Life Cycle Plan (LCP)

City of Los Angeles Personnel Department Mobile Applications

Team 02

ANUSHREE SRIDHAR - Software Architect

SHREYA KAMANI - Project Manager

DIVYA REDDY - Requirements Engineer

PATTRA THONGPRASERT - Operation Concept Engineer

ABHISHEK TRIGUNAYAT - Prototyper

TRAVIS JONES - Feasibility Analyst

WILLIAM EVERTON - IIV and V

USC-CSSE

Version History

Date	Author	Version	Changes made	Rationale
09/26/13	Shreya Kamani	1.0	● The original template was taken from the ICSM guidelines and modified as per the requirements of the project ● The Skills that are possessed by all the team members have been added ● The activities and the milestones done by the team in the exploration phase are also added	● To develop the Life Cycle plan for the project of Team 02
10/14/13	Shreya Kamani	1.1	● Topics of Monitoring and Control and Resources were added ● Roles of the team members in the Valuation phase were added	● To modify version 1.0 according to the requirements of the FC package
10/20/13	Shreya Kamani	1.2	● Topics of resource estimation were modified and new screen captures were added. ● Roles For 577b were added	● To modify version 1.1 as per the changes requested in the FCR ARB.
10/31/13	Shreya Kamani	1.3	● Reviewed and verified content ● Revised formatting for consistency	● Revised for consistency according to retrospective analyis
12/02/13	Shreya Kamani	1.4	● Revised Content ● Added Section 6.1	● To modify version for DCR ARB

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1 Introduction

1.1 Purpose of the LCP

It is very essential that all the Stakeholders understand the flow of the project. Also the roles of every team member and skills of all the developers are to be understood. Hence this makes it essential to develop a concrete LCP so as to describe the complete strategy, artifacts and responsibilities of everyone involved.

1.2 Status of the LCP

Current version of life cycle plan, which is version 1.1 will include Milestones and products that includes the overall strategy, Approach and Resources too.
Monitoring and control, Methods, tools and facilities and Resources along with the schedule of effort and schedule for every module are also included.

Assumptions

- The duration of 2 semesters for the project, which are 12 weeks in Fall 2013 and 12 weeks in Spring 2014 is sufficient for the completion of this project
- There are seven people working on the project including one DEN student is an optimum number of staff required to do this project in the given schedule
- The client will be available for regular meetings, to discuss the progress, issues and other concerns regarding the project that is proposed by them
- All the roles and responsibilities assigned to each member of the team will be carried on efficiently to meet the milestones of the project
- Client is willing in terms of monetary investment, according to the needs of the project

2 Milestones and Products

2.1 Overall Strategy

The development of the Mobile Application for the Los Angeles Personnel department is going to be from the scratch. The project will use the ARCHITECTED AGILE process of the Incremental Commitment Spiral Model as all the components are going to be custom made.

Exploration Phase
Duration: 09/13/13 – 09/27/13
Concept: The team should focus on understanding the current system and design the business work flow in the Exploration phase and would conduct regular weekly meetings with the client to discuss and understand current system, requirements, concerns and progress.
Deliverables: Valuation Commitment Package
Milestone: Valuation Commitment Review
Strategy: One Incremental Commitment Cycle

Valuation Phase
Duration: 09/27/13 – 10/21/13
Concept: To evaluate the risks the SCS including the LAPD Personnel and IT department representatives and the developers will have win-win negotiations. The team will gather requirements and then along with the Stakeholders they will prioritize the requirements and a proposed system will be defined by these win-win negotiations. Based on this definition the team prepares initial prototypes of the high risk win conditions.
Deliverables: Core Foundations Commitment Package, Draft Foundations Commitment Package, Project Effort Reports, Project Plan, Progress Reports, Prototype Report, System and Software Architecture Description, Supporting Information Document.
Milestone: ARB FCR
Strategy: One Incremental Commitment Cycle

Foundation Phase
Duration: 10/21/13 – 12/09/13
Concept: Continue risk assessment. The team will conduct meetings with the Stakeholders a proposed system architecture will be defined. Based on this definition the team prepares initial prototypes of the high risk win conditions. Merge the modules and define test cases for each modules.
Deliverables: Core Development Commitment Package, Draft Development Commitment Package, Project Effort Reports, Project Plan, Progress Reports, Prototype Report, System and Software Architecture Description, Supporting Information Document, Test Case and Plan, Transition Plan.
Milestone: ARB DCR
Strategy: One Incremental Commitment Cycle

2.2 Project Deliverables

2.2.1 Exploration Phase

Table 1 - Artifacts Deliverable in Exploration Phase

Artifact	Due date	Format	Medium
Client Interaction Report	9/20/2013	.doc, .pdf	Soft copy
Valuation Commitment Package: • Operational Concept Description (OCD) Early Section • Life Cycle Plan (LCP) Early Section • Feasibility Evidence Description (FED) Early Section	09/27/2013	.doc, .pdf	Soft copy
Bugzilla report	Every Wednesday	Text	Bugzilla Website
Project Plan	Every other Monday	.mpp	Soft copy
Progress Report	Every other Monday	.xls	Soft Copy

2.2.2 Valuation Phase

Table 2 - Artifacts deliverable in Valuation Phase

Artifact	Due date	Format	Medium
Client Interaction Report	9/20/2013	.doc, .pdf	Soft copy
Foundation Commitment Package: • Operational Concept Description (OCD) Early Section • Life Cycle Plan (LCP) Early Section • Feasibility Evidence Description (FED) Early Section	10/21/2013	.doc, .pdf	Soft copy
Bugzilla report	Every Wednesday	Text	Bugzilla Website
Project Plan	Every other Monday	.mpp	Soft copy
Progress Report	Every other Monday	.xls	Soft Copy

2.2.2 Foundations Phase

Table 3 - Artifacts deliverable in Foundations Phase

Artifact	Due date	Format	Medium
Draft DC Package	12/2/2013	.doc, .pdf	Soft copy
Development Commitment Package: • Operational Concept	12/09/2013	.doc, .pdf	Soft copy

Description (OCD) ● Life Cycle Plan (LCP) ● Feasibility Evidence Description (FED) ● TCP and TC			
Bugzilla report	Every Wednesday	Text	Bugzilla Website
Project Plan	Every other Monday	.mpp	Soft copy
Progress Report	Every other Monday	.xls	Soft Copy

3 Responsibilities

3.1 Project-specific stakeholder's responsibilities

This project has only the typical stakeholder's responsibilities. The stakeholder includes client, project manager, operational concept engineer, requirement engineer, prototyper, feasibility analyst, software architecture, and IIV&V.

3.2 Responsibilities by Phase

Table 4 - Roles and Responsibilities

Team Member Role	Exploration	Valuation	Foundations	Development-Construction Iteration	Development-Transition Iteration
Leo/Keith: **Client/ Maintainer**	**Client:** - Provide current system information - Explain current system workflow - Define desired mobile application system and the requirements to achieve it	- Agree on the Win conditions - Feedback on the FCR ARB - Giving information about the current system	-Obtain server details from the client -Obtain client requirements.	-Provide review after the first Core Capability and recommend changes.	-Installation of the system.
Shreya Kamani **Project Manager**	- Creating the Project Plan - Assign tasks to team members. -Maintain the non-component activity and the website under bugzilla	- Create bi weekly project plans -Develop the LCP version 1.0. -Record Project Progress - Communicate with the clients	-Conduct Team meetings -Assign roles. -Assist in prototyping of front end -Modify and Update LCP	-Conduct Team meetings -Assign roles. - Assist Team member in other activities	-Conduct Team meetings -Assign roles. - Assist Team member in other activities

Pattra Thogaprasert **Operational Concept Engineer**	- Develop the OCD. - Analyze the current System. - Identify shared vision -Assess operational concept	- Establish new operational concept - Explore alternatives - Identify objectives, constraints, and priorities - Identify objectives, constraints, and priorities - Identify organizational and operational concepts	- prototype front-end of the application	- Implement the application - Ensure the implementation follow the operational concept and agree with shared vision	- Implement the application - Ensure the implementation follow the operational concept and agree with shared vision - train City of LA Personnel Department's maintainer
Divya Reddy **Requirement Engineer**	- Gather the current system details - Analyses of Requirements - Negotiation of requirements -Assist in maintaining Bugzilla	- Identify objectives, constraints, and priorities -Analysis of the high risk components of the requirements -maintaining the Winbook criteria up-to-date	- Get the Phonegap working with Android - Test if Java can be used along with Phonegap for application development	- testing the application - creating test cases - Ensure the development product satisfy the requirements	testing the application - creating test cases - Ensure the development product satisfy the requirements
William Everton: **IIV&V**	- Review the project artifacts. - Keep track of the win Conditions being the shaper of the project.	- Review the project artifacts. - Keep track of the win Conditions being the shaper of the project.	- Review the project artifacts. - Keep track of the win Conditions being the shaper of the project.	- Review the project artifacts. - Keep track of the win Conditions being the shaper of the project.	- Review the project artifacts. - Keep track of the win Conditions being the shaper of the project.

Travis Jones: **Feasibility Analyst**	Risk Assessment	-Business Case -Feasibility Evidence -Risk Assessment -Decision Process -Personas	-NDI/NCS Evaluation -Risk Assessment -Prototyping UI	-Risk Assessment -Tester	-Risk Assessment -Tester
Anushree Sridhar **System Architect/ UML Modeller/ Implementer**	- Created project plan for week 1 - Helped with various documents for VCP	- Physical and logical architecture -Use case diagram - System Context diagram - Artifacts and information diagram	- Define technology dependent architecture - Decide on style, patterns and frameworks - Create required UML models - Complete SSAD	- Help with the implementation of the project - Ensure the implementation is true to the architecture specified	- Help perform core-capability drive-through - Create user manual - Make required changes specified by the client
Abhishek Trigunayat **Prototyper**	-Create the progress report - Analyze the current System - Assist in developing the OCD - Assist in developing the website for project	-Create the progress report - Assist in developing the LCP -Prototyping for the database connectivity -Prototyping for the send notification -Prototyping for subscription	-Create the progress report -Integrating the UI with the database, subscription and sending notification	-Create the progress report -Prototyping PhoneGap with Android -Prototyping PhoneGap with iOS -Implementing the project	-Create the progress report

3.3 Skills

Table 5 - Skills

Team Member	Role	Existing Skills	Required Skills
Shreya Kamani	Project Manager Lifecycle Planner	Communication Skills, Planning & Coordination Skills, Time Management Microsoft Project Microsoft Office COCOMO II COINCOMO	Agile management experience COCOMO II
Pattra Thongprasart	Operational Concept Engineer	COCOMO II COINCOMO Microsoft Visio	UML Modeling
Divya Reddy	Requirement Engineer Prototyper	Requirement Negotiation skills UML Modeling COINCOMO COCOMO II Android SDK Java	UML Modeling COCOMO II Android SDK iOS Java DB2
Abhishek Trigunayat	Prototyper	Microsoft Project Microsoft Office COINCOMO Java DB2	COCOMO II Android SDK iOS Java DB2
Anushree Sridhar	Software Architect Prototyper	COCOMO II Rationale Rose Java	UML coding COCOMO II Android SDK Java iOS DB2
William Everton	IIV&V Quality Focal Point	Bugzilla	Bugzilla Quality Control and Assessment
Travis Jones	Feasibility Engineer	Analysis skills COINCOMO	Feasibility Analysis COCOMO II

4. Approach

4.1 Monitoring And Control

4.1.1 Closed Loop Feedback Control

The IIV&V is responsible for bug tracking. BUGZILLA is the tool that is used for bug tracking. Each team member needs to report and resolve the defects related to his/her roles in the project.

The Winbook lists all the requirements and the risks and also prioritizes the requirements.

The Team uses Google drive and Github to communicate all the matters within the members and to keep all the artifacts organized. The team also uses the DEN discussion forum and blog for sharing files and for communicating.

4.1.2 Reviews

Weekly group review: This review is made every week so that each team member can contribute their work.

IIV&V: By the den student, all artifacts are reviewed and bugs are released for each one of them.

Win-Win Negotiations: Negotiations and review in which all values from the SCS are noted. Also help to estimate and, prioritize and order the requirements

4.1.3 Methods Tools and Facilities

Table 6 - Tools and Usage

Tools	Usage	Provider
Microsoft Office	Used for documenting deliverables, LCP, OCD, FED, Project plan, Progress Report.	Microsoft
Appery.io	To create UI prototypes	Open Source
Java SE, Java EE	TO create backend prototypes	Oracle
DB2 express	For database Purpose	IBM
Apache Tomcat Server	Sever	Apache
BitBucket	Used for sharing Files	Open Source

5 Resources

Total Number of Team members = 7

Total Project Duration = 12 weeks in Fall 2013 and 12 weeks in Spring 2014

Language used = Java, DB2, HTML

Figure 1 - Overview of the Whole System - COINCOMO

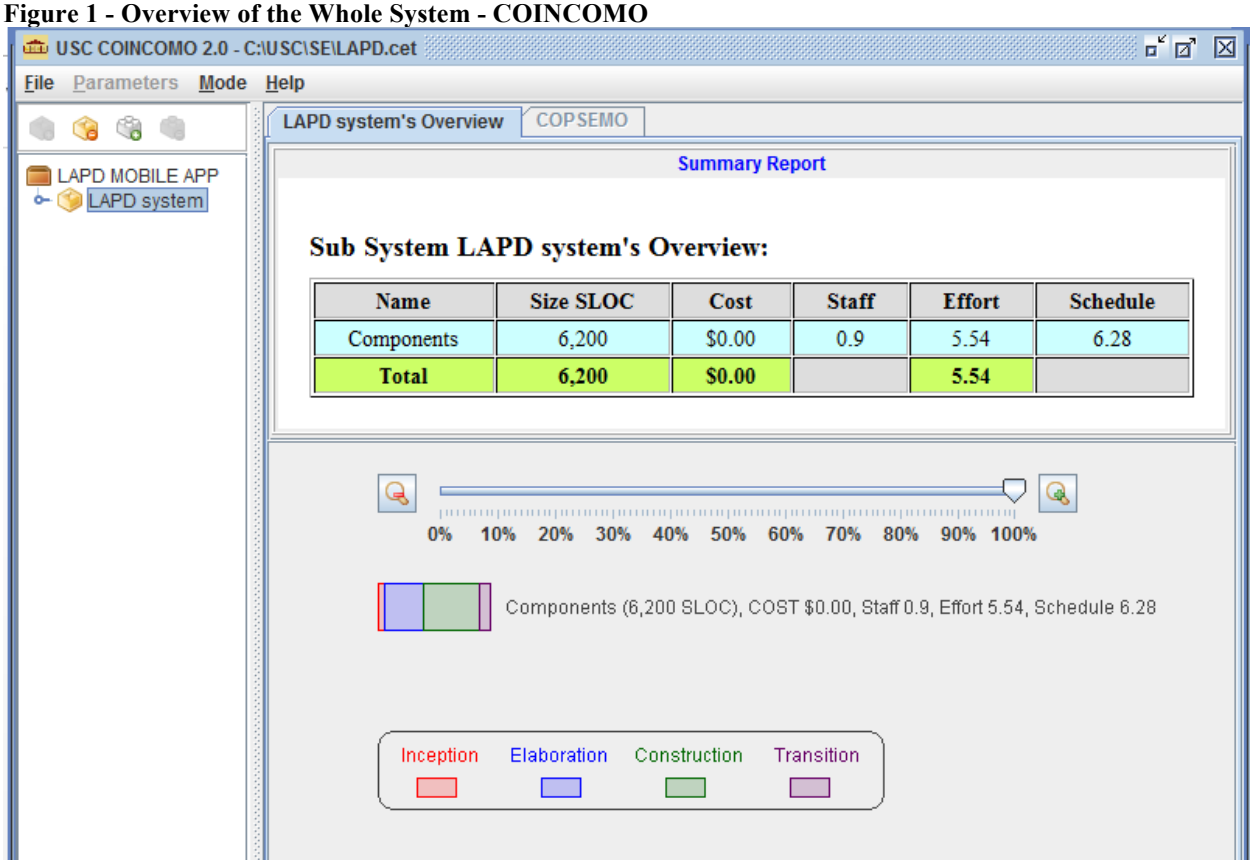
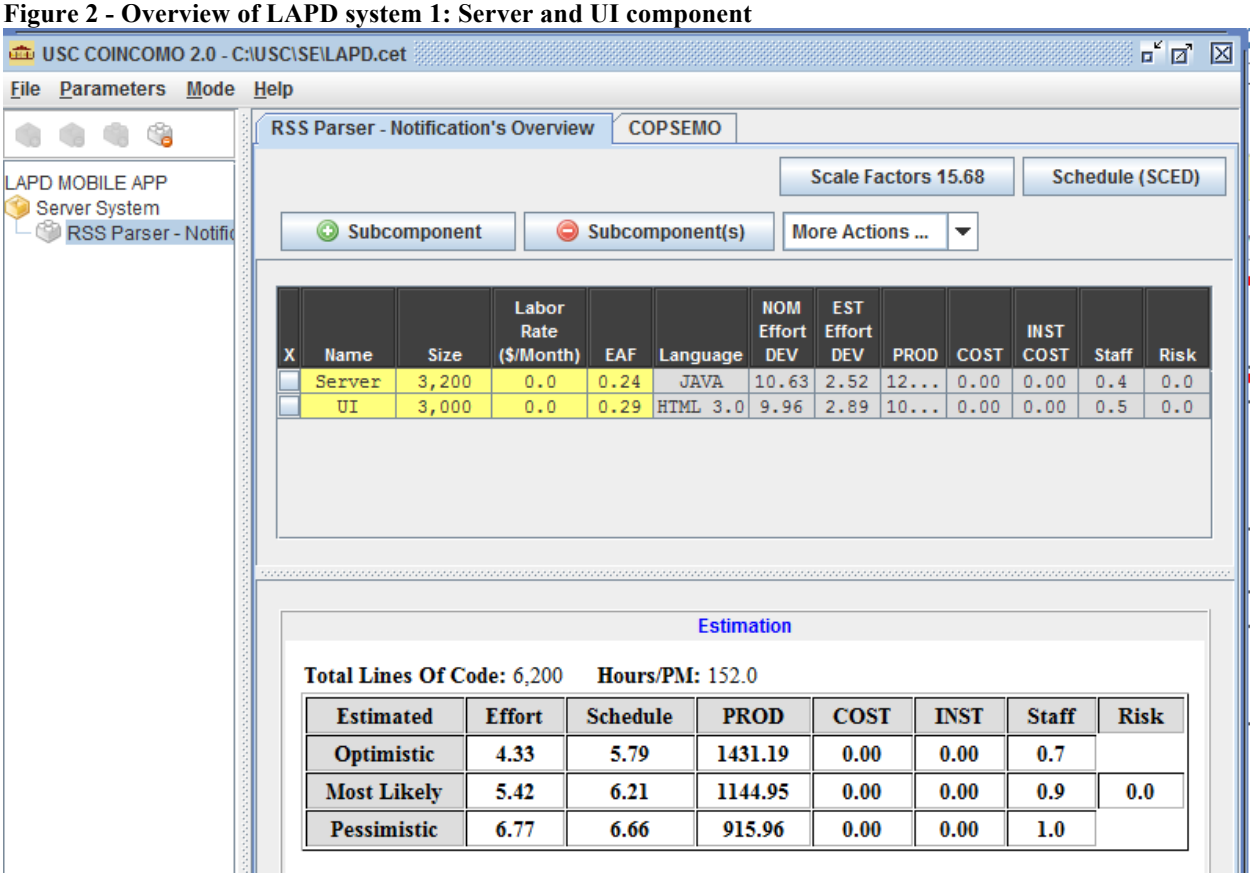


Figure 2 - Overview of LAPD system 1: Server and UI component



The Tables below describe the Scale Factor Ratings and the Cost Driver Ratings for each Component

Figure 3 - Scale Factors

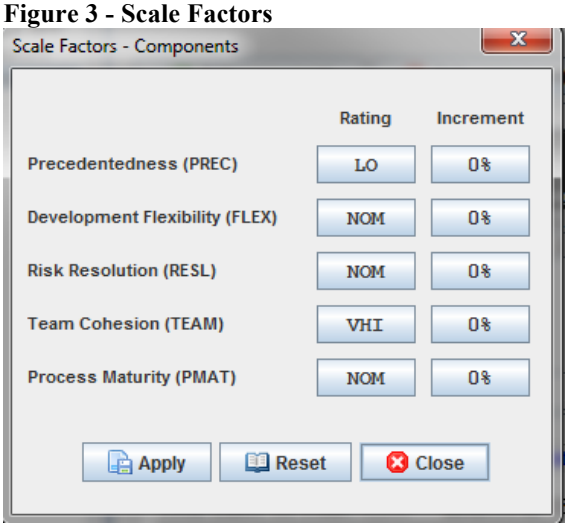


Table 4 - Scale Factors for Module

Scale Driver	Value – Component
PREC	LO – Largely unprecedented
FLEX	NOM- There is basic need for conformance with other values.
RESL	NOM- the criticality of risk is nominal
TEAM	VHI – Team members are highly cooperative
PMAT	NOM- between level 2 and 3

Figure 4 - Cost Drivers Server

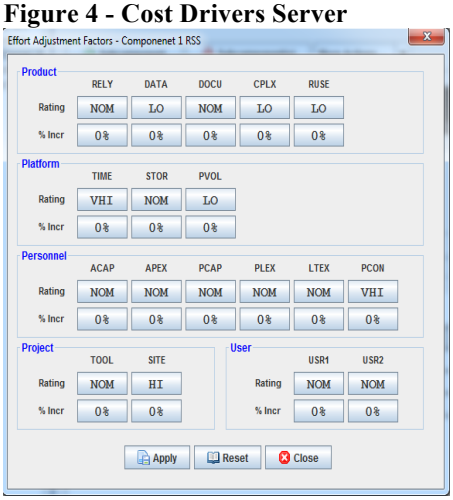


Figure 5 - Cost Drivers UI

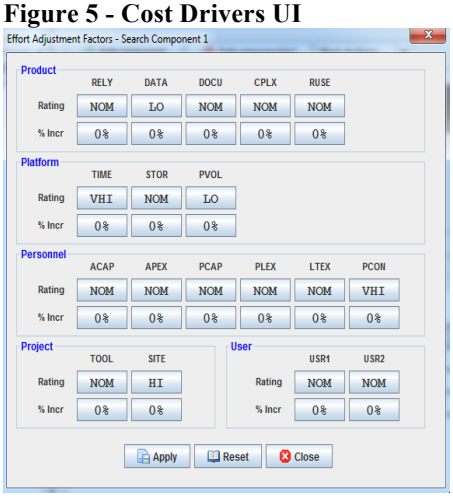


Table 8 - Cost Drivers for Components 1,2

Effort Driver	Value – Component 1	Value- Component 2
RELY	NOM- moderately easily Recoverable financial losses if this fails.	NOM- moderately easily Recoverable financial losses if this fails
DATA	LO- Since the ratio of D/P is very low.	LO- Since the ratio of D/P is very low.
CPLX	LO- Moderately Complex DB queries.	NOM- Complex queries for auto searching.
RUSE	LO – Nothing is reused	NOM – This module is used across the project.
DOCU	NOM- It abides to everything in the LCP	NOM- It abides to everything in the LCP
TIME	VHI- Since the assured run time / uptime of the system is 90%.	VHI- Since the assured run time / uptime of the system is 90%.
STOR	NOM- The use of Storage is less than 50 %.	NOM- The use of Storage is less than 50 %.
PVOL	LO- Major Changes are not required frequently.	LO- Major Changes are not required frequently.
ACAP	NOM- Analysts are able to capture requirements well.	NOM- Analysts are able to capture requirements well.
PCAP	NOM- Since the team is moderate rated programmer team.	NOM- Since the team is moderate rated programmer team.
PCON	VHI – annual turnover is around 3% / year	VHI– annual turnover is around 3% / year
APEX	NOM – The average experience of all team members is nominal.	NOM– The average experience of all team members is nominal.
PLEX	NOM– The average experience of all team members is nominal.	NOM– The average experience of all team members is nominal.

LTEX	NOM– The average programming language knowledge of all team members is nominal.	NOM– The average programming language knowledge of all team members is nominal.
TOOL	NOM – Basic tools	NOM – Basic Tools
SITE	HI- The clients and developers are in the same city.	HI- The clients and developers are in the same city.

Hence, after the COINCOMO analysis the project will be able to be completed by 7 people.

6. Iteration Plan

6.1 Plan

This project composed of 2 iterations development phase; First iteration for the core capabilities including list jobs, send notification, and subscription to jobs and second iteration for the full integration testing. The following iterations are planned for the Core Capability Drive-through in development phase.

6.1.1 Capabilities to be implemented

Our project development phase can be divided into 2 iterations; all three capabilities goals will be developed and tested in the first iteration, then the full integration will be done in the second iteration. The priority level illustrates the order of the implementation. This level bases on priority value obtain from Win-Win session with the client. Table below shows the details of each capability.

Table 9: Construction iteration capabilities to be implemented

ID	Capability	Description	Priority	Iteration
OC-1	List jobs	Job seekers can view existing jobs and current open jobs with details	3rd	1st
OC-2	Send notifications	The system will send notifications via text message or email to potential job seekers who subscribe for the notification	1st	1st
OC-3	Subscription to jobs	Job seekers can subscribe to receive notification for jobs they find interesting	2nd	1st

6.1.2 Capabilities to be tested

The capabilities that will be tested in the upcoming iteration in Development phase.

Table 10: Construction iteration capabilities to be tested

ID	Capability	Description	Priority	Iteration
OC-1	List jobs	Job seekers can view existing jobs and current open jobs with details	3rd	1st
OC-2	Send notifications	The system will send notifications via text message or email to potential job seekers who subscribe for the notification	1st	1st
OC-3	Subscription to jobs	Job seekers can subscribe to receive notification for jobs they find interesting	2nd	1st

6.1.3 Capabilities not to be tested

All three capabilities agreed on Winbook will be developed and tested in the first iteration. The full integration will be conducted in the second iteration.