CSUSB OSMM

Mobile Application

Software Project Management Plan

Revision 1.0

February 1, 2016

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Contents

1 Overview

1.1 Project Summary

1.1.1 Purpose

This Software Project Management Plan (SPMP) outlines the management of the CSUSB OSMM mobile application development for the initial iteration of the project. It contains organization, development cycle plans, expected process timeline, testing protocols, and maintenance details for the application for any later group. Its intended audience is our CEO, Dr. Concepcion, and our client, Shakeh Ghazaryan.

1.1.2 Scope of the Project

The scope of this plan encompasses the initial development for the CSUSB OSMM application. It outlines what will be done, who will do what, and the methods that we will adopt. Anything not directly related to application development as specified in the current SRS to be considered outside of project scope. These include:

- Application Development
- Quality Assurance
- Documentation

The first prototype of the project will have the pages listed in this document designed and developed for Android mobile devices. For the second prototype we plan on adding a bill splitter finance tool and connecting the application to the database for information retrieval and storage.

1.1.3 Assumptions and Constraints

- We make the following assumptions:
- All of the team members are following the approved SRS and SPMP.
- The client will provide timely responses to our inquiries.
- Team members will attend lab meetings.
- Team members will dedicate time outside of class towards the development of the project
- All the team member will meet scheduled deadlines with their assigned tasks.
- A development server will be provided with the necessary technologies available.
- The application must be designed to run on android mobile devices
- Short time frame for development
- Prior knowledge of development technologies

1.1.4 Schedule and Budget Summary

No budget is given for the project. Regardless, this is what we plan to be available: Prototype 1 will be delivered on week 7 of class and Prototype 2 will be delivered on the final day of class.

1.1.5 Project Deliverables

1. SRS, SPMP, SQAP, Software Architecture, Detailed Design, Test Plans, Documented Source Code, and Maintenance Manual.
2. Executable App.

1.2 Evolution of the Plan

The management team attended to the meeting with our client, Shakeh Ghazaryan on January 21, 2016. We discussed what they wanted from us and what was expected to be on the app. Our project manager had already sketched designs and presented them to the Shakeh. He has been working with her to get as much input as he can to make sure we are heading in the correct direction.After, we were assign an UI/UX designer and forwarded what we got to him to get the final design. Meanwhile, our software engineers were ask to start doing tutorials to be better familiar with the new environment.

2 References

- Android Developers
  http://developer.android.com
- Campus Safety Software Project Management Plan (SPMP) Example
  Available upon request

3 Definitions, Acronyms, and Abbreviations

Android - Google's mobile operating system

Android Studio - Google's IDE for android development

IDE - Integrated Development Environment

3G - Third Generation of wireless data standard

4G - Fourth Generation of wireless data standard

MySql - Database language that interacts with a server to query data

Java - The language used for Android development

HTTPS - Secure transfer protocol for server communication

WiFi - Wireless internet for devices

SRS - Software requirement specifications

OSMM - Office of Student Money Management

SPMP - Software Project Management Plan

4 Project Organization

4.1 External Interfaces
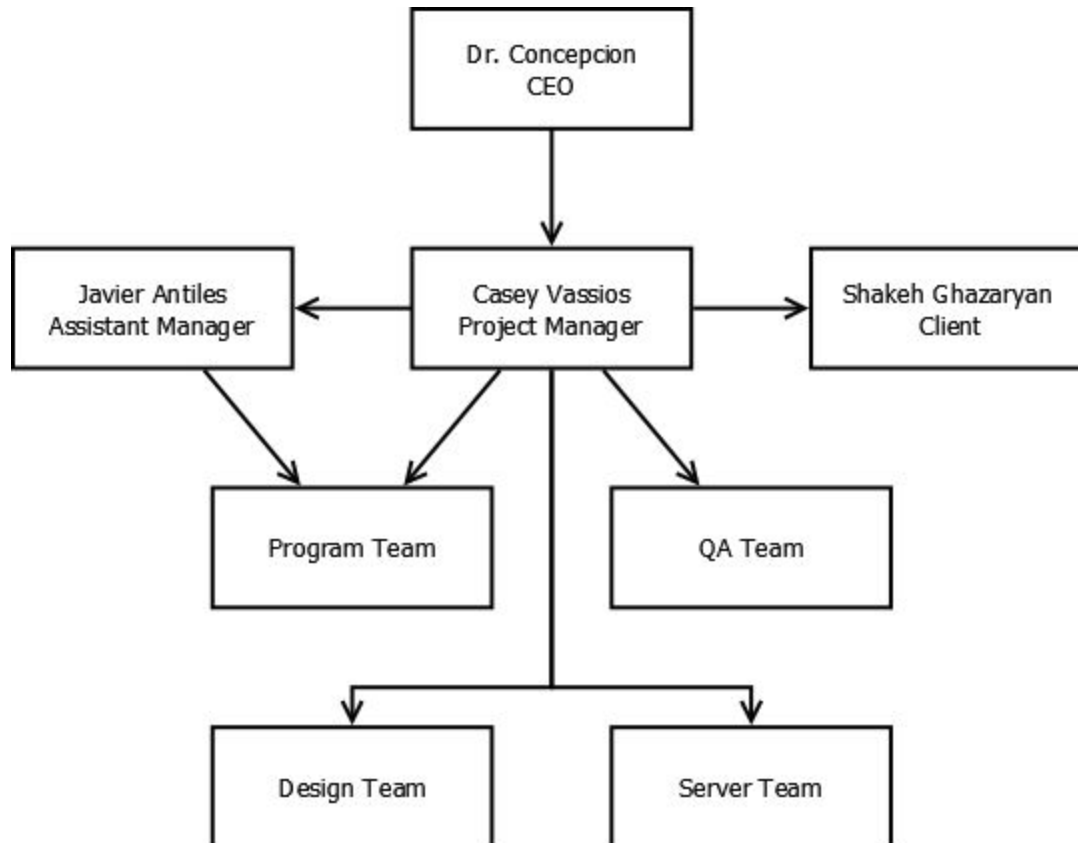
Dr. Concepcion (CEO) – Monitors performance of all the development teams. Gives guidance to the project manager, comments on the team's documents, and heads all board meetings where progress reports are given.

Casey Vassios (Project Manager) – Liaison between the team and the client. Produces a work environment where everyone on the team has what they need to do their part as efficiently as possible. Communicates with the client to make sure we have a clear understanding on what is being asked and expected from the developing team. Works directly with Design team to produce a pleasant looking design for application.

Shakeh Ghazaryan (Client) – Conveys to project managers what the requirements of the app are, and gives feedback when prototypes are demonstrated.

Javier Antiles (Assistant Project Manager) – Closely monitors the team's progress, is an integral part in all document preparation, and knows everything about the project so he can replace the project manager in the event the project manager cannot perform his duties. He Works directly with the developing team as well as producing code for the App.

Design Team – Plans the layout and functions of the app. Reports to the project manager.

Software Engineering Team – Codes the objects in the app. Reports to the assistant project manager.

Server Team – Receives requirements from development team for presentations to the client. Issues communication ports, provides server and database software on a machine, and maintains a stable environment to host the application.

QA Team – Tests the product for any flaws and gives the results to the development team for debugging or gives their approval.

4.2 Internal Interfaces
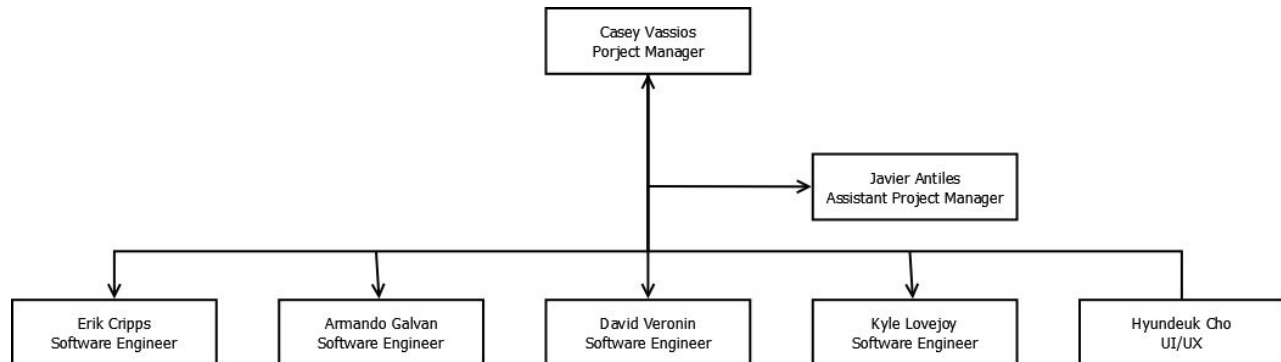
The Project Manager and the assistant project manager will work together commutatively to observe project progress and adapt team member roles to ensure project success.

4.3 Roles and Responsibilities

Casey Vassios (Project Manager) -Liaison between the team and the client. Produces a work environment where everyone on the team has what they need to do their part as efficiently as possible. Communicates with the client to make sure we have a clear understanding on what is being asked and expected from the developing team. Works directly with design team to produce a pleasant looking design for application.

Javier Antiles (Assistant Project Manager) – Closely monitors the team's progress, is an integral part in all document preparation, and knows everything about the project so he can replace the project manager in the event the project manager cannot perform his duties. He works directly with the developing team as well as producing code for the application.

David Veronin – Programmer assigned to implement the development of the home page and newsletter page, as well as setting up the database.

Armando Galvan - Programmer assigned to implement the development of the contact page and tools page.

Kyle Lovejoy - Programmer assigned to implement the development of the services page and peer finance coaches page.

Erik Cripps - Programmer assigned to implement the the development of the workshops page and form for requesting new workshops.

Hyundeuk Cho– Artist for the User Interface. Designs the page layouts, navigation menu, and forms. Works directly under the Project Manager to ensure easy to use and aesthetically pleasing User Interface.

5   Managerial Process Plans

5.1 Start-up plan

- Client specification
  - ○ Client has specified the requirements for the application
- Technology research
  - ○ Research in Android development environments, test servers, database design and development, security measures
- Environment set up
  - ○ Development environments have been installed and are running to make sure the application is ready for deployment on Android devices
- Design Overview
  - ○ Each team member has been given information regarding what is asked

5.1.1 Staffing Plan

Members working on this application were all selected and assigned through the screening survey taken during the first week of the course.

5.1.2 Resource Acquisition Plan

The team will be working Jack Brown Hall workstations on campus and their own personal computers. All work environments have been successfully installed in each member's station to be ready to develop in case they need to finish the task at home. Testing for the application will be done with on their own android device or emulator of an android device.

The resource plan will include services from the server team to obtain a test server during the development stages for certain work units in the application which include a get or post request to a database. We will also continue Student Advising with the student interns. All requests will be handled by project managers.

5.1.3 Project Staff Training Plan

All staff will study by themselves on Android development environment, spending their own time and resources. Resources will include YouTube, Lynda.com, and Codecademy tutorials for both Java and SQL. For this reason, all members are encouraged to attend weekly meetings to be checked for project progress.

Team members will also consult any other CSE 455 TAs for additional support if the problem can not be solved within the group.

5.2 Work Plan

5.2.1 Work Activities

Work Units:
- ● **Graphic Design**: Layout, styling, navigation
  - ○ Assigned: Hyundeuk Cho, Casey Vassios
- ● **Prototype**: Early working build version of Application
  - ○ Page Development: Javier Antiles, David Veronin, Armando Galvan, Kyle Lovejoy, Erik Cripps
  - ○ Database Development: Javier Antiles, David Veronin
- ● **Documentation:** Work on code document for future references.
  - ○ Assigned: All Team members will work on documentation with respect to their assigned work units.

5.2.2 Schedule Allocation

Schedule
All times are shown in UTC

February 2016

Protoype #1 Development
Thu 4 - Wed 24
3:00am - Feb 24 at 1:30pm

Complete Styling of Each Page
Fri 5 - Fri 12
3:00am - Feb 12 at 3:30am

Collaborate on Completed Pages
Thu 11
4:00am - 4:30am

Combine Pages into One App
Thu 11 - Thu 18
2:00am - Feb 18 at 2:30am

Testing for Prototype 1
Thu 18 - Thu 25
2:00am - Feb 25 at 2:30am

Update Pages w/ Content Provided by Client
Tue 23 - Mar 24
2:00am - Mar 24 at 1:30am

Prototype #1 Delivery
Thu 25
3:30am - 4:00am

Prototype #2 Development
Thu 25 - Mar 19
3:30am - Mar 19 at 3:00am

March 2016

Update Pages w/ Content Provided by Client
Feb 23 - Thu 24
2:00am - Mar 24 at 1:30am

Prototype #2 Development
Feb 25 - Sat 19
3:30am - Mar 19 at 3:00am

Database and Finance Tool Discussion and Design
Tue 1 - Sun 6
3:30am - Mar 6 at 4:00am

Database and Finance Tool Development
Tue 1 - Thu 10
2:00am - Mar 10 at 2:30am

Prototype #2 Delivery
Thu 24
3:00am - 3:30am

5.3 Control Plan

5.3.1 Requirements
Team members will meet two days of the week to comment on the status of their assigned work during a scrum meeting. The client will be updated on the applications prototype on a weekly basis. In case of new, unimplemented requirements requested by the client, the managers will assess these requirements and establish a plan on how the implementation will be handled during the progress of development.

5.3.2 Schedule
The team will have irregular meetings aside from the lab meetings if needed. If there is a need of such a meeting, managers will make any changes to the schedule based on their availability. Managers will also keep constant communication with team members and a designer to make sure if any changes will be needed as the development continues. Project Manager and Assistant Project Manager will discuss project progress and deadlines on a weekly basis by email.

5.3.3 Quality
Quality of the project will be done continuously on team meetings by project managers and team leader.

The team will also follow a quality metric of:
- $\#$ of faults/ K LOC, where we will report team members development process with log record.

5.3.4 Reporting
Dr. Concepcion will have meetings by demand only. Team members will report bi-weekly during class hours and keep constant communication through email and by phone.

5.3.5 Metrics Collection
Every week the work of each software engineer will be evaluated to make sure it is on track for completion. To ensure efficiency, questions will be discussed on Mondays and Wednesdays we will all have a coding session together to see the team's progression.

5.4 Risk Management Plan

Development:
- Additional meetings among team members will be encouraged to work out difficulties during development process to avoid being stuck on one particular part.

- Project managers will need updates by team members to obtain a direction of project and keep an eye on where we are to meet deadlines.
- Team members must keep in contact

Server failure:
- Server team will be emailed accordingly

Project Failure:
- Project failure will be assessed and discussed with the client. If the project failure is due to lack of mature technology, an alternate project route will be developed and discussed with the client.

5.5 Closeout Plan

1. Application exhibit on Finals day.
2. Store all deliverable to repository
3. Submit Maintenance manual

6   Technical Process Plan

6.1 Process Model

The team will adapt a modified Scrum software development plan with three core roles committed to producing the desired product. This is to ensure everyone knows what their team members are currently working on. Also if they are having issues with development. The three core roles are the product owner, scrum master and the development team.

Product Client: Shakeh Ghazaryan

Scrum Master: Casey Vassios

Development Team: Javier Antiles, David Veronin, Armando Galvan, Kyle Lovejoy, Erik Cripps

The key to the Scrum development process is that each member will be assigned to work on a specific feature. During the development process is essential that team members attend team meetings so the product owner and scrum master can assess the current status of the project. It is during these meeting that the team can be aware of the direction of the project and reallocate resources to meet deadlines. Team leaders will keep constant communication with team members to determine if meeting after class hours will be required.

CSUSB OSMM Scrum Process
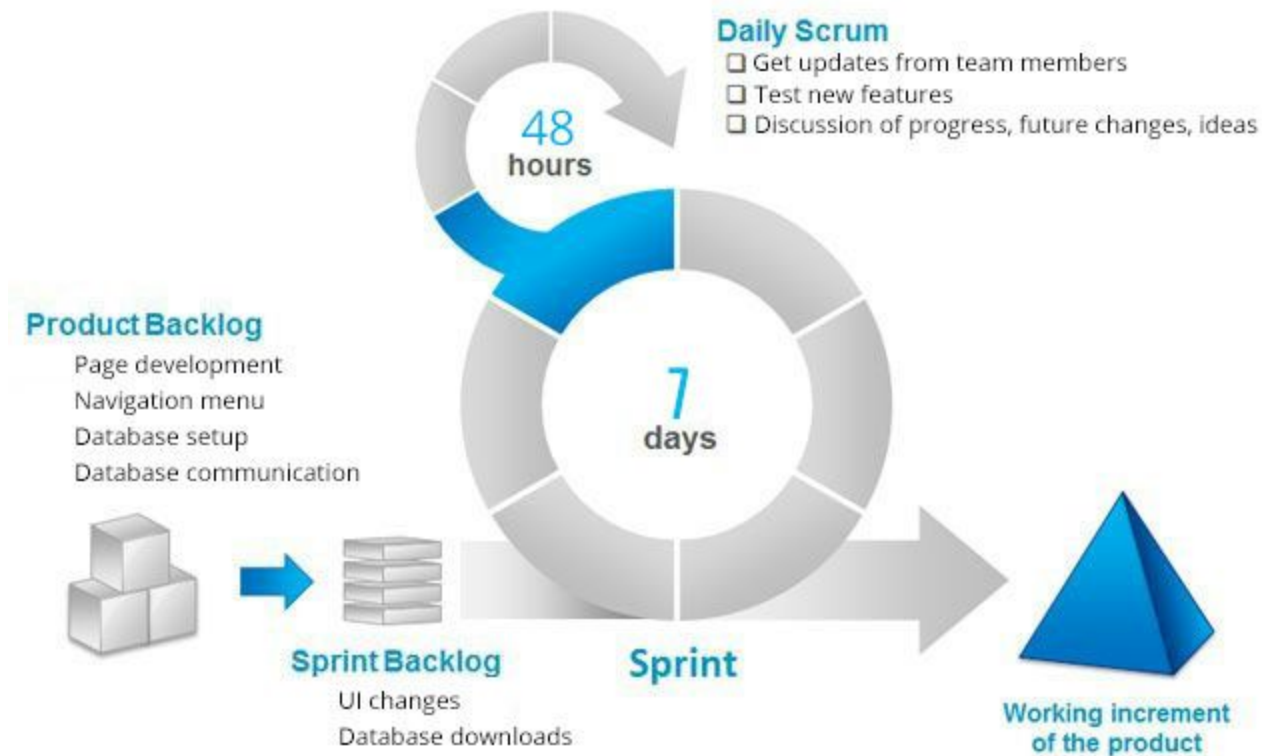
6.2   Methods, Tools, and Techniques

Methods:
- ● Scrum software development

Techniques:
- ● Planning Meeting
- ● Bi-weekly scrum meeting with individual updates
- ● End Meeting

Tools:
- ● Android Studio
- ● Dia
- ● Github

6.3   Infrastructure Plan

The Server Team will provide an Apache Webserver and MySQL in a Linux container, and SFTP access to upload code and documents. They will also provide access to a Gitlab service.

6.4   Product Acceptance Plan

The acceptance will be conducted by to entities. The client and the quality assurance team will test the final product.

- ● Security Vulnerabilities
- ● Functional completeness
- ● Accessibility
- ● Response Time

7   Supporting Process Plans

7.1   Configuration Management

The Gitlab service provided by the server team includes a git revision control system. All project deliverables will be considered as configuration items.

7.2   Documentation

Documentation for SRS and SPMP will be prepared by the manager and assistant manager. Documentation for Detailed Design and Architecture will be prepared by development team members. Documentation will be reviewed by team leaders.

7.3   Quality Assurance

The team will submit the final project before the final deliverable date.

7.4   Reviews and Audits

Every team member will be part of the review process to maximize the test sample size before the final deliverable date. This is to avoid any errors that may be still be in. Additionally design and code reviews will be submitted.

7.5   Problem Resolution

Team members are expected to have an open communication regarding project to address any problems they might occur during the development. This also includes deadlines that may produce problems.

7.6   Process Improvement

There are features that require more resources in time and training that can be implemented in the next stage of development.

The crucial factor to Scrum development is communication and team members need to focus on reporting their updates on a daily basis. Team member will be reminded daily.