Project Presentation – Agricultural Storage Scenario

For this third project in the course, we have chosen to explore the application scenario of an **agricultural storage facility in hot climate zones**. We will use our Raspberry Pi device to emulate a set of functionalities that could be realistically implemented within this environment to improve safety and preserve stored materials.

The proposed services, categorized into sensors and actuators, are as follows:

Sensors:

Temperature and Humidity Monitoring Service:
This service continuously monitors the ambient temperature and humidity within the storage area. It stores, transmits, and displays the collected data to help detect environmental conditions that could compromise the quality of stored agricultural products (e.g., seeds, hay, fertilizers).

Flame Detection Service:
This service tracks the presence of open flames or early signs of fire. It maintains a historical record of detections and shares the data for further analysis or immediate response.

Actuators:

Alarm Service:
A configurable buzzer that alerts nearby personnel when specific events occur, such as abnormal temperature or flame detection. This can help prevent fires or damage to stored goods.

Remote Fan Activation Service:
A remotely controllable fan that can be switched on to lower the temperature or improve air circulation, even when no one is physically present in the facility.

When envisioning an application such as this agricultural monitoring system, it is natural to consider the **integration and coordination** of these various components. This integration will be addressed in the next phase of the project.