Rural Cultivation & Atmospheric Emulation Application (RCAEA) URS document

|  |  |
| --- | --- |
| **Document:** | Testcase |
|  |  |
| **Authors:** | Raima Khan |
|  | Tsanko Hadzhiev |
|  | Richard Dyer |
|  | Mihail Hadzhinikolov |
|  | Zisis Damianidis |
|  | Al Al-Mohaiminul Islam Khan |
|  |  |
| **Creation Date:** | 16/09/16 |
| **Last Revised:** | 27/09/16 |
| **Group Name:** | Tanks & Co.™ |
| **Version:** | 0.1 |

[Contents 2](#_Toc462721078)

[Test cases 12](#_Toc462721090)

[Adding crops 12](#_Toc462721091)

[Removing crops 12](#_Toc462721092)

[Updating fertilizers to crops 13](#_Toc462721094)

[Updating water resources 13](#_Toc462721093)

[Generate report 13](#_Toc462721093)

[Soil selection 13](#_Toc462721093)

[Display statistics 14](#_Toc462721093)

[Simulating growth of crops 14](#_Toc462721093)

[Selecting start and end date: 14](#_Toc462721095)

[Saving simulation: 15](#_Toc462721095)

[Loading simulation: 15](#_Toc462721095)

[Exit application 16](#_Toc462721097)

Table of Contents

[**Updating water resources** 5](#_Toc463343728)

[**Generate report** 6](#_Toc463343729)

[**Soil Selection** 6](#_Toc463343730)

[**Display statistics** 7](#_Toc463343731)

[**Simulating growth of crops:** 7](#_Toc463343732)

[**Selecting start date and end date** 7](#_Toc463343733)

Introduction

This document will outline the testing procedures for RCAEA Project to be developed by Tanks & Co.™ The application allows the user to simulate cultivating specific crop(s) in an area of land during a certain length of time. By using this application they can determine when, where, and what crops to place in a specified piece of land. It will help the user make a cultivation plan for a certain area of land based on real land data. It considers regions factors such as weather whereby the user can select which outdoor agricultural crops to place in an area. The simulation will use real data on the crop and simulate its growth based on external and internal determinate factors. RCAEA will take all these factors into account and determine an estimated cost and production outcome. Data will be saved in a file which the user can load or keep for their own records.

Objectives

Describe the objectives supported by the Master Test Plan, eg., defining tasks and responsibilities, vehicle for communication, document to be used as a service level agreement, etc.

This document specifies the functions that will be tested for the RCAEA. This document has the following objectives.

* To define the functionalities that will be tested.
* Give details of testing procedures.
* Define elements of testing activities.
* Defining the testing strategies to be implemented
* Define deliverable dates for the testing results.

Scope

## Function to be tested:

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Name | Objective | Description |
| T\_C\_100 | Adding Crops | * Ensure crop is added to plot without error * Crop is added to plot within 1500miliseconds | Adding Crop testing, tests the system’s ability to fill a plot with a crops characteristic. |
|  |  |  |  |
|  |  |  |  |

Requirements for Testing

The underlying items are the identified targets for testing, every item below will be tested in the proposed manner.

**Adding crops:**

ID:T\_C\_100

Initialization status: Main screen of application is open. A grid of 70spaces is created.

**100.1 Adding carrots on empty plot**

**Test steps:**

1. User clicks on year round crops
2. List of crops that can grow al round year will be displayed.
3. User clicks carrots.
4. System shows picture and name “carrots” on split button as currently selected crop
5. User clicks on first plot in second column where he wants to grow carrots.

**Test result:**

The system will show carrots cultivated on that plot.

**100.2 Carrots added to already cultivated plot exception**

**Test steps:**

1. User clicks on year round crops
2. List of crops that can grow al round year will be displayed.
3. User clicks carrots.
4. System shows picture and name “carrots” on split button as currently selected crop
5. User clicks on a plot which is already cultivated where he wants to grow carrots.

**Test results:**

System will display an exception message “Selected plot is cultivated.”

**Removing crops**

Id: T\_C\_102

* 1. **Removing carrots from currently selected plot**

**Test steps:**

1. User will right click on first plot in second column, where carrots are cultivated.
2. System will show right clicked menu with delete option.
3. User clicks delete option from menu.

**Test results:**

System will remove carrots from first plot in second column. System will remove statistics info and will change status of plot as empty plot.

* 1. **Empty plot selected for removing crops**

1. User will right click on uncultivated plot.

**Test result:**

System will show right clicked menu with disabled delete option.

**Updating fertilizers to crops**

Id: T\_C\_103

**103.1Updating fertilizer to all cultivated crops at the moment**

**Test steps:**

1. User will click on the fertilizer drop down menu.
2. System will display the fertilizer drop down options.
3. User will click on 20something as amount of fertilizer that he wants to add from the drop down options.

**Test results:**

System will increase the current fertilizer quantity by 20 something.The system will update amount of fertilizer accordingly on information panel.

### **Updating water resources**

Id: T\_C\_104

**104.1Updating water resources to all cultivated crops at the moment**

**Test steps:**

1. User will click on the watering drop down menu.
2. System will display the watering drop down menu.
3. User will click on 20something as amount of water that he wants to add from the drop down options.

**Test results:**

System will increase the current water quantity by 20 something. The system will update amount of water accordingly on information panel.

### **Generate report**

Id: T\_C\_105

**105.1Generating report for current simulation**

**Initialization status:** The screen must have at least one field, cultivated with crops.

**Test steps:**

1. User will click generate button on right side of main form (according to users’ point of view).
2. System will open new form window with report.

**Test results:**

**105.2Report button is clicked before any cultivation**

**Test steps:**

1. User clicks generate button on right side of main form (according to users’ point of view)
2. System will show message “Please cultivate any crop before generating report”.

**Test result:**

### **Soil Selection**

Id:T\_C\_106

**106.1 Selecting soil of currently selected plot**

**Test steps:**

1. User will select 3rd plot in second column from cultivation space
2. System with display soil type of selected plot in soil type drop down box.
3. User clicks on drop down arrow on soil type drop down box.
4. System Displays soil type options.
5. User selects “Fertile” option from the drop down box options.

**Test results:**

System will set “Fertile” as soil type of 3rd plot in second column. Information panel will update soil type of this plot.

### **Display statistics**

Id: T\_C\_107

**Initialization status:** The screen must have at least one field, cultivated with crops.

**107.1 Displaying statistics for currently selected plot**

**Test steps:**

1. User selects first plot in second column from cultivation space.

**Test results:**

System displays statistics for the selected plot in the plot information panel.

**107.2User is selecting empty plot**

**Test steps:**

1. User selects empty plot in second column from cultivation space.

Test results:

Information panel will be displayed empty.

### **Simulating growth of crops:**

Id: T\_C\_108

**Initialization status:** The screen must have at least one field, cultivated with crops.

**Test steps :**

?????????

### **Selecting start date and end date**

Id: T\_C\_109

**109.1Selecting start date and end date for simulation**

**Test steps:**

1. User will click start date selector.
2. System displays small calendar with possible dates.
3. User selects a 24/07/2017 as start date.
4. User will click end date selector.
5. System displays small calendar with possible dates.
6. User selects a 24/07/2018 as end date.

**Test results:**

1. System will show the selected date into the start date field and selected end date into the end date field. Dates will be placed

Deliverables

|  |  |
| --- | --- |
| **Deliverable** | **Date** |
| Test Plan |  |
| Test Cases |  |
| Execution |  |