**

This application will be available on smartphone and tablets, but only for android powered devices. The user’s environment will be a sleek and simple design that promotes work flow. It will allow for members to update their task’s project swiftly as well as making assigning tasks as easy as possible for the leader.

**2.0 PROJECT ESTIMATES**

This section aims to calculate the cost and time needed to complete this app development process.

**2.1 Historical Data**

None of the team members have any true app development experience on any platform. However, all of us have made either websites or web applications. Therefore, we have researched into web-based app design which might give us an advantage.

**2.2 Effort Estimates**

Due to the android market place being free, the plan is to create this app using the newest android version Android 5.0, also known as Lollipop. There are fees and licenses that could apply depending on the app’s functionalities; but research has shown that there seems to always be a free alternative if you are willing to put the work in to understand the more complicated methods and do it yourselves.

**2.3 Resources**

Many resources will be used to help create this project. The team currently consists of three computer science majors all with different talents in the project development field that complement each other nicely. The team has very little experience making mobile applications so we have been busy testing many IDE’s and android emulators to see what will be most comfortable to use. Android Studios, Visual Studios 2015, IntelliJIDEA and Eclipse have already been tested. Other methods like web-based HTML 5 are advantageous to the group and could speed up the design process. Purchasing app development books will help the team tackle this learning curve which is clearly the biggest current road block. Currently, we plan to use IntelliJIDEA and the Java programming language to create this project. As far as hardware, two team members own Android powered devices and they are willing to use them to help expand our amount of testing platforms.

**2.4 Project Feasibility**

Since this is a school project, many real world aspects are not accounted. This allowed us to deem our project to be very feasible, whereas in the real world this project would be much more expensive. Below are the descriptions of different aspects of feasibility we have researched for our project.

**2.4.1 Economic Feasibility**

The app will be sold for free with ads to make money. After researching many estimates it seems that ads on one app can make you $0.40 a day. If many customers download this app there is a lot of money to be made. Advertisement for the app can be spread for free with social media or by word of mouth. There will also be a paid or pro version which user will have to pay $5.00 to download or upgrade to (this version comes without ads and extra features).

**2.4.2 Development Costs**

In the real world, the average starting computer science salary is $30.00 per hour. Since this is a school project this can be ignored that expense and save room in our budget by having all the team members work for free! There is no app development fee through android, but there might be database license fees ranging from $25.00 to $35.00 each. If there are ways around these fees they will be researched to save cost. A nice perk of this being a school project is that all equipment will be provided by the school for free. The biggest cost is training. The learning curve for app development will take time and require us to purchase resources like textbooks to help speed up the process. The support staff will also work for free; however in the real world this would be just as costly as a salary expense ($30.00 per hour).

**2.4.3 Technical Feasibility**

This project requires a lot of skills that none of the team members currently possess.

The team is well aware of this problem and plan to put the majority of our efforts into tackling this learning curve. The team has begun researching the best languages and IDE for this project so all members can agree on the best course of action.

**2.4.1 Schedule Feasibility**

By setting many maintainable goals the team can break this huge project into smaller task to help tackle the problem of scheduling. Most of the team’s time will be spend learning and understanding app development. Once well trained the development should go smoothly, and faster. If the schedule does not go according to planned our mitigations in the risk management plan will help us get back on our feet.

**2.5 Team Structure**

The team consists of three members, each with two roles. The Roles are as follows: Project Leader, Project Manager, Systems Analyst, System Designer, System Developer, and System Tester. The only stipulations are that no team member may be both a System Developer and System Tester and the Project Leader is predetermined

|  |  |
| --- | --- |
| Team Member | Roles |
| Hector Richiez | Project Manager , System Developer |
| Jennifer Li | System Analyst, System Tester |
| Tyler Mariano | Project Leader, System Designer, System Developer\* |

\*Tyler will help Hector with the System Development work load to ensure project success.

**3.0 RISK MANAGEMENT**

For more information, users should view the Risk Management Plan (Version 2.2, authored by Hector Richiez, dated September 17th, 2015).

**4.0 PROJECT SCHEDULE/ACTIVITIES**

The table below is depicting the different phases of the project process. The tables consist of the name of the phase, the task to be accomplished or in process, the date due, estimated amount of days to complete the task, the status (completed or not completed), and the resources used.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Phase | Task | Date Due | Est. (Days) | Status | Resources |
| 0-Planning | Define Project | 8/27 | 1 | Completed | All |
| Build project management application description | n/a | 1 | Completed | All |
| Team meeting with Dr. Tan | 09/01 | 1 | Completed | All |
| Work breakdown and team members role | 08/26 | 1 | Completed | All |
| Team Meeting (Platform targeted, technological constraints and selected tools for development) | 08/11 | 1 | Completed | All |
| 1-Technical Documents and Design | Build SRS (Software requirement specification) | n/a | 2 | Not Completed | All |
| Build RMP (Risk Management Plan) | 9/15 | 4 | Not Completed | :Hector Richiez  :Jennifer Li |
| Build SPP (Software Project Plan) | 9/17 | 6 | Not Completed | :Tyler Mariano |
| Build Quality Control and Assurance plan | TBD | 10 | Not Completed | All |
| Application Design | TBD | 7 | Not Completed | :Tyler Mariano |
| Build USD (Use Case Description/Use Case Diagrams) | TBD | 5 | Not Completed | All |
| Build HDL (High Level Diagrams) | TBD | 3 | Not Completed | All |
| Review USD and HDL for correctness and consistency | TBD | 2 | Not Completed | All |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Phase | Task | Date Due | Est. (Days) | Status | Resources |
| 2-Implementation or Coding | User interface Development | TBD | 20 | Not Completed | :Hector Richiez  :Tyler Mariano |
| Messaging System development | TBD | 19 | Not Completed | :Hector Richiez  :Tyler Mariano |
| Database modeling design, coding and implementation | TBD | 10-15 | Not Completed | All |
| Develop Modular Testing | TBD | 3 | Not Completed | :Jennifer Li  :Tyler Mariano |
| Integrating Modules and Building Prototype for testing | TBD | 3 | Not Completed | :Jennifer Li  :Tyler Mariano |
| Application Completion | TBD | 5-10 | Not Completed | All |
| 3-Deployment | User Survey | TBD | 2 | Not Completed | All |
| Deployment of App in the android store | TBD | 1 | Not Completed | All |

**5.0 TRACKING AND CONTROL MECHANISMS**

The sections below are relating to how we plan on releasing the newest versions of our software to our customers. It also explains how we maintaining a certain level of quality for our app’s users.

**5.1 Version Control**

Multiple back-ups will be held to prevent loss of data. Systems like GIT may be implemented to allow for saved repositories. GIT also allows for better new feature integration without overwriting pervious data. New releases of the app will be made available through the android marketplace. New versions will come with vivid descriptions of new features, bug fixes, and improvements.

**5.2 Quality Assurance and Quality Control**

Using the android marketplace review system the team will be able to see customer’s real time evaluation of customer feedback. The app will ask for the user to rate the app after it has been open for the 5th time. The reviews will be used to determine what aspects of the application need to be fixed, added, or improved upon. To ensure quality, the whole team will follow the mitigation plans as depicted in the risk management plan to solve any conflicts or problems. Set hours will be established and documented for each team member to show fixes, improvements, or new features they have added to progress the app. The team has agreed that changing the app based on customer feedback is the best way to ensure we produce the best possible quality app for our users.

**6.0 DIAGRAMS**

The two sections below are describing the context diagram and the system architecture. The context diagram shows how the system interacts with other entities.

**6.1 Context Diagram**

This context diagram explains how the project leader and project members are all supposed to interact with the project management system. Leaders and members can only exist if a project does. It also explains all the different things the leader and member can do, how they interact with the system and what the system can do.

Leader

Add Member

Assign Tasks

Completed Task

Review Tasks

Messaging

Re-Assign Tasks

Update Progress

Remove Member

Project Management

System

Accept Role

Receive Task

Submit Task

Project Role

Update Progress

Messaging

View Calendar Due Dates

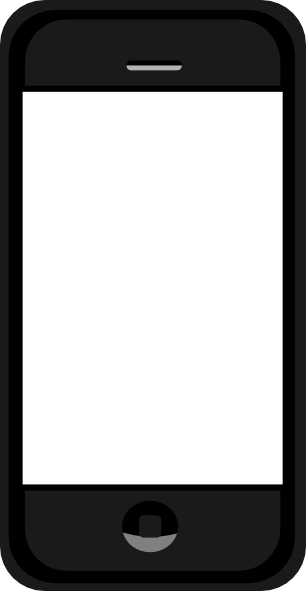
Members

**6.2 System Architecture**

This diagram explains the design structure of how the application will work. First, users can download the app via the Android market place. Then, users will be able to access the application via their mobile devices (cell phone or tablet). Databases will be used to store all projects (projects consist of leaders and members) to save data and remember previous data.



Download project management app from app store



Available for smart phone and tablets (Android only)



Create account then log into project management app



Project Database



Member Database

Leader Database

**7.0 SOFTWARE QUALITY ATTRIBUTES**

Software quality attributes must be based on reliability, usability, and scalability. To test reliability we will examine the threshold of the app buy adding projects, members, and tasks until it crashes. By measuring the amount of data each user before it crashes will allow us to cap the amount of projects, members, and tasks, so the app never fails. Also, buy viewing user feedback and updating user found issues quickly, this will be an app customers can depend on. As far as usability, we hope that this app will be used in multiple project scenarios ranging from simple software teams to large scale architecture projects. This app is meant to organize and structure teams, which will be applicable to any field! There are currently no plans of making this application web based or expanding to other platforms. Therefore, is scalability is limited to Android powered smartphones and tablets.

**8.0 APPENDIX**

**8.1 Acronyms and Abbreviations**

The table below is to clarify the meaning of the abbreviations and acronyms used in this document.

|  |  |
| --- | --- |
| Acronym/Abbreviation | Full Text |
| DV | This acronym stands for developer. |
| PL | This acronym stands for project leader. |
| PM | This acronym stands for project manager. |
| SA | This acronym stands for systems analyst. |
| SD | This acronym stands for system designer. |
| SRS | This acronym stands for software requirements specification. |
| SPP | This acronym stands for software project plan. |
| ST | This acronym stands for system tester. |
| WBS | This acronym stands for work breakdown schedule. |