# Life Cycle Plan (LCP)

**Women At Work**

**Team 14**

|  |  |  |
| --- | --- | --- |
| **Sr no** | **Name** | **Role** |
| 1 | Srikant Madhava | Project Manager |
| 2 | Sanath Bhandary | Operational Concept Engineer |
| 3 | Rohit Kudva | Feasibility Analyst |
| 4 | Varma Maryala | Life Cycle Planner |
| 5 | Praneet Surana | Requirements Engineer |
| 6 | Dinesh Yeduguru | Software Architect |
| 7 | Nishant Jani | Prototyper |
| 8 | Brian Bousman | IIV&V |

10/12/14

# Version History

| Date | Author | Version | Changes made | Rationale |
| --- | --- | --- | --- | --- |
| 09/29/14 | Nishanth Jani / Phaneendra | 1.0 | - Original for CSCI577a; Tailored from ICSM OCD Template  - Add section 3.3 | - To fit CSSI577a course content  - To identify team members’ skills and specify their role in this project |
| 10/13/14 | Phaneendra | 1.1 | - Update section 3.3, and add section 1,2,3.1,3.2,4,5 | - To make an introduction to life cycle planning  - Define the milestones and products deliverable in the whole project, specify team members’ responsibilities by phase, as well as correct some errors in section 3.3 |

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Introduction

#### Purpose of the LCP

The LCP helps in mapping the list of tasks and corresponding timelines. Moreover it helps in determining the available resources. At any point of time, the current status of the project can be matched against the LCP to check if the project is adhering to the schedule or not.

The LCP keeps a clear understanding between the development team and the client with respect to the deliverable and their corresponding dates.

The LCP also helps in understanding the skill-set of the entire team, both in terms of current skills and required skills.

#### Status of the LCP

The status of the LCP is currently at the Draft FC Package version number 1.0

This is the version that will be submitted to the project website for later updates.

#### Assumptions

* + The duration of the project is 12 weeks in Fall 2014.
  + There are seven on-campus members in the project team.
  + Incremental commitment spiral model is used as a development guideline for this project.

Milestones and Products

#### Overall Strategy

The Women at work is following NDI-Intensive process because there are many Non-Development Items which can be used to deliver the core capabilities of the system.

**Exploration phase**

**Duration:** 09/14/14 – 09/29/14

**Concept:** Explores the current system, software requirements and life-cycle plan. In this phase the team will prioritize the capabilities, conduct investments and feasibility analysis and implement the software prototype.

**Deliverables**: Valuation Commitment Package, Project Reports and Plans, Weekly Effort Report and Client Interaction Report.

**Milestone**: Valuation Commitment Review

**Strategy**: One Incremental Commitment Cycle

**Valuation phase**

**Duration:** 09/29/14 – 10/14/14

**Concept:** Emphasize the prioritized features, study and analyze the risks. Valuate the project further to get ready for foundations package

**Deliverables:** Draft Foundations Commitment Package

**Milestone:** Draft Foundations Commitment Review

**Strategy:** One Incremental Commitment Cycle

#### Project Deliverable

##### Exploration Phase

Table : Artifacts Deliverables in Exploration Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Client Interaction Report | 9/19/2014 | .doc, | Soft copy |
| Valuation Commitment Package   * Operational Concept Description (OCD) Early Section * Life Cycle Plan (LCP) Early Section * Feasibility Evidence Description (FED) Early Section | 09/29/2014 | .doc, .pdf | Soft copy |
| Bugzilla report | Every Saturday | Text | Bugzilla Website |
| Project Plan | Every Monday | .mpp, | Soft copy |
| Progress Report | Every Monday | .xls | Soft copy |

##### 

##### Valuation Phase

Table :Artifacts deliverables in Valuation Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Draft Foundations Commitment Package:   * Operational Concept Description (OCD) * Feasibility Evidence Description (FED) * Life Cycle Plan (LCP) * System and Software Architecture Description (SSAD) * Prototype report (PRO) | 10/13/2014 | .doc, .pdf | Soft copy |
| Evaluation of Draft Foundations Commitment Package | 10/15/2014 | .doc, .pdf, Bugzilla | Soft copy, Bugzilla |
| Response to Evaluation of Draft Foundations Commitment Package | 10/17/2014 | .doc, .pdf, Bugzilla | Soft copy, Bugzilla |
| Foundations Commitment Package:   * Operational Concept Description (OCD) * Feasibility Evidence Description (FED) * Life Cycle Plan (LCP) * System and Software Architecture Description (SSAD) * Prototype report (PRO) * System and Software Requirements Definition | 10/20/2014 | .doc, .pdf | Soft copy |
| Evaluation of Foundations Commitment Package | 10/22/2013 | .doc, .pdf, Bugzilla | Soft copy, Bugzilla |
| Response to Evaluation of Foundations Commitment Package | 10/22/2013 | .doc, .pdf, Bugzilla | Soft copy, Bugzilla |
| Bugzilla report | Every Wednesday | Text | Bugzilla Website |
| Project Plan | Every Wednesday | .mpp | Soft copy |
| Progress Report | Every Wednesday | .xls | Soft copy |

Responsibilities

#### Responsibilities by Phase

Table : Stakeholders Responsibilities in each phase

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name/**  **Role** | **Exploration** | **Valuation** | **Foundations** | **Development-** Construction Iteration | **Development-** Transition Iteration |
| **Name:** Women At Work  **Role:** Client | **Primary Responsibility**  **-** Participate in Win-win negotiations  - Briefly define scope and describe primary requirements | **Primary Responsibility**  - Clarify ambiguous requirements and provide feedback  - Identify shared vision, goal and concepts | **Primary Responsibility**  - Provide feedback for prototypes | **Primary Responsibility**  - Feedback regarding modules developed  - Test System Usability | **Primary Responsibility**  - Provide training for transition to new system. |
| **Name:**  Srikanth  Madhava  **Role:** Project Manager / Operational Concept Engineer | **Primary Responsibility**  - Explore the System  - Plan the project and schedule  - Manage Client interaction.  **Secondary**  **Responsibility**  - Provide evaluation of work products. | **Primary Responsibility**  - Assign work for each team member  **-** Create detail project plan  **Secondary Responsibility**  - Define organizational and operational implications | **Primary Responsibility**  - Record Project progress  **-** Track efforts of individual team members  **Secondary Responsibility**  - Refine organizational and operational implications. | **Primary Responsibility**  **-** Record Project progress  - Modify and improve project plan  -Develop the system | **Primary Responsibility**  - Manage Client interaction and deliver final project artifacts |
| **Name:** Phaneendra  Maryala  **Role:**  Life Cycle Planner / System Architect | **Primary Responsibility**  -Plan Lifecycle  **Secondary Responsibility**  - Work with prototype to design and model the system | **Primary Responsibility**  - Plan Lifecycle Assess Quality Management  - Create and follow action items.  - Setup the schedule for the project.  **Secondary Responsibility**  - Setup basic infrastructure | **Primary Responsibility**  - Plan Lifecycle  **Secondary Responsibility**  - Elaborate System Architecture. | <**responsibilities**> | **<responsibilities>** |
| **Name:**  Nishant Jani  **Role:** Prototyper / Requirement Engineer | **Primary Responsibility**  - Develop the initial prototype  **Secondary Responsibility**  - Search and collect the data to develop the system | **Primary Responsibility**  - Build the prototype  **Secondary Responsibility**  - Prioritize the requirements | **Primary Responsibility**  - Improve prototype based on client feedback  - Add features to existing system  **Secondary Responsibility**  - Assess project progress | <**responsibilities**> | <**responsibilities**> |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name:** Dinesh Yeduguru  **Role:** System Architect / Prototyper | **Primary Responsibility**  - Identify NDI’s  **Secondary Responsibility** - Co-work with | **Primary Responsibility**  Define technology independent architecture | **Primary Responsibility**  Define technology independent architecture | **Primary Responsibility**  Advise how to develop the system | <**responsibilities**> |
| **Name:** Sanath Bhandary  **Role:** Operational Concept Engineer / Requirement Engineer | **Primary Responsibility**  - Conceptualize the system **Secondary Responsibility** - Interact with the clients. | **Primary Responsibility** - Analyze the existing system  **Secondary Responsibility** - Develop operational concept | **Primary Responsibility**  Add Features to prototype.  **Secondary Responsibility** - Interact with client | <**responsibilities**> | <**responsibilities**> |
| **Name:** Rohit Kudva  **Role:** Feasibility Analyst / Project Manager | **Primary Responsibility**  - Assess Project Risk  - Plan Risk Mitigation technique  **Secondary Responsibility**  **-**Manage Client interaction | **Primary Responsibility**  - Provide Project Feasibility Evidence  - Assess NCS components  **Secondary Responsibility** - Modify project plans | **Primary Responsibility**  - Assess Project Progress  **Secondary Responsibility** -Modify and improve project plan | <**responsibilities**> | <**responsibilities**> |
| **Name:** Praneet Surana  **Role:** Requirement Engineer / Life Cycle Planner | **Primary Responsibility**  - Assess user requirements  - Search and collect data to develop the system  - Negotiate with the client to meet win-win condition  **Secondary Responsibility**  - Plan schedule for project. | **Primary Responsibility**  - Prioritize Requirements  - Define Operational Concept  - Define Project goals  **Secondary Responsibility**  - Create and follow action items. | **Primary Responsibility**  - Assess Project Progress  **Secondary Responsibility**  - Modify Lifecycle plan |  |  |
| **Name:** Bryan Bousman  **Role:** IIV&V / Tester | Verify and validate the work products | Verify and validate the work products | Verify and validate the work products | Verify and validate the work products | Verify and validate the work products |

#### Skills

Table : Development team member’s skills

|  |  |  |
| --- | --- | --- |
| **Team members** | **Role** | **Skills** |
| Srikant Madhava | Project Manager, Operational Concept Engineer | **Current Skills:**  + Interpersonal skills  + Client interaction  + Java/PHP programming experience.  **Required Skills:**  **+** Project planning  **+** COCOMO II  + Neon CRM  + Schedule management  + Project management tools like Mantis or JIRA |
| Sanath Bhandary | Operational Concept Engineer/ Requirement Engineer | **Current Skills: +**Communication and interpersonal skills  + Java/ PHP programming skill.  **Required skills:**  + System analysis skills  **+** COCOMO II  + Neon CRM  + UML Modelling |
| Rohit Kudva | Feasibility Analyst / Project Management | **Current skills:**  **+** Java/PHP/ JavaScript, HTML5 programming skill.  + Web Server management  **Required Skills:**  + UML Modeling  + System analysis  + Feasibility and risk analysis |
| Phaneendra Maryala | Life Cycle Planner/ Software Architect | **Current Skills:**  + PHP/ Java/ JavaScript programming.  **Required Skills**  + Life Cycle plan delivery  **+** Risk analysis and mitigation  + Quality Management  + UML Modeling |
| Praneet Surana | Requirement Engineer/ Life Cycle Planner | **Current skills:**  **+** Communication and interpersonal skills  + Client interaction  + HTML5 and CSS3 programming.  **Required Skills:**  + Familiarity with tools like WINBOOK and Bugzilla  + Feasibility analysis  + Requirement Negotiation. |
| Dinesh Yeduguru | Software Architect | **Current skills:**  **+** PHP, JavaScript programming experience.  + Experience with WordPress CMS  + Communication and interpersonal skills.  **Required skills:**  + Project Scoping  **+** Neon CRM  **+** REST/SOAP API  + UML Modeling |
| Nishant Jani | Prototyper/ Requirement Engineer | **Current skills:**  **+** PHP, JavaScript, HTML5, CSS3 programming experience.  + Experience with prototyping tools like pencil project, google drawing.  + Client interaction  **Required Skill:**  + WordPress CMS  + Neon CRM  **+** UML Modeling |
| Brian Bousman | IIV&V / Tester | **Current Skills:**  + Excellent communication  + Good project scoping  + Client Interaction  + Unit Testing and Quality Control  **Required Skills:**  + Familiarity with WinBook and Bugzilla  + Value based document review |

Approach

#### Monitoring and Control

We conduct short meetings and rely on Bugzilla apart from weekly team meetings for the project monitoring. The elements by which we are monitoring are Bi-weekly Progress Report, Weekly meeting with Clients (through Winbook, Emails, Phone calls and in-person meetings when required) Commitment Review, Biweekly Project plan and Effort Report for individual contribution. We plan internally through phone calls and emails between the team members. All these are updated regularly on Bugzilla.

##### Closed Loop Feedback Control

For the purpose of effective communication between the team members we employed four effective communication tools i.e Email, Skype, Telephonic conversations and Bugzilla. As for Email, it’s a asynchronous message exchange tool. As for Skype, it’s a real time audio / video conferencing. As for Bugzilla, it’s a bug tracking system which helps team members to keep informed with their duties in fixing bugs and shortly coming events.

##### Reviews

The reviews for the project are usually done in three steps, which are peer reviews whenever an issue or feature is completed, two or more team members review the code. Then IIV&V reviews for correctness and completeness. If he finds any defects or errors he would issue a ticket in Bugzilla to notify the team members for the responsible parts for correction of bugs. Then finally reviewed by teaching staff.

#### Methods, Tools and Facilities

Table : Tools to be used in the project

|  |  |  |
| --- | --- | --- |
| **Tools** | **Usage** | **Provider** |
| ICSM EPG | Better understanding of our roles as software engineers; help with documentation and other submissions | CSCI 577 |
| Google Drawing | Provides examples for user interface and system functionality, is helpful in the development of prototype | Google |
| Bugzilla | Track project progress | TA |
| Winbook | Keep track of the information resulting from negotiations with client, win conditions and issues raised | TA |
| Microsoft Office | Document editing, sheets, presentations etc. | Microsoft |
| Visual Paradigm | Capture UML and auto generate SSAD | Visual Paradigm International |
| COINCOMO | Estimate the software developing cost | USC CSSE |
| Effort Report | Record the total weekly working hours on the project | USC CSSE |
| MPP | Make the project planning | Microsoft |

#### 

### Resources

In this section, we present the project effort and schedule estimation of the project using COCOMO II.

Table : Module lists and SLOC of each module

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Module Name** | **Brief Description** | **SLOC** | **REVL** |
| 1 | Registration | Underlying structure for archive the documents on the website | 300 | 10% |
| 2 | Feedback | Visualize the event location and youth art community | 600 | 60% |
| 3 | On-site Checkin | Visualization of up-coming or past event highlights | 300 | 30% |
| 4 | Blogs | Showcase all the pictures from past events | 300 | 30% |
| 5 | Report Generation | Administration tool | 1k | 10% |

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

Table :COCOMOII Scale Drivers

|  |  |  |
| --- | --- | --- |
| **Scale Driver** | **Value** | **Rationale** |
| PREC | Low | This is not very similar to the projects that our team had developed before |
| FLEX | High | The client briefly defines how the system would be; however, they are open to discussions with the development team |
| RESL | High | The thoroughness of the architecture and its freedom from risk is quite high because of the reliability of the existing COTS products and measures taken to avoid the future risks |
| TEAM | High | All stakeholders are very collaborative and have strong commitments to achieve the goals of the project |
| PMAT | Low | The team follows just the basic practices of the incremental model |

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

Registration:

Table : COCOMOII cost drivers of Module-1 Registration

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Nom | This module is important, however in the vent of failure we can resort to manual measures for data entry |
| DATA | Low | This module is pretty much the database for the website, high data cost drive |
| DOCU | Nominal | Because the development process follows ICSM, the document for life-cycle needs is normal. |
| CPLX | Low | Involves basic transfer of data from online form to the neon database |
| RUSE | Low | It won’t be reused for future products |
| TIME | Nominal | This module is utilized only during the process of registration |
| STOR | High | It will take up about 70% of the storage place we have for the entire system |
| PVOL | Low | Stable platform, will stay the same with major changes just once a month |
| ACAP | High | Team members are capable of doing these implementation |
| PCAP | High | Programmers are capable, efficient and thorough. They are able to communicate and cooperate very well. |
| PCON | Very High | We have 7 team members in CSCI577a that is suitable for our project sizing. |
| APEX | Nominal | The average experience of the team members for this online web-based application is about one year. |
| LTEX | Nominal | Most of the tools are new to our team, but it should not be too hard to pick up |
| PLEX | Nominal | The platform is somewhat new to our team, but it is not too hard to pick up |
| TOOL | High | Use of strong, mature, moderately integrated tools |
| SITE | Extra High | Most teammate can meet at last twice a week |
| SCED | Nominal | The schedule is fixed for 12 weeks in Fall |

**b) Feedback**

Table : COCOMOII cost drivers of Module-2: Feedback

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Low | This module is only to collect feedback. One can resort to the originally used telephonic call method in the event of failure.  There are no major data losses |
| DATA | Low | This module needs a small chunk of data as a test data set |
| DOCU | Nominal | Because the development process follows ICSM, the document for life-cycle needs is normal. |
| CPLX | Low | Involves basic transfer of data from online form to the neon database |
| RUSE | Low | It is not going to be reused for future projects. |
| TIME | Nominal | This module is utilized seldom |
| STOR | Nominal | It will take up about 10% of the storage place we have for the website |
| PVOL | Low | Stable enough, since the reliability of the NeonCRM is high |
| ACAP | High | Team members are capable of doing these implementation |
| PCAP | High | Programmers are capable, efficient and thorough. They are able to communicate and cooperate very well. |
| PCON | Very High | We have 8 team members in CSCI577a that is suitable for our project sizing. |
| APEX | Nominal | The average experience of the team members for this online web-based application is about one year. |
| LTEX | Nominal | Some of the tools are new to our team, but it should not be too hard to pick up |
| PLEX | Nominal | The platform is somewhat new to our team, but it is not too hard to pick up |
| TOOL | High | Use of strong, mature, moderately integrated tools |
| SITE | Extra High | Most teammate can meet at last twice a week |
| SCED | Nominal | The schedule is fixed for 12 weeks in Fall |

**c) Onsite Checkin system:**

Table :COCOMOII tool cost drivers of Module-3: Onsite Checkin system

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | High | This module should be available during their entire office hours |
| DATA | Low | This module needs a small chunk of data as a test data set |
| DOCU | Low | Because the development process follows ICSM, the document for life-cycle needs is normal. |
| CPLX | Low | Involves transfer of data to the onsite database |
| RUSE | Low | It is not going to be reused for the future projects. |
| TIME | High | This module stays there all the time, execution time depends on the amount of website visitors |
| STOR | Nominal | It will take up less than 10% of the storage space |
| PVOL | Low | Stable platform, will stay the same |
| ACAP | High | Team members are capable of doing these implementation |
| PCAP | High | Programmers are capable, efficient and thorough. They are able to communicate and cooperate very well. |
| PCON | Very High | We have 8 team members in CSCI577a that is suitable for our project sizing. |
| APEX | Nominal | The average experience of the team members for this onsite application is about one year. |
| LTEX | High | Most of the tools are known to our team |
| PLEX | High | The platform is somewhat known to our team |
| TOOL | High | Use of strong, mature, moderately integrated tools |
| SITE | Extra High | Most teammate can meet at last twice a week |
| SCED | Nominal | The schedule is fixed for 12 weeks in Fall |

**d) Blogs:**

Table : COCOMOII tool cost drivers of Module-3: Blogs

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Low | This module doesn’t involve crucial data. Mail blasting can be used an alternative |
| DATA | Low | This module doesn’t need a heavy test data set |
| DOCU | Low | Because the development process follows ICSM, the document for life-cycle needs is normal. |
| CPLX | Low | We will be using existing plugins provided by Wordpress |
| RUSE | Nominal | It might be reused on their future website if they decide to modify it |
| TIME | High | This modules time consumption will depend on the influx of users and the time they spend on blogging. So on an average this process should consume not more than50% of the available time |
| STOR | Nominal | It will take up about 30% of the storage place we have for the website |
| PVOL | Low | Stable platform since we are using existing plugins |
| ACAP | High | Team members are capable of doing these implementation |
| PCAP | High | Programmers are capable, efficient and thorough. They are able to communicate and cooperate very well. |
| PCON | Very High | We have 8 team members in CSCI577a that is suitable for our project sizing. |
| APEX | Low | Experience with developing blogging applications is relatively low. |
| LTEX | Low | Most of the tools are new to our team, but it should not be too hard to pick up |
| PLEX | Low | The platform is somewhat new to our team, but it is not too hard to pick up |
| TOOL | High | Use of strong, mature, moderately integrated tools |
| SITE | Extra High | Most teammate can meet at last twice a week |
| SCED | Nominal | The schedule is fixed for 12 weeks in Fall |

**e) Report Generation:**

Table : COCOMOII tool cost drivers of Module-5 Report Generation

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | Nominal | This module is fairly important, Failure of this module will result time consuming process of report generation |
| DATA | Nominal | The test data is significant in size since we will be using statistics from past reports. |
| DOCU | Low | Because the development process follows ICSM, the document for life-cycle needs is normal. |
| CPLX | Low | Involves writing queries to the onsite database to generate reports |
| RUSE | Nominal | It is might be reused for the future projects. |
| TIME | Nominal | This module is utilize only for the purpose of generating monthly and annual reports |
| STOR | Nominal | The data is stored onto an online file management system |
| PVOL | Low | Sufficiently stable. |
| ACAP | High | Team members are capable of doing these implementation |
| PCAP | High | Programmers are capable, efficient and thorough. They are able to communicate and cooperate very well. |
| PCON | Very High | We have 8 team members in CSCI577a that is suitable for our project sizing. |
| APEX | Nominal | The average experience of the team members for this application is about one year. |
| LTEX | High | Most of the tools are known to our team |
| PLEX | Nominal | The platform is somewhat known to our team |
| TOOL | High | Use of strong, mature, moderately integrated tools |
| SITE | Extra High | Most teammate can meet at last twice a week |
| SCED | Nominal | The schedule is fixed for 12 weeks in Fall |

The following is the estimation result of effort and schedule from COINCOMOII based on Scale Drivers and Cost Drivers discussed above.

Figure COCOMO Estimation Result-1

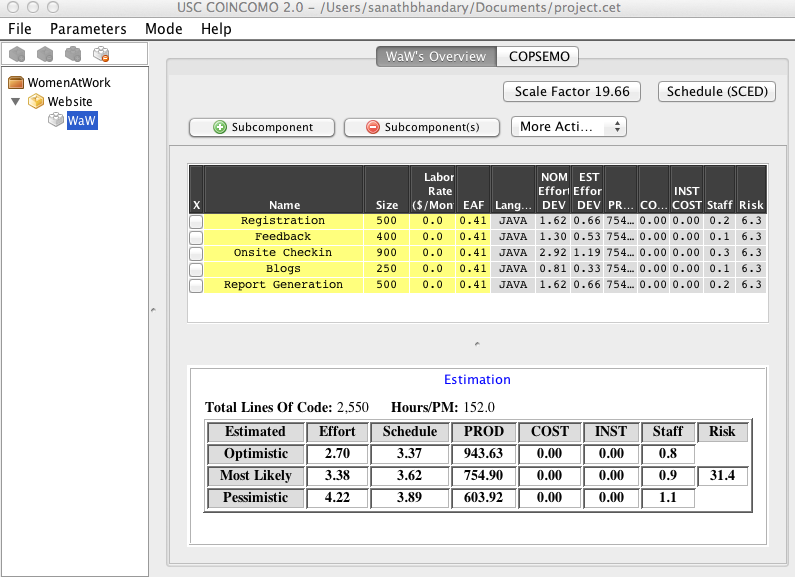


Figure : COCOMO Estimation Result- 2

