Life Cycle Plan (LCP)

Farm workers Safety app

Team09

TEAM MEMBER NAME	ROLES
Juan Andrade	Project Manager Life Cycle Planner Developer
Basir Navab	Developer Life Cycle planner
David Tasky	Tester
Vahagen Sinanian	Developer Operational Concept
Theerapat Chawannakul	Developer System Architect
Fereshteh Khorzani	Tester

04/28/17

Version History

Date	Author	Version	Changes made	Rationale
10/12/16	Shobhit Agarwal	1.0	Created document from ICSM template, updated team roles and skill sections	Draft for the FCR ARB Submission
10/17/16	Basir Navab	1.1	Created skills, different tables	10/17/2016
11/26/16	Basir Navab	2.0	Updated some sections according to feedback from FCR ARB: - Updated artifacts to be delivered before DCR ARB.	For FCP package submission.
12/5/16	Basir Navab	2.1	Updating Cocomo cost drivers for different modulus do the whole part 6 and setting context	For FCP package submission.
2/13/17	Basir Navab	3.0	Update Milestones, update Project Deliverables, update transition phase and development phase and foundation phase, Update responsiblies, Updating Skills table, Updating Methods and Tools and Facilities,	RDCR ARB package
2/20/17	Basir Navab	3.1	Correcting updating some mistakes in the report	RDCR ARB package
04/28/17	Basir Navab	4.0	Update the Core Capabilities Drive-Through Results, did some changes in Adherence to Plan	As-Built Package

Table of Contents

Table of Tables

Table of Figures

No table of figures entries found.

1. Introduction

1.1 Purpose of the LCP

The goal of this project is to provide for farmworker safety by identifying adverse heat conditions. The clients - Senator Dean Florez and his daughter Faith - had the vision to provide a feature that allows farmworkers to be notified of when they need to take a break when the temperature rises above 80˙F. Also, advise the farmworkers by telling them what's good for them to wear on their workday, eat a night before their workday and educate them on their rights to work safety through a mobile app.

Currently no system exists. The farmworkers take a break only when their contractors ask them to. The contractors rely on a single temperature measuring device in the farm, which may or may not be present. There is no system in place to notify the farmworkers about the adverse heat conditions in the farm.

The objective is to use an application to send text based notifications to the farmworkers whenever the temperature at their registered farm location rises above a certain threshold. The farmer can update his farm location whenever he moves to a new farm.

The LCP will serve as a basis for controlling and monitoring this project's progress. It identifies the available personnel, the skills each of them possess and their availability to bring out the best in them for the project's benefit. This also serves as a proof to key stakeholders that major life cycle issues are known and have been thought of in advance.

1.2 Status of the LCP

The LCP is currently at version 3.0. This version reflects changes in the plan because of the re-defined project phase.

1.3 Assumptions

Conditions Necessary to Meet Plans, which, if not realized, would require re-negotiation.
- We have 15 weeks for the second part of the project.
- There are 5 people for this project plus 1 DEN student.
- The client will not change
- Minimum funding for purchasing some COTS

2. Milestones and Products

2.1 Overall Strategy

The team has been following the One Incremental Commitment Agile plan. Since no system exists already, we are building this from the scratch. For the strategy, we use ICSM NDI-intensive. One of the common cases for the ICSM is NDI-intensive which focuses mainly on the project for which more than 30% of end-user are provided by NDI such as COTs, open sources or web services.

Description of Exploration Phase
Duration: 09/07/2016 – 09/15/2016
Concept: Project Management, Win-Win Conditions Analysis with all stakeholders
Deliverables: Risk Defect Template, Client Interaction Report, Win Condition Report, Progress Reports, Meeting Reports
Milestones: Valuation Commitment review
Strategy: One Incremental Commitment development cycle

Description of Valuations Phase
Duration: 09/16/2016 – 10/09/2016
Concept: Project Management, Project Top Risk Prototype, Project Documentation
Deliverables: OCD, Feasibility analysis, initial life cycle planning, Use Case Diagram, OOAD artifacts, Architecture Initial designs.
Milestones: Foundation Commitment Review
Strategy: One Incremental Commitment development cycle

Description of Foundations Phase
Duration: 10/10/2016 – 12/09/2016
Concept: Project Management, proactively maintaining Project Quality, Project Design and UX Engineering, Project Documentation
Deliverables: : Life Cycle Report, Feasibility Analysis enhanced, SSAD, Prototype, QFP, UI prototype, Wire Frames, Project UI Design and UX engineering, Working prototypes for each risk item.
Milestones: Development Commitment Review
Strategy: One Incremental Commitment development cycle

Description of Re-Baselined Foundations phase
Duration: 1/15/2017 – 02/13/2017
Concept: Project Management, Re-baseline the statuses, preparing for development phase, planning testing, Project Design and UX Engineering, Project Documentation

Deliverables: : Re-baselined Development Commitment Package
Milestones: Re-Baselined Foundations phase
Strategy: One Incremental Commitment development cycle

Description of Development phase – Construction
Duration: 1/20/2017 – 04/16/2017
Concept: Project Management, develop deferent modules, Test developed modules.
Deliverables: : Core Capability Drive through (CCD) Report, Transition Readiness Review package.
Strategy: One Incremental Commitment development cycle

Description of Development phase – Transition
Duration: 4/17/2017 – 05/05/2017
Concept: Project Management, Transition the project to the client, client training.
Deliverables: : Project Archive for the end of the semester
Milestones: End of the semester.
Strategy: transition system and training the client.

2.2 Project Deliverables
2.2.1   Exploration Phase

Table 1: Exploration Phase

Artifact	Due Date	Format	Medium
Progress Report	Bi-weekly every Wednesday	.xlsx file	Soft Copy
Project Plan	Bi-weekly every Wednesday	.mpp file	Soft Copy
Risk & Defect	Bi-weekly every Wednesday	.xlsx file	Soft Copy

2.2.2   Valuation Phase

Table 2: Valuation Phase

Artifact	Due Date	Format	Medium
Top Risk Prototype	10/05/2016	.ppt file	Soft Copy
Progress Report	Bi-weekly every Wednesday	.xls file	Soft Copy
Project Plan	Bi-weekly every Wednesday	.mpp file	Soft Copy

| Risk & Defect | Bi-weekly every Wednesday | .xls file | Soft Copy |

2.2.3   Foundations Phase

Table 3: Foundation Phase

Artifact	Due date	Format	Medium
Foundations Commitment Package • Operational Concept Description (OCD) All sections • Life Cycle Plan (LCP) Sections 1-5 • Feasibility Evidence Description (FED) Sections 1-5 • Prototype Description (PRO) All sections • System and Software Architecture Description (SSAD) Sections 1 & 2	10/20/16	.doc, .pdf	Soft copy
Client Feedback Form			
Draft Development Commitment Package	12/01/16		
Development Commitment Package	12/08/16		
Project Effort	Every Monday	Text	
Project Plan	Every other Wednesday	.mpp	Soft copy
Progress Report	Every other Wednesday	.xls	Soft copy

2.2.4   Foundations Phase

Table 4: Artifact deliverable in Foundations Phase

Artifact	Due date	Format	Medium
Rebase-lined Development Commitment Package	02/13/17	.doc, .pdf	Soft copy
Project Effort	Every Monday	Text	
Project Plan	Every other	.mpp	Soft copy

	Wednesday		
Progress Report	Every other Wednesday	.xls	Soft copy

2.2.5   Description of Development Phase

Table 5: Artifact deliverable in Development Phase

Artifact	Due date	Format	Medium
Core Capabilities Drive-through Report	03/24/17	.doc, .pdf	Soft copy
Transition Readiness Review Package	04/14/17	.doc, .pdf	Soft copy
Project Effort	Every Monday	Text	
Project Plan	Every other Wednesday	.mpp	Soft copy
Progress Report	Every other Wednesday	.xls	Soft copy

2.2.6   Transition Phase

Table 6: Artifact deliverable in Development Phase

Artifact	Due date	Format	Medium
Project Archive	5/5/15	.zip	Soft copy
Project Effort	Every Monday	Text	]
Project Plan	Every other Wednesday	.mpp	Soft copy
Progress Report	Every other Wednesday	.xls	Soft copy

3. Responsibilities

3.1 Responsibilities by Phase

Table 7: Team member responsibilities - Developers

Team Member	Exploration	Valuation	Foundation
Juan Andrade Role: Project Manager, Life Cycle Planner, Developer	Primary Responsibility: Point of contact for the client. Developing client interaction report. Contacting with client.	Primary Responsibility: Developing biweekly packages, developing backend, Microsoft project plan	Primary Responsibility: Organizing and leading client interaction meetings for system improvement. Updating the Microsoft project plan file.
Basir Navab Role: Developer, Life Cycle planner	Primary Responsibility: Developing the frontend of the project and UI, and Life Cycle planner	Primary Responsibility: Working with teammate to develop frontend of the project	Primary Responsibility: Life cycle planer, and preparing the document for it.
David Tasky Role: Tester	Primary Responsibility: Create Test Cases, Unit Testing Front-End/Back-End	Primary Responsibility: Providing different test cases and perform them	Primary Responsibility: Test Software, Code/Design review, Provide Client Training
Vahagen Sinanian Role: Developer, Operational Concept	Primary Responsibility: Develop UI, Develop Front- End	Primary Responsibility: Developing the front end of the project and UI	Primary Responsibility: Fix/Build Software, Code/Design Review, Provide client Training
Fereshteh Khorzani Role: Tester	Primary Responsibility: Create Test Cases, Unit Testing Front-End/Back-End	Primary Responsibility: Creating and performing different test cases	Primary Responsibility: Code/Design Review, Test software, Provide Client Training
Theerapat Chawannakul Role: Developer,	Primary Responsibility: Develop UI, Develop Front- End and SSAD	Primary Responsibility: Developing UI, front end of the project and responsible the	Primary Responsibility: Build software, Code/Design Review, Provide Client Training

System Architect		documentation for the SSAD	

Table 7: Team member responsibilities – Client

Name	Mr. Dean Florez and Ms. Faith Florez
Role	Client
Exploration	Project vision
Valuation	Propose Win Conditions
Foundations	Review Team Presentation and give instant feedback
Development	Developing the project

3.2 Skills

TEAM MEMBER NAME	ROLES	SKILLSET
Juan Andrade	Project Manager Life Cycle Planner Developer	Project Management, Jira, Agile Development, ASP.NET, C#, Databases, Git,
Basir Navab	Developer Life Cycle planner	C#, Java, PHP, Web development, Javascript, Flash, Git
David Tasky	Tester	Testing, quality management, C++
Vahagen Sinanian	Developer Operational Concept	Web development, PHP, Javascript, Analytical skills, Git
Theerapat Chawannakul	Developer System Architect	Web development, PHP, Javascript, Git, AngularJs
Fereshteh Khorzani	Tester	Tasting, quality management,C++

4. Approach

4.1 Monitoring and Control

The development team used Progress Report, Risk and Defect Report and Project plan in monitoring and controlling the project.

4.1.1 Closed Loop Feedback Control

The team used Gmail, Google Drive, Basecamp and a common WhatsApp Group for all the communications.
The team met every Monday, Wednesday and Friday after class to work on project deliverables.

4.1.2 Reviews

Each task is divided between different team members. This method gives the opportunity to each person to peer review the work of another team member to give feedback and make sure that the work is completed with high quality.

4.2 Methods, Tools and Facilities

Tools	Usage	Provider
ASP.net	For creating prototype, uses C#	Microsoft
MS SQL Server	For backend database	Microsoft
Weather API	For getting the weather temperature	Open Weather API
SMS API	For sending SMS-based notifications to farmworkers	Nexmo
Microsoft Project	To create a project plan	Microsoft
Draw.IO	To create all diagrams used in our reports	Google
Winbook	Used to prioritize win conditions with the client	USC Center for Software Engineering
Skype	Communications with Off-Campus/DEN Student	Microsoft
Basecamp	Communication with the client and sharing files	Basecamp LLC
AngularJs	For crating Webpages	Google

Resources

- Estimated CSCI577b Effort: 6 team members at 14 hrs/week for 12 weeks
- Total estimated effort: unknown
- Budget information: The client will get the product free of cost, however charges to the development team can be applied for hosting the website.
- Project duration: 2 semesters
- Component modules in the development project:
- Programming language used: ASP.NET and COTS for getting weather forecast and sending notifications

Table 8: SLOC analysis

Name	Size SLOC	Cost	Staff	Effort	Schedule
Temperature Retrieval Module	100	$0,00	0.1	0.58	2.45
Notification Module	100	$0,00	0.2	1.22	3.12
Learning Module	2,000	$0,00	0.5	2.87	4.34
Testing Module	1,200	$0,00	0.3	1.87	3.98
Registration Module	2,00	$0,00	0.4	2.21	4.65
Total	5,400	$0,00		**8.75**	

Table 9: COCOMOII Scale Driver

Scale Driver	Value	Rationale
PREC	HIGH	The development team is familiar with Web Application and Mobile application development but need more information on the available APIs to integrate the text based notifications and fetching weather forecasts.
FLEX	HIGH	There are various COTS available to fetch the weather forecasts and send test based notifications. The system also does not hold any technological limitations and the development team can choose a technological stack of their choice.

RESL	NOMINAL	All critical risk items, schedule, budget and internal milestones are identified. All team members are well versed in the technological stack. Juan is an expert on ASP.NET framework and Akshay, Vahag worked on the NDI and cost analysis for each available COTS.
TEAM	VERY HIGH	Our client understands the development details and has given the developers freedom to choose the technological stack, NDIs, etc. that suits the best for the application. The client and the development team worked closely and got all their doubts cleared right from the first client meeting.
PMAT	NOMINAL	The development team follows ICSM guidelines, which the processes are defined and repeatable but the result may not be consistent, CMM Level 2.

Table 10: COCOMOII Cost Drivers for point system

Cost Driver	Value	Rationale
APEX	Low	Only a few members of the team have experience developing applications in the C# language
LTEX	Low	Only three members of the team are experienced developers

Table 11: COCOMOII User Profile Module

Cost Driver	Value	Rationale
RELY	High	The reliability of the system and it should be 24/7
DATA	High	For profile, we are storing a lot of data.
CPLX	High	The complexity of implementing the system.
RUSE	Low	profile will be tailored for this specific project, no reuse.
DOCU	Nominal	The documentation was developed for each phase of development.
TIME	Nominal	The system is expected to use less than 50% of the available execution time. And the response time.
STOR	Nominal	It will take up at < 80% use of available storage
PVOL	Nominal	In this project, we do not update the change frequently.
ACAP	High	The team cohesively works on gathering requirements and high level design of the system.
PCAP	Very	Most of our team members are capable. We have mix skills

	High	from 90th percentile to 55 percentiles so we are going to estimate in between = 75 percentile.
PCON	High	There is no personnel turnover.
APEX	High	The team is not fully familiar with the COTS/NDI that will be used in developing the system.
PLEX	Nominal	In the team, there are mixes of people familiar and unfamiliar with the platforms
TOOL	High	Basic life-cycle tools, moderately integrated.
SITE	Very Low	The DEN students are not present at the same site, but connection is achieved using Skype.

Table 12: COCOMOII Notification Module

Cost Driver	Value	Rationale
RELY	Very High	It's important that we need to make sure notification is going to be delivered.
DATA	Nominal	For notification, we store not a lot of data.
CPLX	Nominal	Straightforward nesting of structured. Simple GUI builder, straightforward database structure.
RUSE	Nominal	Reusable across project.
DOCU	Nominal	The documentation was developed for each phase of development.
TIME	Very high	The system is expected to use more than 80% of the available execution time.
STOR	Nominal	It will take up at most 50% use of available storage
PVOL	Nominal	In this project, we do not update the change frequently.
ACAP	Very High	The team cohesively works on gathering requirements and high level design of the system.
PCAP	High	Most of our team members are capable. We have mix skills from 90th percentile to 55 percentiles so we are going to estimate in between = 75 percentile.
PCON	Nominal	There is no personnel turnover.
APEX	High	The team is not fully familiar with the COTS/NDI that will be used in developing the system.
PLEX	High	In the team, there are mixes of people familiar and unfamiliar with the platforms
TOOL	High	Basic life-cycle tools, moderately integrated.
SITE	Very Low	The clients and the DEN students are not present at the same site, but connection is achieved using Skype.

Table 13: COCOMOII Education Module

Cost Driver	Value	Rationale
RELY	High	It is important because we need to educate farmworkers
DATA	Very High	We do not have much test data.
CPLX	Very High	Straightforward nesting of structured. Simple GUI builder, straightforward database structure.
RUSE	Nominal	Reusable across project.
DOCU	High	The documentation was developed for each phase of development.
TIME	Nominal	The system is expected to use 50% of the available execution time.
STOR	Very High	It will take up at most 40% use of available storage
PVOL	High	In this project, we do not update the change frequently.
ACAP	Very High	The team cohesively works on gathering requirements and high level design of the system.
PCAP	High	Most of our team members are capable. We have mix skills from 90th percentile to 55 percentiles so we are going to estimate in between = 75 percentile.
APEX	Very High	The team is not fully familiar with the COTS/NDI that will be used in developing the system.
PLEX	High	In the team, there are mixes of people familiar and unfamiliar with the platforms
TOOL	High	Basic life-cycle tools, moderately integrated.
SITE	Very low	The DEN students are not present at the same site, but connection is achieved using Skype.

Table 14: COCOMOII Weather Module

Cost Driver	Value	Rationale
RELY	Very High	We need to relay on the weather information because it plays very important roles
DATA	High	We do not have much test data.
CPLX	High	Mostly simple nesting. Some intermodal control.
RUSE	Very High	Reuse across project.
DOCU	Nominal	The documentation was developed for each phase of

Cost Driver	Value	Rationale
		development.
TIME	Very High	The system is expected to use more than 80% of the available execution time.
STOR	Nominal	It will take up at most 50% use of available storage
PVOL	Low	In this project, we do not update the change frequently.
ACAP	Very High	The team cohesively works on gathering requirements and high level design of the system.
PCAP	Very High	Most of our team members are capable. We have mix skills from 90th percentile to 55 percentiles so we are going to estimate in between = 75 percentile.
PCON	Nominal	There is no personnel turnover.
APEX	High	The team is not fully familiar with the COTS/NDI that will be used in developing the system.
PLEX	High	In the team, there are mixes of people familiar and unfamiliar with the platforms
TOOL	Nominal	Basic life-cycle tools, moderately integrated.
SITE	Very Low	The clients and the DEN students are not present at the same site, but connection is achieved using Skype.

Table 15: COCOMOII Farm Module

Cost Driver	Value	Rationale
RELY	High	We need the information of the farms to manage the farmworkers.
DATA	High	We do not have much test data.
CPLX	Nominal	Mostly simple nesting. Some intermodals control.
RUSE	Low	Reuse across project.
DOCU	Nominal	The documentation was developed for each phase of development.
TIME	Nominal	The system is expected to use less than 50% of the available execution time.
STOR	High	It will take up at most 20% use of available storage
PVOL	Low	In this project, we do not update the change frequently.
ACAP	Very High	The team cohesively works on gathering requirements and high level design of the system.
PCAP	High	Most of our team members are capable. We have mix skills from 90th percentile to 55 percentiles so we are going to estimate in between = 75 percentile.
PCON	High	There is no personnel turnover.
APEX	High	The team is not fully familiar with the COTS/NDI that will be used in developing the system.

PLEX	Nominal	In the team, there are mixes of people familiar and unfamiliar with the platforms
TOOL	Nominal	Basic life-cycle tools, moderately integrated.
SITE	Very Low	The clients and the DEN students are not present at the same site, but connection is achieved using Skype.

X	Module Name	Module Size	LABOR Rate ($/month)	EAF	Language	NOM Effort DEV	EST Effort DEV	PROD	COST	INST COST	Staff	RISK
	User Profile	S:1100	0.00	0.63	Non-Specified	3.8	2.4	460.0	0.00	0.0	0.3	0.0
	Notification	S:700	0.00	0.88	Non-Specified	2.4	2.1	331.0	0.00	0.0	0.2	0.3
	Education	S:2700	0.00	1.25	Non-Specified	9.3	11.7	231.0	0.00	0.0	1.3	0.0
	Weather	S:200	0.00	1.02	Non-Specified	0.7	0.7	283.8	0.00	0.0	0.1	0.3
	Farm	S:300	0.00	0.60	Non-Specified	1.0	0.6	484.6	0.00	0.0	0.1	0.0

		Estimated	Effort	Sched	PROD	COST	INST	Staff	RISK
Total Lines of Code:	5000	Optimistic	14.0	8.5	356.8	0.00	0.0	1.6	
Hours/PM:	152.00	Most Likely	17.5	9.1	285.4	0.00	0.0	1.9	0.7
		Pessimistic	21.9	9.8	228.3	0.00	0.0	2.2	

Total number of week = 12 weeks (1 semesters).
One person can work 10 hours per week.
According to COINCOMO II;

The COCOMO II estimation effort calculated from the 5 modules gives an effort of **11.07** PM

13.59 PM * 152 hrs/PM = 2065.68 hr to do the work
10 hrs/week/person * 12 weeks = 120 hr/person
2065.68 hrs / 120 hrs / person = 4.3 person

We have 6 team members, so according to the pessimistic estimate we are good to go.

6. Iteration Plan

6.1 Plan

We divided construction iteration of the Development phase into two parts; the first one will be the core capabilities of the system are developed and the second this is because we want to make sure every feature of the project will be done perfectly.

6.1.1 Capabilities to be implemented

Table 16: Construction iteration capabilities to be implemented

Capability	Description	Priority	Iteration
OC-1	Temperature-based notification system	High	1
OC-2	Educational content system	High	1
OC-3	Accurate farmworker location	High	1
OC-4	Profile system	Medium	1

6.1.2 Capabilities to be tested

Table 17: Construction iteration capabilities to be tested

ID	Capability	Description	Priority	Iteration
1	OC-1	Temperature-based notification system	High	1
2	OC-2	Educational content system	High	1
3	OC-3	Accurate farmworker location	High	1
4	OC-4	Profile system	Medium	1

6.1.3 Capabilities not to be tested

We tested all the test cases.

6.1.4 CCD Preparation Plans

Our clients, Dean Florez and Faith Florez, will be involved in the CCD. The development team will prepare a system to be tested by the clients. The farmworkers will be asked to perform certain tasks in the system, such as create a profile and sending text to a specific number. The results, farmworkers experience and suggested improvements will be documented and followed-up by the team.

6.2 Iteration Assessment

6.2.1 Capabilities Implemented, Tested, and Results

Table 16: Capabilities implemented, tested, and results

Capability	Capability	Test Case	Test Results	If fail, why?

OC-1	Temperature-based notification system	TC-01: Send SMS	Pass	-
		TC-02: notifications Fetch temperature based on user's location	Pass	-
OC-2	Educational content system	TC-03 Upload new educational content	Pass	-
		TC-04 View educational content	Pass	-
		TC-05 Create a quiz	Pass	-
		TC-06 Take a quiz on educational content	Pass	-
OC-3	Accurate farmworker location	*TC-07 Update farmworker location via SMS*	Pass	-
		TC-08 Farmworker self-update of location	Pass	-
		TC-09 Contractor/Farmer update of farmworker location	Pass	-
OC-4	Profile system	*TC-10 Create user profile*	Pass	-
		TC- 11 Edit/Update user profile	Pass	-
		TC-12 Delete user profile	Pass	-
		TC-13 Register Farm	Pass	-

		TC-14 Login/ Logout	Pass	-

6.2.2 Core Capabilities Drive-Through Results

Create account and log in
The clients overall satisfied from the logging page interface and the functionality of it. Specially the picture of the background. The only think that they suggested until this step, was changing the context of the left side text in the logging page and make something more useful instead of it. Also, the clients were happy from the registration page. And they gave us some compliment about the design and validation. On the other hand, they were so happy about the "Forgot your password?" future. They said this future is very useful. Also, the most thing important thing that make them happier was having the Spanish and English languages feature for the web application. They mentioned that a lot of farmworkers cannot speak and read English so this feature make using of this web application easier for them.

Home page and edit profile information
The clients were happy about the design and functionality of these two pages. They said it's very useful to have the home page to show all the information about the farmworker and make the feature for them that if they don't want to fill their information they can leave that part alone. Client said these futures make your web application unique. Also, they are so happy for the changes that we had about log-out bottom and make it more visible.

Watching videos, taking quizzes and see documents page
Actually, the clients were so happy because of completion of this page. Specially the future that web application has about marking videos as watched. They mentioned that this future make your work professional. On the other hand, they were satisfied from the search bar in each video, quizzes and documents pages. They really like interface and it was user friendly based on their idea. The only thing that they mentioned was improving the speed of loading quizzes in the quiz page.

Admin page
The clients were so happy about the design and the form of the different pages in the admin page. They mentioned that looking at the farms and creating new farms make your we application unique, also they satisfied about adding new farmworkers and search feature which is implemented for it as well as farm owners page. One of the things that make them so happy was the future that the web application make for them was about educational content pages which is about uploading the link of the videos easily and make it enable or disable for the farmworkers. Also, adding new quizzes and all the function that was implemented for quizzes page as well as document page.

Send text and choose the farm that they are working in
The clients generally are asked to send a code to a specific number to sign up for a farm and get notification based on the weather related to the farm And were so happy about this future.

Notifications
The clients receive different Temperature Warning and Weather Forecast Notifications based on the weather condition. This future was the most important future of the or web application which make clients so happy after showing it to them. The only thing that they mentioned was telling them the amount of money that we need to buy a better plan for improving the speed of the texting for the system.

6.3 Adherence to Plan

The team has adhered to the plan of the project based on the time, schedule of the class, and met all requirements. The professor and TA's helped us to maintain a good quality project.
All the deliverables and requirements that were promised to the client for last semester were met. One of the most important things that we have in the future is Cal Osha meeting which make direction to our project and we continue working on the project for summer and make more futures to it to keep fulfilling the client's requirements. At the end, we are putting extra effort in the summer to finish the project and test it on some farms with real farmworkers. Overall, Our team did an amazing job from beginning to the end of our semester.