1. Name of Use Case

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| **Name of the Use Case** | **Smart Greenhouse** |
| **Version No.** | v0.1 |
| **Submission Date** | 10/12/2022 |
| **Team Members (with student ids)** | Ravera Stefano (271156), Redi Alessandro (310471), Scardi Alessia (317628), Volponi Federico (309709) |

1. Scope and Objectives of Function

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| **Scope and Objectives of Use Case** | |
| **Scope** | The proposed IoT platform aims at providing services for a smart greenhouse management. |
| **Objective(s)** | The objective is to fully automate a greenhouse and release essential information to the owner thanks to the placement of sensors and user-awareness applications. |
| **Domain(s)** | Agriculture 4.0 |
| **Stakeholder(s)** | Farmers |
| **Short description** | The proposed IoT platform aims at automating the main functions of a greenhouse. Through the integration of IoT devices it is possible to monitor the humidity, temperature, and CO2 levels of the greenhouse. Moreover, to monitor humidity, sensors are inserted in the topsoil to check if irrigation is needed and if so, it is provided thanks to an actuator. Finally, humidity and temperature are controlled by vaporizers and fans.  The farmer has easily access to the data thanks to a third-party application (Freeboard) and could interact with the smart greenhouse through a telegram bot.  The key features of the IoT platform are:   * Humidity and temperature monitoring (both for each plant and for the whole greenhouse) * Air monitoring and fans control * Irrigation control * Plants datasheet * Applications for user-awareness |

1. Diagram of Use Case
2. Complete description of the system
3. Desired Hardware components (only among those we can provide)

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| **Device Name** | **Quantity** | **Needed for…** |
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