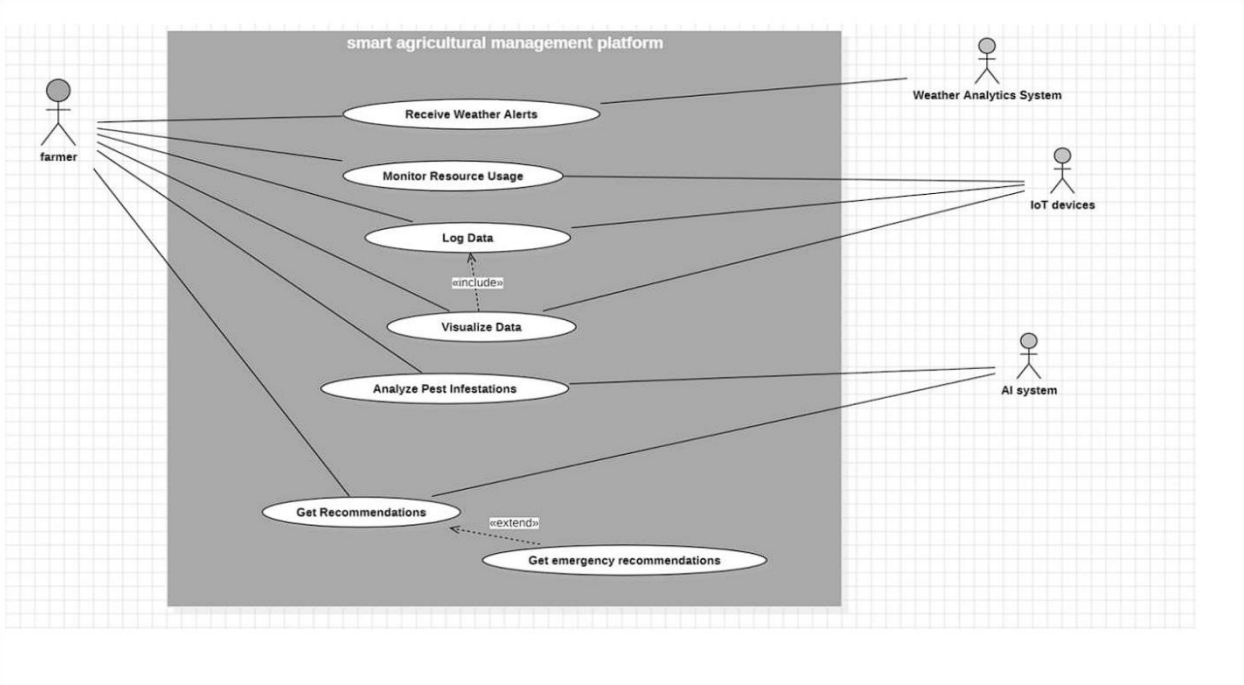
What is a Use Case Diagram?

A Use Case Diagram is a type of Unified Modeling Language (UML) diagram that visually represents the interactions between users (actors) and a system. It describes what a system does from the perspective of an external user.

Key Elements of a Use Case Diagram:

- **Actors (Stick Figures):** Represent external entities that interact with the system. They can be human users, other systems, or devices.
- **Use Cases (Ovals):** Represent specific functionalities or goals that the system provides to the actors. They describe "what" the system does, not "how."
- **System Boundary (Rectangle):** Encloses the use cases and represents the scope of the system.
- **Relationships (Lines):** Show the interactions between actors and use cases, or between use cases themselves. Common relationships include:
    - **Association (Solid Line):** Indicates that an actor interacts with a use case.
    - **Include (Dashed Arrow with <<include>>):** Shows that one use case includes the functionality of another use case.
    - **Extend (Dashed Arrow with <<extend>>):** Shows that one use case extends or adds functionality to another use case.



Explanation of the Image (Use Case Diagram for Smart Agricultural Management Platform):

The image presents a Use Case Diagram for a smart agricultural management platform. It outlines the interactions between various actors and the system's functionalities.

Actors:

- **farmer:** Represents the human user of the system.
- **Weather Analytics System:** Represents an external system providing weather data.
- **IoT devices:** Represents the Internet of Things devices used in the system.
- **AI system:** Represents the artificial intelligence system used for analysis and recommendations.

Use Cases:

- **Receive Weather Alerts:** The system provides weather alerts to the farmer.

- **Monitor Resource Usage:** The system allows the farmer to monitor resource usage.
- **Log Data:** The system logs data from IoT devices.
- **Visualize Data:** The system visualizes data for the farmer.
- **Analyze Pest Infestations:** The system analyzes pest infestations.
- **Get Recommendations:** The system provides recommendations to the farmer.
- **Get emergency recommendations:** The system provides emergency recommendations to the farmer.