



Politecnico di Milano

Computer Science and Engineering

Acceptance Test Deliverable

DREAM

Software Engineering 2

Optional Project AY 2021-2022

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1 Analysed Project

1.1 Authors

The authors of the analysed project are:

- Tafaro Simone
- Acquati Marco

1.2 Scope

The repository of this project can be found on GitHub at the following [link](#)

1.3 Reference documents

During the acceptance test the following documents were considered:

- Requirement Analysis and Specification Document – Dream, version “1.1” (referenced as "RASD")
- Design Document – Dream, version “1” (referenced as "DD")
- Implementation and Test Derivable - Dream, version “1” (referenced as "ITD")
- Assignment RDD AY 2021-2022 ("Requirement Engineering and Design Project: goal, schedule, and rules")
- Assignment IT AY 2021-2022 (" I&T assignment goal, schedule, and rules")

2 Installation setup

2.1 Installation guide

The installation guide can be found in the ITD document.

The guide for the installation for both the Server and the mobile application is not so clear, you need to install many dependencies and manually set environment variables.

The database dump provided is quite empty, so you need to manually create almost everything.

3 Acceptance test cases

Before manually testing the main functions of the application, automatic tests included in the software have been performed to verify the overall correctness of the system.

3.1 Login and Registration

3.1.1 Registration

The registration process is straight forward, requires a Name, Surname, email, phone, username and a password. After clicking on the "Sign Up" button, the user must confirm the email that will be sent on the provided email.

3.1.2 Login

From the login page is possible to insert a valid combination of username and password in order to authenticate. After clicking on the "Login" button, the user is redirected to home page of the application that displays the lands, weather and best practices.

3.1.1 Input validation

Some tests have been carried out using invalid inputs and there are the results:

- Registration with valid credentials and confirmed the email: **201 Created, redirect to "Home"**
- Registration without username, password: **Blocked, "Inserted data are not valid"**

- Registration with an already existing username: **Blocked, “Inserted data are not valid”**
- Login with correct credentials: **OK, redirect to “Home”**
- Login with wrong credentials: **Blocked, “Invalid data”**
- Login without data: **Blocked, “Invalid data”**.

There is a client-side validation of input data, so requests with missing or incorrect data are not possible.

3.2 Main Page

The main page shows the farmer's land and some best practise, it also has 2 buttons: one for **add new lands** and one for **add new posts**. In the bottom there is a navbar that allow the user to check lands, forum and profile.

3.1.1 Lands

All the lands inserted are shown here, with a red label if they are **uncultivated** and a button to view more details and to create a new cultivation.

3.1.1.1 New Land

Clicking on the button “New Land” you need to insert land name, land coordinates, land are, his unit of measure and if the land is under cultivation. Moreover, you need to insert the model of sensor present in the land.

3.1.1.2 Create a cultivation

After clicking on the button to get more info you need to insert the data of a cultivation: seed type, amount and seeding date. Then you click save and you are required to insert information about the fertilizer: type of fertilizer, amount, and the fertilization date. You need to insert a fertilization date that comes after the seeding date.

3.1.2 Forum

In the forum part, a red error from flutter does not allow to see discussion hence not allowing the testing of test the creation of a new comment. There is also a button to create a **New Post**.

3.1.2.1 New Post

In the new post you are required to insert a title, one or more categories and insert a question. It is not possible to create a post without title, question and at least one category. But when you create the post, it does not show on the forum page for the bug found previously (wrt 3.1.2).

3.1.3 Profile

In the profile part are shown all the personal informations of the farmer, the username and password. There is also an edit button, that has not been implemented, and a **logout** button that works as expected.

3.2 Security Issues

The testing activity highlighted the fact that there are no security checks on the data that the application sends to the server and that data are requested from users who can request it.

In fact, it is possible to change the farmer id from the body of HTTP request and create a cultivation for another farmer.

One solution is to verify that the author of request matches the user who is affected. A straightforward way to do it is using JSON Web Token (JWT).

A software that does not implement an authentication and authorization mechanism on the server side is vulnerable to malicious requests.

4 Additional comments

4.2 Limits of the acceptance testing

In the system are developed only the functionalities of the farmer, so we are limited to test only these functionalities.

5 Effort spent

5.1 Ferrara Alessio

Topic	Hours
Testing	3 h
Document creation	1 h

5.2 Mazzola Francesco

Topic	Hours
Testing and installation	2 h
Reviewing document	2 h