Life Cycle Plan (LCP)

The ShareWeb

Team No.5

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12/05/2016

Version History

Date	Author	Version	Changes made	Rationale
10/10/16	XW	1.0	Initial draft as project's Life Cycle Plan	Understand the purpose of the LCP and identify the responsibilities of each rolls and skills of development team
10/16/16	XW	1.1	Changed part 2.1, moved the schedule ahead	Edit the life cycle plan phase time and moved schedule ahead
11/16/16	XW	1.2	Changed part 3.1, edit some stakeholders' responsibilities and add more responsibilities about test	The original responsibilities did not specify the tasks for test, the edit version add more about test
11/22/16	XW	1.3	Update part 6, start make transaction plan	The product is almost finished, and some main test have been done, part of the transaction plan has been made
11/30/16	XW	1.4	Edit part 5 according to TA'S Feedback	The time estimation is not the same in part 5, changed it in order to maintain consistency
12/01/16	XW	1.5	Finish part 6 and all the test results	The project has finished and all the test results are available now, added those result in to transaction plan
12/05/16	XW	1.6	Changed part of transaction plan according to TRR/ARB	Changed part of procedure and schedule of the transaction plan

Table of Contents

Table of Tables

Table of Figures

1. Introduction

1.1 Purpose of the LCP

The purpose of LCP document is to show the objective of this project, set a basis for project and show the assumptions this project based on, to show the place where we do this project, to identify responsibilities and skills for each role, to record milestones at each phase, and to record the approaches that are used to achieve these goals.

1.2 Status of the LCP

In the initial draft phase, the version 1.0 set as the base version of the projects life cycle plan, in this version, team roles and responsibilities are defined, the timeline and milestone for this project are set, and the required skill for each team member are also proposed.

In version 1.1, Changed part 2.1, moved the schedule ahead Edit the life cycle plan phase time and moved schedule ahead.

In version 1.2, Changed part 3.1, edit some stakeholders' responsibilities and add more responsibilities about test, the original responsibilities did not specify the tasks for test, the edit version add more about test.

In version 1.3, Update part 6, start make transaction plan, the product is almost finished, and some main test have been done, part of the transaction plan has been made.

In version 1.4, Edit part 5 according to TA'S FeedbackThe time estimation is not the same in part 5, changed it in order to maintain consistency.

The current status of LCP is at Foundation Commitment Package version 1.5 and for TRR ARB. In this version, part 6 has been finished, the project has also finished and all the test results are available now, added those result in to transaction plan.

1.3 Assumptions

- The duration of the project is 12 weeks, which are all in fall 2016.
- The team have 6 on-campus students, one off-campus student and one client.
- All the success-critical stakeholders, team members and clients understand their responsibilities clearly.
- Instructional Incremental Commitment Spiral Model – Software Electronic Progress Guide is being used as the guideline for the project.
- The client will not change the system requirements without discussing.

2. Milestones and Products

2.1 Overall Strategy

Our team will adopt the Architected Agile pattern and partial NDI/NCS to develop The Share Web project, we choose this strategy because we are building the whole website from scratch, but we also need the API provided by ShareApp as NDI to retrieve the data we need to display at our website and NCS as services to host our website.

Life cycle plan:

Exploration Phase

Duration: 09/07/2016 – 09/17/2016

Concept: In this phase, the team specifies the initial scope of the project, identifies operational concepts, necessary skills/responsibilities and sets the objectives.

Deliverables: Client Interaction Report, Risk and Defect Report, Project Plan, Progress Report

Milestone: Valuation Commitment Review

Strategy: One Incremental Commitment Cycle, Risk assessment analysis

Valuation Phase

Duration: 09/19/2016 – 09/30/2016

Concept: During the Valuation phase, firstly the success-critical stakeholders have win-win negotiation sessions to evaluate risks, gather requirements, set up mitigation plans, prioritize requirements and define the proposed system by mutual understanding. Then the development team continue revise and complete operational concept, deciding the process pattern the team should follow, and pick the high risk items to prototype.

Deliverables: Win Conditions Report, Risk and Defect Report, Project Plan, Progress Report, Foundation Commitment Package, Top Risk Prototype

Milestone: Foundation Commitment Review

Strategy: One Incremental Commitment Cycle, Risk assessment analysis

Foundation Phase

Duration: 10/01/2016 – 10/14/2016

Concept: Continue risk assessment process, regular meetings are to be taken every week, regular progress reports to be submitted every Wednesday, project plans are to be prepared and released, team follows the system requirements and commitments to develop the prototype that satisfying priority functions of system, and also sharing implementation jobs within development team members.

Deliverables: Risk and Defect Report, Project Plan, Progress Report, Development Commitment Package

Milestone: Development Commitment Review

Strategy: One Incremental Commitment Cycle, Risk assessment analysis

Re-Baselined Foundations Phase

Duration: 10/15/2016 – 10/19/2016

Concept: Confirm project status and team member skills, rebaseline development plan, continue sharing implementation jobs within development team members and prepare for development phase.

Deliverables: Risk and Defect Report, Project Plan, Progress Report, Technical Debt Report, QFP Technical Debt Report, Rebaselined development commitment package

Milestone: Re-Baselined Development Commitment Review

Strategy: One Incremental Commitment Cycle, Risk assessment analysis

Development Phase – Construction Iteration

Duration: 10/16/2016 – 11/30/2016

Concept: Buildup the project, implement the website design and all other functions of the project, continue risk assessment process, regular meetings are to be taken every week, regular progress reports to be submitted every Wednesday.

Deliverables: Risk and Defect Report, Project Plan, Progress Report, Technical Debt Report, QFP Technical Debt Report, Core Capability Drive-Through Report, Transition Readiness Review Package

Milestone: Core Capability Drive-Through, Transition Readiness Review

Strategy: N Incremental Commitment Cycles, Implementation Iterations, Risk assessment analysis

Development Phase – Transition Iteration

Duration: 12/01/2016 – 12/09/2016

Concept: Future development of project, transition of the project, train other people to maintain the system if needed.

Deliverables: Risk and Defect Report, Project Plan, Progress Report, Technical Debt Report, QFP Technical Debt Report, Transition package, Operation Commitment Package, Project Archive

Milestone: Operation Commitment Review

Strategy: One Incremental Commitment Cycles, Risk assessment analysis

2.2 Project Deliverables

2.2.1 Exploration Phase

Table 1: Artifacts Deliverables in Exploration Phase

Artifact	Due date	Format	Medium
Team Website	09/14/2016	Website	Team Website
Client Interaction Report	09/16/2016	.pdf	Team Website
Jira	Weekly Monday	Website	Jira Website
Risk and Defect Report	Bi-weekly Wednesday	.xlsx	Team Website
Project Plan	Bi-weekly Wednesday	.mpp	Team Website
Progress Report	Bi-weekly Wednesday	.xlsx	Team Website

2.2.2 Valuation Phase

Table 2: Artifact deliverable in Valuation Phase

Artifact	Due date	Format	Medium
Win Conditions Report	09/26/2016	.pdf	Team Website
Top Risk Prototype Presentation Slides	09/30/2016	.pptx	Team Website
Draft Foundations Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	10/14/2016	.doc, .pdf	Team Website
Foundations Commitment Review Presentation	10/14/2016	.pptx	Team Website
Foundations Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	10/17/2016	.doc, .pdf	Team Website
Jira	Weekly Monday	Website	Jira Website
Risk and Defect Report	Bi-weekly Wednesday	.xlsx	Team Website
Project Plan	Bi-weekly Wednesday	.mpp	Team Website
Progress Report	Bi-weekly Wednesday	.xlsx	Team Website

2.2.3 Foundations Phase

Table 3: Artifact deliverable in Foundations Phase

Artifact	Due date	Format	Medium
Draft Development Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	10/14/2016	.doc, .pdf	Team Website
Development Commitment Review	10/14/2016	.pptx	Team Website
Development Commitment Package	10/17/2016	.doc, .pdf	Team Website

• Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)			
Jira	Weekly Monday	Website	Jira Website
Risk and Defect Report	Bi-weekly Wednesday	.xlsx	Team Website
Project Plan	Bi-weekly Wednesday	.mpp	Team Website
Progress Report	Bi-weekly Wednesday	.xlsx	Team Website
Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website
QFP Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website

2.2.4 Rebaselined Foundation Phase

Table 4: Artifact deliverable in Rebaselined Foundations Phase

Artifact	Due date	Format	Medium
Draft Rebaselined Development Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	10/17/2016	.doc, .pdf	Team Website
Rebaselined Development Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	10/19/2016	.doc, .pdf	Team Website
Jira	Weekly Monday	Website	Jira Website
Risk and Defect Report	Bi-weekly Wednesday	.xlsx	Team Website
Project Plan	Bi-weekly Wednesday	.mpp	Team Website
Progress Report	Bi-weekly Wednesday	.xlsx	Team Website

Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website
QFP Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website

2.2.5 Development(Construction) Phase

Table 5: Artifact deliverable in Development Phase - Construction

Artifact	Due date	Format	Medium
Draft Development - Transition Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	11/14/2016	.doc, .pdf	Team Website
Development - Transition Commitment Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	11/16/2016	.doc, .pdf	Team Website
Core Capability Drive-Through Report	11/16/2016	.pdf	Team Website
Jira	Weekly Monday	Website	Jira Website
Risk and Defect Report	Bi-weekly Wednesday	.xlsx	Team Website
Project Plan	Bi-weekly Wednesday	.mpp	Team Website
Progress Report	Bi-weekly Wednesday	.xlsx	Team Website
Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website
QFP Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website

2.2.6 Development(Transition) Phase

Table 6: Artifact deliverable in Development Phase - Transition

Artifact	Due date	Format	Medium
Draft Transition Readiness Review Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP)	12/05/2016	.doc, .pdf	Team Website

• Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)			
Operation Commitment Review	12/05/2016	.pptx	Team Website
Transition Readiness Review Package • Operational Concept Description (OCD) • Life Cycle Plan (LCP) • Feasibility Evidence Description (FED) • Prototype (PRO) • System and Software Architecture Description (SSAD)	12/07/2016	.doc, .pdf	Team Website
Project Archive	12/07/2016	.pdf	Team Website
Jira	Weekly Monday	Website	Jira Website
Risk and Defect Report	Bi-weekly Wednesday	.xlsx	Team Website
Project Plan	Bi-weekly Wednesday	.mpp	Team Website
Progress Report	Bi-weekly Wednesday	.xlsx	Team Website
Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website
QFP Technical Debt Report	Bi-weekly Friday	.xlsx	Team Website

3. Responsibilities

3.1 Project-specific stakeholder's responsibilities

There are no specific stakeholders for our project, other than the ones identified in ICSM EPG. Which are client, user, maintainer, developer and IIV&V.

3.2 Responsibilities by Phase

Table 7: Stakeholder's Responsibilities in each phase

Team Member / Role	Primary / Secondary Responsibility				
	Exploration	**Valuation**	**Foundations**	**Development-** Construction Iteration	**Development-** Transition Iteration
Name: Xuan Wang **Roles:** Project Manager Life Cycle Planner	**Primary Responsibility** (1) Manage team and delegate tasks to team members (2) Record Project Progress (3) Lead teams Communicate with clients **Secondary Responsibility** (1) Analyze implementation Difficulty	**Primary Responsibility** (1) Plan the Project (2) Manage team and delegate tasks to team members (3) Record Project Progress **Secondary Responsibility** (1) Estimate project effort and schedule (2) Identify milestones and products	**Primary Responsibility** (1) Plan the Project (2) Manage team and delegate tasks to team members (3) Record Project Progress **Secondary Responsibility** (1) Estimate project effort and schedule (2) Identify milestones and products	**Primary Responsibility** (1) Record Project Progress (2) Develop the project (3) Manage team and delegate tasks to team members **Secondary Responsibility** (1) Core capability drive-through (2) Identify Development Iteration	**Primary Responsibility** (1) Record Project Progress (2) Develop the project (3) Manage team and delegate tasks to team members **Secondary Responsibility** (1) Develop Transition Plan
Name: LiangHao Gao **Roles:** Requirements Engineer	**Primary Responsibility** (1) develop requirements definition (2) Capture progress of win-win negotiation **Secondary Responsibility** (1) Analyze the Proposed System	**Primary Responsibility** (1) Assess requirements definition (2) Define win-win conditions **Secondary Responsibility** (1) Identify shared vision (2) Identify objectives,	**Primary Responsibility** (1) Assess requirements definition (2) Define win-win conditions **Secondary Responsibility** (1) Identify shared vision (2) Identify objectives,	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support

		constraints and priorities	constraints and priorities		
Name: Xi Chen **Roles:** System Architect	**Primary Responsibility** (1) Specify architecture styles, patterns and frameworks (2) Explore the current system **Secondary Responsibility** (1) Analyze the Proposed System	**Primary Responsibility** (1) Analyze NDI interoperability (2) Define technology-(in)dependent architecture **Secondary Responsibility** (1) Provide Feasibility Evidence for project	**Primary Responsibility** (1) Analyze NDI interoperability (2) Define technology-(in)dependent architecture **Secondary Responsibility** (1) Provide Feasibility Evidence for project	**Primary Responsibility** (1) Assess and evaluate NDI candidates (2) Develop the project **Secondary Responsibility** (1) Architecture Implementing	**Primary Responsibility** (1) Assess and evaluate NDI candidates (2) Develop the project **Secondary Responsibility** (1) Architecture Implementing
Name: Yuxuan Li **Roles:** Prototyper	**Primary Responsibility** (1) Analyze current system (2) Specify architecture styles, patterns and frameworks **Secondary Responsibility** (1) Analyze and prioritize capabilities to prototype	**Primary Responsibility** (1) Analyze current system (2) Identify Objectives, Constraints and Priorities **Secondary Responsibility** (1) Analyze and prioritize capabilities to prototype	**Primary Responsibility** (1) Prototyping (2) Identify Objectives, Constraints and Priorities **Secondary Responsibility** (1) Analyze and prioritize capabilities to prototype	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support
Name: Zhangbiaoge Tian **Roles:** Operational Concept Engineer	**Primary Responsibility** (1) Explore the current system (2) Specify architecture styles, patterns and frameworks **Secondary Responsibility** (1) Identify objectives, constraints and priorities	**Primary Responsibility** (1) Provide New operational concept of proposed system (2) Explore and Define NDI/NCS **Secondary Responsibility** (1) Identify objectives, constraints and priorities	**Primary Responsibility** (1) Provide New operational concept of proposed system (2) Explore and Define NDI/NCS **Secondary Responsibility** (1) Identify objectives, constraints and priorities	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support
Name: Chuhan Zheng **Roles:** Feasibility Analyst	**Primary Responsibility** (1) Explore the proposed system (2) Analyze implementation difficulty **Secondary**	**Primary Responsibility** (1) Acquire NDI or NCS components (2) Assess and Plan to Mitigate Risks	**Primary Responsibility** (1) Acquire NDI or NCS components (2) Assess and Plan to Mitigate Risks	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support	**Primary Responsibility** (1) Develop the project **Secondary Responsibility** (1) Team Support

	Responsibility (1) Analyze the current System	**Secondary Responsibility** (1) Explore Alternatives (2) Identify the most appropriate process	**Secondary Responsibility** (1) Explore Alternatives (2) Provide Feasibility Evidence for project		
Name: Sahar Pourmohammadhosseini **Roles:** IIV&V Quality Focal Point	**Primary Responsibility** (1) Explore the proposed system (2) Identify Quality Management Strategy **Secondary Responsibility** (1) Analyze the current System	**Primary Responsibility** (1) Verify and Validate Work Products (2) Assess Quality Management Strategy (3) Construct Traceability Matrix	**Primary Responsibility** (1) Verify and Validate Work Products (2) Assess Quality Management Strategy (3) Construct Traceability Matrix	**Primary Responsibility** (1) Verify and Validate Work Products (2) Construct Traceability Matrix **Secondary Responsibility** (1) Team Support	**Primary Responsibility** (1) Verify and Validate Work Products (2) Construct Traceability Matrix **Secondary Responsibility** (1) Team Support
Name: Rigo Garcia **Roles:** Client	**Primary Responsibility** (1) Analyze the current System **Secondary Responsibility** (1) Explore the proposed system	**Primary Responsibility** (1) Identify shared vision (2) Identify organizational and operational transformation	**Primary Responsibility** (1) Identify shared vision (2) Identify organizational and operational transformation	**Primary Responsibility** (1) Assess Development Iteration (2) Perform Core Capabilities Drive-Through	**Primary Responsibility** (1) Verify and Validate Work Products **Secondary Responsibility** (1) Develop Transition Plan
Name: Maintainer **Roles:** Maintainer				**Primary Responsibility** (1) Assess Development Iteration (2) Perform Core Capabilities Drive-Through	**Primary Responsibility** (1) Perform System transition

3.3 Skills

Team members	Role	Skills
Xuan Wang	Project Manager Life Cycle Planner	Current skills: • Project Planning skill • HTML, CSS, Java, MySQL • Ability to organize and integrate resources • Client communicating and negotiation skill

		• Microsoft Project using skill • WinBook using skill • Team corporation ability <u>Required skills:</u> • Project management skill • Presentation skill • COCOMO II/COINCOMO tool using skill • AngularJS and Bootstrap programming skill • AWS on UNIX using skill
LiangHao Gao	Requirements Engineer	<u>Current skills:</u> • WinBook using skill • Team corporation ability • HTML, CSS, Java, MySQL <u>Required skills:</u> • Presentation skill • AngularJS and Bootstrap programming skill • AWS on UNIX using skill
Xi Chen	System Architect	<u>Current skills:</u> • WinBook using skill • Team corporation ability • HTML, CSS, Java, MySQL • OO UML design skill <u>Required skills:</u> • Presentation skill • AngularJS and Bootstrap programming skill • AWS on UNIX using skill
Yuxuan Li	Prototyper	<u>Current skills:</u> • WinBook using skill • Team corporation ability • HTML, CSS, Java, MySQL • Visual Paradigm skill <u>Required skills:</u> • Presentation skill • AngularJS and Bootstrap programming skill • AWS on UNIX using skill
Zhangbiaoge Tian	Operational Concept Engineer	<u>Current skills:</u> • WinBook using skill • Team corporation ability • HTML, CSS, Java, MySQL • OO UML design skill <u>Required skills:</u> • Presentation skill • AngularJS and Bootstrap

		programming skill • AWS on UNIX using skill
Chuhan Zheng	Feasibility Analyst	Current skills: • WinBook using skill • Team corporation ability • Risk analysis skill • HTML, CSS, Java, MySQL Required skills: • Presentation skill • AngularJS and Bootstrap programming skill • AWS on UNIX using skill
Sahar Pourmohammadhosseini	IIV&V Quality Focal Point	Current skills: • WinBook using skill • Team corporation ability Required skills: • Presentation skill • Bugzilla using skill

4. Approach

4.1 Monitoring and Control

Our team will be utilizing various tools and documentation to assist in the monitoring and control of the project. The key items are listed below and described in the following sections

- Progress Reports – Bi-Weekly submissions about sum of the team members' efforts on the project.
- Risk and Defect Report – Bi-Weekly submissions about the risk and the migrating plan of the project.
- Project plan– Bi-Weekly submissions about future detailed plan of the project regarding each team members' responsibilities.
- WinBook – Prioritizing requirements and win conditions to reflect the changes in requirements and win conditions.

4.1.1 Closed Loop Feedback Control

Email was used to communicate between team members and used to record major decisions, and we also have a WeChat group for our team in order to communicate any other things instantly.

Every week, at least one meeting is performed within project team members.

4.1.2 Reviews

We are using four types of review to control our project:

- Group assessment
- IIV & V evaluations
- TA & Professor feedback
- ARB

4.2 Methods, Tools and Facilities

Tools	Usage	Provider
MS Project 2013	Project Plan, Life Cycle Plan	MS, USC
MS Word	Used for documenting artifacts	MS, USC
GitHub	Used for store the project code	GitHub
AWS	Used to host our project Website	Amazon
Winbook	Used for stating stakeholder requirements, win-win negotiations and prioritizing the requirements.	USC
MS Excel	Used for recoding project risk and defect	MS, USC
Bugzilla	Used for defect/bug reporting to team members and it serves as a guideline for bug resolving.	USC
WeChat	Used for communication within team	Tencent
COINCOMO 2.0	Tool that uses the COCOMO II estimation model for software projects	USC
Project Website	Used to store project document	USC

5. Resources

Identify the following information in order to estimate the software cost:

- Estimated CSCI577a Effort: 7 team members at 18 hrs/week for 12 weeks
- Total estimated effort: 18 hrs/week * 7 members * 12 weeks = 1512 total hours
- Budget information: No budget
- Project duration: 12 weeks
- Component modules in your development project: picture module, event module, user module
- Programming language used: HTML, CSS, JavaScript

Table 8: COINCOMO 2.0 Scale Driver

Scale Driver	Value	Rationale
PREC	NOM	Develop the front-end of a website is kind of new to all of tram members, however, we all learnt something from HW2 and some of us are taking wed related class
FLEX	HI	Our project is for an APP, the functions of that APP have already confirmed so the requirement of the website is also having general conformity.
RESL	HI	We tracked various risks that we might encounter, And most of them can be mitigated by risk transfer and prototyping
TEAM	Very HI	Our team members can communicate very well, and also highly cooperative and have a good understanding of the project.
PMAT	NOM	team members have some understanding of CMM Maturity but has no expertise. CMM can reach level 2

Figure 1: COINCOMO 2.0 Scale Driver

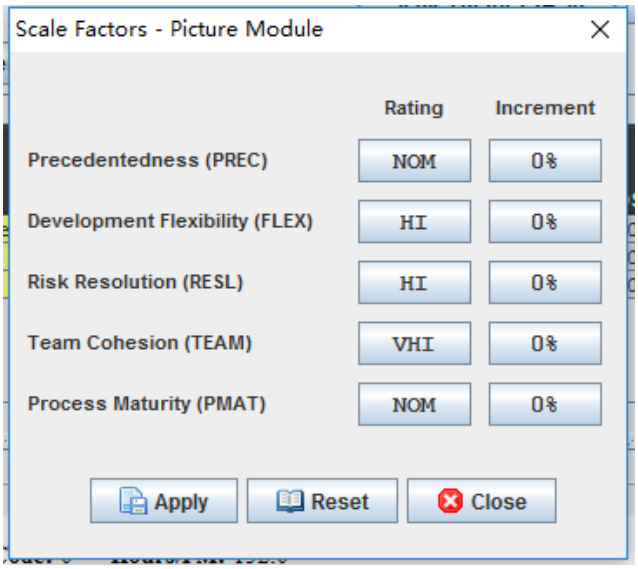


Table 9: COINCOMO 2.0 Cost Driver – Picture Module

Cost Driver	Value	Rationale
RELY	NOM	Reliability is important, once this module failed, the picture our user upload might disappear, but most time won't cause severe consequence.
DATA	HI	Our project relies highly on the pictures, so we have to consider different types and sizes of pictures, Therefore the ratio of "Testing DB bytes/Program SLOC" will be hi
DOCU	NOM	Documentation will be developed for each phase of development, but nothing special to handle
CPLX	NOM	Our team can use the API provided by the Share APP, and our main focus is on the front end of the website, so the complexity is normal
RUSE	LO	This module is developed specifically for Share Web, so reusability will be low
TIME	NOM	Uploading and downloading pictures should be done in a timely manner. However, large files may take more time.
STOR	NOM	It will take a lot of storage on the server side to store all the pictures, but user have the freedom to choose how many pictures to download to their PC.
PVOL	LO	Keep user feel familiar with our website is important, so

		there will be no frequent big change to our website.
ACAP	NOM	Our team members have some analyst capability, but not all of us are good at it.
APEX	HI	Using a website is familiar among team members
PCAP	NOM	Although none of us programmed front end of a website before, but we have solid programming skills.
PLEX	NOM	Some team members are familiar with the platform but others have little knowledge of the platform used in our project
LTEX	NOM	No all members of the team have experience of HTML or JS languages.
PCON	Very HI	Since our project are expecting to finish within one semester, so no turnover is expected.
TOOL	NOM	All project members are familiar with some of the tools used in the project and trained for the new tools during the course, but not all of us are familiar with new tools
SITE	HI	Most of the team members are lived near USC. The clients are live a little far from USC and there is a remote team member. However, the team communicates with client through emails. Also, the team has face to face meeting with client at school.

Figure 2: COINCOMO 2.0 Cost Driver – Picture Module

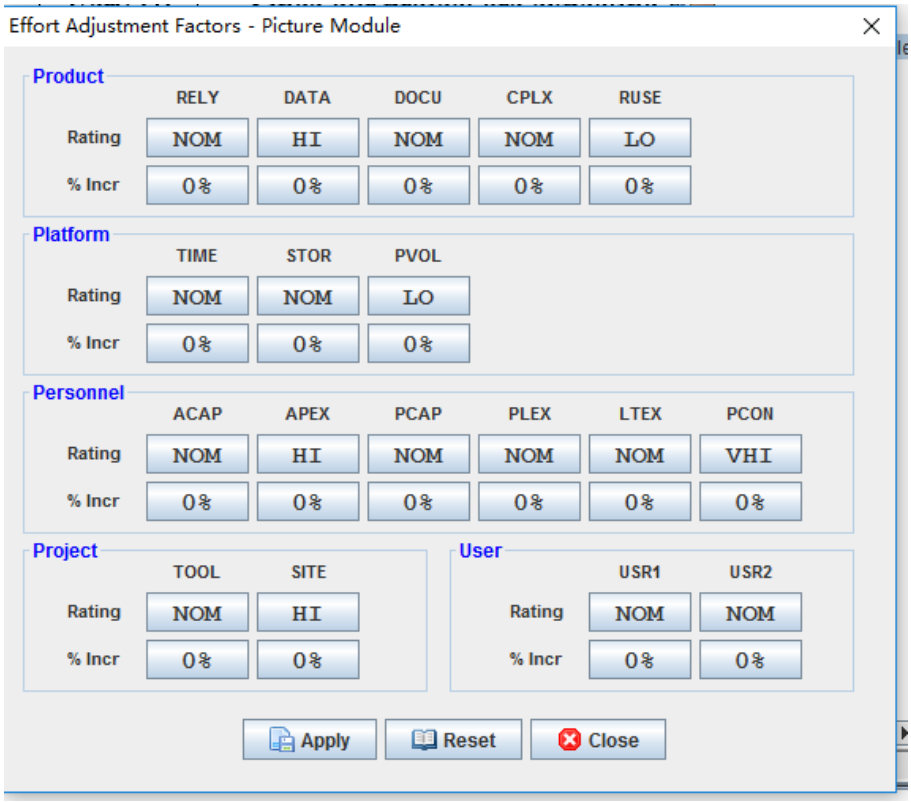


Table 10: COINCOMO 2.0 Cost Driver – Event Module

Cost Driver	Value	Rationale
RELY	NOM	Reliability is important, once this module failed, our user might have trouble to search picture by event, but most time won't cause severe consequence.
DATA	HI	Our project relies highly on the pictures, and some event might have more pictures or more high resolution pictures, Therefore the ratio of "Testing DB bytes/Program SLOC" will be hi
DOCU	NOM	Documentation will be developed for each phase of development, but nothing special to handle
CPLX	NOM	Our team can use the API provided by the Share APP, and our main focus is on the front end of the website, so the complexity is normal
RUSE	LO	This module is developed specifically for Share Web, so reusability will be low
TIME	NOM	This module is used to manage picture module, so it is not necessary to be constrained
STOR	NOM	This module is used to manage picture module; this

		module does not need extra storage.
PVOL	LO	Keep user feel familiar with our website is important, so there will be no frequent big change to our website.
ACAP	NOM	Our team members have some analyst capability, but not all of us are good at it.
APEX	HI	Using a website is familiar among team members
PCAP	NOM	Although none of us programmed front end of a website before, but we have solid programming skills.
PLEX	NOM	Some team members are familiar with the platform but others have little knowledge of the platform used in our project
LTEX	NOM	No all members of the team have experience of HTML or JS languages.
PCON	Very HI	Since our project are expecting to finish within one semester, so no turnover is expected.
TOOL	NOM	All project members are familiar with some of the tools used in the project and trained for the new tools during the course, but not all of us are familiar with new tools
SITE	HI	Most of the team members are lived near USC. The clients are live a little far from USC and there is a remote team member. However, the team communicates with client through emails. Also, the team has face to face meeting with client at school.

Figure 3: COINCOMO 2.0 Cost Driver – Event Module

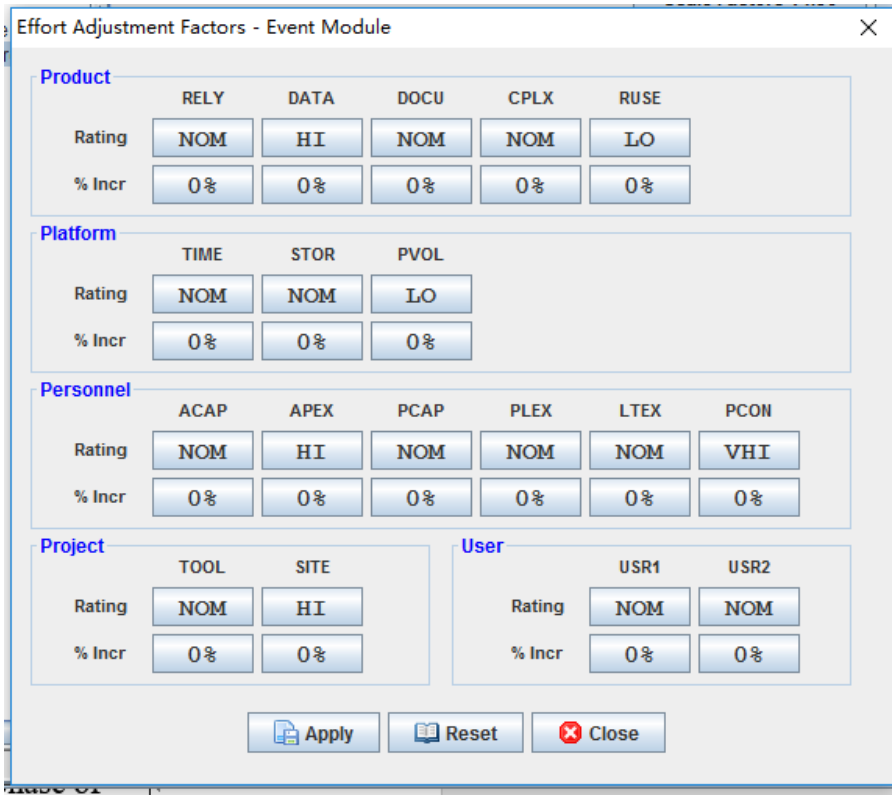


Table 11: COINCOMO 2.0 Cost Driver – User Module

Cost Driver	Value	Rationale
RELY	NOM	Reliability is important, once this module failed, our user might can't log in to our system, but most time won't cause severe consequence.
DATA	NOM	Compared with pictures, user importation is easier to store, and the type of user information need to store is also less than pictures.
DOCU	NOM	Documentation will be developed for each phase of development, but nothing special to handle
CPLX	NOM	Our team can use the API provided by the Share APP, and our main focus is on the front end of the website, so the complexity is normal
RUSE	HI	User module is common and can be used across many same project.
TIME	NOM	It will be nice to let user log in more rapidly but it is not necessary to be constrained.
STOR	NOM	User information are stored on the server side, and it does not need many storages.
PVOL	LO	Keep user feel familiar with our website is important, so there will be no frequent big change to our website.

ACAP	NOM	Our team members have some analyst capability, but not all of us are good at it.
APEX	HI	Using a website is familiar among team members
PCAP	NOM	Although none of us programmed front end of a website before, but we have solid programming skills.
PLEX	NOM	Some team members are familiar with the platform but others have little knowledge of the platform used in our project
LTEX	NOM	No all members of the team have experience of HTML or JS languages.
PCON	Very HI	Since our project are expecting to finish within one semester, so no turnover is expected.
TOOL	NOM	All project members are familiar with some of the tools used in the project and trained for the new tools during the course, but not all of us are familiar with new tools
SITE	HI	Most of the team members are lived near USC. The clients are live a little far from USC and there is a remote team member. However, the team communicates with client through emails. Also, the team has face to face meeting with client at school.

Figure 4: COINCOMO 2.0 Cost Driver – User Module

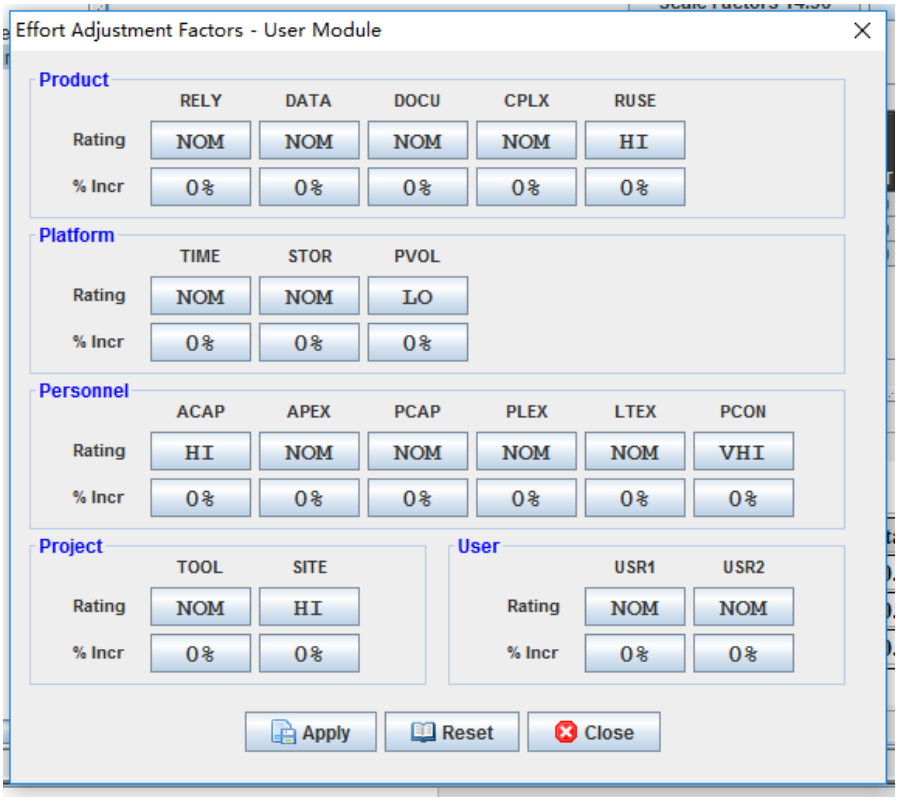
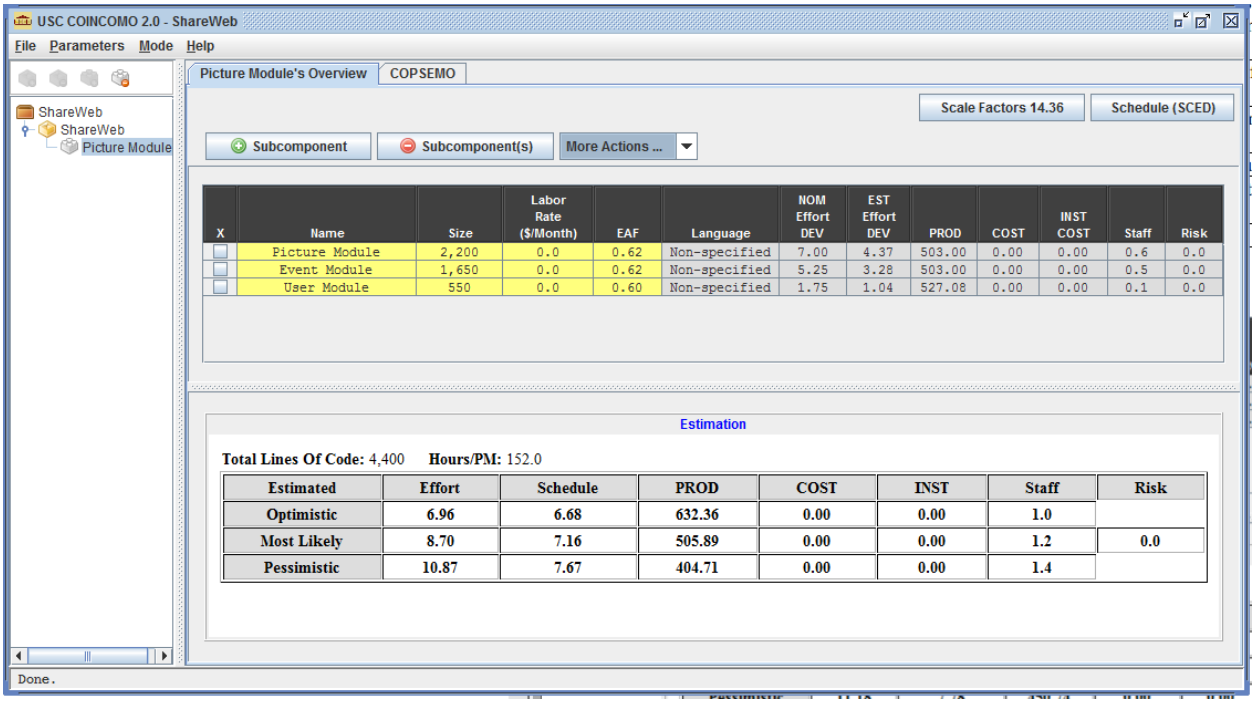


Figure 5: COINCOMO 2.0 Analysis Result



Analysis Result:

Number of SLOC: 4400

Effort need (Optimistic): 6.96 person-month

Effort need (Most Likely): 8.70 person-month

Effort need (Pessimistic):10.87 person-month

Total time spend by team members: 18 hrs/week * 12 weeks * 7 members = 1512 hrs

Time needed:

Since each person will spend about 152 work hours per person month, so the time need for our project is:

6.96 * 152 = 1057.92 hrs (Optimistic)

8.7 * 152 = 1322.4 hrs (Most Likely)

10.87 * 152 = 1652.24 hrs (Pessimistic)

Result:

For our project, the person month we have is between the most likely and the pessimistic person month we need, so we can finish out project on time.

6. Iteration Plan

6.1 Plan

There are 3 iterations in the Development phase for our project.

- Construction iteration 1: 10/10/2016 - 11/16/2016
- Construction iteration 2: 11/16/2016 - 11/30/2016
- Transition iteration: 12/01/2016-12/09/2016

In the first construction iteration, the capabilities follow the priority orders to implement, which are “must have” requirements, including searching, log in/out, upload, download, comment, like, etc. At the end of this iteration our team will show the system to the client and collect the feedbacks to advance the system.

In the second construction iteration, our team will implement the “should” and “could have” capabilities, including sort and most of the CSS and website design.

The transition iteration is preparing our system to transit and test onto client’s server. In addition, plan to transact the website to the maintainer.

6.1.1 Capabilities to be implemented

Table 12: Construction iteration capabilities to be implemented

ID	Capability	Description	Priority	Iteration
1	OC-1	**Login:** user can login using Email address.	Must Have	First iteration
2	OC-2	**Logout:** user can logout the system.	Must Have	First iteration
3	OC-3	**Login with Facebook:** user can login with their Facebook account	Must Have	First iteration
4	OC-4	**Create event:** user can create an event, both public and private	Must Have	First iteration
5	OC-5	**Search event:** user can search an event by event name	Must Have	First iteration
6	OC-6	**Delete event:** user can delete the event the user creates	Must Have	First iteration
7	OC-7	**Sort by time:** user can sort pictures based on the upload time	Must Have	Second iteration
8	OC-8	**Sort by popularity:** user can sort	Must Have	Second

		pictures based on the popularity		iteration
9	OC-9	**Download:** user can download one or multiple pictures	Must Have	First iteration
10	OC-10	**Upload:** user can upload one or multiple pictures	Must Have	First iteration
11	OC-11	**Delete picture:** user can delete the picture the user uploaded	Must Have	First iteration
12	OC-12	**Report picture:** user can report a picture	Should Have	First iteration
13	OC-13	**Like picture:** user can like a picture	Should Have	First iteration
14	OC-14	**Comment:** user can comment a picture	Should Have	Second iteration
15	OC-15	**Delete Comment:** user can delete the comment the user made	Potentially Have	Second iteration
16	OC-16	**Change view type:** user can change the view types of picture while browser pictures	Potentially Have	Second iteration
17	OC-17	**Extend event:** user can extend an event with extra charge	Potentially Have	Second iteration

6.1.2 Capabilities to be tested

Table 13: Construction iteration capabilities to be tested

ID	Capability	Description	Priority	Iteration
1	OC-1	**Login:** user can login using Email address.	Must Have	First iteration
2	OC-2	**Logout:** user can logout the system.	Must Have	First iteration
3	OC-3	**Login with Facebook:** user can login with their Facebook account	Must Have	First iteration
4	OC-4	**Create event:** user can create an event, both public and private	Must Have	First iteration
5	OC-5	**Search event:** user can search an event by event name	Must Have	First iteration
6	OC-6	**Delete event:** user can delete the event the user creates	Must Have	First iteration
9	OC-9	**Download:** user can download one or multiple pictures	Must Have	First iteration
10	OC-10	**Upload:** user can upload one or multiple pictures	Must Have	First iteration
11	OC-11	**Delete picture:** user can delete the picture the user uploaded	Must Have	First iteration
12	OC-12	**Report picture:** user can report a picture	Should Have	First

				iteration
13	OC-13	**Like picture:** user can like a picture	Should Have	First iteration
14	OC-14	**Comment:** user can comment a picture	Should Have	Second iteration
15	OC-15	**Delete Comment:** user can delete the comment the user made	Potentially Have	Second iteration

6.1.3 Capabilities not to be tested

During construct iteration, after negotiate with client, the original requirements of change the picture view type and extend event are moved from requirements, so those two function will not be implement and test, and also because we don't have enough to implement the sort function, so those functions are not tested.

Table 14: Construction iteration capabilities not to be tested

ID	Capability	Description	Priority	Iteration
7	OC-7	**Sort by time:** user can sort pictures based on the upload time	Must Have	Second iteration
8	OC-8	**Sort by popularity:** user can sort pictures based on the popularity	Must Have	Second iteration
16	OC-16	**Change view type:** user can change the view types of picture while browser pictures	Potentially Have	Second iteration
17	OC-17	**Extend event:** user can extend an event with extra charge	Potentially Have	Second iteration

6.1.4 CCD Preparation Plans

For the Core Capability Drive-through, following stakeholders will be involved:

- Client: Rigo
- Development Team Members (Team 05)
- TA

During the CCD cession, the client will have hands-on the project we developed so far, and actually use it to test the functions we already finished, at the same time, the client and TA will give us important instructions on what we should do next and what they think of our product so far. There will be a briefing to inform the client about the recent iterations and general view which was already discussed during the client meetings.

Before the meeting, the develop team should prepare the following things:

- Make sure every capability been implemented are work fine.
- Do a dry run and improve time control skill.
- Make sure client know how to use our website.

6.2 Iteration Assessment

6.2.1 Capabilities Implemented, Tested, and Results

Table 15: Capabilities implemented, tested, and results

ID	Capability	Test Case	Test Results	If fail, why?
1	Login with username and password	TC-01-01	PASS	
2	User is unable to login with wrong username	TC-01-02	PASS	
3	User is unable to login with wrong password	TC-01-03	PASS	
4	Login failed without internet connection or Share server is down	TC-01-04	PASS	
5	User can’t login without filling both username and password fields	TC-01-05	PASS	
6	User can Log out	TC-02-01	PASS	
7	Browse My Photos	TC-03-01	PASS	
8	Browse My Events	TC-03-02	PASS	
9	Create private event	TC-04-01	PASS	
10	Create wrong private event	TC-04-02	PASS	
11	Create public event	TC-04-03	PASS	
12	Delete Event	TC-04-04	PASS	

13	Check searching for public event	TC-05-01	PASS	
14	Check searching for private event	TC-05-02	PASS	
15	Searching with incorrect information	TC-05-03	PASS	
16	Check server error status	TC-05-04	PASS	
17	Upload picture	TC-06-01	PASS	
18	Upload over-size picture	TC-06-02	PASS	
19	Upload files other than picture	TC-06-03	PASS	
20	Download one picture	TC-06-04	FAIL	Download single picture does not word on Safari
21	Download 100 pictures	TC-06-05	FAIL	Download multiple picture does not work on other user's event
22	Delete Photos	TC-06-06	PASS	
23	Like/Unlike a picture	TC-07-01	PASS	
24	Comment a picture	TC-07-02	PASS	
25	Comment without content	TC-07-03	PASS	
26	Delete a comment	TC-07-04	PASS	
27	Like/Comment related operations on deleted picture	TC-07-05	PASS	

6.2.2 Core Capabilities Drive-Through Results

The client's feedback can be split into categories, as follows:

Positive:

1. The team communicated well on the expectations and were aware of all bugs and issues that we encountered.
2. The team take notes and also provided some suggestions.
3. Excited about the progress, the core capabilities work and it's looking good, the project is on track to finish.

Bugs and advised improvements:

1. Bug: need click my event button twice in order to go to my event page.
2. Advice: change the picture information to shown in hover format.
3. Advice: when user click "like" button, change the color to red.
4. Advice: Choose a cover picture when an event don't have any picture.

5. Advice: When user lick "create event", use a pop out window to get input, use a toggle button to switch between public and private event (refer to APP).
6. Advice: After create a new event, display "Event create successful" and jump to the new event page.
7. Bug: Refresh the pictures immediately after upload picture.
8. Advice: Can add the upload progress bar during upload.
9. Advice: When create an event with same name, add feedback.
10. Advice: For search bar, no need the "search" button, once click search result, jump to the page.
11. Advice: In the picture view page, always show full size picture.
12. Advice: If a picture don't have location information, remove the location icon of the picture.
13. Bug: Download function does not work on Safari.
14. Advice: Show the time left for an event according to server time zone.
15. Advice: Responsive design of the website.
16. Bug: Multiple download only work on "my event" (API incorrect)
17. Advice: When user click "select all" button, the name should change to "unselect all" accordingly.
18. Advice: When user choose multiple pictures to download, put the check box on the picture and make it larger.
19. Advice: When user delete an event, change the feedback to "Are you sure you want to delete this event?".
20. Advice: Search bar should show and work on any page.
21. Advice: For picture format, if the picture is small, put the original picture in the default-size box, if it's too big, only show part of the picture.
22. Advice: Align the pictures in the middle of browser.

Changes to be considered:

1. Remove extend event function on requirement.
2. Remove RAW format support from requirement.
3. Remove change view type function from requirement.

TA's feedback:

1. Put some demo pictures with each function.
2. Pay more effort on page layout, CSS design.
3. Semantic-UI might be helpful.

Risks:

1. Team is not communicating enough with client.
2. The design is naïve, need more time to improve.

Migration:

1. Communicate more with client, make sure client take part in every decision we made.
2. Use more time to design website layout, might consider use Semantic-UI to help.

6.3 Adherence to Plan

Initially the progress was a bit slow due to the learning curve. But once we picked up the Languages and platforms, things moved fast, and we caught up with schedule. During the develop iteration, whenever we are working on a module that involves parts done by two or more persons, we usually tackled the problem together, in the same room. And it’s prove the be a very useful way, our progress moved faster when we work together.

7. Transition Plan

This part describes the plan for the transition strategy of the Share web.
The whole transaction plan is shown below:

Table 16: Transaction Plan

Date	Role	Responsibility
03/12/2016	Owner	Give us a AWS account so we can deploy and test
03/12/2016	Development team	Fix bugs after TRR/ARB evaluation
05/12/2016	Development team	Deploy and test app on AWS, fix bugs
08/12/2016	Team	Have all documents ready and deliver the whole system

7.1 Transition Objectives

The system being transitioned is completely new, and the website will be run on AWS server which will belong to client. The development team will be responsible for the deployment and handed over to the clients. The development team will provide user and support manuals. The overall goal is to give the clients the system and necessary documentation so that the client can configure and maintain. The development team will also provide the complete source code for the system. The transitioned capability will cover all functionality agreed upon by the owner and developers.

7.2 Transition Strategy

In the transition iteration, we'll involve some steps which are:

- Preparation for transition
- Test and evaluate the project
- Move code to server side and fix bugs
- Deliver source code and documentation
- Answer any question the maintainer may have

7.3 Preparing for Transition

Before the transition can take place, the owner must perform the required configuration on the AWS server for the deploy and running of the system.

7.3.1 Hardware Preparation

The following hardware must be prepared:

- Running Computer
- Internet Access

7.3.2 Software Preparation

The following software must be prepared:

- Web Browser (Chrome, IE, Safari, Firefox)
- Amazon web services access

7.3.3 Staff Preparation

In order to perform transaction smoothly, the maintainer of the system must have the following knowledge:

- Web development
- HTML and CSS
- AngularJS and Bootstrap
- Amazon web services

7.4 Test and evaluate the project

7.4.1 Testing

After CCD, we continue development and perform test for out project, and according to clients' feedback, we changed some part of the website.

7.4.2 Training

For out project, training is not required. The website is intuitive and easy to use. The owner is familiar with it. Users had no misunderstanding issues that require training.

7.4.3 Evaluation

We have been receiving beta testing feedback on last presentation, and working hard to accommodate his response. All basic functionality works, but there are still some little details need to be fixed.

7.5 Stakeholder Responsibilities

Table 17: Stakeholder Responsibilities

Stakeholder	Responsibilities
Development Team	Continue development, change the system according to feedback, deliver the source code and document.
Client	Test the system, giving feedback about the system, receive deliver package
Maintainer	Maintain the system, give feedback on unclear part of the system.

7.6 Transaction Risks

Currently, we have two risks:

1. Currently maintainer has not joined us.

   Migration: If possible, we can set up a meeting with maintainer to talk about the structure and details of our project
2. Ambiguous artifacts or code

Migration: We will refactor the code as much as we can, and finish the comment and document of our code to make it clean and clear.

8. Support Plan

This part describes the support plan of the Share web.

8.1 Support Objectives

The purpose of the support plan is to help the client and maintainer understand the system and requirements needed for continuous maintenance and development of the system after the initial deployment. Our objectives include the following:

- The client and maintainers understand how to update and maintain source code.
- We provide correct and clear instructions via thorough documentation.
- We ensure the client remains satisfied with the product.

8.2 Support Strategy

The development team will not provide continuing support after the end of Fall 2016 semester, any support-related information can be found on our document and the following:

- AngularJS: https://angularjs.org/
- Bootstrap: http://getbootstrap.com/