

Operational Concept Description (OCD)

Farmworkers Safety System

Team 09

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Version History

Date	Author	Version	Changes made	Rationale
10/12/16	Vahagen Sinanian	1.0	Initial version	Draft for FCR ARB
10/17/16	Vahagen Sinanian	1.1	<ul style="list-style-type: none"> Updated the benefit chain diagram Updated capability goals table Completed Level of service table 	<ul style="list-style-type: none"> Imitative values on benefit chain diagram were wrong. Content of the table have been corrected. Level of service table was not completed
12/05/16	Vahagen Sinanian	2.0	<ul style="list-style-type: none"> Updated the program model Updated the LOS table 	<ul style="list-style-type: none"> Added system administrator to the Program Model table Corrected the Level of Service Goals
02/19/17	Vahagen Sinanian	3.0	<ul style="list-style-type: none"> Updated System Type Updated Team members table 	<ul style="list-style-type: none"> Changed the system type to web application Removed the team members who left the team and added the new members. Updated the roles and responsibilities of all members according to their roles assigned for Spring 2017 class.
04/28/17	Vahagen Sinanian	4.0	<ul style="list-style-type: none"> Updated System Boundary diagram 	<ul style="list-style-type: none"> Added Bitly API to the diagram as a new API being used by the team for Farmworker Safety System

Table of Contents

Operational Concept Description (OCD)	i
Version History	ii
Table of Contents	iii
Table of Tables	iv
Table of Figures	v
1. Introduction	1
1.1 Purpose of the OCD	1
1.2 Status of the OCD	1
2. Shared Vision	2
2.1 Benefits Chain	3
2.2 System Capability Description	4
2.3 System Boundary and Environment	5
3. System Transformation	6
3.1 Information on Current System	6
3.2 System Objectives, Constraints and Priorities	6
3.3 Proposed New Operational Concept	8
3.4 Organizational and Operational Implications	9

Table of Tables

Table 1: The Program Model2

Table 2: Level of Service Goals7

Table 3: Relation to Current System.....7

Table of Figures

Figure 1: Benefits Chain Diagram of Farmworker Safety System3

Figure 2: System Boundary of Farmworker Safety System5

Figure 3: Element Relationship Diagram of Farmworker Safety System7

Figure 4: Business Workflow Diagram of Farmworker Safety System8

1. Introduction

1.1 Purpose of the OCD

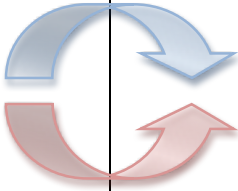
This document provides detailed information about Farmworkers Safety System Critical shareholders' shared vision. Critical stakeholders of Farmworkers Safety System are as following: Senator Dean Florez and Faith Florez as owners of the project, developers, maintainers, farmworker, contractors, and farmers.

1.2 Status of the OCD

In version 4.0 of the Operational Concept Design document we have updated the System Boundary diagram by adding the Bitly API which is being used for Farmworker Safety System Application.

2. Shared Vision

Table 1: The Program Model

Assumptions Farmers have phones and Internet connectivity; They can use their phones at work. They have nearby access to water and shade. Farmers want to improve working conditions. Contractors and farmers are obligated to provide safety for farmworkers.			
Stakeholders	Initiatives	Value Propositions	Beneficiaries
Developer System Administrator Maintainer Farmworker Contractors Farmers Regulators	<ul style="list-style-type: none"> Develop the system Manage data and content on system. Keep the system up and running Setup a profile with correct phone number and accurate location Update locations of farmworkers based on their farm assignments Manage farmworkers through profiles and provide feedback Set standards for farmer safety 	<ul style="list-style-type: none"> Provide temperature based notifications. Educate farmers and improve their quality of life. Improve productivity of farmworkers. 	<ul style="list-style-type: none"> Farmworkers Consumers of farm products Farmers and contractors

2.1 Benefits Chain

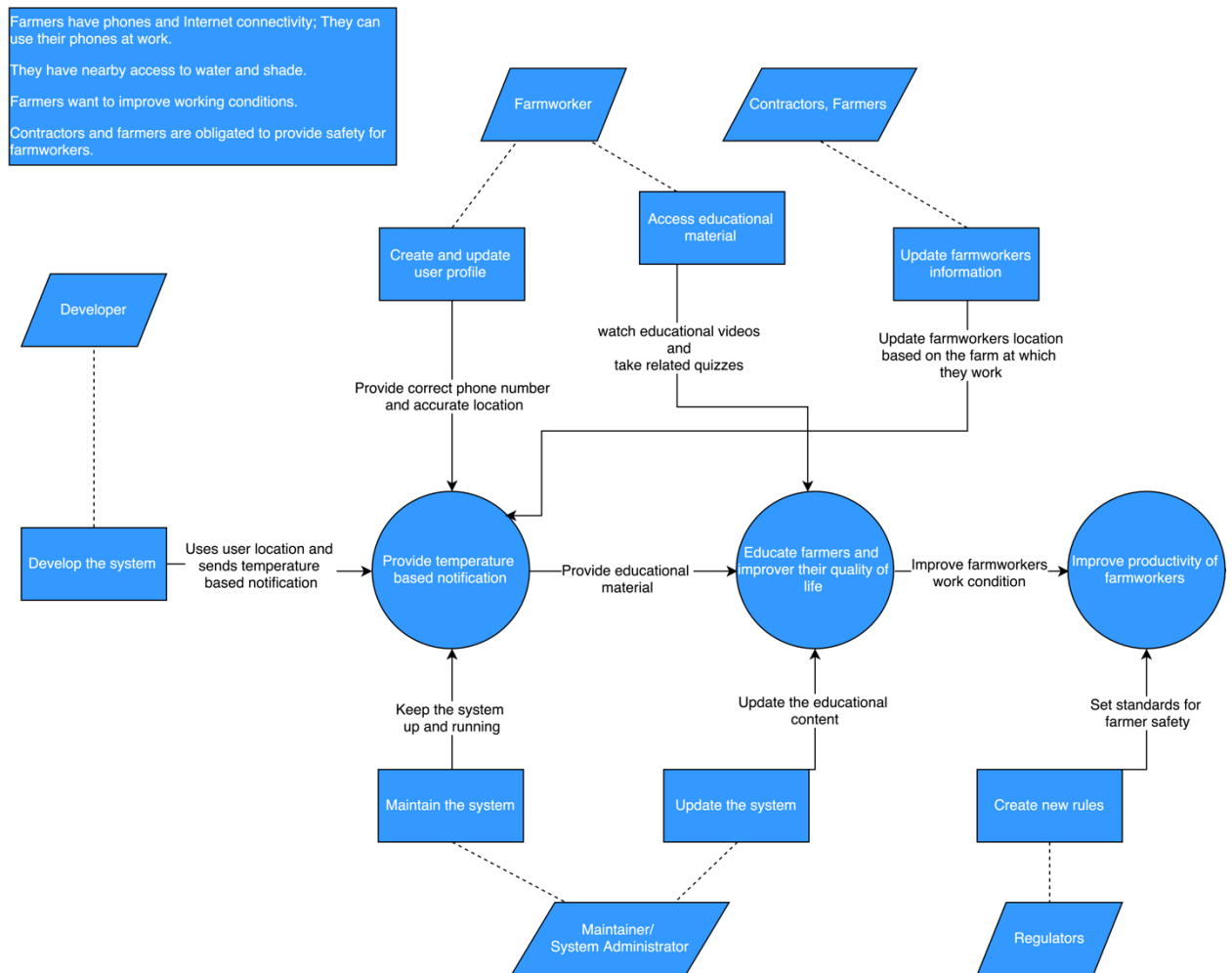


Figure 1: Benefits Chain Diagram of Farmworker Safety System

2.2 System Capability Description

2.2.1 Type of system:

Farmworkers Safety System is a responsive web application and currently there is no competitive system available.

2.2.2 Target Customers:

Main customers for our system are farmworkers, contractors, and farmers.

2.2.3 Need or opportunity satisfied by the system:

- Prevent heat illness among the farm workers by notifying them of work conditions.
- Provide an educational platform
- Support CAL/OSHA compliance efforts

2.2.4 Compelling reason for the customer to buy/use the system:

1. **Consistency:** This system will programmatically check weather conditions at work locations to consistently notify farmworkers when the temperature reaches predefined thresholds.
2. **Long-term impact:** The educational content embedded in our system will help the farmworkers learn how to reduce and prevent heat illness. Education will foster lasting change.
3. **Designed with audience in mind:** Our system supports both English and Spanish languages; Therefore, farmworkers who don't speak English also can use it and gain the same benefits.
4. **Stakeholder value:** Farm Contractors and Farmers can monitor heat conditions and access advanced information including forecasts and historical weather data. The net effect is healthier farmworkers and higher productivity.

2.3 System Boundary and Environment

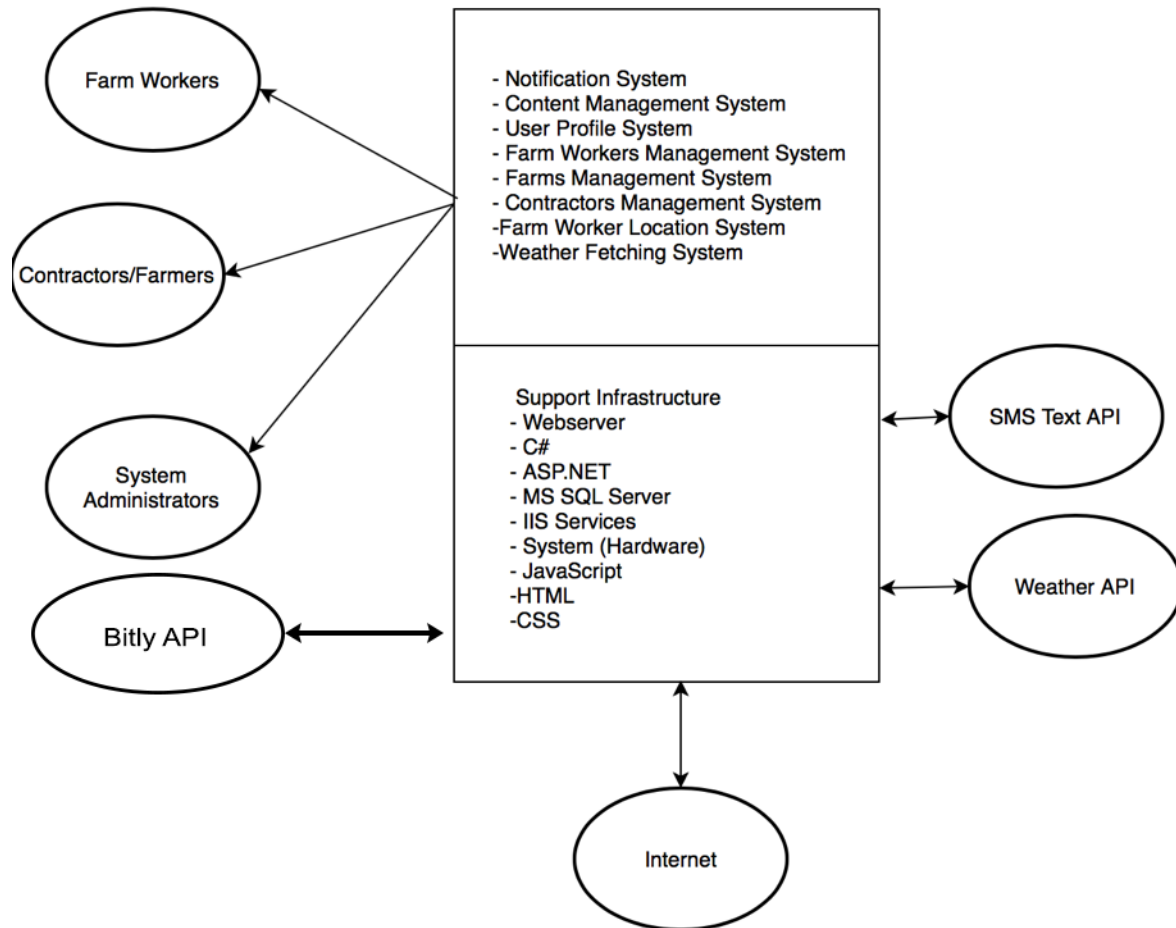


Figure 2: System Boundary of Farmworker Safety System

3. System Transformation

3.1 Information on Current System

Currently there is no system and we are building this system from scratch.

3.1.1 Infrastructure

3.1.2 Artifacts

3.1.3 Current Business Workflow

3.2 System Objectives, Constraints and Priorities

3.2.1 Capability Goals

Capability Goals	Priority Level
OC-1: Provide temperature based notification	2
OC-2: Provide educational content to educate the farmers in how to prevent heat illness	3
OC-3: Get farmers accurate location and correct phone number	1
OC-4: Update the farmworker location via SMS and the website.	4
OC-5: Farmworkers should be able to create emergency contact list	5
OC-6: Farmworkers should be able to send their location to emergency services.	6

3.2.2 Level of Service Goals

Table 2: Level of Service Goals

Priority level scale:1-10 (1 is highest)

Level of Service Goals	Priority Level	Referred WinWin Agreements
LOS-1: The system shall be scalable to up to at least the 400,000 farmworkers in California.	1	WC_4156, WC_4159, WC_4184
LOS-2: The system shall not be down for more than 24 hours in a month.	2	WC_4164, WC_4159
LOS-3: The system shall have cross platform and cross system capability.	3	WC_4166, WC_4179

3.2.3 Organizational Goals

OG-1: Improve farmworkers quality of life.

OG-2: Educate farmworkers about the risks that they can face because of heat

OG-3: Notify farmers and farmworkers about work conditions

3.2.4 Constraints

1. Keep the data usage as low as possible for farmworkers who don't have data plans.
2. Find SMS and weather APIs that enable high-rate of calls at minimal cost.

3.2.5 Relation to Current System

There is no current system.

Table 3: Relation to Current System

Capabilities	Current System	New System
Roles and Responsibilities	N/A	N/A

User Interactions	N/A	N/A
Infrastructure	N/A	N/A
Stakeholder Essentials and Amenities	N/A	N/A
Future Capabilities	N/A	N/A

3.3 Proposed New Operational Concept

3.3.1 Element Relationship Diagram

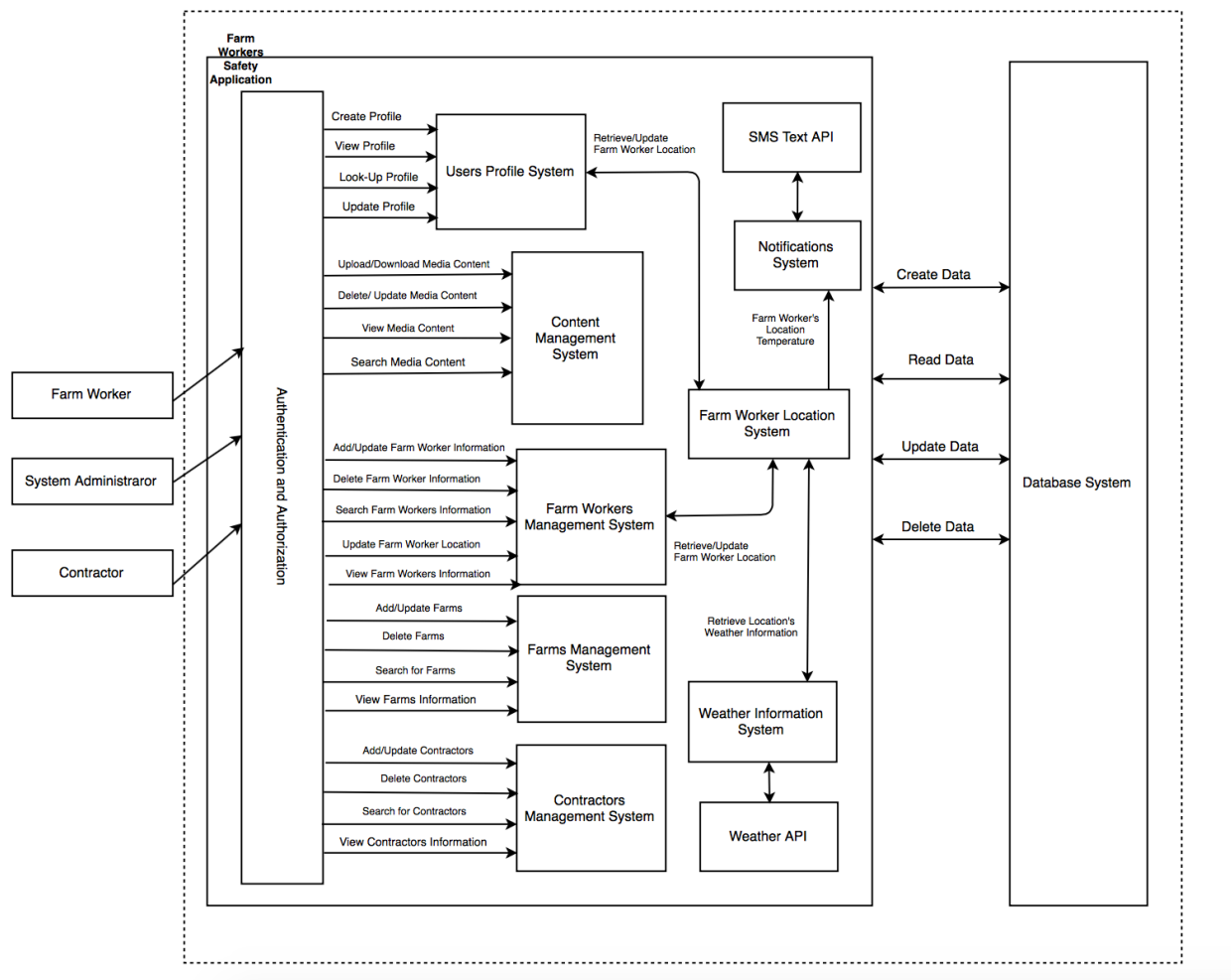


Figure 3: Element Relationship Diagram of Farmworker Safety System

3.3.2 Business Workflows

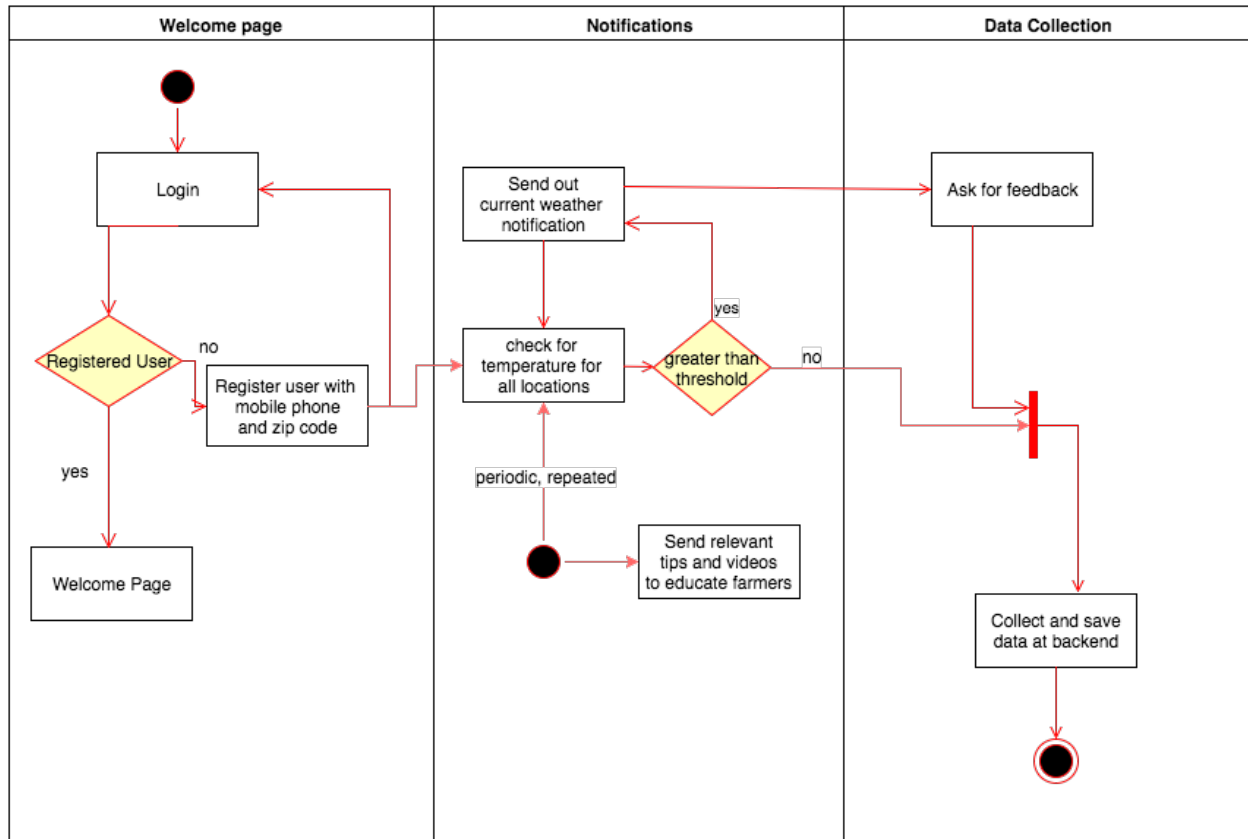


Figure 4: Business Workflow Diagram of Farmworker Safety System

3.4 Organizational and Operational Implications

Since there is no previous version of this system there is no changes to Organizational and Operational Implementations.

3.4.1 Organizational Transformations

3.4.2 Operational Transformations

