**Software Requirements Specification**

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**Autonomus Irrigation System**

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2. **Document purpose**

This document is intended to accurately describe the functionality of an autonomous irrigation system that should offer its end users such as: performance, availability, reliability, security, efficiency, productivity, etc.

# Document overview

The remainder of this document is three chapters, the first offering a general description of the software product about the initial situation, the purpose of the project, the context and the benefits of the project.

The second chapter lists the functional requirements that the software product should meet. So, it describes the actors, the system boundary and the use cases.

The final chapter exposes the non-functional requirements of the application, such as: performance, safety, security issues, etc.

# General description of the product

## The current situation

The Full Step team has a project for small and medium-sized enterprises in the field of agriculture and beyond. The application is intended for autonomous irrigation control in order to improve, improve, increase productivity, performance, etc.

## Purpose of the product

The product is intended to offer the customer more performance, efficiency, time, control, etc.

## Product context

The application has 4 major functional categories, these being Weather Station, Sol Station, Water Station, Web Interface. Each category has an important function in the application. The Meteo Station deals with the collection of data from the environment; we want the application to function and control the moisture level in the soil; the water station controls the water level in a reservoir and distributes the water to the ground station; Web interface collects the data of the other categories by presenting the data in a web application for the client, also through the same interface the client can control and interrupt the system in critical cases.

## Benefits

This product must satisfy the customer regardless of the complexity of the required criteria, to increase the performances, to save time, to make production more efficient, etc.

# Functional requirements

## Actors

The profiles of all user categories are described here.

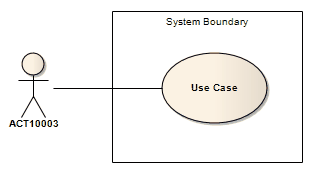
### Client

The main actor of this application is mostly small businesses, but at the same time it can be developed for large enterprises.

### Developer

The main actor in this application is necessary for the clients for this is intended especially for the agricultural area, the control having the client regarding the applications.

## System boundary

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* 1. **Use cases description**

|  |  |
| --- | --- |
| **Use Case Name:** | Autonomus Irrigation System |
| **Brief Description:** | The autonomous irrigation system is on hold of orders. |
| **Priority** | Essential |
| **Trigger** | Different sensors or manual swicth. |
| **Precondition** | A.I.S. is connected to the Internet. |
| **Basic Path** | A.I.S. collect information according to them irrigate by dosing exact amount of water needed. |
| **Exception Path** | If the application has a defect, the intervention of an external factor is required. |

1. **Non-functional requirements**
   1. **User Interface Requirements**

The user interface of the application must be user-friendly, intuitive and easy to use, implementing the ergonomics standards.

## Performance Requirements

The system works in real time: any operation will be completed in less than 10 seconds.

## Availability & Reliability

The software system can provide an automatically generated backup (on external hard drive units) that contains all the information stored at the time of the backup.

## Security Requirements

If due to external or internal factors the application does not work properly it will stop automatically and notify the user.