

**Project Design Phase-I**  
**Solution Architecture**

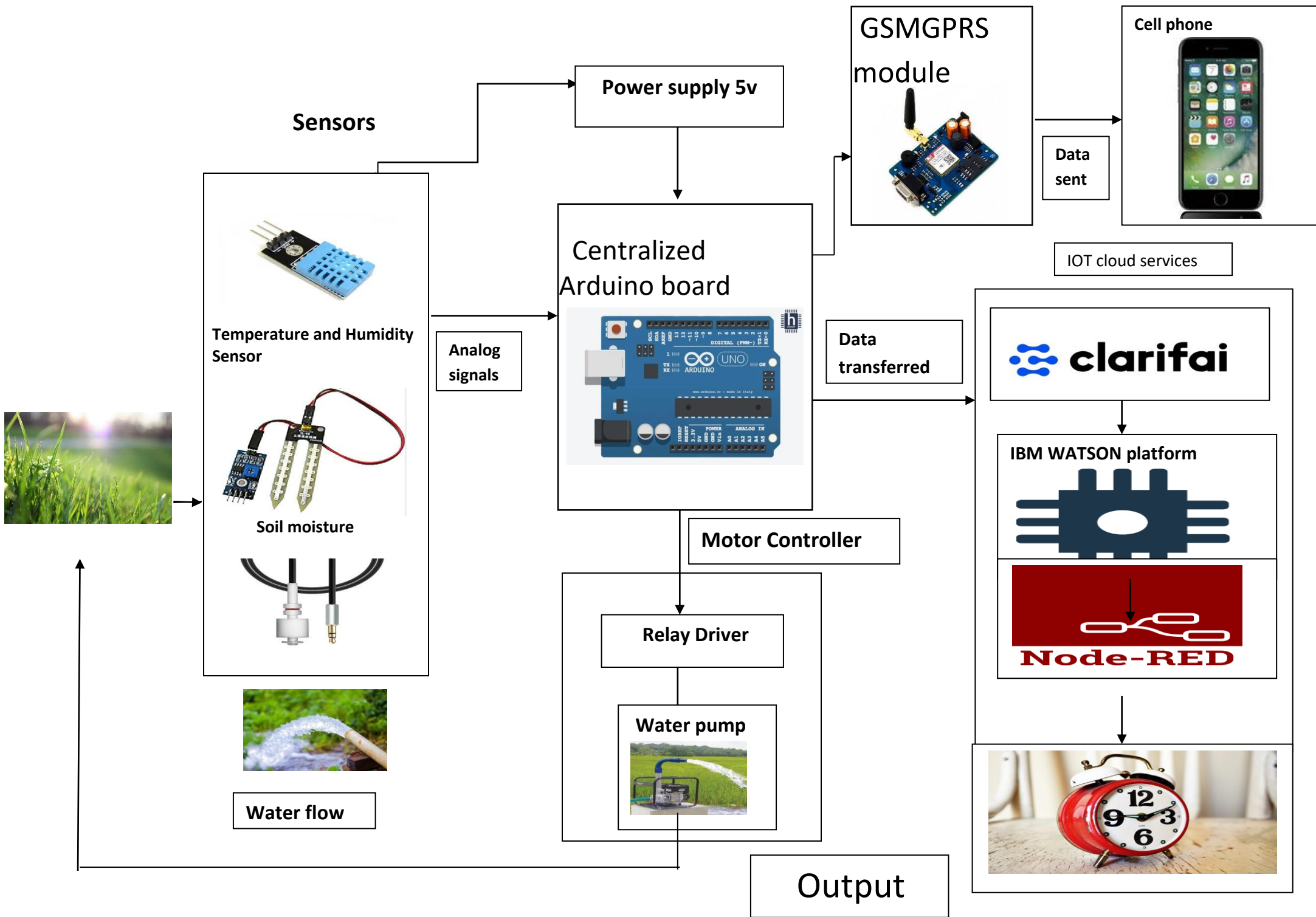
Date	12 October 2022
Team ID	PNT2022TMID17561
Project Name	IOT – Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

**Solution Architecture:**

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

**Solution Architecture Diagram:**



### **Explanation for the Architecture Diagram:**

- ❖ The device will detect the animals and birds using the Clarifai service.
- ❖ If any animal or bird is detected the image will be captured and stored in the IBM Cloud object storage.
- ❖ It also generates an alarm and avoid animals from destroying the crop.
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- ❖ The image URL will be stored in the IBM Cloudant DB service.
- ❖ The device will also monitor the soil moisture levels, temperature, and humidity values and send them to the IBM IoT Platform.
- ❖ The image will be retrieved from Object storage and displayed in the web application.
- ❖ A web application is developed to visualize the soil moisture, temperature, and humidity values.
- ❖ Users can also control the motors through web applications