# Life Cycle Plan (LCP)

**<e-Lockbox>**

**<Team 10>**

**<Team members and roles>**

|  |  |
| --- | --- |
| **Cheng Zhang** | **Prototyper / Chief Developer** |
| **Guancheng Li** | **Project Manager/ Prototyper/ Developer** |
| **Yutong Guo** | **Operational Concept Engineer/ Developer/ Tester** |
| **Qing Wei** | **Life Cycle Planner/ Feasibility Analyst/ Developer** |
| **Si Zhao** | **Software Architect/ Tester** |

**<04/18/17>**

# Version History

| Date | Author | Version | Changes made | Rationale |
| --- | --- | --- | --- | --- |
| 10/10/16 | Qing Wei | 1.0 | * First version of LCP | * Initial draft for FC package |
| 10/15/16 | Qing Wei | 1.1 | * Revised LCP after FCR ARB | * Correct mistakes after FCR ARB |
| 11/28/16 | Qing Wei | 2.0 | * Add phases in 577B | * Update for DC package |
| 02/12/17 | Qing Wei | 3.0 | * Add details for development phase | * Update for RDC package |
| 04/18/17 | Qing Wei | 4.0 | * Add transition plan | * Update for As-Built package |

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### Introduction

#### Purpose of the LCP

The purpose of Life Cycle Plan is to streamline project, to improve development speed, to improve quality, to improve project tracking and control, to minimize overhead, to minimize risk exposure and to improve client relations.

With a Life Cycle Plan, team members can be more clear about what our goals are, when we should achieve these goals and what we should do during each specific time period. What’s more, it is easier for clients to track and control the project’s progress.

#### Status of the LCP

The status of the LCP is currently at the As Built Package version number 4.0. The major changes from Rebaselined Development Commitment Package version number 3.0 are:

* Update Milestones and Products
* Update Iteration Plan
* Add Transition Plan

#### Assumptions

* Schedule: 12 weeks in Fall 2016, 12 weeks in Spring 2017, and 24 weeks in total.
* Personnel resources: 7 team members in project e-Lockbox in Fall 2016; 4 main team members and 1 Directed Research team member in Spring 2017.

### Milestones and Products

#### Overall Strategy

The e-Lockbox System is following Architected Agile process because there is no Non-Development Item or Web service that would fit to most of the core capabilities.

**Exploration phase**

**Duration:** 09/12/16 – 09/22/16

**Concept:**

* Analyze current system.
* Identify client’s requirements.

**Deliverables**: Valuation Commitment (VC) Package

**Milestone**: Valuation Commitment Review (VCR)

**Strategy**: First Incremental Commitment Cycle

**Valuation phase**

**Duration:** 09/23/16 – 10/10/16

**Concept:**

* Identify project operational concepts, architecture, feasibility evidences and life cycle plan.
* Confirm and prioritize win conditions.
* Prototype top risks.
* Review current code.

**Deliverables**: Foundation Commitment (FC) Package

**Milestone**: Foundation Commitment Review (FCR)

**Strategy**: First Incremental Commitment Cycle

**Foundation phase**

**Duration:** 10/11/16 – 12/06/16

**Concept:**

* Identify more clear project operational concepts, win conditions, architecture, feasibility evidences and life cycle plan.
* Implement prototype demo.

**Deliverables**: Development Commitment (DC) Package

**Milestone**: Development Commitment Review (DCR)

**Strategy**: First Incremental Commitment Cycle

**Foundation phase – Rebaseline**

**Duration:** 01/09/17 – 02/12/17

**Concept:**

* Reallocate roles and responsibilities.
* Access project status and start project implementation.

**Deliverables**: Rebaselined Development Commitment (RDC) Package

**Milestone**: Rebaselined Development Commitment Review (RDCR)

**Strategy**: Incremental Commitment Cycles (Architected-Agile)

**Development phase – Construction**

**Duration:** 02/13/17 – 04/16/17

**Concept:**

* Project implementation and test
* Contact with clients and write User Manual

**Deliverables**: Core Capability Drivethrough Report & AsBuilt Package

**Milestone**: Design Code Review & Core Capabilities Drivethrough (CCD) & Transition Readiness Review (TRR)

**Strategy**: Incremental Commitment Cycles (Architected-Agile)

**Development phase – Transition**

**Duration:** 04/17/17 – 04/30/17

**Concept:**

* Install/Transit the system
* Train users
* Archive final product
* Release product and obtain client evaluation

**Deliverables**: Product Archive

**Milestone**: Operation Commitment Review

**Strategy**: Incremental Commitment Cycles (Architected-Agile)

**Operation phase**

**Duration:** 05/01/17 – 05/05/17

**Concept:**

* Support clients, users, and maintainers
* Solve problems

**Deliverables**: NA

**Milestone**: NA

**Strategy**: Incremental Commitment Cycles (Architected-Agile)

#### Project Deliverables

##### Exploration Phase

Table 1: Artifacts Deliverables in Exploration Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Client Interaction Report | 09/16/16 | .doc, .pdf | Soft copy |
| Win Conditions Report | 09/26/16 | .doc, .pdf | Soft copy |
| Top Risk Prototype | 09/30/16 | .ppt | Soft copy |
| Jira | Every Monday | website | Jira |
| Progress Report | Bi-weekly Wednesday | .xls | Soft copy |
| Risk and Defect Report | Bi-weekly Wednesday | .xls | Soft copy |
| Project Plan | Bi-weekly Wednesday | .mpp | Soft copy |

##### Valuation Phase

Table 2: Artifact Deliverable in Valuation Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Foundation Commitment Package   * Operational Concept Description (OCD) * Prototype (PRO) * System and Software Architect Description (SSAD) * Life Cycle Plan (LCP) * Feasibility Evidence Description (FED) | 10/17/16 | .doc, .pdf | Soft copy |
| Jira | Every Monday | website | Jira |
| Progress Report | Bi-weekly Wednesday | .xls | Soft copy |
| Risk and Defect Report | Bi-weekly Wednesday | .xls | Soft copy |
| Project Plan | Bi-weekly Wednesday | .mpp | Soft copy |

##### Foundations Phase

Table 3: Artifact Deliverable in Foundations Phase

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Artifact** | | **Due date** | | **Format** | | **Medium** |
| Development Commitment Package   * Operational Concept Description (OCD) * Prototype (PRO) * System and Software Architect Description (SSAD) * Life Cycle Plan (LCP) * Feasibility Evidence Description (FED) * Test Plan and Cases (TPC) | | 12/05/16 | | .doc, .pdf | | Soft copy |
| Jira | Every Monday | | website | | Jira | |
| Progress Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Risk and Defect Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Project Plan | | Bi-weekly Wednesday | | .mpp | | Soft copy |
| Technical Debt | | Bi-weekly Friday | | .xls | | Soft copy |

##### Foundations Phase – Rebaseline

Table 4: Artifact Deliverable in Foundations Phase – Rebaseline

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Artifact** | | **Due date** | | **Format** | | **Medium** |
| Rebaselined Development Commitment Package   * Operational Concept Description (OCD) * Prototype (PRO) * System and Software Architect Description (SSAD) * Life Cycle Plan (LCP) * Test Plan and Cases (TPC) * Feasibility Evidence Description (FED) | | 02/15/17 | | .doc, .pdf | | Soft copy |
| Jira | Every Monday | | website | | Jira | |
| Progress Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Risk and Defect Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Project Plan | | Bi-weekly Wednesday | | .mpp | | Soft copy |
| Technical Debt | | Bi-weekly Wednesday | | .xls | | Soft copy |

##### Development Phase – Construction

Table 5: Artifact Deliverable in Development Phase – Construction

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Artifact** | **Due date** | | **Format** | | | **Medium** |
| Core Capability Drivethrough Package   * Acceptance Test Cases (ATC) * Report and Concern Logs * Server Manual * User Manual | 03/29/17 | | .doc, .pdf | | | Soft copy |
| AsBuilt Package   * Operational Concept Description (OCD) * Prototype (PRO) * System and Software Architect Description (SSAD) * Life Cycle Plan (LCP) * Feasibility Evidence Description (FED) * Test Plan and Cases (TPC) * Test Procedure and Results (TPR) * Technical Manual * User Manual * Support Plan (SP) * Source Code * Release Description | 04/28/17 | | .docx, .pdf, .zip | | | Soft copy |
| Jira | Every Monday | | website | | Jira | |
| Progress Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Risk and Defect Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Project Plan | | Bi-weekly Wednesday | | .mpp | | Soft copy |
| Technical Debt | | Bi-weekly Wednesday | | .xls | | Soft copy |

##### Development Phase – Transition

Table 6: Artifact deliverable in Development Phase – Transition

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Artifact** | **Due date** | | **Format** | | | **Medium** |
| Project Archive | 05/05/17 | | .zip | | | Soft copy |
| Jira | Every Monday | | website | | Jira | |
| Progress Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Risk and Defect Report | | Bi-weekly Wednesday | | .xls | | Soft copy |
| Project Plan | | Bi-weekly Wednesday | | .mpp | | Soft copy |
| Technical Debt | | Bi-weekly Wednesday | | .xls | | Soft copy |

##### Operation Phase

Table 7: Artifact deliverable in Operation Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| N/A | N/A | N/A | N/A |

Responsibilities

#### Project-specific stakeholder’s responsibilities

The owner of the project is Pamela Clay and we have four main team members and one directed research team member.

Table 8: Stakeholder's Responsibilities in each phase

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Team Member / Role** |  | **Primary / Secondary Responsibility** | | | | | |
| **Exploration** | | **Valuation** | **Foundation** | **Foundation- Rebaseline** | **Development- Construction Iteration** | **Development- Transition Iteration** |
| **Name:**  Client  **Role:**  Administrator, Case manager, General user (staff) | **Primary Responsibility**   * Introduce current system * Give access to current system * Provide requirements   **Secondary Responsibility**   * Interact with team members * Attend win-win negotiations | | **Primary Responsibility**   * Provide detailed requirements and help capture operational concepts * Offer feedback for prototype   **Secondary Responsibility**   * Interact with team members * Attend ARB presentation | **Primary Responsibility**   * Provide feedback **Secondary Responsibility** * Interact with team members | **Primary Responsibility**   * Access rebaseline prototype   **Secondary Responsibility**   * Interact with team members | **Primary Responsibility**   * Provide feedback for developing system   **Secondary Responsibility**   * Interact with team members | **Primary Responsibility**   * Test updated system * Offer feedback   **Secondary Responsibility**   * Interact with team members |
| **Name:**  Youth  **Role:**  Clients of Living Advantage | **N/A** | | **N/A** | **N/A** | **N/A** | **N/A** | **Primary Responsibility**   * Test updated system * Offer feedback |
| **Name:**  Guancheng Li  **Role:**  Project Manager, Prototyper, Developer | **Primary Responsibility**   * Explore current system * Provide detailed project plan * Record project progress bi-weekly   **Secondary Responsibility**   * Analyze and prioritize capabilities | | **Primary Responsibility**   * Provide detailed project plan * Record project progress bi-weekly   **Secondary Responsibility**   * Assess prototype and components | **Primary Responsibility**   * Provide detailed project plan * Record project progress bi-weekly   **Secondary Responsibility**   * Develop * Prototype | **Primary Responsibility**   * Provide detailed project plan * Record project progress bi-weekly * Develop updated system   **Secondary Responsibility**   * Test system | **Primary Responsibility**   * Provide detailed project plan * Record project progress bi-weekly * Develop updated system   **Secondary Responsibility**   * Test system | **Primary Responsibility**   * Provide detailed project plan * Record project progress bi-weekly * Develop updated system * Provide release description   **Secondary Responsibility**   * Test system |
| **Name:**  Yutong Guo  **Role:**  Operational Concept Engineer, Tester, Developer | **Primary Responsibility**   * Explore current system * Identify client’s requirements * Identify operational concepts | | **Primary Responsibility**   * Capture and prioritize win-conditions * Further identify operational concepts | **Primary Responsibility**   * Finalize requirements and operational concepts | **Primary Responsibility**   * Develop updated system * Test system | **Primary Responsibility**   * Develop updated system * Test system | **Primary Responsibility**   * Develop updated system * Test system |
| **Name:**  Qing Wei  **Role:**  Life Cycle Planner, Feasibility Analyst, Developer | **Primary Responsibility**   * Explore current system * Estimate project effort and schedule using   **Secondary Responsibility**   * Analyze and prioritize capabilities | | **Primary Responsibility**   * Provide the first version of LCP   **Secondary Responsibility**   * Assess prototype and components | **Primary Responsibility**   * Provide a new version of LCP   **Secondary Responsibility**   * Develop prototype | **Primary Responsibility**   * Provide a new version of LCP * Develop updated system   **Secondary Responsibility**   * Test system | **Primary Responsibility**   * Provide a new version of LCP * Develop updated system   **Secondary Responsibility**   * Test system | **Primary Responsibility**   * Provide a new version of LCP * Develop updated system   **Secondary Responsibility**   * Test system |
| **Name:**  Cheng Zhang  **Role:**  Prototyper, Chief Developer | **Primary Responsibility**   * Explore current system * Analyze and prioritize capabilities | | **Primary Responsibility**   * Assess prototype and components   **Secondary Responsibility**   * Provide the first version of LCP | **Primary Responsibility**   * Develop prototype   **Secondary Responsibility**   * Provide a new version of LCP | **Primary Responsibility**   * Develop updated system   **Secondary Responsibility**   * Test system | **Primary Responsibility**   * Develop updated system   **Secondary Responsibility**   * Test system | **Primary Responsibility**   * Develop updated system   **Secondary Responsibility**   * Test system |
| **Name:**  Si Zhao  **Role:**  System Architect, Tester | **Primary Responsibility**   * Explore current system * Analyze current system architecture | | **Primary Responsibility**   * Develop new system architecture | **Primary Responsibility**   * Assess system architect   **Secondary Responsibility**  life | **Primary Responsibility**   * Set up development environments * Test updated system | **Primary Responsibility**   * Test updated system | **Primary Responsibility**   * Test updated system |
| **Name:**  Rui Ma  **Role:**  Feasibility Analyst, Requirements Engineer, Developer | **Primary Responsibility**   * Explore current system * Identify the most appropriate process   **Secondary Responsibility**   * Capture win-conditions | | **Primary Responsibility**   * Analyze business case | **Primary Responsibility**   * Provide feasibility evidence for architecture agile | **N/A** | **N/A** | **N/A** |
| **Name:**  Stephen Hunt  **Role:**  IIV & V, Quality Focal Point | **Primary Responsibility**   * Verify and validate all work products | | **Primary Responsibility**   * Verify and validate all work products | **Primary Responsibility**   * Verify and validate all work products | **N/A** | **N/A** | **N/A** |

#### Skills

|  |  |  |
| --- | --- | --- |
| **Team members** | **Role** | **Skills** |
| **Guancheng Li** | **Project Manager, Prototyper, Developer** | Current skills:   * Experience on HTML, CSS, JavaScript, PHP, MySQL, Laravel (PHP Framework) |
| **Cheng Zhang** | **Prototyper, Chief Developer** | Current skills:   * Experience on HTML, CSS, JavaScript, PHP, MySQL, Laravel (PHP Framework) |
| **Qing Wei** | **Life Cycle Planner, Feasibility Analyst, Developer** | Current skills:   * Experience of HTML, CSS, JavaScript, PHP, MySQL, Laravel (PHP Framework) |
| **Yutong Guo** | **Operational Concept Engineer, Tester, Developer** | Current skills:   * Experience of HTML, CSS, JavaScript, PHP, MySQL, Laravel (PHP Framework) |
| **Si Zhao** | **Software Architect, Tester** | Current skills:   * Experience on HTML, CSS, JavaScript, PHP, MySQL, Laravel (PHP Framework) |

Approach

#### Monitoring and Control

Approaches we are using in monitoring and controlling our project:

* Every weekday, we have formal team meeting at Leavey Library Discussion Room to finish team assignments and system development together. Project manager will check whether every team member has finished his/her tasks that day. If not, we will discuss and try to solve the encountered problems.
* We use Jira to log work and track project.
* Every two weeks, we submit progress report and project plan to guide our work in next two weeks.
* Every two weeks, we submit risk report, defect report and technical debt report to monitor our process.

##### Closed Loop Feedback Control

Ways team members get and provide feedback internally within our team:

* Every weekday, we have formal team meeting at Leavey library Discussion Room to finish team assignments and system development together. During the meeting, we can get and give some instant and timely feedback.
* Every team member’s work will always be checked by other team members.

##### Reviews

Reviews we are using to control our project:

* Team internal review

Every weekday, we have a small internal team review at the end of team meeting.

* Foundation Commitment Review (FCR)

We use FCR before entering into foundation phase.

* Development Commitment Review (DCR)

We use DCR before entering into development phase.

* Rebaselined Development Commitment Review (RDCR)

We use RDCR before entering construction development phase interation 1.

* Core Capability Drive-through (CCD)

We use of CCD before entering construction development phase interation 2.

* Transition Readiness Review (TRR)

We use TRR before entering into transition development phase.

* Operation Commitment Review (OCR)

We use OCR before entering into operation phase.

* Peer Review (PR)

We use Peer Review to ensure quality of each member’s work.

#### Methods, Tools and Facilities

|  |  |  |
| --- | --- | --- |
| **Tools** | **Usage** | **Provider** |
| COCOMO II | Estimate project costs | USC CSSE |
| Digital Ocean | Web Server | Digital Ocean |
| Github | Store source code | Github |
| Google Drive | Store project related documents | Google |
| Google Hanout | Video chat | Google |
| Jira | Log work | USC CSSE |
| Laravel | Develop proposed system | LARAVEL |
| MySQL | Database | Oracle Corporation |
| Microsoft Office | Create project related documents | Microsoft |
| Microsoft Project | Create project plan | Microsoft |
| OmniGraffle | Draw diagrams for documents | The Omni Group |
| Sublime Text | Review and edit code | Sublime HQ Pty Ltd |
| WeChat | Internal team communications | Tencent |
| Winbook | Identify win conditions | USC CSSE |

### Resources

**Cost Estimation for project e-Lockbox:**

* **Project Duration**

12 weeks for exploration, valuation and foundation phase in 577A

12 weeks for development and operation phase in 577B

* **Effort Estimates for 577B**

Assuming 12 hours/week of dedicated effort per person

Assuming 10 out of 12 weeks fill Construction phase

Total estimating effort: (10 weeks)(12 hours/week)(6 developing team members) = 720 hours

* **Programming language used:** HTML, CSS, JavaScript, PHP
* **Framework used:** Laravel (PHP framework)
* **Four Core Modules to be implemented**

Case Management, User Management, Activity Management, System Foundations

The following is module lists with its estimated source lines of code (SLOC).

Table 9: Component Modules

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Module Name** | **Brief Description** | **SLOC** | **REVL** |
| 1 | Case Management | Administrator and Case Manager can add/delete/edit/view/activate/inactivate Youth users’ cases. | 3000 | 4% |
| 2 | User Management | Different roles of users are served with different functions. | 1000 | 4% |
| 3 | Activity Management | Activities can be automatically created. | 300 | 4% |
| 4 | System Functions | Log in, auto log out, send email from youth to case manager and security questions. | 1000 | 4% |

The following is COCOMO II Scale Drivers and rationales of choosing these values.

Table 10: COCOMO II Scale Driver

|  |  |  |
| --- | --- | --- |
| **Scale Driver** | **Value** | **Rationale** |
| PREC | High | The team has clear product objectives after one semester implementation and gained experience from 577A development. |
| FLEX | Nominal | We are stick to requirements, and the client is open to negotiation on specific design. |
| RESL | Nominal | We have already learnt many strategies that could be used for mitigating most further risks. |
| TEAM | High | Team members meet every weekday and cooperate very well. |
| PMAT | Nominal | The process maturity is CMM Level 2. Requirements are managed and processes are planned, performed, measured, and controlled. |

The following is COCOMOII Cost Drivers and rationales of choosing these values.

Table 11: COCOMO II Cost Drivers of Module 1 – Case Management

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Nominal | The effect of this module failure is moderate. |
| DATA | Nominal | Because case information, such as profile, document and report, would be stored in this module, the number of the bytes in the testing database is about 120K and the number of SLOC is about 3000. The D/P would be 40, which is between 10 and 100. |
| CPLX | Nominal | Case Management include basic processes for managing cases. Simple input/output and simple edits. |
| RUSE | Nominal | The e-Lockbox is a “across project”, reuse across modules. |
| DOCU | Nominal | The life cycle will be based on ICSM. We will complete right-sized documents to life-cycle needs. |
| TIME | High | The system should be available from 9 a.m. to 5 p.m. on weekday. The percentage of available execution time expected to be used by the system is about 70%. |
| STOR | High | The percentage of available storage expected to be used by the module is about 70%. |
| PVOL | Low | The platform may majorly change every 12 months and minorly change every 1 month. |
| ACAP | Nominal | The analysts’ analysis and design ability, efficiency and thoroughness, and the ability to communicate and cooperate are moderate. |
| PCAP | Nominal | The team’s ability, efficiency and thoroughbess, and the ability to communicate and operate are moderate. |
| PCON | High | All developing team members will continue to register in 577B to complete this project. |
| APEX | Low | All team members have only 6 months’ experience on Laravel development. |
| PLEX | Nominal | Most team members have used MySQL, Web Server for 1 year. |
| LTEX | Nominal | Majority of team members have used HTML, CSS, PHP, and MySQL for 1 year. |
| TOOL | Nominal | Use basic software such as Microsoft project and Winbook and Jira to control life cycle. |
| SITE | Very High | Six developing team members meet every week day at Leavey Library Discussion Room to finish team assignments and system development together. |
| SCED | Nominal | The schedule is fixed for 24 weeks, 12 weeks each on Fall 2016 and Spirng 2017. |

Table 12: COCOMOII Cost Drivers of Module 2 – User Management

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Nominal | The effect of this module failure is moderate. |
| DATA | Nominal | Because user information, such as name, password, address and phone number, would be stored in this module, the number of the bytes in the testing database is about 15K and the number of SLOC is about 1000. The D/P would be 15, which is between 10 and 100. |
| CPLX | Nominal | User Management include basic processes for managing users and roles. Simple input/output and simple edits. |
| RUSE | Nominal | The e-Lockbox is a “across project”, reuse across modules. |
| DOCU | Nominal | The life cycle will be based on ICSM. We will complete right-sized documents to life-cycle needs. |
| TIME | High | The system should be available from 9 a.m. to 5 p.m. on weekday. The percentage of available execution time expected to be used by the system is about 70%. |
| STOR | Nominal | The percentage of available storage expected to be used by the module is less than 50%. |
| PVOL | Low | The platform may majorly change every 12 months and minorly change every 1 month. |
| ACAP | Nominal | The analysts’ analysis and design ability, efficiency and thoroughness, and the ability to communicate and cooperate are moderate. |
| PCAP | Nominal | The team’s ability, efficiency and thoroughbess, and the ability to communicate and operate are moderate. |
| PCON | High | All developing team members will continue to register in 577B to complete this project. |
| APEX | Low | All team members have only 6 months’ experience on Laravel development. |
| PLEX | Nominal | Most team members have used MySQL, Web Server for 1 year. |
| LTEX | Nominal | Majority of team members have used HTML, CSS, PHP, and MySQL for 1 year. |
| TOOL | Nominal | Use basic software such as Microsoft project and Winbook and Jira to control life cycle. |
| SITE | Very High | Six developing team members meet every week day at Leavey Library Discussion Room to finish team assignments and system development together. |
| SCED | Nominal | The schedule is fixed for 24 weeks, 12 weeks each on Fall 2016 and Spirng 2017. |

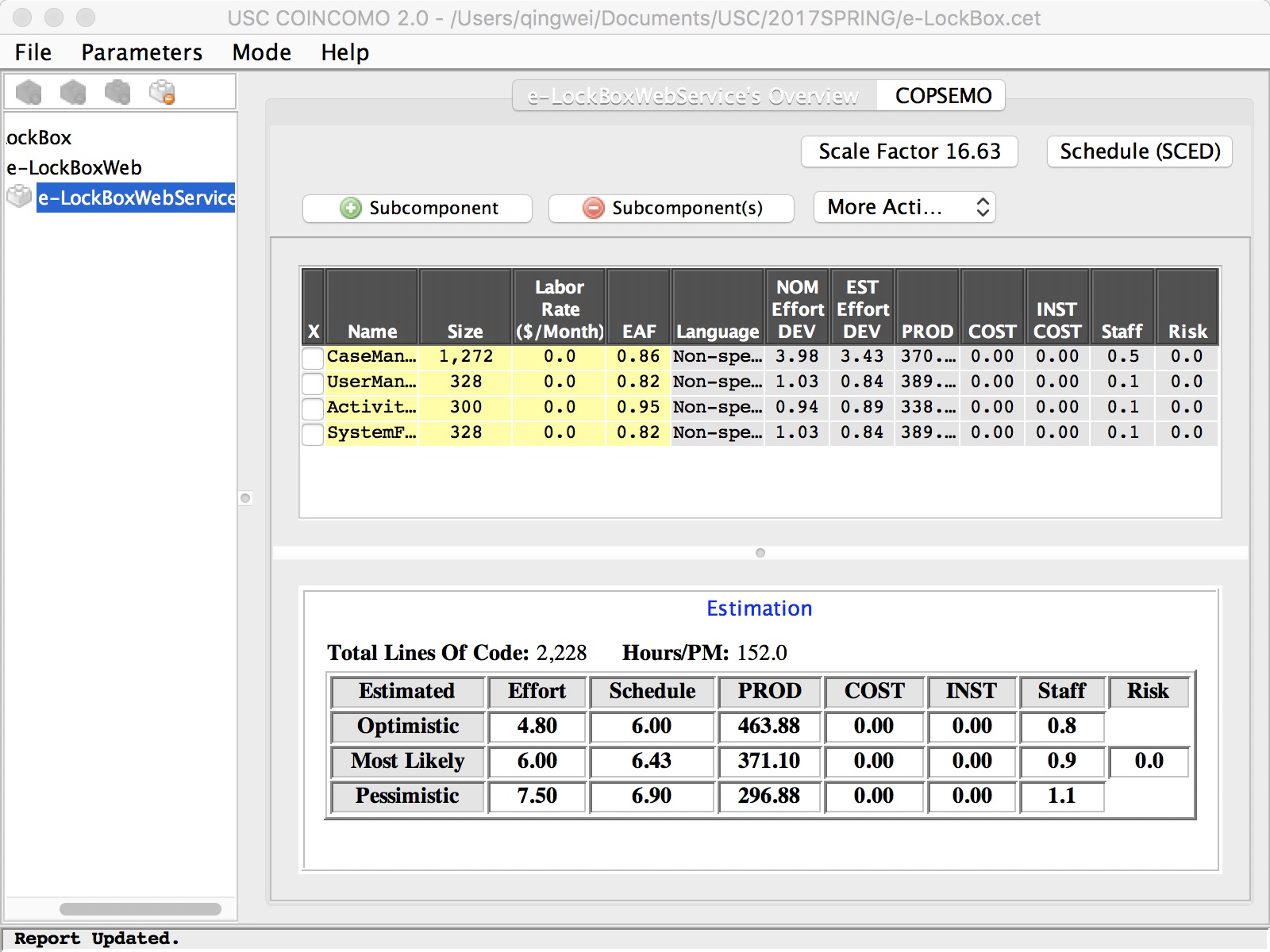
Table 13: COCOMOII Cost Drivers of Module 3 – Activity Management

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Nominal | The effect of this module failure is moderate. |
| DATA | Nominal | Because case information, such as profile, document and report, would be stored in this module, the number of the bytes in the testing database is about 5K and the number of SLOC is about 300. The D/P would be 17, which is between 10 and 100. |
| CPLX | Nominal | Activity Management include basic processes for tracking cases. Simple input and output. |
| RUSE | Nominal | The e-Lockbox is a “across project”, reuse across modules. |
| DOCU | Nominal | The life cycle will be based on ICSM. We will complete right-sized documents to life-cycle needs. |
| TIME | High | The system should be available from 9 a.m. to 5 p.m. on weekday. The percentage of available execution time expected to be used by the system is about 70%. |
| STOR | Nominal | The percentage of available storage expected to be used by the module is less than 50%. |
| PVOL | Low | The platform may majorly change every 12 months and minorly change every 1 month. |
| ACAP | Nominal | The analysts’ analysis and design ability, efficiency and thoroughness, and the ability to communicate and cooperate are moderate. |
| PCAP | Nominal | The team’s ability, efficiency and thoroughbess, and the ability to communicate and operate are moderate. |
| PCON | High | All developing team members will continue to register in 577B to complete this project. |
| APEX | Low | All team members have only 6 months’ experience on Laravel development. |
| PLEX | Nominal | Most team members have used MySQL, Web Server for 1 year. |
| LTEX | Nominal | Majority of team members have used HTML, CSS, PHP, and MySQL for 1 year. |
| TOOL | Nominal | Use basic software such as Microsoft project and Winbook and Jira to control life cycle. |
| SITE | Very High | Six developing team members meet every week day at Leavey Library Discussion Room to finish team assignments and system development together. |
| SCED | Nominal | The schedule is fixed for 24 weeks, 12 weeks each on Fall 2016 and Spirng 2017. |

Table 14: COCOMOII Cost Drivers of Module 4 – System Functions

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Nominal | The effect of this module failure is moderate. |
| DATA | Nominal | Because case information, such as profile, document and report, would be stored in this module, the number of the bytes in the testing database is about 15K and the number of SLOC is about 1000. The D/P would be 15, which is between 10 and 100. |
| CPLX | Nominal | Case Management include process for managing and tracking cases. Simple input/output and simple edits. |
| RUSE | Nominal | The e-Lockbox is a “across project”, reuse across modules. |
| DOCU | Nominal | The life cycle will be based on ICSM. We will complete right-sized documents to life-cycle needs. |
| TIME | High | The system should be available from 9 a.m. to 5 p.m. on weekday. The percentage of available execution time expected to be used by the system is about 70%. |
| STOR | Nominal | The percentage of available storage expected to be used by the module is less than 50%. |
| PVOL | Low | The platform may majorly change every 12 months and minorly change every 1 month. |
| ACAP | Nominal | The analysts’ analysis and design ability, efficiency and thoroughness, and the ability to communicate and cooperate are moderate. |
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| PCON | High | All developing team members will continue to register in 577B to complete this project. |
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| TOOL | Nominal | Use basic software such as Microsoft project and Winbook and Jira to control life cycle. |
| SITE | Very High | Six developing team members meet every week day at Leavey Library Discussion Room to finish team assignments and system development together. |
| SCED | Nominal | The schedule is fixed for 24 weeks, 12 weeks each on Fall 2016 and Spirng 2017. |

The following is the COCOMO II Effort Estimates for 577B.



Our team has five team members, including four main team members and one directed research team member. Four main team members will in charge of the project implementation. Accordoing to the above picture, The pessimistic effort is 7.50 CII person-month. According to lecture, one 577B student effort is 1.67 CII person-month. Therefore, the number of team members we need to complete the project within the fixed schedule is 7.50 / 1.67 = 4.49 4. In conclusion, we can finish the project within the schedule.

### Iteration Plan

#### Plan

There are two iterations in the construction phase. The first iteration is for core capabilities which includes all modules and second is for full capabilities including all small functions and tests.

Iteration 1 – Core Capabilities

* Duration: 02/13/2017 - 03/24/2017
* Core capabilities are developed and tested
* Core Capability Drivethrough: 03/24/2017

Iteration 2 – Full Capabilites

* Duration: 03/27/2017 - 04/14/2017
* Full capabilities are developed and tested
* Transition Readiness Review: 04/14/2017

##### Capabilities to be implemented

Table 15: Construction iteration capabilities to be implemented

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Capability** | **Description** | **Priority** | **Iteration** |
| 1 | OC-1 Case Management | * Activate/Inactivate a case * Assign a case * Visible/Invisible a document | Must have | 1 |
| 2 | OC-2 User Management | * Edit user profile * View detailed user profile | Must have | 1 |
| 3 | OC-3 Activity Management | * Add/Edit/Brief View/Detailed View/Delete an activity | Must have | 1 |
| 4 | OC-4 System Foundations | * Settings * Auto Log out * Send email | Should have | 2 |

##### Capabilities to be tested

Table 16: Construction iteration capabilities to be tested

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Capability** | **Description** | **Priority** | **Iteration** |
| 1 | OC-1 Case Management | * Create/Delete/Edit/View a case * Activate/Inactivate a case * Assign a case * Create/Delete/Edit/View contact information * Create/Delete/Edit/View additional contacts * Create/Delete/Edit/View education history * Create/Delete/Edit/View work history * Upload/View/Download/Edit/Delete documents * Visible/Invisible a document | Must have | 1 |
| 2 | OC-2 User Management | * Create/Edit/Brief View/Detailed View a user account | Must have | 1 |
| 3 | OC-3 Activity Management | * Create/ Delete/Edit/Brief View/Detailed View an activity | Must have | 1 |
| 4 | OC-4 System Foundations | * Login security * Settings * Auto Log out * Send email | Should have | 2 |

##### Capabilities not to be tested

All core capabilities will be tested.

##### CCD Preparation Plans

The development team will prepare the system to be tested by stakeholders on March 24th, 2017.

The stakeholders will be asked to try the system’s core capabilities. The database needs to be insert some users and documents for stakeholders’ tests. Stakeholders’ experience and suggested improvements will be documented and followed by the development team.

The following stakeholders will be involved in Core Capability Drivethrough (CCD):

* Client: Pamela Clay (Living Advantage Inc.)
* Development Team: USC 577B Spring 2017 Team 10
* Mentor: USC 577B Spring 2017 Professors and TAs

The following are measures the development team needs to carry out to ensure a smooth CCD.

* Make sure all core capabilities have been implemented and tested.
* Prepare a draft User Manual
* Prepare usage scenarios for CCD
* Do a dry run well before CCD and test the system same way as stakeholders will do

#### Iteration Assessment

##### Capabilities Implemented, Tested, and Results

Table 17: Capabilities implemented, tested, and results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Capability** | **Test Case** | **Test Results** | **If fail, why?** |
| 1 | OC-1 Case Management | TC\_06 – TC\_18 | Pass |  |
| 2 | OC-2 User Management | TC\_01 – TC\_05 | Pass |  |
| 3 | OC-3 Activity Management | TC\_19 – TC\_22 | Pass |  |
| 4 | OC-4 System Foundations | TC\_23 – TC\_28 | Pass |  |

##### Core Capabilities Drive-Through Results

We have logged all concerns and feedbacks during CCD in Report and Concern Logs. Please refer to ConcerLog\_CCD\_S17b\_T10.V1.0.doc.

#### Adherence to Plan

We have finished all capabilities for our system and get positive feedback from our client. In addition, we strictly followed our plan to develop and transit our project.

### Transition Strategy

#### Transition Objectives

The system is running on DigitalOcean server now. The team will support the system until the end of Spring 2017 semester. The team will provide clear documentation for future maintainers to successfully maintain and update the system, including user manual, technical munual, source code and etc.

#### Transition Process Strategy

The transition process contains the following steps.

* Preparation for transition
* Test the system with client and IT
* Train staff to use and evaluate the system
* Deploy and configure the system on server
* Deliver source code and documentation

#### Preparing for Transition

Before the transition can take place, client should provide the username and password of DigitalOcean Server to the team. Then the team can configure the environment and deploy the system on server.

##### Hardware Preparation

The team needs to prepare the following hardware.

* DigitalOcean

##### Software Preparation

The team needs to prepare the following software.

* Linux
* Apache
* MySQL
* PHP

##### Site Preparation

The transition site, mylaspace.com, is hosted by DigitalOcean server.

#### Stakeholder Roles, Responsibilities and Schedule

|  |  |  |
| --- | --- | --- |
| **Due Date** | **Role** | **Responsibility** |
| Done | Team, IT | Made preparations for transition and deployed the system on server |
| 04/27/2017 | Team, IT, Client | Test the system, train staff and improve the system according to their feedbacks |
| 04/28/2017 | Team | Finish all support documents and manuals |
| 05/05/2017 | Team | Deliver the system including source code and documentation |