Life Cycle Plan (LCP)

**Discovery Tool**

**Team 3**

**Josh Bendig - IIV&V**

**Xizhao Deng - Project manager**

**Jingzhou Hong - Requirement Engineer**

**Guancheng Liu - Tester**

**Michael Russo - Prototyper**

**Shenghao Tang - Feasibility Analyst**

**Fan Zhan - Software Architect**

**Yiming Zhang - System Architect**

**12/02/18**

# Version History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Author | Version | Changes made | Rationale |
| 10/16/18 | XD | 1.0 | section 1-5, 6.1 | Initial draft for Discovery Tool LCP of DC package |
| 10/21/18 | XD | 1.1 | Small fix in section 5 | Redo COCOMOII estimation |
| 11/22/18 | XD | 2.0 | Updated section 6.1 | Revised per client meeting and CCD feedback |
| 12/02/18 | XD | 2.1 | Update section 6.2 | Completed section 6.2 after more dev increments occurred |

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# 1. Introduction

## 1.1 Purpose of the LCP

The purpose of this LCP is to document and manage the lifecycle of the Discovery Tool (an idea management system). The LCP artifact is designed to provide descriptions of deliverables, define workflow, identify individual and team responsibility, and track progress over each iteration of the project.

## 1.2 Status of the LCP

The status of the LCP is currently at the development commitment package version 2.0. This is the revised version after DCC.

## 1.3 Assumptions

* The duration of this project is 12 weeks in Fall 2018 semester
* The team will be using 8 individuals, 6 being on-campus students, and 2 being remote DEN students
* The plan is tracked and strictly following MS project
* The project is one-semester only
* The project can repivot once at most
* The client will provide responsive feedback

# 2. Milestones and Products

## 2.1 Overall Strategy

The Discovery Tool idea management system is following the strategy of ICSM NDI/NCS because the system is aimed to be a cloud based web application and it heavily relies on technology such as React, python Flask, JWT, Webpack, Heroku, Swagger UI, Creative TIM, material, mlab and AWS EC2.

**Exploration Phase I**

**Duration**: 9/3/18 - 9/23/18

**Concept**: Identify operational concept, system and software requirements and life cycle plan for the next phase

**Deliverables**: Client Meeting notes, Progress Report, Project plan, use cases, team website

**Milestone**: Valuation Commitment Review

**Strategy**: One Incremental Commitment Cycle, Win-Win negotiation session #1

**Valuation Phase I**

**Duration**: 9/21/18 - 9/23/18

**Concept**: Monitor risks, prioritize requirements, validate crawling based trend identifier, validate API based trend identifier

**Deliverables**: Win-Win condition report, prototype presentation

**Milestone**: Foundation Commitment Review

**Strategy**: One incremental Commitment Cycle, Win-Win negotiation session #2, planning poker, risk analysis assessment

**Foundations Phase I**

**Duration**: 9/24/18 - 9/28/18

**Concept**: Project requirements, Project plan, develop prototype, design preliminary software architecture, investigate API availability

**Deliverables**: None

**Milestone**: None

**Strategy**: One incremental Commitment Cycle

**Exploration Phase II**

**Duration**: 10/2/18 - 10/17/18

**Concept**: Identify operational concept of the new client proposal, system and software requirements and life cycle plan for the next phase, new Win-win conditions

**Deliverables**: Client Meeting notes, Progress Report, Project plan

**Milestone**: Content manager meeting

**Strategy**: One Incremental Commitment Cycle, Content manager meeting

**Valuation Phase II**

**Duration**: 10/10/18 - 10/22/18

**Concept**: Develop frontend UI prototype, develop backend data endpoint prototype, monitor risks, prioritize requirements

**Deliverables**: updated use cases, updated win-win agreement

**Milestone**: None

**Strategy**: One incremental Commitment Cycle, risk analysis assessment

**Foundations Phase II**

**Duration**: 10/10/18 - 10/22/18

**Concept**: Implement ARB deliverables, develop DC package, Project requirements, Project plan, continue to develop prototype, design preliminary software architecture

**Deliverables**: DC package

**Milestone**: DC ARB presentation

**Strategy**: One Incremental Commitment Cycle

**Development Phase**

**Duration**: 10/23/18 - 11/28/18

**Concept**: Develop core capability, implement the full system with agreed features, perform test, and implement documentation

**Deliverables**: Project archive, Core capability report

**Milestone**: Core capability presentation, Transition Readiness Review

**Strategy**: One Incremental Commitment Cycle, development, test, deployment

## 2.2 Project Deliverables

### 2.2.1 Exploration Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Jira Weekly Survey | Weekly Monday | Jira ticket | Google survey |
| Team website | 9/12/18 | Website | Website |
| Project Plan | Bi-weekly Wednesday | .mpp .pdf | Team site |
| Risk and Defects Report | Bi-weekly Wednesday | .pdf | Team site |
| Progress Report | Bi-weekly Wednesday | .pdf | Team site |

Table 1: Artifacts Deliverables in Exploration Phase

### 2.2.2 Valuation Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Jira Weekly Survey | Weekly Monday | Jira ticket | Google survey |
| Project Plan | Bi-weekly Wednesday | .mpp .pdf | Team site |
| Risk and Defects Report | Bi-weekly Wednesday | .pdf | Team site |
| Progress Report | Bi-weekly Wednesday | .pdf | Team site |
| Prototype Presentation | 9/28/18 | .pdf | Team site |

Table 2: Artifact deliverable in Valuation Phase

### 2.2.3 Foundations Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Jira Weekly Survey | Weekly Monday | Jira ticket | Google survey |
| Project Plan | Bi-weekly Wednesday | .mpp .pdf | Team site |
| Risk and Defects Report | Bi-weekly Wednesday | .pdf | Team site |
| Progress Report | Bi-weekly Wednesday | .pdf | Team site |
| DC package:   * FED * LCP * SSAD * TPC * PRO * OCD | 10/22/18 | .pdf | Team site |
| Prototype | 10/17/18 | Source code | github |

Table 3: Artifact deliverable in Foundations Phase

### 2.2.4 Development Phase

|  |  |  |  |
| --- | --- | --- | --- |
| **Artifact** | **Due date** | **Format** | **Medium** |
| Jira Weekly Survey | Weekly Monday | Jira ticket | Google survey |
| Project Plan | Bi-weekly Wednesday | .mpp .pdf | Team site |
| Risk and Defects Report | Bi-weekly Wednesday | .pdf | Team site |
| Progress Report | Bi-weekly Wednesday | .pdf | Team site |
| Technical Debt Report | Bi-weekly Friday | .pdf | Team site |
| CCD Report | 11/20/18 | .pdf | Team site |
| TRR Report | 11/28/18 | .pdf | Team site |
| Functional system | 11/28/18 | Functional web app | AWS, github |
| Documentation | 11/30/18 | Swagger UI rendered doc, .pdf | Github, Team site |

Table 4: Artifact deliverable in Development Phase

# 3. Responsibilities

## 3.1 Project-specific stakeholders’ responsibilities

Other than the stakeholders identified for Discovery Tool so far, which are the client and dev team, we have no any project-specific stakeholders.

## 3.2 Responsibilities by Phase

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Primary / Secondary Responsibility** | | | | | |
| **Team Member / Role** | **Exploration** | **Valuation** | **Foundations** | **Development-Construction Iteration** | **Development-Transition Iteration** |
| **Name:** Joshua Bendig  **Role:** IIV&V,  Requirement Engineer | **Pri. Res:** Participate in Win-win negotiation  **Sec.Res:** Implement system requirements | **Pri. Res:**  Refine system requirements  **Sec.Res:** Review Jira ticket | **Pri. Res:** Track and update system requirements, maintain diagrams for documentation  **Sec.Res:** Review Jira ticket | **Pri. Res:** Validate all system features against system requirement  **Sec.Res:** Review Jira ticket | **Pri. Res:**  Continue validating all system features against system requirement, review documentation  **Sec.Res:** Review Jira ticket |
| **Name:** Xizhao Deng  **Role:** Project Manager, Life Cycle Planner | **Pri. Res:**Establish recurring comms with client and team, set up recurring team meetings  **Sec.Res:** Assign roles, make project plan | **Pri. Res:**  Facilitate client interaction and follow up after Win-win sessions, create action items, host weekly team meeting  **Sec.Res:** Update project progress, assign Jira ticket to team members | **Pri. Res:**  Create and follow up action items, conduct prototype presentation  **Sec.Res:** Update project progress, plan for risk mitigation, assign Jira ticket to team members | **Pri. Res:**  Create and follow up action items, facilitate client communication, documentation  **Sec.Res:** Assign Jira ticket to team members, plan for risk mitigation and identify technical debt | **Pri. Res:**  Facilitate handoff to the client  **Sec.Res:** Assign Jira ticket to team members, plan for risk mitigation and identify technical debt |
| **Name:** Jingzhou Hong  **Role:** Requirements Engineer, Prototyper | **Pri. Res:**  Implement system requirements, Participate in Win-win negotiation  **Sec.Res:** Research potential technology | **Pri. Res:**  Refine system requirements  **Sec.Res:** Develop prototype | **Pri. Res:**  Develop FED for DC package, refine system requirements  **Sec.Res:** Continue working on prototype | **Pri. Res:**  Verify if system requirement, win-win conditions are fully satisfied  **Sec.Res:** Documentation | **Pri. Res:**  Final Review against system requirement  **Sec.Res:** Review documentation |
| **Name:** Guancheng Liu  **Role:** Tester, Quality Engineer | **Pri. Res:**  Participate in Win-win negotiation  **Sec.Res:** Research potential technology | **Pri. Res:**  Design test plans  **Sec.Res:** Develop prototype | **Pri. Res:**  Implement TCP/QFP for DC package  **Sec.Res:** Implement backend and database | **Pri. Res:** Implement test cases, conduct software testing, fix defects  **Sec.Res:** Documentation | **Pri. Res:**  Continue software testing, conduct quality assurance review  **Sec.Res:** Documentation |
| **Name:** Michael Russo  **Role:** Prototyper, Software Architect | **Pri. Res:**  Participate in Win-win negotiation, implement team website  **Sec.Res:** Research potential technology | **Pri. Res:** Develop prototype  **Sec.Res:** Facilitate designing software architecture | **Pri. Res:** Implement slide deck for ARB presentation, implement frontend UI  **Sec.Res:** Documentation, refine software architect | **Pri. Res:**  Implement frontend UI, integration  **Sec.Res:** Documentation | **Pri. Res:**  Improve UI and UX  **Sec.Res:** Documentation |
| **Name:** Shenghao Tang  **Role:** Feasibility Analyst, System Architect | **Pri. Res:**  Participate in Win-win negotiation, implement system architecture, conduct feasibility analysis  **Sec.Res:** Research potential technology | **Pri. Res:** Analyze and prioritize capabilities to prototype  **Sec.Res:** Facilitate designing system architecture | **Pri. Res:** Develop prototype  **Sec.Res:** Implement FED for DC package | **Pri. Res:** Develop backend, integration  **Sec.Res:** Documentation | **Pri. Res:** Integration, fix defects  **Sec.Res:** Documentation |
| **Name:** Fan Zhang  **Role:** Software Architect, Project Manager | **Pri. Res:** Participate in Win-win negotiation, implement software architecture  **Sec.Res:** Research potential technology | **Pri. Res:** Design software architect  **Sec.Res:** Facilitate project management and planning | **Pri. Res:** Implement TCP/QFP for DC package  **Sec.Res:** making ARB presentation slide deck | **Pri. Res:** Implement backend, integration  **Sec.Res:** Documentation | **Pri. Res:** Integration, fix defects  **Sec.Res:** Documentation |
| **Name:** Yiming Zhang  **Role:** System Architect, Prototyper | **Pri. Res:** Participate in Win-win negotiation, design system architecture  **Sec.Res:** Research potential technology | **Pri. Res:** Design the system architecture  **Sec.Res:** Implement prototype for prototype presentation | **Pri. Res:** Implement PRO for DC package  **Sec.Res:** Implement frontend UI prototype | **Pri. Res:** Implement frontend UI  **Sec.Res:** Documentation | **Pri. Res:** Integration, fix defects  **Sec.Res:** Documentation |
| **Name:** Linda Suen  **Role:** Client | **Pri. Res:** Explain the project deliverables, discuss the Win-win conditions, review use cases, attend client meeting | **Pri. Res:** Define system requirements, review initial prototypes, attend client meeting | **Pri. Res:**  Review ARB deliverables, attend client meeting | **Pri. Res:**  Review progress, attend client meeting | **Pri. Res:**  Review documentation, assist the handoff |

Table 5: Stakeholders' Responsibilities in each phase

## 3.3 Skills

|  |  |  |
| --- | --- | --- |
| **Team members** | **Role** | **Skills** |
| Joshua Bendig | IIV&V, Requirements Engineer | **Current Skill:** Java, Python, embedded development, software testing, technical writing, UML diagram  **Required Skill:** Web development, React |
| Xizhao Deng | Project Manager, Life Cycle Planner | **Current Skill:** Python, C, C++, embedded development, technical writing, MS Project  **Required Skill:** Web development, React, high level program management |
| Jingzhou Hong | Requirements Engineer, Prototyper | **Current Skill:** Python, HTML, web development, database, Javascript  **Required Skill:** technical writing |
| Guancheng Liu | Tester, Quality Engineer | **Current Skill:** Python, database, MongoDB, Java, React  **Required Skill:** Software Testing, Crucible |
| Michael Russo | Prototyper, Software Architect | **Current Skill:** Flask, React, Node.JS, AWS, MongoDB, UML diagram, HTML, CSS, UI design, mLab, Swagger UI  **Required Skill:** Crucible |
| Shenghao Tang | Feasibility Analyst, System Architect | **Current Skill:** Python, MongoDB, UML diagram, React  **Required Skill:** Technical writing |
| Fan Zhang | Software Architect, Project Manager | **Current Skill:** Flask, MongoDB, AWS, React  **Required Skill:** High level development |
| Yiming Zhang | System Architect, Prototyper | **Current Skill:** Flask, React, Node.JS, AWS, MongoDB, UML diagram, HTML, CSS, UI design, Material, AWS  **Required Skill:** Technical writing |

Table 6: Team skill table

# 4. Approach

## 4.1 Monitoring and Control

We monitor and control our project by the following approach:

* Project Plan: constantly update project plan (for the next 2 weeks or further ahead) in MS project and make sure the team stick to the plans.
* Bi-weekly Progress Report: Track the progress of the project, list third-party components, and SLOC
* Bi-weekly Risk and Defect Report: Analyze top risks, defects, and come up with mitigation plan
* Bi-weekly Technical Debt Report: Identify technical debt, their lifespan, and mitigation plan
* Jira: track issue, log work, assign tasks
* Win book: catch requirements and priority, maintain design consistency
* Weekly Team Meeting: update the team with plans, report progress, issues, concerns, and come up with mitigation plan
* Client Meeting: maintain responsive communication with the client for progress, issues, and concerns

### 4.1.1 Closed Loop Feedback Control

* Slack: The dev team created group chat in Slack to discuss project, check progress, and talk to the client.
* Google Drive: Share files and documents among the team and the client
* Github: For version control repo hosting, and issue tracking
* Jira: Assign tasks to team member, check progress, and log work.
* Skype: Host team meetings

### 4.1.2 Reviews

* Peer Review: cross review code increments, and documentations
* Client Review: frequent client review over use cases, win-win conditions, and progress
* ARB: scheduled on 10/17 to go over architecture review and DC package
* CCD and TRR: TBD

## 4.2 Methods, Tools and Facilities

|  |  |  |
| --- | --- | --- |
| **Tools** | **Usage** | **Provider** |
| Github | Source Code Version Control | Github |
| MagicDraw | UML diagram / workflow making | No Magic |
| Skype | Team meeting hosting | Microsoft |
| Slack | Team group chat | Slack Tech |
| Winbook | Win condition capture and priority identification | CS577A |
| COCOMO II | Software cost estimation | CS577A |
| MS Project | Project plan and life cycle planning | USC |
| Jira | Log work effort, assign task | USC |

Table 7: Tool table

# 5. **Resources**

Below is the required information in order to estimate the software cost:

* Estimated CSCI577a Effort : 8 team members at 18 hrs/week for 12 weeks
* Total estimated effort: 18 hrs/week x 8 members x 12 weeks = 1728 hours
* Budget information: reasonable spendings will be reimbursed by client
* Project duration: 12 weeks
* Component modules in your development project: User/team Module, Content Module, Goal Module, Authentication Module
* Programming language used: Javascript, Python, HTML, CSS

|  |  |  |
| --- | --- | --- |
| **Scale Driver** | **Value** | **Rationale** |
| Precedentedness | Nominal | No existing system available but the new system will mimic current workflow being practiced. Certain level of reference does exist |
| Development Flexibility | Nominal | Client expects the system to mimic current workflow with small tweaks and improvement |
| Architecture / risk resolution | Nominal | Most risks can be mitigated by more client interaction and dev team time investment |
| Team cohesion | Very High | Team communication and interaction occur in a responsive and timely manner |
| Process maturity | Nominal | Team is comfortable and consistent with ICSM guidelines |

Table 8: COCOMOII Scale Driver

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | High | Authentication is required for the system to be successful |
| DATA | Nominal | The user information data size is fairly low, but it may grow based on team size scaling |
| DOCU | Nominal | Documentation will be required for user guidance and maintenance purpose |
| CPLX | Nominal | Authentication can be implemented by utilizing off-the-shelf framework and tools |
| RUSE | Low | Authentication will be purposely build for this system, no plan for reuse at the moment |
| TIME | Nominal | Authentication will be executed at the beginning and the end of the user session. It does not consume significant execution time resource |
| STOR | Nominal | User information does not utilize significant amount of storage |
| PVOL | Low | The cloud service which the web app utilizes is expected to be stable for majority of the time |
| ACAP | Nominal | The analyst personnel has nominal experience, both academically and industrially, for the task of requirement implementation and design implementation |
| PCAP | High | The developers have related academic and work experience and are determined to be highly capable |
| PCON | Very High | The staff turnover rate of the dev team is low within this semester |
| APEX | High | Developers have moderate to rich experience with web application development |
| LTEX | High | Developers are comfortable with the technologies chosen for this project |
| PLEX | Nominal | Developers have moderate experience with the cloud service for hosting the web app and database |
| TOOL | Nominal | Moderate integration may be necessary for the chosen technologies |
| SITE | Extra High | The team has very responsive and interactive communication/workflow between on-campus and remote members |

Table 9: COCOMOII Cost Driver - Authentication Module

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | High | Content is required for the system to be successful |
| DATA | High | The content data size is high considering amount of content generated in a unit period of time |
| DOCU | Nominal | Documentation will be required for user guidance and maintenance purpose |
| CPLX | High | The subsystem needs to be built from scratch |
| RUSE | Low | Content will be purposely build for this system, no plan for reuse at the moment |
| TIME | Very High | Content operations take significant execution time in client’s workflow |
| STOR | High | Content utilizes significant amount of storage |
| PVOL | Low | The cloud service which the web app utilizes is expected to be stable for majority of the time |
| ACAP | Nominal | The analyst personnel has nominal experience, both academically and industrially, for the task of requirement implementation and design implementation |
| PCAP | High | The developers have related academic and work experience and are determined to be highly capable |
| PCON | Very High | The staff turnover rate of the dev team is low within this semester |
| APEX | High | Developers have moderate to rich experience with web application development |
| LTEX | High | Developers are comfortable with the technologies chosen for this project |
| PLEX | Nominal | Developers have moderate experience with the cloud service for hosting the web app and database |
| TOOL | Nominal | Moderate integration may be necessary for the chosen technologies |
| SITE | Extra High | The team has very responsive and interactive communication/workflow between on-campus and remote members |

Table 10: COCOMOII Cost Driver - Content Module

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | High | Goal is required for the system to be successful |
| DATA | Nominal | The goal data size is moderate considering amount of goal generated in a unit period of time |
| DOCU | Nominal | Documentation will be required for user guidance and maintenance purpose |
| CPLX | Nominal | The subsystem needs to be built from scratch with moderate complexity |
| RUSE | Low | Goal will be purposely build for this system, no plan for reuse at the moment |
| TIME | High | Goal operations take significant execution time in client’s workflow |
| STOR | High | Goal utilizes significant amount of storage |
| PVOL | Low | The cloud service which the web app utilizes is expected to be stable for majority of the time |
| ACAP | Nominal | The analyst personnel has nominal experience, both academically and industrially, for the task of requirement implementation and design implementation |
| PCAP | High | The developers have related academic and work experience and are determined to be highly capable |
| PCON | Very High | The staff turnover rate of the dev team is low within this semester |
| APEX | High | Developers have moderate to rich experience with web application development |
| LTEX | High | Developers are comfortable with the technologies chosen for this project |
| PLEX | Nominal | Developers have moderate experience with the cloud service for hosting the web app and database |
| TOOL | Nominal | Moderate integration may be necessary for the chosen technologies |
| SITE | Extra High | The team has very responsive and interactive communication/workflow between on-campus and remote members |

Table 11: COCOMOII Cost Driver - Goal Module

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Value** | **Rationale** |
| RELY | High | Team/User management is required for the system to be successful |
| DATA | Nominal | The team/user data size is moderate considering the current team size and potential growth in team size in the future |
| DOCU | Nominal | Documentation will be required for user guidance and maintenance purpose |
| CPLX | Nominal | The subsystem needs to be built from scratch |
| RUSE | Low | Team/user management will be purposely build for this system, no plan for reuse at the moment |
| TIME | High | Team/user management operations take significant execution time in client’s workflow |
| STOR | High | Team/user data utilizes significant amount of storage |
| PVOL | Low | The cloud service which the web app utilizes is expected to be stable for majority of the time |
| ACAP | Nominal | The analyst personnel has nominal experience, both academically and industrially, for the task of requirement implementation and design implementation |
| PCAP | High | The developers have related academic and work experience and are determined to be highly capable |
| PCON | Very High | The staff turnover rate of the dev team is low within this semester |
| APEX | High | Developers have moderate to rich experience with web application development |
| LTEX | High | Developers are comfortable with the technologies chosen for this project |
| PLEX | Nominal | Developers have moderate experience with the cloud service for hosting the web app and database |
| TOOL | Nominal | Moderate integration may be necessary for the chosen technologies |
| SITE | Extra High | The team has very responsive and interactive communication/workflow between on-campus and remote members |

Table 12: COCOMOII Cost Driver - Team/User Module

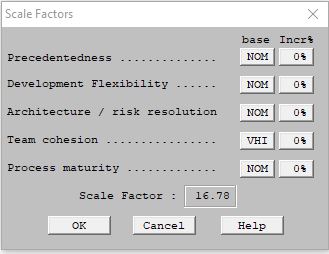


Figure 1: COCOMOII Scale Factor screenshot

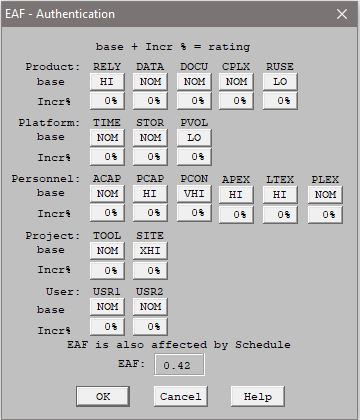


Figure 2: COCOMOII Cost Driver Authentication Module screenshot

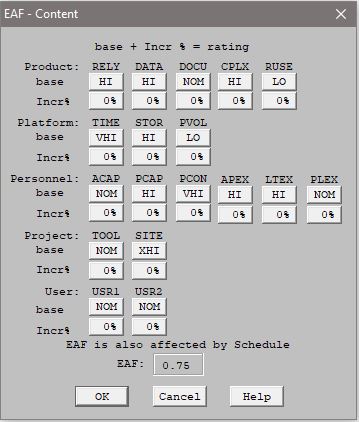


Figure 3: COCOMOII Cost Driver Content Module screenshot

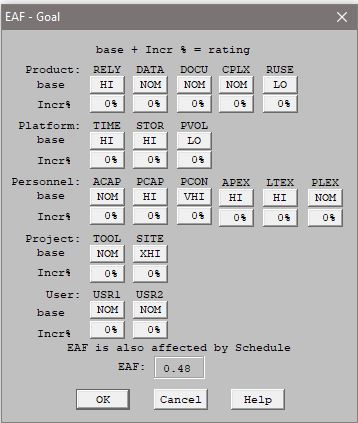


Figure 4: COCOMOII Cost Driver Goal Module screenshot

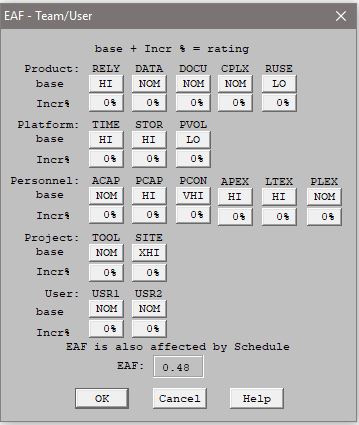


Figure 5: COCOMOII Cost Driver Team/User Module screenshot

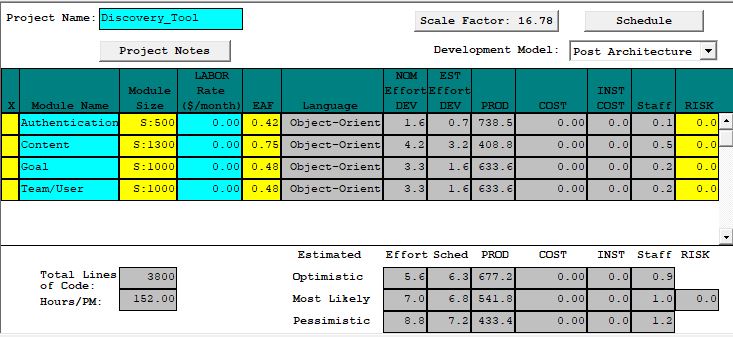


Figure 6: COCOMOII Result screenshot

Result Analysis:

Total estimated line of code: 3800

Estimated Most-likely effort by COCOMII: 7.0 person-month

Effort per person: 18 hours/week

Total time available:

Monthly team efforts: 18 hr/(person-week) \* 8 members \* 4 weeks = 576 hr/month

Time required as per COCOMOII:

Total time: 7.0 person-month \* 152 hr/person-month / 576 hr/month = 1.8 months

Interpretation: According to the above calculation, the project development phase is estimated by COCOMOII to take 1.8 months starting from 10/23/18 to complete, which is inline with our estimation based on the assumption of 8 members working 18 hours per week for 12 weeks from 9/3/18.

# 6. Iteration Plan

## 6.1 Plan

This section aims to accomplish features in the system requirement in two project iterations, and to describe the detailed plan for each project iteration. The team will prioritize implementing the mission critical features. If time allows, the team will also implement lower prioritized features. The first iteration is to prototype sub systems, then complete and integrate the entire backend and frontend system simultaneously. However, this first iteration will only focus on implementing and testing the high priority features.. The second iteration is to implement and test low priority features based on time allowance, then conduct more thorough software regression testing, deployment of the system, gain feedback from the client, implement documentation, and fix any defects.

### 6.1.1 Capabilities to be implemented

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Capability** | **Description** | **Priority** | **Iteration** |
| UC-1 | Login | User logs into the system with a username and password | high | 1 |
| UC-2 | Contributor View current week goals and progress | Contributor can view overall project progress, current week goal, verticals in work. For each vertical, show number of draft, number of pitches submitted, number of pitches approved/ parked/ rejected. | high | 1 |
| UC-3 | Contributor View past week goals | Contributor can view goals made in past weeks | high | 1 |
| UC-4 | Contributor View future week goals | Contributor can view goals set for future weeks | high | 1 |
| UC-5 | Contributor Receive notifications | Contributor can receive notifications as a piece of content moves through the various stages of development (approved, rejected, parked) | low | 2 |
| UC-6 | Contributor Send message | Contributor can send a message to a specific user | low | 2 |
| UC-7 | Contributor Receive message | Contributor can receive message from other users | low | 2 |
| UC-8 | Contributor View content success rates by draft to approved pitch conversion ratio | Contributor can track his/her own success rate by the draft to approved pitch conversion ratio | low | 2 |
| UC-9 | Contributor Logout | Contributor logs out of the system and ends their current session | high | 1 |
| UC-10 | Contributor Create a draft | Contributor can create a new draft and add details | high | 1 |
| UC-11 | Contributor Edit a draft | Contributor can modify a draft | high | 1 |
| UC-12 | Contributor Delete a draft | Contributor can remove a draft | high | 1 |
| UC-13 | Contributor View a draft | Contributor can view a draft’s details: draft ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18) | high | 1 |
| UC-14 | Contributor Pitch a draft | When a contributor thinks this draft is ready, he/she can click the “pitch it” button to publish this draft to the global pitch list. This draft is then removed from this draft board. | high | 1 |
| UC-15 | Contributor View a pitch | Contributor can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18), admin reviews | high | 1 |
| UC-16 | Contributor Filter pitches by criteria | Contributor can filter pitches by criteria such as status, creator etc | low | 2 |
| UC-17 | Contributor Edit a personal profile | Contributor can make changes to their own profile including address, contact etc | high | 1 |
| UC-20 | Super Admin View current week goals and progress | Super admin can view overall project progress, goal verticals, number of pitch needed by each vertical, progress of each vertical (pitch approved / needed). Super admin does not edit goal in dashboard page, it must be done in goals board page | low | 2 |
| UC-21 | Super Admin View past week goals | Super admin can view goals made in past weeks | high | 1 |
| UC-22 | Super Admin View future weeks goals | Super admin can view goals set for future weeks | high | 1 |
| UC-23 | Super Admin Receive notifications | Super admin can receive notifications as a piece of content moves through the various stages of development (approved, rejected, parked). Super admin will receive notification as a new pitch needs to be reviewed / when weekly deadline approves, weekly publishing calendar needs to be reviewed. | low | 2 |
| UC-24 | Super Admin Send message | Super admin can send a message to a specific user | low | 2 |
| UC-25 | Super Admin Receive message | Super admin contributor can receive message from other users | low | 2 |
| UC-26 | Super Admin Logout | Super admin logs out of the system and ends their current session | high | 1 |
| UC-27 | Super Admin View/Edit a pitch | Super admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18), admin reviews [1][0]. Super admin can edit the pitch in the global pitch board page | high | 1 |
| UC-28 | Super Admin Approve/reject a pitch | Super admin can click on a pitch, change its status to approved or rejected. If a total number of 2 admin/super admin have different opinions, the status of the pitch is changed to “parked” which is then moved to the parking board, and removed from the pitch board. Rejected pitch is permanently removed from database | high | 1 |
| UC-29 | Super Admin Filter pitches by criteria | Super admin can filter pitches by criteria such as status, creator etc | high | 1 |
| UC-30 | Super Admin View/Edit a pitch | Super admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked, which will always be approved), log(contributor X modified at 11:30pm 11-10-18), Super admin can edit the pitch in the Weekly publishing calendar page | high | 1 |
| UC-31 | Super Admin Approve the publishing calendar | Super admin can make the decision to publish the pitches in the weekly publishing calendar (approved for publish) | high | 1 |
| UC-32 | Super Admin Filter pitches by criteria | Super admin can filter pitches by criteria such as status, creator etc | low | 2 |
| UC-33 | Super Admin Export weekly publishing calendar | Super admin can export the weekly publishing calendar into CSV file | high | 1 |
| UC-34 | Super Admin View/Edit a pitch | Super admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked, which will always be parked), log(contributor X modified at 11:30pm 11-10-18), Super admin can edit the pitch in the parking board | high | 1 |
| UC-35 | Super Admin Pull in parked pitch | If there is not enough pitches in the weekly publishing calendar, the super admin can move some parked pitches into publishing calendar (change parked pitches’ status to approved, remove them from parking board, move into publishing calendar) | high | 1 |
| UC-36 | Super Admin View a team member details | Super admin can click on a team member and view his/her information: member name, account type(contributor, admin, super admin), number of draft pitched, number of pitch approved, total weekly number of pitch needed, success rate, details (name, gender, email, phone, address, county, state, country) | high | 1 |
| UC-37 | Super Admin Change a team member’s type | Super admin can change a team member’s type between admin and contributor | high | 1 |
| UC-38 | Super Admin Create a new user | Super admin can create a new admin or contributor account | high | 1 |
| UC-39 | Super Admin Delete an existing user | Super admin can delete an existing account | high | 1 |
| UC-40 | Super Admin Set goals for current week | Super admin can set a list of goals desired for current week, each goal has one desired vertical, and number of pitch needed for that vertical. Once the goal is set, it’s given to all contributors but the number of pitch is evenly distributed among the contributors. | high | 1 |
| UC-41 | Super Admin Set goals for future weeks | Super admin can set a list of goals desired for future weeks | high | 1 |
| UC-42 | Super Admin Check past weeks’ goals | Super admin can select a week in history and check its goals | high | 1 |
| UC-43 | Super Admin Edit a personal profile | Super admin can make changes to their own profile including address, contact etc | high | 1 |
| UC-44 | Admin View current week goals and progress | Admin can view overall project progress, goal verticals, number of pitch needed by each vertical, progress of each vertical (pitch approved / needed). | high | 1 |
| UC-45 | Admin View past week goals | Admin can view goals made in past weeks | high | 1 |
| UC-46 | Admin View future weeks goals | Admin can view goals set for future weeks | high | 1 |
| UC-47 | Admin Receive notifications | Admin can receive notifications as a piece of content moves through the various stages of development (approved, rejected, parked). Admin will receive notification as a new pitch needs to be reviewed | low | 2 |
| UC-48 | Admin Send message | Admin can send a message to a specific user | low | 2 |
| UC-49 | Admin Receive message | Admin contributor can receive message from other users | low | 2 |
| UC-50 | Admin Logout | Admin logs out of the system and ends their current session | high | 1 |
| UC-51 | View/Edit a pitch | Admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18), admin reviews [1][0]. Admin can edit the pitch in the global pitch board page | high | 1 |
| UC-52 | Admin Approve/reject a pitch | Admin can click on a pitch, change its status to approved or rejected. If a total number of 2 admin/super admin have different opinions, the status of the pitch is changed to “parked” which is then moved to the parking board, and removed from the pitch board. Rejected pitch is permanently removed from database | high | 1 |
| UC-53 | Admin Filter pitches by criteria | Super admin can filter pitches by criteria such as status, creator etc | low | 2 |
| UC-54 | Admin View a team member details | Admin can click on a team member and view his/her information: member name, account type(contributor, admin, super admin), number of draft pitched, number of pitch approved, total weekly number of pitch needed, success rate, details (name, gender, email, phone, address, county, state, country) | high | 1 |
| UC-55 | Admin Change a team member’s type | Admin can change a team member’s type between admin and contributor | high | 1 |
| UC-56 | Admin Create a new user | Super admin can create a new admin or contributor account | high | 1 |
| UC-57 | Admin Delete an existing user | Admin can delete an existing account | high | 1 |
| UC-58 | Admin Edit a personal profile | Admin can make changes to their own profile including address, contact etc | high | 1 |

Table 13: Construction iteration capabilities to be implemented

### 6.1.2 Capabilities to be tested

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Capability** | **Description** | **Priority** | **Iteration** |
| UC-1 | Login | User logs into the system with a username and password | high | 1 |
| UC-2 | View current week goals and progress | Contributor can view overall project progress, current week goal, verticals in work. For each vertical, show number of draft, number of pitches submitted, number of pitches approved/ parked/ rejected. | high | 1 |
| UC-3 | View past week goals | Contributor can view goals made in past weeks | high | 1 |
| UC-4 | View future week goals | Contributor can view goals set for future weeks | high | 1 |
| UC-5 | Receive notifications | Contributor can receive notifications as a piece of content moves through the various stages of development (approved, rejected, parked) | low | 2 |
| UC-6 | Send message | Contributor can send a message to a specific user | low | 2 |
| UC-7 | Receive message | Contributor can receive message from other users | low | 2 |
| UC-8 | View content success rates by draft to approved pitch conversion ratio | Contributor can track his/her own success rate by the draft to approved pitch conversion ratio | low | 2 |
| UC-9 | Logout | Contributor logs out of the system and ends their current session | high | 1 |
| UC-10 | Create a draft | Contributor can create a new draft and add details | high | 1 |
| UC-11 | Edit a draft | Contributor can modify a draft | high | 1 |
| UC-12 | Delete a draft | Contributor can remove a draft | high | 1 |
| UC-13 | View a draft | Contributor can view a draft’s details: draft ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18) | high | 1 |
| UC-14 | Pitch a draft | When a contributor thinks this draft is ready, he/she can click the “pitch it” button to publish this draft to the global pitch list. This draft is then removed from this draft board. | high | 1 |
| UC-15 | View a pitch | Contributor can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18), admin reviews | high | 1 |
| UC-16 | Filter pitches by criteria | Contributor can filter pitches by criteria such as status, creator etc | low | 2 |
| UC-17 | Edit a personal profile | Contributor can make changes to their own profile including address, contact etc | high | 1 |
| UC-20 | View current week goals and progress | Super admin can view overall project progress, goal verticals, number of pitch needed by each vertical, progress of each vertical (pitch approved / needed). Super admin does not edit goal in dashboard page, it must be done in goals board page | low | 2 |
| UC-21 | View past week goals | Super admin can view goals made in past weeks | high | 1 |
| UC-22 | View future weeks goals | Super admin can view goals set for future weeks | high | 1 |
| UC-23 | Receive notifications | Super admin can receive notifications as a piece of content moves through the various stages of development (approved, rejected, parked). Super admin will receive notification as a new pitch needs to be reviewed / when weekly deadline approves, weekly publishing calendar needs to be reviewed. | low | 2 |
| UC-24 | Send message | Super admin can send a message to a specific user | low | 2 |
| UC-25 | Receive message | Super admin contributor can receive message from other users | low | 2 |
| UC-26 | Logout | Super admin logs out of the system and ends their current session | high | 1 |
| UC-27 | View/Edit a pitch | Super admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18), admin reviews [1][0]. Super admin can edit the pitch in the global pitch board page | high | 1 |
| UC-28 | Approve/reject a pitch | Super admin can click on a pitch, change its status to approved or rejected. If a total number of 2 admin/super admin have different opinions, the status of the pitch is changed to “parked” which is then moved to the parking board, and removed from the pitch board. Rejected pitch is permanently removed from database | high | 1 |
| UC-29 | Filter pitches by criteria | Super admin can filter pitches by criteria such as status, creator etc | high | 1 |
| UC-30 | View/Edit a pitch | Super admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked, which will always be approved), log(contributor X modified at 11:30pm 11-10-18), Super admin can edit the pitch in the Weekly publishing calendar page | high | 1 |
| UC-31 | Approve the publishing calendar | Super admin can make the decision to publish the pitches in the weekly publishing calendar (approved for publish) | high | 1 |
| UC-32 | Filter pitches by criteria | Super admin can filter pitches by criteria such as status, creator etc | low | 2 |
| UC-33 | Export weekly publishing calendar | Super admin can export the weekly publishing calendar into CSV file | high | 1 |
| UC-34 | View/Edit a pitch | Super admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details(description, URL, buyside network), status(new, approved, rejected, parked, which will always be parked), log(contributor X modified at 11:30pm 11-10-18), Super admin can edit the pitch in the parking board | high | 1 |
| UC-35 | Pull in parked pitch | If there is not enough pitches in the weekly publishing calendar, the super admin can move some parked pitches into publishing calendar (change parked pitches’ status to approved, remove them from parking board, move into publishing calendar) | high | 1 |
| UC-36 | View a team member details | Super admin can click on a team member and view his/her information: member name, account type(contributor, admin, super admin), number of draft pitched, number of pitch approved, total weekly number of pitch needed, success rate, details (name, gender, email, phone, address, county, state, country) | high | 1 |
| UC-37 | Change a team member’s type | Super admin can change a team member’s type between admin and contributor | high | 1 |
| UC-38 | Create a new user | Super admin can create a new admin or contributor account | high | 1 |
| UC-39 | Delete an existing user | Super admin can delete an existing account | high | 1 |
| UC-40 | Set goals for current week | Super admin can set a list of goals desired for current week, each goal has one desired vertical, and number of pitch needed for that vertical. Once the goal is set, it’s given to all contributors but the number of pitch is evenly distributed among the contributors. | high | 1 |
| UC-41 | Set goals for future weeks | Super admin can set a list of goals desired for future weeks | high | 1 |
| UC-42 | Check past weeks’ goals | Super admin can select a week in history and check its goals | high | 1 |
| UC-43 | Edit a personal profile | Super admin can make changes to their own profile including address, contact etc | high | 1 |
| UC-44 | View current week goals and progress | Admin can view overall project progress, goal verticals, number of pitch needed by each vertical, progress of each vertical (pitch approved / needed). | high | 1 |
| UC-45 | View past week goals | Admin can view goals made in past weeks | high | 1 |
| UC-46 | View future weeks goals | Admin can view goals set for future weeks | high | 1 |
| UC-47 | Receive notifications | Admin can receive notifications as a piece of content moves through the various stages of development (approved, rejected, parked). Admin will receive notification as a new pitch needs to be reviewed | low | 2 |
| UC-48 | Send message | Admin can send a message to a specific user | low | 2 |
| UC-49 | Receive message | Admin contributor can receive message from other users | low | 2 |
| UC-50 | Logout | Admin logs out of the system and ends their current session | high | 1 |
| UC-51 | View/Edit a pitch | Admin can click on a pitch in the list to view its details: pitch ID, title, vertical, creator ID, time created, last time modified, details (description, URL, buyside network), status(new, approved, rejected, parked), log(contributor X modified at 11:30pm 11-10-18), admin reviews [1][0]. Admin can edit the pitch in the global pitch board page | high | 1 |
| UC-52 | Approve/reject a pitch | Admin can click on a pitch, change its status to approved or rejected. If a total number of 2 admin/super admin have different opinions, the status of the pitch is changed to “parked” which is then moved to the parking board, and removed from the pitch board. Rejected pitch is permanently removed from database | high | 1 |
| UC-53 | Filter pitches by criteria | Super admin can filter pitches by criteria such as status, creator etc | low | 2 |
| UC-54 | View a team member details | Admin can click on a team member and view his/her information: member name, account type(contributor, admin, super admin), number of draft pitched, number of pitch approved, total weekly number of pitch needed, success rate, details (name, gender, email, phone, address, county, state, country) | high | 1 |
| UC-55 | Change a team member’s type | Admin can change a team member’s type between admin and contributor | high | 1 |
| UC-56 | Create a new user | Super admin can create a new admin or contributor account | high | 1 |
| UC-57 | Delete an existing user | Admin can delete an existing account | high | 1 |
| UC-58 | Edit a personal profile | Admin can make changes to their own profile including address, contact etc | high | 1 |

Table 14: Construction iteration capabilities to be tested

### 6.1.3 Capabilities not to be tested

Every capability listed above will be fully tested by the end of the second iteration.

### 6.1.4 CCD Preparation Plans

The clients and users that will involve in the CCD are:

* Linda Suen: client side representative
* Content contributor: client side user
* Content admin: client side user
* Super admin: client side user
* Maintainer: client side developer to maintain the system after handoff

The action items for the CCD preparation are:

* Develop all the core capabilities
* Ensure regression test is completed and all defects are fixed
* Draft user manual
* Develop use cases and scenarios to provide user context-setting
* Prepare stakeholder interaction via dev team dry runs
* Develop feedback survey for stakeholders who will be attending CCD
* Develop CCD risk management plan

## 6.2 Iteration Assessment

## 6.2.1 Capabilities Implemented, Tested, and Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Capability** | **Test Case** | **Test Results** | **If fail, why?** |
| UC-1 | Login | TC-01-1 | P |  |
| UC-2 | Contributor View current week goals and progress | TC-02-1 | P |  |
| UC-3 | Contributor View past week goals | TC-02-2 | P |  |
| UC-4 | Contributor View future week goals | TC-02-3 | P |  |
| UC-9 | Contributor Logout | TC-02-5 | P |  |
| UC-10 | Contributor Create a draft | TC-03-1 | P |  |
| UC-14 | Contributor Pitch a draft | TC-03-5 | P |  |
| UC-20 | Super Admin View current week goals and progress | TC-08-1 | P |  |
| UC-21 | Super Admin View past week goals | TC-08-2 | P |  |
| UC-22 | Super Admin View future weeks goals | TC-08-3 | P |  |
| UC-26 | Super Admin Logout | TC-08-4 | P |  |
| UC-27 | Super Admin View/Edit a pitch | TC-09-1 TC-09-4 | P |  |
| UC-28 | Super Admin Approve/reject a pitch | TC-09-2 | P |  |
| UC-30 | Super Admin View/Edit a pitch | TC-10-1 TC-10-2 | P |  |
| UC-33 | Super Admin Export weekly publishing calendar | TC-10-4 | P |  |
| UC-34 | Super Admin View/Edit a pitch | TC-11-1 TC-11-2 | P |  |
| UC-35 | Super Admin Pull in parked pitch | TC-11-4 | P |  |
| UC-36 | Super Admin View a team member details | TC-12-1 | P |  |
| UC-37 | Super Admin Change a team member’s type | TC-12-2 | P |  |
| UC-38 | Super Admin Create a new user | TC-12-3 | P |  |
| UC-39 | Super Admin Delete an existing user | TC-12-4 | P |  |
| UC-40 | Super Admin Set goals for current week | TC-13-1 | P |  |
| UC-41 | Super Admin Set goals for future weeks | TC-13-2 | P |  |
| UC-42 | Super Admin Check past weeks’ goals | TC-13-3 | P |  |
| UC-44 | Admin View current week goals and progress | TC-05-1 | P |  |
| UC-45 | Admin View past week goals | TC-05-2 | P |  |
| UC-46 | Admin View future weeks goals | TC-05-3 | P |  |
| UC-50 | Admin Logout | TC-05-4 | P |  |
| UC-51 | View/Edit a pitch | TC-06-1 TC-06-4 | P |  |
| UC-52 | Admin Approve/reject a pitch | TC-06-2 | P |  |
| UC-54 | Admin View a team member details | TC-07-1 | P |  |
| UC-55 | Admin Change a team member’s type | TC-07-2 | P |  |
| UC-56 | Admin Create a new user | TC-07-3 | P |  |
| UC-57 | Admin Delete an existing user | TC-07-4 | P |  |

Table 15: Capabilities implemented, tested, and results

### 6.2.2 Core Capabilities Drive-Through Results

In the CCD, we demonstrated the following items:

* Operational concept overview
* Transition objective and strategy
* Capability demo
* Testing suite and results
* Quality focal point
* Transition plan

In the capability demo section, we showed the client web app UI and features including creating a draft, pitch the draft, approve the draft and so on to cover the entire client workflow. Even though the product still needs time to be refined, we were able to show good progress. The custom gave the following feedback:

* Dashboard: Toggle Graph week view from Mon-Sun, to Fri-Thurs
* Verticals in Global Pitch board, should be drop down--should store the value of what is previously shown
* Pick from drop-down for Super Admin vertical override
* Detail view Cancel/Confirm should be one ‘Close’ button. More actions/operations provided to change a pitch. e.g edit, delete…
* UX/CSS styling: status color, user status icon(crown for super-admin…), change color schema based on System1 homepage
* Content contributor(user): status: active/inactive, indicating availability of allocating task
* Reorder of sidebar: goal, pitch, parking, calendar
* Redesign dashboard of super admin: design a board to display an evaluation of content contributors’ work performance under certain date, user, etc..
* Redesign goal board of super admin: make a goal planned in weeks, provide CRUD functionality of this goal.
* Weekly Goal KPI - We can turn this into a Week over Week (so 2 lines - this week vs last week). Instead of #, we can use % to indicate what % complete we should be during each day of the week.
* Personal Work Progress -
* Need 3 bars -- Target, Pitched, Approved, and a Legend/Key (Finished is currently misspelled)
* Need search function since there will be too many people!
* Can we make this graph be vertical rather than horizontal? Sorted by A-Z, First Name
* Would be a huge win if we can have also date filters and go back in time (to see historical performance) -- if not, it’s ok … this data is stored in DB, correct?
* Make sure it is clear that goals are set on a weekly basis (highlighted week in the calendar)
* Notifications will be helpful if it can be configured. For example:
* Thursday Morning - Send a notification to all content contributors if less than 50% of their goal is met with Approved Pitches
* Thursday Morning - Send a notification to Super Admin if less than 50% of goal is met with Approved Pitches (overall)
* Friday Morning - Send a notification to Super Admin with a list of all content contributors that have not met 100% of their goal with Approved Pitches
* Here are the components needed in a pitch:

Title (text)

Vertical (Dropdown based on distinct Verticals set in Goal Board)

Quiz Type (Dropdown: Screenshot, Personality, Knowledge, Endless Scroll)

URL

Inspiration (text, max 80 characters)

Suggested Buy-side Network (Dropdown: Facebook, Snapchat, Pinterest, Native)

Targeting Info (text)

Description (text, max 80 characters)

## 6.3 Adherence to Plan

The first iteration went comparably smooth. We had a major pivot from trend discovery tool to idea management system. We were able to redo all the documents and provide new prototypes to show to the client by planned milestone dates. Then in the second iteration, we had problems catching up the plan. We were deadline driven and the schedule were often behind. This is due to multiple things:

1. Frequent requirement change. Certain key stakeholders are typical “know it when I see it”.
2. Staff shortage when key dev person took a vacation
3. Time shortage when HW5 and Thanksgiving happened
4. Towards the end of the semester, with people graduating, team morale went down dramatically

If we have one more chance to do this all over again, we would emphasize more on dev time instead of documentation and we hope to establish a more responsive communication mechanism with all key stakeholders.