

Life Cycle Plan (LCP)

E-LockBox

Team 5

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Version History

Date	Author	Version	Changes made	Rationale
09/25/13	Woon & Dejie Meng	1.0	First document of LCP	To fit CS577 course content
10/13/13	Chen Gui	1.0	Second document of LCP and changed from first LCP	To fit Valuation Phase
10/20/13	Chen Gui	1.1	Revise LCP after FCR ARB	To fix and revise mistakes after FCR ARB
11/23/13	Chen Gui	2.0	Add Iteration plan overview	To create iteration for next semester.
11/28/13	Chen Gui	2.1	Update first two parts of LCP	Update the LCP for next semester
12/1/13	Chen Gui	2.2	Update all LCP	Update the LCP for next semester
12/4/13	Chen Gui	2.3	Revise resource estimation part	Some assumptions has been changed

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1.Introduction

1.1 Purpose of the LCP

The purpose of LCP is to improve development speed, quality and project tracking and control, client relation, to minimize overhead and risk exposure.

If we don't set a plan, we will not know when to finish object. That will cause a delay on other part. So we need to a set of plan that we can follow for development speed. Also LCP would help to improve quality of the project because of the theory of ICSM. Since we follow the plan, we can track and control by reviewing the LCP. Also clients will be satisfied because they know what is going on and they can expect what they want on as planned.

One of the reasons that we write LCP is that it will minimize overhead and risk exposure because we will be able to see what would be risks so we could prevent that risks before it occur.

1.2 Status of the LCP

The status of the LCP is currently at Development Commitment Package version number 2.2. The major changes from Foundation Commitment Package version number 1.1 are:

1. Update milestone and products for next semester
2. Update Responsibilities for next semester and identify required skills for new teammate
3. Update approaches

1.3 Assumptions

Schedule: 12 weeks in 2013 fall, 12 weeks in 2014 spring, and 24 week in total

Personnel Resource: 7 people participate in project in 2013 fall and 6 of them will continue to take it in 2014 spring. 1 new teammate will join in team in the next semester.

2. Milestones and Products

2.1 Overall Strategy

The e-lockbox is following Architected Agile process because a majority of functions and service are unable to be met by other strategy, such as NDI-Intensive, Net-Centric Services. What's more, we take use of process decision graph to make a final decision.

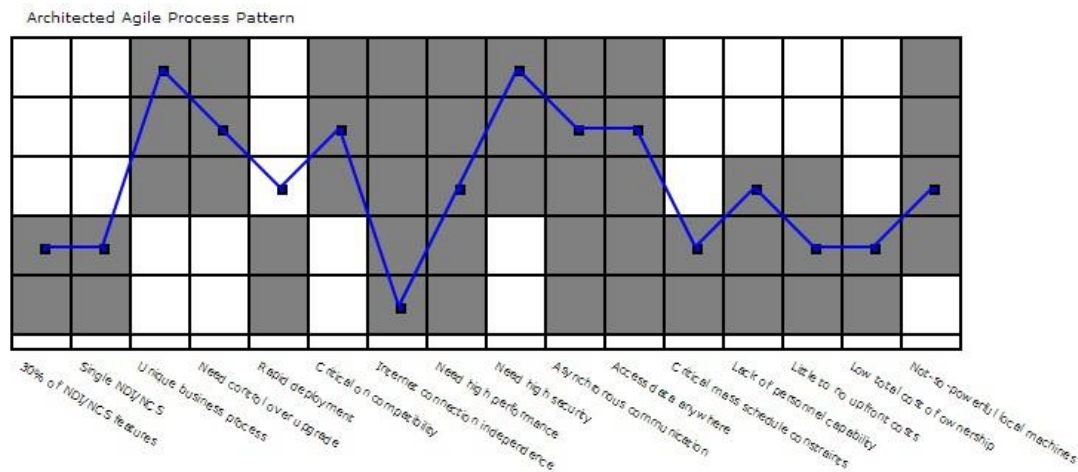


Figure 1

According to the graph, we can decide to use Architected Agile process because there is only one point left.

Exploration phase

Duration: 08/26/13 – 09/15/13

Concept: to know what the client wants and what would be the best tool to achieve the goal

Deliverables: VC Package

Milestone: Valuation Commitment Review

Strategy: First incremental Commitment Cycle

Valuation phase:

Duration: 09/16/13 – 10/16/13

Concept: have identified operational concepts, win conditions, architecture, feasibility evidences, and life-cycle plan. The phase has prioritized the win conditions, implemented the prototypes.

Deliverables: FC Package

Milestone: Foundation Commitment Review

Strategy: First incremental Commitment Cycle

Foundation phase:

Duration: 10/17/13 – 12/06/13

Concept: identified more clearly operational concepts, win agreements, architecture, feasibility evidences and life-cycle. The phase implements the prototype/ product demo, make acceptance test plan and cases.

Deliverables: DC Package

Milestone: Development Commitment Review

Strategy: First increment Commitment Cycle

Foundation Phase – Rebaseline:

Duration: 01/13/14 – 02/17/14

Concept: Since some teammates might leave and new teammates might come, the roles & responsibilities should be reallocated. In addition, after a winter break, teammate should spend time on accessing project status, preparing for development phase, and testing.

Deliverables: RDC Package

Milestone: Rebaselined Development Commitment Review

Strategy: Incremental Commitment Cycles (Architected-Agile)

Development Phase – Construction Iteration:

Duration: 02/17/14 – 04/14/14

Concept: Implement, test, quality assurance, contact with clients and write user guide.

Deliverables: IOC & TRR Package

Milestone: CCD & Transition Readiness Reviews

Strategy: Incremental Commitment Cycles (Architected-Agile)

Development Phase – Transition Iteration:

Duration: 04/14/14 – 04/28/14

Concept: install/ transit the system, train users, archive final product, release product and obtain client evaluation.

Deliverables: Final Product Archive

Milestone: Operational Commitment Review

Strategy: Incremental Commitment Cycles (Architected-Agile)

Operation Phase

Duration: 04/28/14 – 05/12/14

Concept: support clients, users and maintainers, and solve problems.

Deliverables: NA

Milestone: NA

Strategy: Incremental Commitment Cycles (Architected-Agile)

2.2 Project Deliverables

2.2.1 Exploration Phase

Table 1: Artifacts Deliverables in Exploration Phase

Artifact	Due date	Format	Medium
Client Interaction Report	9/20/2013	.doc, .pdf	Soft copy
Valuation Commitment Package <ul style="list-style-type: none">• Operational Concept Description (OCD) V1.0• Life Cycle Plan (LCP) V1.0• Feasibility Evidence Description (FED) V1.0	09/27/2013	.doc, .pdf	Soft copy
Project Plan	Bi-Weekly Monday	.mpp	Soft copy
Progress Report	Bi-Weekly Monday	.xls	Soft copy

2.2.2 Valuation Phase

Table 2: Artifact Deliverables in Valuation Phase

Artifact	Due date	Format	Medium
Foundation Commitment Package <ul style="list-style-type: none">• Operational Concept Description (OCD) F1.1• Life Cycle Plan (LCP) F1.1• Feasibility Evidence Description (FED) F1.1• Prototype Repost(PRO) F1.1• System and Software Architect Description(SSAD) F1.1	10/23/2013	.doc, .pdf	Soft copy
Project Effort	Every Monday	Text	ER system
Project Plan	Bi-Weekly Monday	.mpp	Soft copy
Progress Report	Bi-Weekly Monday	.xls	Soft copy

2.2.3 Foundations Phase

Table 3: Artifact deliverable in Foundations Phase

Artifact	Due date	Format	Medium
Development Commitment Package <ul style="list-style-type: none">• Operational Concept Description	12/09/2013	.doc, .pdf	Soft copy

(OCD) D1.0 • Life Cycle Plan (LCP) D1.0 • Feasibility Evidence Description (FED) D1.0 • Test Plan and Cases D1.0 • System and Software Architect Description(SSAD) D1.0			
Project Effort	Every Monday	Text	ER system
Project Plan	Bi-Weekly Monday	.mpp	Soft copy
Progress Report	Bi-Weekly Monday	.xls	Soft copy

2.2.4 Foundation Phase - Rebaseline

Table 4: Artifact deliverable in Foundations Phase - Rebaseline

Artifact	Due date	Format	Medium
Rebaselined Development Commitment Package • Operational Concept Description (OCD) RD1.0 • Life Cycle Plan (LCP) RD1.0 • Feasibility Evidence Description (FED) RD1.0 • Test Plan and Cases(TPC) RD1.0 • System and Software Architect Description(SSAD) RD1.0 • Support Initial Description (SID) RD 1.0 • Transition Plan (TP) RD 1.0	02/17/2014	.doc, .pdf	Soft copy
Project Effort	Every Monday	Text	ER system
Project Plan	Bi-Weekly Monday	.mpp	Soft copy
Progress Report	Bi-Weekly Monday	.xls	Soft copy

2.2.5 Development Phase – Construction Iteration

Table 5: Artifact deliverable in Development Phase – Construction Iteration

Artifact	Due date	Format	Medium
IOC Package • Operational Concept Description (OCD) IO1.0 • Life Cycle Plan (LCP) IO1.0 • Feasibility Evidence Description	03/26/2014	.doc, .pdf	Soft copy

(FED) IO1.0 • Test Plan and Cases(TPC) IO1.0 • System and Software Architect Description(SSAD) IO1.0 • Support Initial Description (SID) IO 1.0 • Transition Plan (TP) IO 1.0			
TRR Package • Operational Concept Description (OCD) TR1.0 • Life Cycle Plan (LCP) TR1.0 • Feasibility Evidence Description (FED) TR1.0 • Test Plan and Cases(TPC) TR1.0 • System and Software Architect Description(SSAD) TR1.0 • Support Initial Description (SID) TR 1.0 • Transition Plan (TP) TR 1.0	04/14/2014	.doc, .pdf	Soft copy
User Guide V1.0	03/31/2014	.doc, .pdf	Soft copy
Project Effort	Every Monday	Text	ER system
Project Plan	Bi-Weekly Monday	.mpp	Soft copy
Progress Report	Bi-Weekly Monday	.xls	Soft copy

2.2.6 Development Phase – Transition Iteration

Table 6: Artifact deliverable in Development Phase – Transition Iteration

Artifact	Due date	Format	Medium
User Guide V2.0	04/28/2014	.doc, .pdf	Soft copy
Product Archive	04/28/2014	.doc, .pdf	Soft copy
Project Effort	Every Monday	Text	ER system
Project Plan	Bi-Weekly Monday	.mpp	Soft copy
Progress Report	Bi-Weekly Monday	.xls	Soft copy

2.2.7 Operation Phase

Table 7: Artifact deliverable in Operation Phase

Artifact	Due date	Format	Medium
• NA	NA	.doc, .pdf	Soft copy

3.Responsibilities

3.1 Responsibilities by Phase

Table 4: Stakeholder's Responsibilities in each phase

Team Member / Role	Primary / Secondary Responsibility					
	Exploration	Valuation	Foundation	Foundation - Rebaseline	Development- Construction Iteration	Development- Transition Iteration
Name: Living Advantage Role: Client& Maintainer	Primary Responsibility 1. provide with requirements, winwin conditions, and prioritize them 2. provide with access to current system 3. interact with developers and give feedback 4. attend winwin sessions	Primary Responsibility 1. provide with more specific , detailed requirements, and help capture operational concepts 2.offer feedback for prototype 3.interact with developers 4.attend FCR ARB	Primary Responsibility 1.provide with feedback for requirements specification, and achieve winwin agreement 2.offer feedback for prototype and test cases 3. interact with developers	Primary Responsibility 1.assess rebaseline prototype 2.interact with developers	Primary Responsibility 1. provide with feedback for developing system 2. offer more test cases 3. interact with developers Secondary Responsibility 1.invite foster youth(client) to test the system and acquire training	Primary Responsibility 1.test the system 2.give feedback 3.interact with developers 4.acruire training 5. acquire information and documents to maintain the system Secondary Responsibility 1.invite foster youth(client) to test the system and acquire training
Name: Cecilia Jou Role: II V&V & Primary Quality Focal Point	Primary Responsibility 1.Verify and Validate Work Products with Bugzilla 2.Monitor the process in Bugzilla 3. Defect Identification	Primary Responsibility 1.Verify and Validate Work Products with Bugzilla 2.Monitor the process in Bugzilla 3. Identify Quality Management Strategy 4. Defect	Primary Responsibility 1.Verify and Validate Work Products with Bugzilla 2.Monitor the process in Bugzilla 3. Quality Management 4. Defect Identification	Primary Responsibility 1.Verify and Validate Work Products with Bugzilla 2.Monitor the process in Bugzilla 3. Quality Management 4. Record technical debt,	Primary Responsibility 1.Verify and Validate Work Products with Bugzilla 2.Monitor the process in Bugzilla 3. Defect Identification 4. Identify Test Plan	Primary Responsibility 1.Verify and Validate Work Products with Bugzilla 2.Monitor the process in Bugzilla 3. Defect Identification

		Identification		metrics		
Name: Chen Gui Role: Project Manager, & Life Cycle Planer	Primary Responsibility 1.Make Project Plan 2.Record Project Progress 3.Organize Meetings with Teammates and Clients 4. Identify Milestones and Products 5.Identify Responsibilities and Skills 6. Interact with clients	Primary Responsibility 1.Make Project Plan 2.Record Project Progress 3.Organize Meetings, ARB with Teammates and Clients 4.Identify Life Cycle Strategy 5.Identify Milestones and Products 6.Identify Responsibilities and Skills 7.Estimate Project Effort and Schedule 8.Identify Life Cycle Management Approach 9. Interact with clients	Primary Responsibility 1.Make Project Plan 2.Record Project Progress 3.Organize Meetings, ARB with Teammates and Clients 4. Assess Life Cycle Content 5.Make Iteration Plan	Primary Responsibility 1.Recrut new teammates 2. Make project Plan 3.Record Project Progress 4.Organize Meetings, ARB with Teammates and Clients 5. Assess Life Cycle Content	Primary Responsibility 1.Make Project Plan 2.Record Project Progress 3.Organize Meetings, ARB with Teammates and Clients 4.develop the system	Primary Responsibility 1.Make Project Plan 2.Record Project Progress 3.Organize Meetings, ARB with Teammates and Clients 4. develop and improve the system 5.train users
Name: Qitong Song(13 fall) New teammate(14 spring) Role: Operational Concept Engineer	Primary Responsibility 1.Identify Operational Concepts 2.Explore Current System 3.Record Client interaction 4. Interact with clients	Primary Responsibility 1. Identify Objectives, Constraints and Priorities 2.Identify Organizational and Operational Transformation 3.Identify Shared Vision 4.Identify new Operational Concepts 5. Continue to explore Current System and Communicate with users.	Primary Responsibility 1.Assess Operational Concept 2.Help other teammates to understand Operational Concepts better	Primary Responsibility 1.study the project and system 2.improve OCD 3.verify and validate the artifacts	Primary Responsibility 1.Develop the system 2.Test the system	Primary Responsibility 1. Develop the system 2.Test the system

		6. Interact with clients				
Name: Dejie Meng Role: Requirement Engineer & Secondary Quality Focal Point	Primary Responsibility 1.Acquire winwin conditions and manage winbook 2. Help identify new operational concepts 3.Interact with clients Secondary Responsibility 1.Help Primary Quality Focal Point to identify defect	Primary Responsibility 1.Summarize, prioritize, analyze winwin conditions 2. Help identify new operational concepts 3. Help establish proposed system 4. Interact with clients Secondary Responsibility 1. Help Primary Quality Focal Point to identify defect	Primary Responsibility 1.Access requirement definition 2.Achieve WinWin Agreement with clients 3.Help complete architecture Secondary Responsibility 1. Help Primary Quality Focal Point to identify defect	Primary Responsibility 1.develop rebaseline architecture 2. Help new teammate to study the project and system Secondary Responsibility 1. Help Primary Quality Focal Point to identify defect	Primary Responsibility 1. Identify Test Plan 2. Develop the system Secondary Responsibility 1. Help Primary Quality Focal Point to identify defect	Primary Responsibility 1. Help Primary Quality Focal Point to identify defect 2. Write user guide and train users
Name: Weiyi Zhong Role: Prototyper	Primary Responsibility 1. Help Operational Concept Engineer identify operational concepts. 2.Interact with clients	Primary Responsibility 1. Assess Prototype and Components 2. Analyze and Prioritize Capabilities to Prototype 3.Develop Prototype 4. Establish New Operational Concept 5. Prepare development / production environment 6. Interact with clients 7. Record the process for prototype	Primary Responsibility 1. Assess Prototype and Components 2. Analyze and Prioritize Capabilities to Prototype 3.Develop Prototype 4.Record the process for prototype 5. Prepare development / production environment	Primary Responsibility 1.Develop rebaseline prototype 2.prepare for the development phase	Primary Responsibility 1. Develop the system 1. Test Procedures and Results 2.Identify Test Plan 3.Identify Test Procedures 4.Perform Testing 5.Record Test Results	Primary Responsibility 1.Perform Testing 2.Record Test Results
Name: Woon kim	Primary Responsibility	Primary Responsibility	Primary Responsibility	Primary Responsibility	Primary Responsibility	Primary Responsibility

Role: System Architect	1. Help Operational Concept Engineer identify operational concepts. 2. Interact with clients	1. Analyze the Proposed System 2. Make UML Model 3. Define Technology-Independent Architecture	1. Specify Architecture Styles, Patterns and Frameworks 3. Assess System Architecture 4. Make UML Model 5. Define Technology-Dependent Architecture	1. Develop rebaseline architecture 2. prepare for the development phase	1. Develop the system 2. Test the system	1. Develop the system 2. Test the system
Name: Azuka Okuleye Role: Feasibility analyst	Primary Responsibility 1. Identify risks and Assess and Plans to Mitigate Risks 2. Interact with clients	Primary Responsibility 1. Analyze Business Case 2. Identify risks and Assess and Plans to Mitigate Risks 3. NDI/NCS Interoperability Analysis	Primary Responsibility 1. Identify risks and Assess and Plans to Mitigate Risks 2. Assess Feasibility Evidence	Primary Responsibility 1. Revise FED 2. prepare for the development phase 3. Help finish rebaseline prototype	Primary Responsibility 1. Develop the system 2. Test the system	Primary Responsibility 1. Develop the system 2. Training Clients 3. Deploy the system
Name: Foster youth Role: Clients of Living advantage	NA	NA	NA	NA	Primary Responsibility 1. Accept training 2. Test the system and give the feedback.	Primary Responsibility 1. Accept training 2. Test the system and give the feedback.

3.2 Skills

Table 5: The skills needed for each role

Team members	Role	Skills
Azuka Okuleye	Feasibility analyst	Knows: 1. Analysis project 2. PHP, HTML, MySQL 3. Real Website Development Experience 4. Github, Laravel, and Amazon S3.

		<p>Need to know:</p> <ol style="list-style-type: none"> 1. Identify risks and Assess and Plans to Mitigate Risks 2. Analyze Business Case 3. NDI/NCS Interoperability Analysis
QiuTong Song	Operational Concept Engineer	<p>Knows:</p> <ol style="list-style-type: none"> 1. PHP, HTML, MySQL 2. Some experience from course exercises or projects <p>Need to know:</p> <ol style="list-style-type: none"> 1. Identify Objectives, Constraints and Priorities 2. Identify Organizational and Operational Transformation 3. Identify Shared Vision 4. Identify new Operational Concepts 5. Github, Laravel, and Amazon S3.
Weiyi	Prototyper	<p>Knows:</p> <ol style="list-style-type: none"> 1. C/C++, MySQL 2. Basic knowledge about Web Technology <p>Need to know:</p> <ol style="list-style-type: none"> 1. Assess Prototype and Components 2. Analyze and Prioritize Capabilities to Prototype 3. Develop Prototype 4. Prepare development / production environment 5. Github, Laravel, and Amazon S3.
Dejie Meng	Requirement Engineer & Secondary Quality Focal Point	<p>Knows:</p> <ol style="list-style-type: none"> 1. C/C++, Java, PHP, MySQL 2. Basic knowledge about Web Technology <p>Need to know:</p> <ol style="list-style-type: none"> 1. Negotiation skill 2. Summarize, prioritize, analyze

		winwin conditions 3. Github, Laravel, and Amazon S3.
Woon Kim	System Architect	<p>Knows:</p> <ol style="list-style-type: none"> 1. Background on Database, and web language <p>Need to know:</p> <ol style="list-style-type: none"> 1. Analyze the Proposed System 2. Make UML Model 3. Define Technology-Independent/dependent Architecture 4. Specify Architecture Styles, Patterns and Frameworks 5. Github, Laravel, and Amazon S3.
Cecilia Jou	II V&V & Primary Quality Focal Point	<p>Knows:</p> <ol style="list-style-type: none"> 1. Basic Test Technology <p>Need to know:</p> <ol style="list-style-type: none"> 1. Verify and Validate Work Products with Bugzilla 2. Monitor the process in Bugzilla 3. Defect Identification 4. Identify Quality Management Strategy 5. Github, Laravel, and Amazon S3.
Chen Gui	Project Manager & Life Cycle Planner	<p>Knows:</p> <ol style="list-style-type: none"> 1. C/C++, Java, PHP, MySQL 2. Basic knowledge about Web Technology 3. Basic knowledge about Project Management <p>Need to know:</p> <ol style="list-style-type: none"> 1. Make Project Plan 2. Record Project Progress 3. Identify Life Cycle Strategy 5. Identify Milestones and Products 6. Identify Responsibilities and Skills 7. Estimate Project Effort and

		Schedule 8. Identify Life Cycle Management Approach 9. Github, Laravel, and Amazon S3.
New teammates in 577b	Builder, Tester	1. PHP 2. Laravel 3. Amazon S3 4. Github 5. ICSM-OCD

4.Approach

4.1 Monitoring and Control

- 1 – There are a few ways that we are going to monitor and control our progress. First, the manager will keep asking the teammates if they are following the plan. If they don't, we will find someone else to help the teammate. Second, there will be one responsible person with a secondary person who will help not to fall behind. For last, we will have a meeting every week so we can discuss what is going on.
- 2 – What's more, every bi-week, project manager would post a progress report and Microsoft project plan in our website to guide our work in next two weeks.
- 3 – We also should submit our own effort report in the ER system.
- 4 – In addition, we use Bugzilla to record our process and bugs.
- 5 – We also take use of metrics, such as number of defects, requirement changes, and technical debt to monitor our process.

4.1.1 Closed Loop Feedback Control

Every time a teammate reaches the goal, all teammates will be gathered and the teammate will represent their progress. At the time, all teammates will give feedback about the progress.

In addition, we have a regular team meeting at 2:30 pm to 4:30 pm every Tuesday in Leavey Library. During the meeting, everyone can show his/ her finished work, so other teammates can give feedback and help him/ her better the job.

What's more, we also have a regular group working at 10:00 am to 12:00 am every Saturday in library. So we can more time to communicate with each other and reduce the inconsistencies.

4.1.2 Reviews

1. Team internal review
Every week, we would have a team meeting to review our finished work.
2. FCR
We would use FCR before we enter the Foundation Phase
3. DCR
We would use DCR before we enter the Development Phase
4. RDCR
We would use RDCR for potential teammate's loss or change
5. CCD
We would use CCD to determine whether clients would like to add or change operations.
6. TRR
We would use TRR before we transit the system

7. OCR

We would use OCR to show value and quality of the transited system

8. Peer Review

We would use Peer Review to better our own process and find our defects or risks.

4.2 Methods, Tools and Facilities

Table 6: for tools and their usage and provider

Tools	Usage	Provider
<Tool>	<Usage>	<Tool Provider>
MySQL	Database	Oracle
axure	Develop prototype	Axure Software Solution
Microsoft Project Plan	Make project plan	Microsoft
visio	Draw Diagrams for documents	Microsoft
Amazon S3	Store vital documents securely	Amazon
Github	Control versions	Github.Inc

5.Resources

We will estimate our effort and schedule for this project and figure out whether it is feasible or not.

The following conditions we have are the basis of estimation for our project, e-lockbox

1. Although we have some budget, we still should figure out how to find suitable server and database to implement and maintain our system.
2. We have 12 weeks to complete exploration, valuation and foundation phase in 577a and also 12 weeks to develop, test, and transit in 577b.
3. There are 7 teammates in 577a, and 6 of teammates promise that they will take the 577b and only 1 teammate decided to leave.
4. There are four modules in this system:
 - a. Case Management
 - b. Report Generation
 - c. User Management
 - d. Document Management
5. All modules will be implemented by PHP.
6. We will take use of PHP framework, laravel.
7. We will make use of Amazon S3 to store vital documents.

The following is module listed in the system and its estimated size with Source Lines of Code (SLOC)

Table 7: Module lists and SLOC of each module - estimation

No.	Module Name	Brief Description	SLOC	REVL
1	Case Management	Provide case management with foster youth for case manager; track the work flow and record the history for the action	1000	10%
2	Report Generation	According to different situation, generate specific report such as demographic, geographic report.	300	10%
3	User Management	Provide different level of authority for different roles; and achieve login, update user information	500	5%
4	Document Management	Scan, upload, update documents; store documents securely	500	5%

The following is COCOMOII Scale Drivers and rationales of choosing the values.

Table 8: COCOMOII Scale Drivers

Scale Driver	Value	Rationale
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PREC	High	Some teammates are familiar with this type of system and have developed similar websites.
FLEX	Nominal	Some requirements are stable, such as tracking work flow, user management, but others are flexible like interfaces.
RESL	Nominal	Key milestones, schedule, responsibilities, and risks are identified, but we have not finished architecture yet.
TEAM	High	The developing team is cooperating well, and the clients also actively involved in the project and help developing team acquire more clear requirements.
PMAT	Nominal	The process maturity is CMM Level 2, because the team is practicing ICSM EPG although this is the first time.

The following is COCOMOII Cost Drivers of each module and rationales of choosing the values.

Table 9: COCOMOII Cost Drivers of Module 1 – Case Management

Cost Driver	Value	Rationale
RELY	Nominal	The effect of this module is moderate and limited loss.
DATA	Nominal	Because text information, such as case id, name, would be stored in this module, the number of bytes of data for testing is about 10K and the number of SLOC is 700. The D/P would be 14.
DOCU	Nominal	The life cycle will be based on ICSM EPG and we will complete right-size documents for life cycle needs.
CPLX	Nominal	Case Management includes process for tracking action history, and manages cases. Simple input, output, and edits.
RUSE	Nominal	The logo, color, and some basic appearance in website can be reuse. So the additional effort for reuse is nominal.
TIME	High	The system should be available from 9 am to 5 pm on weekday. The percentage of available execution time expected to be used by the system is more than 50 %, but less than 85%.
STOR	Nominal	The percentage of available storage expected to be used by the system is less than 50% because only text, basic information would be stored.
PVOL	Low	The major hardware will change at most once a year
ACAP	Nominal	The analysts can work on requirements, design, and cooperate with others moderately.
PCAP	Nominal	Some developers are familiar with PHP, but others do not. Therefore, capability for whole team is moderate.
PCON	Nominal	We have 7 team members in 577a and 6 of our teammates have decided to take 577b already.
APEX	Low	The average experience of the team members for this type of system is about six months.
LTEX	Nominal	Majority of teammates have used HTML, PHP, or MySQL at least one year.
PLEX	Nominal	Majority of teammates have used MySQL, web server Apache Tomcat with JDK at least one year.

TOOL	Nominal	Use basic software such as Microsoft project plan, winbook, bugzilla to control the life-cycle.
SITE	High	6 of 7 teammates are on-campus students.
SCED	Nominal	The schedule is fixed for 24 weeks a year.

Table 10: COCOMOII Cost Drivers of Module 2 – Report Generation

Cost Driver	Value	Rationale
RELY	Nominal	The effect of this module is moderate and limited loss.
DATA	Nominal	Because only some text information would be stored in this module, the number of bytes of data for testing is about 5KB and the number of SLOC is 300. The D/P would be 17.
DOCU	Nominal	The life cycle will be based on ICSM EPG and we will complete right-size documents for life cycle needs.
CPLX	Nominal	Use some basic math or statistical operations for demographic analysis. Simple file output and simple edits.
RUSE	Nominal	The logo, color, and some basic appearance in website can be reuse. So the additional effort for reuse is nominal.
TIME	High	The system should be available from 9 am to 5 pm on weekday. The percentage of available execution time expected to be used by the system is more than 50 %, but less than 85%.
STOR	Nominal	The percentage of available storage expected to be used by the system is less than 50% because only text, basic information would be stored.
PVOL	Low	The major hardware will change at most once a year
ACAP	Nominal	The analysts can work on requirements, design, and cooperate with others moderately.
PCAP	Nominal	Some developers are familiar with PHP, but others do not. Therefore, capability for whole team is moderate.
PCON	Nominal	We have 7 team members in 577a and 6 of our teammates have decided to take 577b already.
APEX	Low	The average experience of the team members for this type of system is about six months.
LTEX	Nominal	Majority of teammates have used HTML, PHP, or MySQL at least one year.
PLEX	Nominal	Majority of teammates have used MySQL, web server Apache Tomcat with JDK at least one year.
TOOL	Nominal	Use basic software such as Microsoft project plan, winbook, bugzilla to control the life-cycle.
SITE	High	6 of 7 teammates are on-campus students.
SCED	Nominal	The schedule is fixed for 24 weeks a year.

Table 11: COCOMOII Cost Drivers of Module 3 – User Management

Cost Driver	Value	Rationale
RELY	Nominal	The effect of this module is moderate and limited loss.
DATA	Nominal	Because only some profile pictures, text information would be stored in this module, the number of bytes of data for testing is about 10K and the number of SLOC is 500. The D/P would be 20.
DOCU	Nominal	The life cycle will be based on ICSM EPG and we will complete right-size documents for life cycle needs.
CPLX	Nominal	Basic operations for managing different roles, authorities.
RUSE	Nominal	The logo, color, and some basic appearance in website can be reuse. So the additional effort for reuse is nominal.
TIME	High	The system should be available from 9 am to 5 pm on weekday. The percentage of available execution time expected to be used by the system is more than 50 %, but less than 85%.
STOR	Nominal	The percentage of available storage expected to be used by the system is less than 50% because only text, basic information would be stored.
PVOL	Low	The major hardware will change at most once a year
ACAP	Nominal	The analysts can work on requirements, design, and cooperate with others moderately.
PCAP	Nominal	Some developers are familiar with PHP, but others do not. Therefore, capability for whole team is moderate.
PCON	Nominal	We have 7 team members in 577a and 6 of our teammates have decided to take 577b already.
APEX	Low	The average experience of the team members for this type of system is about six months.
LTEX	Nominal	Majority of teammates have used HTML, PHP, or MySQL at least one year.
PLEX	Nominal	Majority of teammates have used MySQL, web server Apache Tomcat with JDK at least one year.
TOOL	Nominal	Use basic software such as Microsoft project plan, winbook, bugzilla to control the life-cycle.
SITE	High	6 of 7 teammates are on-campus students.
SCED	Nominal	The schedule is fixed for 24 weeks a year.

Table 12: COCOMOII Cost Drivers of Module 4 – Document Management

Cost Driver	Value	Rationale
RELY	High	The private documents including driver license, SSN, should be stored securely. If it fails, some vital information would be leaked.
DATA	High	Because some scanned documents, text information would be stored in this module, the number of bytes of data for testing is

		about 0.1M and the number of SLOC is 500. The D/P would be 200.
DOCU	Nominal	The life cycle will be based on ICSM EPG and we will complete right-size documents for life cycle needs.
CPLX	Nominal	Simple input, output, and edits.
RUSE	Nominal	The logo, color, and some basic appearance in website can be reuse. So the additional effort for reuse is nominal.
TIME	High	The system should be available from 9 am to 5 pm on weekday. The percentage of available execution time expected to be used by the system is more than 50 %, but less than 85%.
STOR	High	The percentage of available storage expected to be used by the system is more than 50%, but less than 85% because some scanned vital documents would be stored.
PVOL	Low	The major hardware will change at most once a year
ACAP	Nominal	The analysts can work on requirements, design, and cooperate with others moderately.
PCAP	Nominal	Some developers are familiar with PHP, but others do not. Therefore, capability for whole team is moderate.
PCON	Nominal	We have 7 team members in 577a and 6 of our teammates have decided to take 577b already.
APEX	Low	The average experience of the team members for this type of system is about six months.
LTEX	Nominal	Majority of teammates have used HTML, PHP, or SQL at least one year.
PLEX	Nominal	Majority of teammates have used MySQL, web server Apache Tomcat with JDK at least one year.
TOOL	Nominal	Use basic software such as Microsoft project plan, winbook, bugzilla to control the life-cycle.
SITE	High	6 of 7 teammates are on-campus students.
SCED	Nominal	The schedule is fixed for 24 weeks a year.

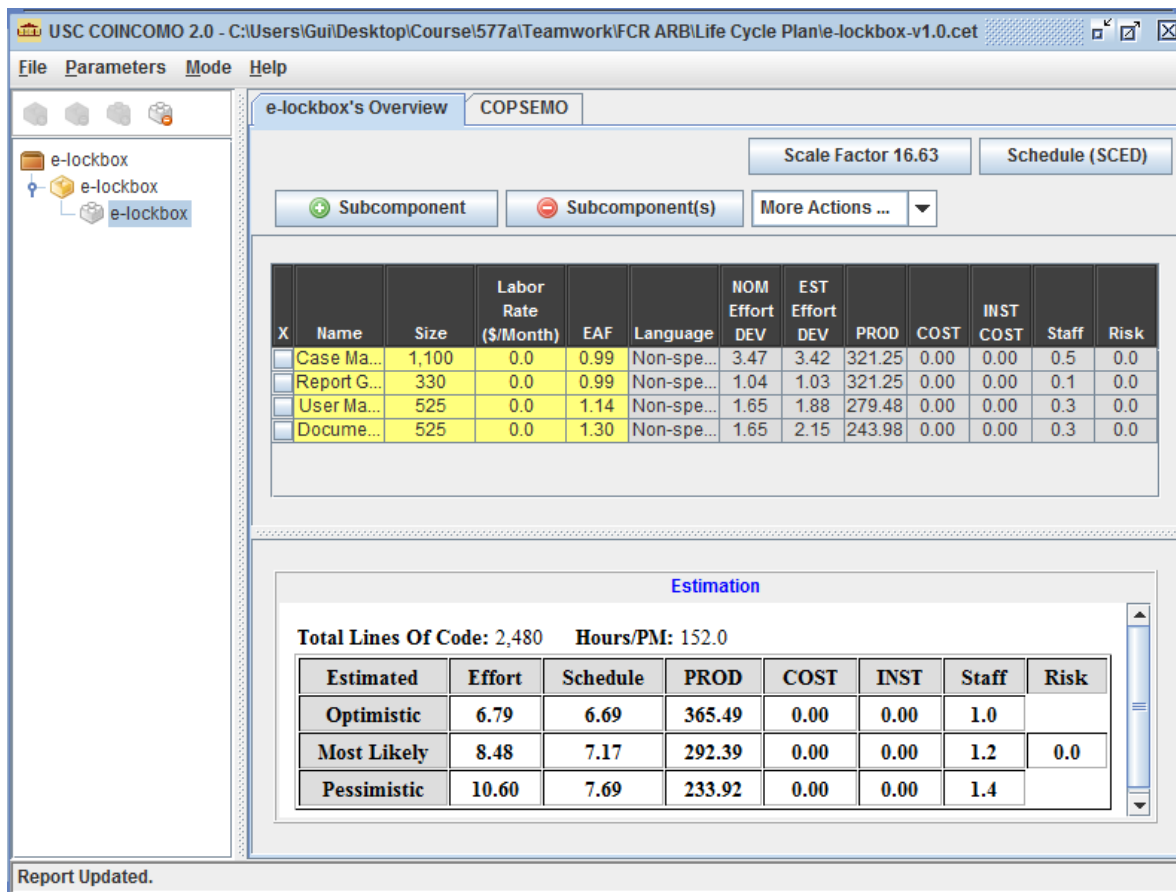


Figure 2

The pessimistic effort is 10.60 PM and there are 7 teammates to complete the project. According to the data from lecture, one 577b team member effort = 1.67PM. Therefore our total team effort is $1.67 * 7 = 11.69 \text{ PM} > 10.60 \text{ PM}$, and we can finish the project in time.

6. Iteration Plan

6.1 Plan

There are two iterations in the construction phase. The first iteration is for Core Capability which includes all four modules, testing, and quality assurance. The second one is Full Capability Iteration including improving products, process, and testing all features.

After the Core Capability Iteration, implement team and clients would check and record the accomplishments and take use of it as the input for the second Development Iteration. At the same time, they would also test the core capability and make use of it as the input for the next iteration. After the Core Capability Iteration, there is a milestone, CCD and after the Full Capability Iteration, there would be a milestone, TRR.

Iteration 1 – Core Capability: From 02/17/2014 to 03/26/2014

CCD: 03/26/2014

Iteration 2 – Full Capability: From 03/26/2014 to 04/14/2014

TRR: 04/14/2014

6.1.1 Capabilities to be implemented

The clients must have all four capabilities and the implement team plan to develop them in the first iteration. However, because the priority of all capabilities differs, if the schedule is limited, OC-3 Report Generation could be in the Iteration 2.

Table 2: Construction iteration capabilities to be implemented

ID	Capability	Description	Priority	Iteration
1	OC-1 Document Management	Vital documents for identification can be (i) reviewed or printed via accessing the system by foster youth or (ii) and uploaded or reviewed by case managers.	1	1
2	OC-2 Case Management	Case managers can manage related information of foster youth in their scope.	2	1
3	OC-3 Report Generation	The system is capable of generating the report of demographic information.	3	1
4	OC-4 User Management	Users can be created, inactive, active.	2	1

6.1.2 Capabilities to be tested

Table 3: Construction iteration capabilities to be tested

ID	Capability	Description	Priority	Iteration
1	OC-1 Document Management	Vital documents for identification can be (i) reviewed or printed via accessing the system by foster youth or (ii) and uploaded or reviewed by case managers.	1	1
2	OC-2 Case Management	Case managers can manage related information of foster youth in their scope.	2	1
3	OC-3 Report Generation	The system is capable of generating the report of demographic information.	3	1
4	OC-4 User Management	Users can be created, inactive, active.	2	1
5	LOS-1 Availability	This system should be down no more than 12hrs/monthly	2	2
6	LOS-2 Capacity	This system should support at least 5000 users and 5 documents for each.	2	2
7	LOS-3 Security	All the documents must be stored securely.	1	2
8	LOS-4 Mobile Compatibility	This system should be viewable on mobile devices and have similar GUI.	3	2

6.1.3 Capabilities not to be tested

All capabilities will be tested after two iterations.

6.1.4 CCD Preparation Plans

<< Identify the clients and other users who will be involved in the Core Capability Drive-through, the usage scenarios that it will support, and the specific CCD preparation plans and milestones. These may include

Appendix 1: user context-setting
Appendix 2: site preparation dry runs,
Appendix 3: feedback forms, and
Appendix 4: CCD risk management plans. >>

6.2 Iteration Assessment

6.2.1 Capabilities Implemented, Tested, and Results

<< Describes, in brief, the capabilities that were implemented and the test results. The capabilities implemented and tested do not necessarily need to match the ones listed in section 6.1 because some capabilities may have been pushed to the next iteration. >>

Table 4: Capabilities implemented, tested, and results

ID	Capability	Test Case	Test Results	If fail, why?
< ID >	< Capability >	< TC-XX >	Pass/Fail	< comments >
...				

6.2.2 Core Capabilities Drive-Through Results

<< Briefly summarize the feedback you received from your client(s). You need to be specific enough to cover the critical capabilities or scenarios that were discussed, demoed, or shown. Your descriptions MUST, but not limited to, cover the following areas:

Appendix 5: Positive feedbacks

Appendix 6: Improvements needed/suggested

Appendix 7: Changes to-be considered (Reprioritized capabilities, requirements, GUI, etc.)

Appendix 8: Risks (New risks introduced, risks mitigated, etc.)

Note: Make sure to be specific to the capabilities shown/demonstrated/driven-through.

Simply stating that the clients liked the capabilities is not sufficient. >>

6.3 Adherence to Plan

<< Describe how well the iteration ran according to plan. Was it on budget and on time? Is there any uncertainty in the Software Development Status? Provide some insight to avoid mistakes for future iterations. >>