CSUSB Room Quest Mobile Application

Software Project Management Plan

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Contents

5 Managerial Process Plan

6 Technical Process Plans

7 Supporting Process Plans

1. Overview

1.1 Project summery

1.1.1 Purpose

This Software Project Management Plan outlines the management of the CSUSB Room Quest Mobile application development for its first iteration of the project. It contains requirements, development plans, and a time line of progress, testing protocols, and maintenance details for the application. Its intended audience is Dr. Concepcion.

1.1.2 Scope of the project

The scope of this plan encompasses the completion of development for the This Software Project Management Plan outlines the management of the CSUSB Room Quest Mobile application during the first iteration of the application's development.

1.1.3 Assumptions and constraints

We make the following new assumptions:

- An APK will be provided to the QA team for review on the week of Monday, February 17, no later than Thursday, February 20, 2014.
- A demonstration of the application will be made on Tuesday, March 18, 2013.
- Team members will attend the demonstration.

Also included are our original assumptions:

- The programmers are following the approved SRS.
- The client will be an integral part of the design process and provide timely responses to inquiries.
- Team members will attend lab meetings.
- Team members will dedicate time outside of class towards the development of the project
- A development server will be provided with the necessary technologies available.

We have the following new constraints:

- Only Jack Brown Hall will be mapped for the quarter.
- The application must work on Android Smart Devices.
- Short time frame for development.
- The application will not be able to fully tested outside school hours, or off campus.

1.1.4 Project deliverables

- Room tagging of every of room and office in Jack Brown Hall.
- Direction calculation to each tagged room.
- A map view, for near real-time navigation.
- Android compatibility.

1.2 Evolution of the Plan

This is the first iteration of the project. Future iterations should allow for IOS compatibility, as well as Room Quest's integration into Tour CSUSB.

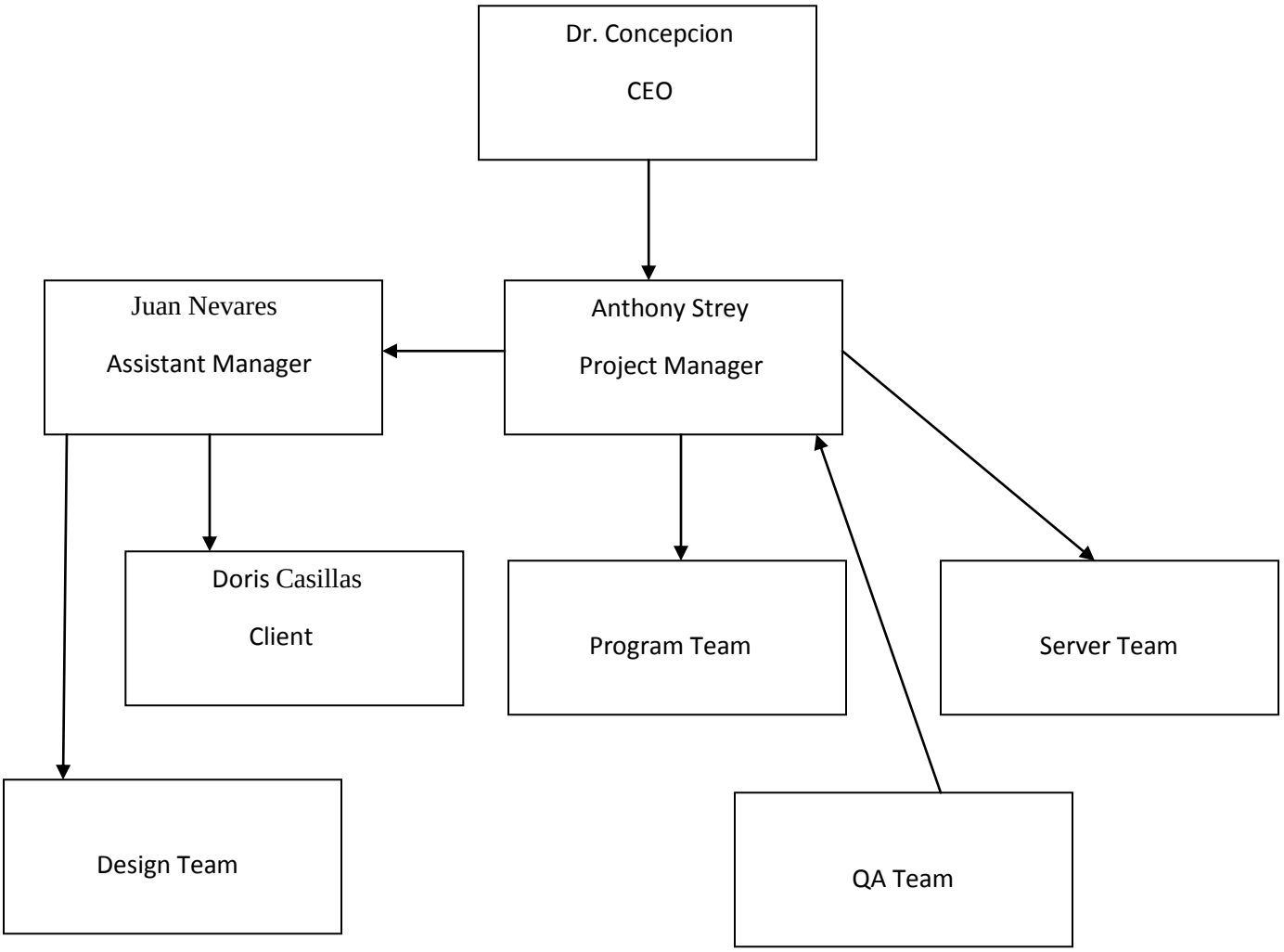
2. References

Student Advising Software Project Management Plan CSE, Inc. Revision 2.0

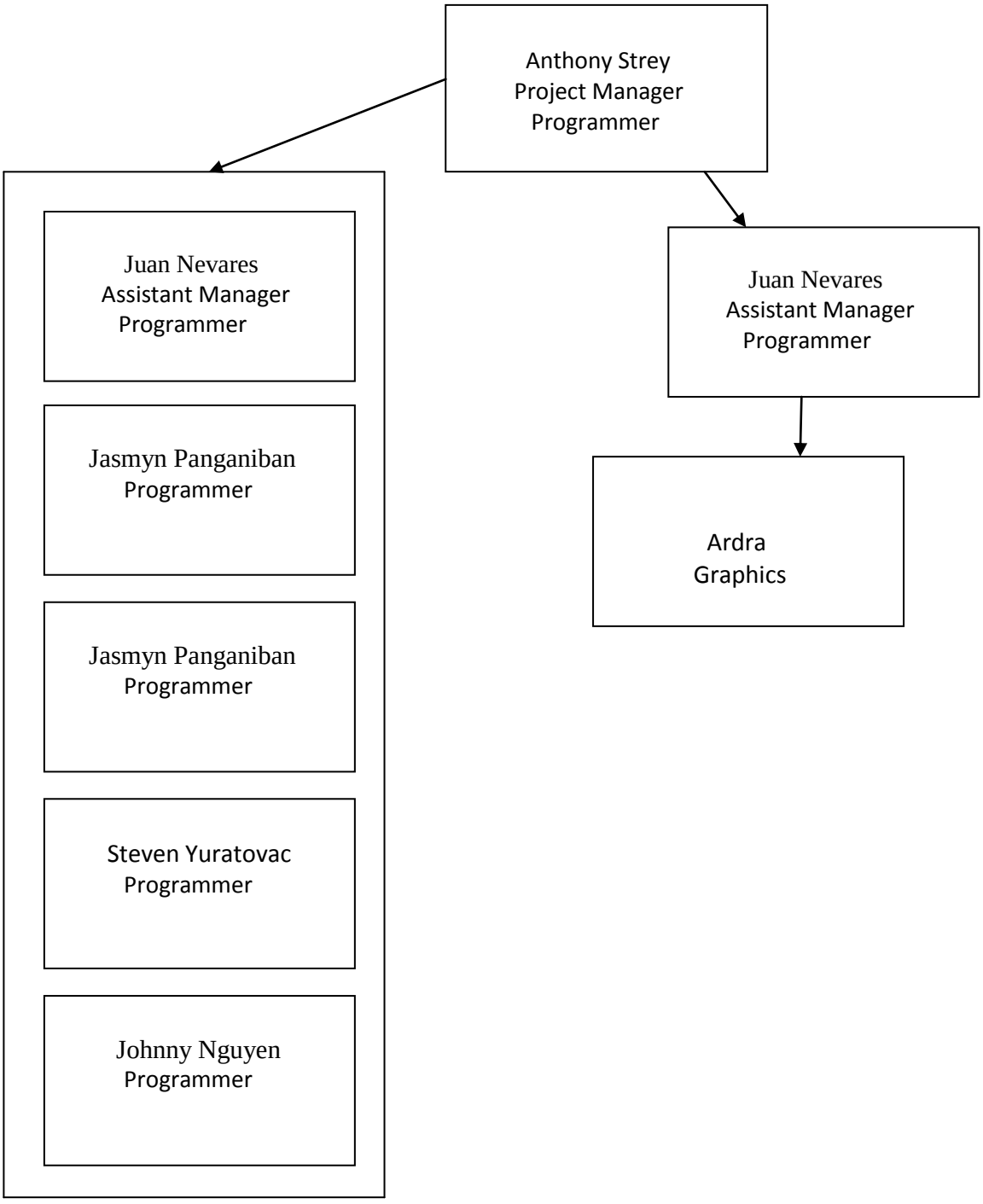
3. Definitions

4. Project organization

4.1.1 External interfaces



4.1.2 Internal structure



4.1.3 Roles and responsibilities

- **Juan Nevares** is responsible for ensuring that the floor plans and tag/path graphics are compatible, and capable of populating the map window, without error. This will require the development of algorithms that interpret map instructions, sent from the RQControl object, into meaningful locations and destinations. This team will work, in conjunction with the RQServer object to retrieve any map resources that are required for placing location tags and path graphics on the base map. This team will then be responsible for the correct placement of those resources in the map window, based on the received map instructions. All described functionality will be contained in the "RQMap" object. This will require the formulation of specifications for all parameters used by the RQMap object. This team will handle all RQMap object documentation. Finally this group will participate in acquiring the base room locations.

- **Noah Tetley** shall ensure that the server is secure and capable of maintaining itself while interacting with client applications. He will interface to both the RQMap and RQControl objects, to ensure that all mapping components and data- that are required for storage on the server- are compatible with each other. That is, the correct formats will be used, and information and resources will be stored in a way that will minimize storage, retrieval and any other process time that is associated with the central server. All described functionality will be contained in the "RQServer" object. This team will ensure that all information sent to RQMap and RQControl (by the RQServer object) adheres to those object's parameter specifications. This team is required to formulate specifications for all RQServer object parameters. This team will be responsible for the creation of RQServer object documentation. Finally this group will participate in acquiring the base room locations.

- **Steven Yuratovac** Is responsible for developing the user interface, and the classes and functions that are needed to drive it. This includes event handling, input validation, component state management (i.e. is the button able to be pressed), and interface state management (i.e. is the right interface screen appearing). This team will be responsible for ensuring that the user destination is obtained and sent to the RQControl according to the object's specifications. This team shall request an RSS measurement test from RQControl. If it fails, this team will also be responsible for adjusting the ui for manual location input, and the sending of that input to RQControl . All described functionality will be contained in the "RQUI Object". This team will be responsible for the formulation of specifications for all RQUI object parameters. This team will also be responsible for the creation of RQUI object documentation. Finally this group will participate in acquiring the base room locations.

- **Johnny Nguyen and Jasmyn Panganiban** will work together on Room Quest's core positioning functions. The team will be responsible for identifying the existing redpin classes and functions, which deal specifically with user positioning. The team will then reuse, replicate, or rebuild entirely, the classes that are necessary for calculating user destination and path data. These classes will work in conjunction with the RQServer object, to produce instructions for the RQMap object. These instructions will be in the form of location, destination and path information- which will be interpreted by the RQMap object. This team's classes will also work in conjunction with the RQServer object, to produce a list of directions for the RQUI object. Additionally, the team will manage Redpin's RSS reading and fingerprinting functions, as they apply to Room Quest's requirements. The team will ensure that all outgoing information (to the RQMap, RQServer, and RQUI objects) is in its correct format, according to those object's parameter specifications. All described functionality will be contained in the "RQControl" object. It is this team's responsibility to formulate the specifications for all RQControl object parameters. This team will also be responsible for the creation of RQControl object documentation. Finally this group will participate in acquiring the base room locations.

- **Anthony Strey** will act as a team member to each of the above teams, ensuring the successful development of each object, according to the above requirements. This means that he is responsible for assisting in the development of each object; therefore, he is equally responsible for the development of each object. He will be responsible for providing any guidance and training to other team members. As project manager, he will also be accountable to managerial duties, pertaining to Room Quest. Finally this group will participate in acquiring the base room locations.

5. Managerial process plans

5.1 Start-up plan

5.1.1 Estimation plan

5.1.2 Staffing plan

See roles and responsibilities (section 4.3)

5.1.3 Resource acquisition plan

Resources will need to be obtained from CSUSB Logo, Server Team, building floor plans, android phones and potentially wi-fi locations. Resource requests will be written by Anthony Strey or Juan Nevares. All requests will be sent out in a timely manner to assure quick turnaround.

5.1.4 Project staff training plan

All staff is expected to learn the required technologies independently, with the exception of version control. Anthony Strey will provide detailed eclipse instruction, as well as research and teach server technologies. Training will be given on both a group and person-by-person basis.

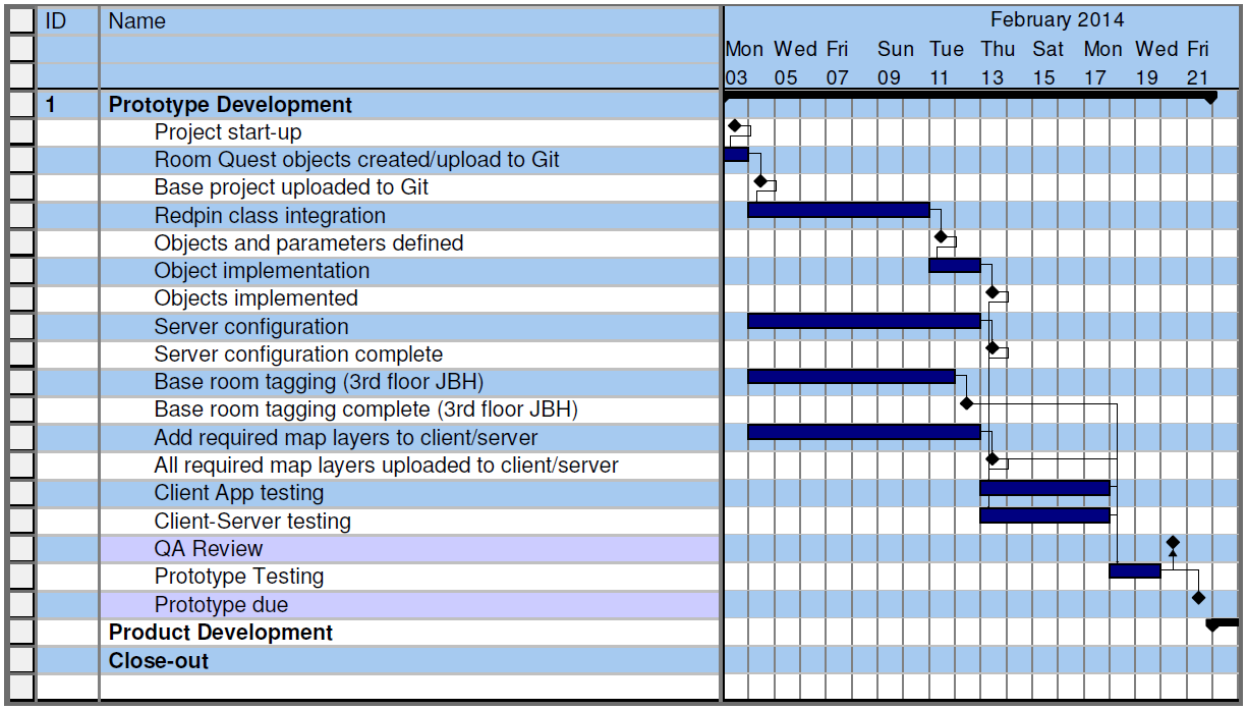
5.2 Work Plan

5.2.1 Work activities

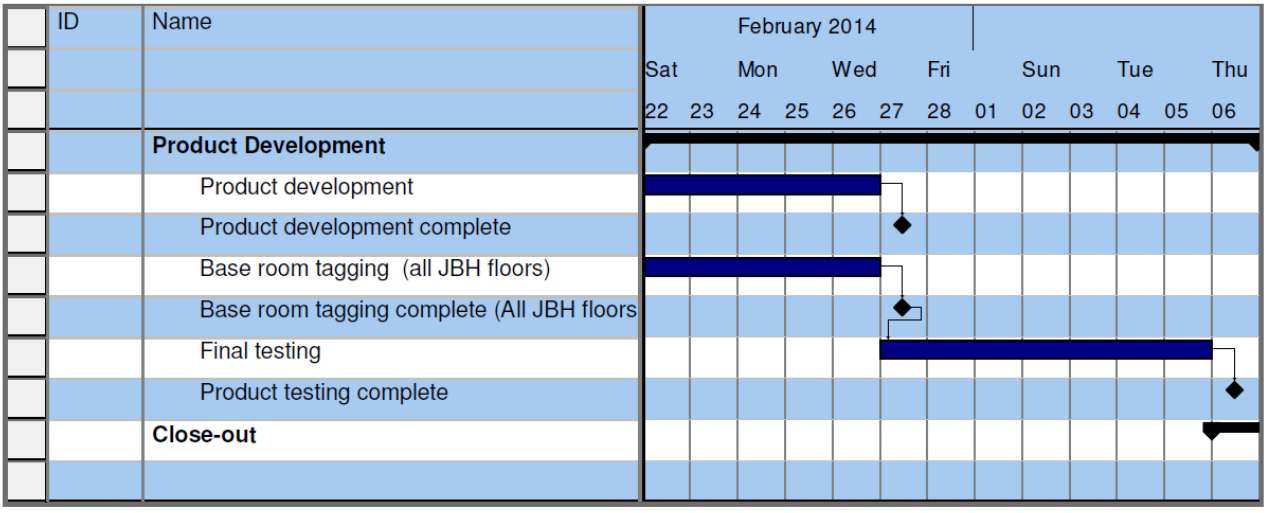
Room Quest objects created/upload to Git
Redpin class integration
Objects and parameters defined/Object implementation
Server configuration
Base room tagging (3rd floor JBH)
Add required map layers to client/server
Client App testing
Client-Server testing
Prototype Testing
Documentation

5.2.2 Schedule allocation

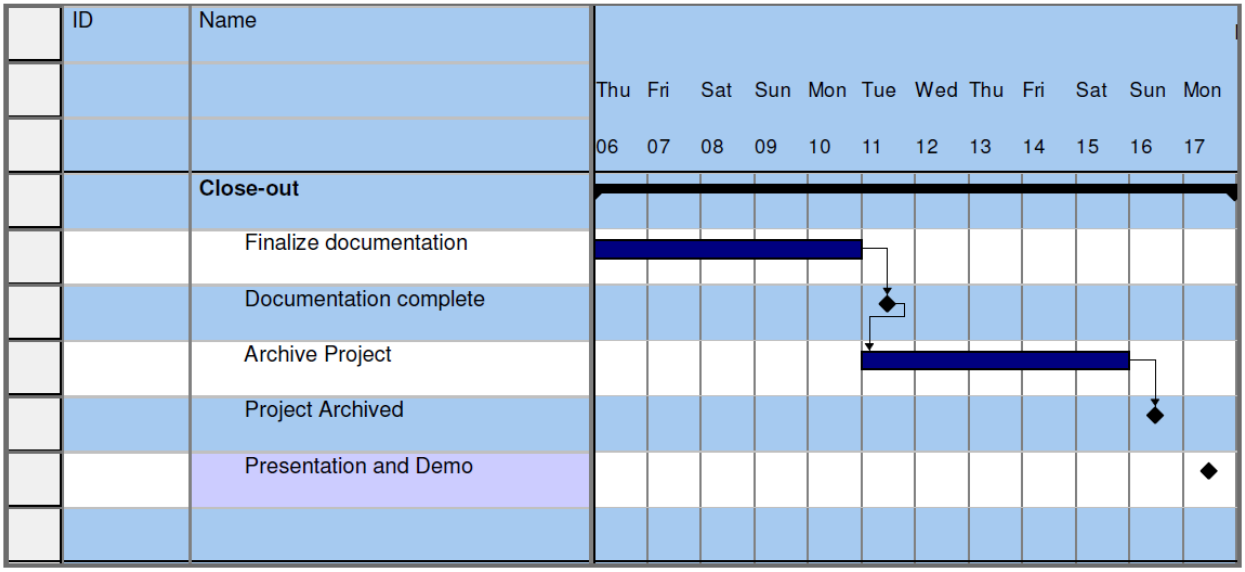
Phase 1: Prototype Development



Phase 2: Prototype Development



Phase 3: Close Out



5.3Control plan

5.31 Requirements

Bi-weekly meetings, as well as Google Group discussions, will be conducted with our team. The client will be updated on prototypes as they rollout. Juan will be meeting with client regularly (weekly).

5.3.1 Schedule

Dr. Concepcion will conduct bi-weekly meetings with Anthony Strey and Juan Nevares. Progress will be continuously evaluated.

5.3.2 Quality control

Juan Nevares will continuously evaluate the quality of the user interface and documentation of the application. Anthony Strey will review all other revisions made to the application. Major iterations will be reviewed by the client and Dr. Concepcion.

5.3.3 Reporting

Dr. Concepcion will hold bi-weekly meetings where the status of the project is reported in detail.

5.3.4 Metrics collection

5.4 Risk management plan

Several procedures will be used to manage risks.

Human resource loss:
Anthony Strey, who is a member of each coding team, will fill the roles of any absent members.

Equipment Loss

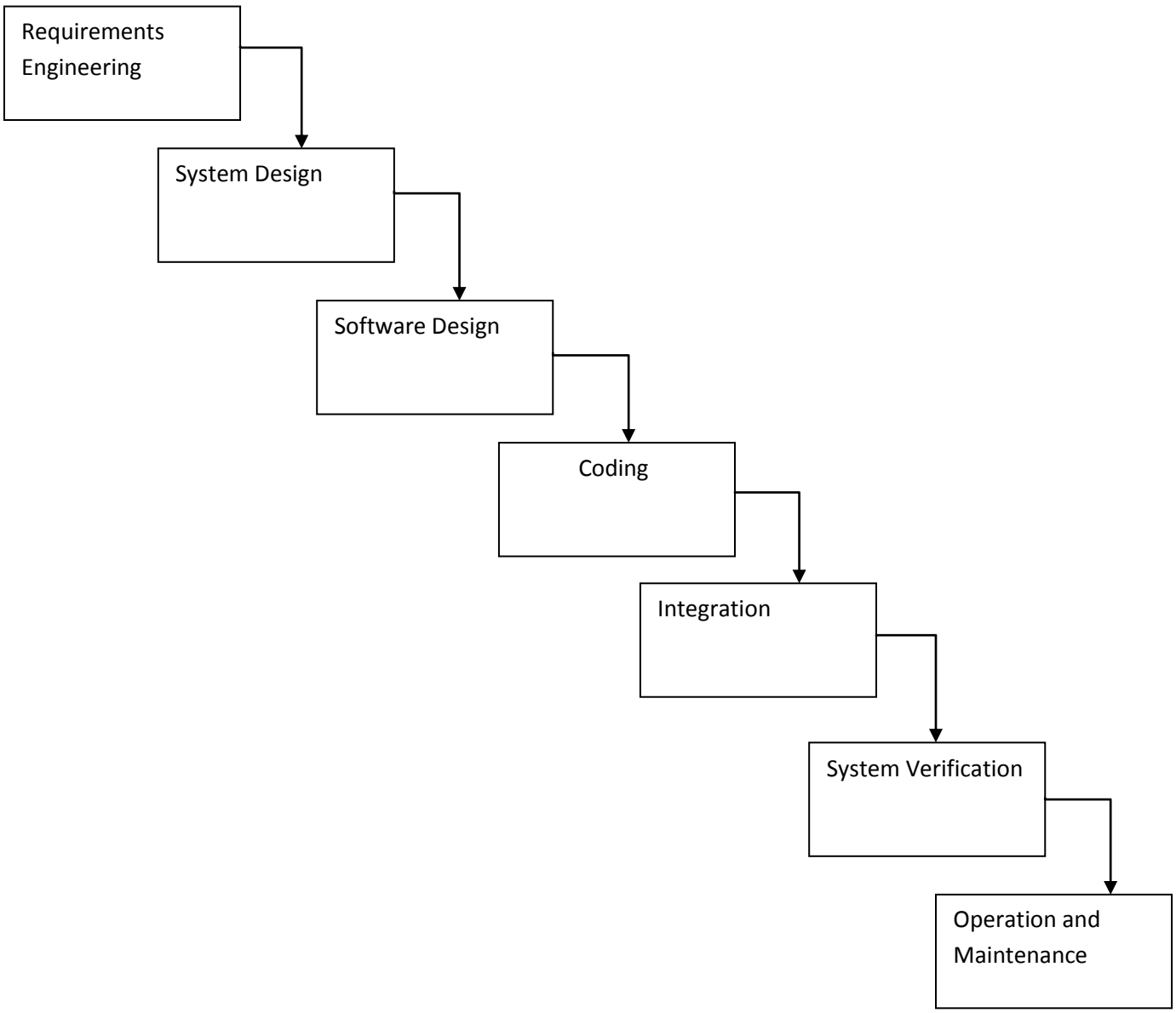
Students are held individually liable for equipment loss, as per normal CSUSB policy.

5.5 Closeout plan

- Presentation of deliverables to Dr. Concepcion
- Presentation of deliverables to Client
- Review of documentation
- Audit of equipment
- Transfer of assets to Dr. Concepcion

6. Technical process plans

6.1 Process model



6.2 Methods, tools, and techniques

Methods:

- Waterfall/agile

Tools:

- Android SDK
- Eclipse
- Argo UML/Javadocs
- Redpin
- MySQL
- Java
- Git

Techniques:

- Java coding conventions.

6.3 Infrastructure plan

Continued work will be done by csusb mobile interns, and/or students working in the CSE455 course**.**

6.4 Product acceptance plan

Dr. Concepcion and client will test for:

- Security Vulnerabilities
- Functional Completeness
- Accessibility
- Response time

7. Supporting process plans

7.1 Configuration management plan

All of the project deliverables will be considered as configuration items. They will be named after the document (SRS, SPMP, SQAP), followed by a version number. Each code revision will be submitted to Git, and then reviewed and tested by Anthony Strey before being released into production.

7.2

Documentation will be written in javadoc and maintained in Git. Submitted documentation will be reviewed by Anthony Strey.

7.3 Quality assurance plan

The team will submit its code to the quality assurance team for assessment.

7.4 Reviews and audits

The Team will review all code

7.5 Problem resolution plan

Problems will be resolved between the development team. If a problem cannot be resolved internally, Dr. Concepcion will be consulted.

7.6 Process improvement plan.

Documentation and coding standards, as well as performance metrics will be defined by the QA team. Each iteration, the software team will attempt to meet such benchmarks.