SMART WATER MANAGEMENT

Phase 1:

INTRODUCTION:

Smart water management is an advanced approach to efficiently and sustainably control, monitor, and conserve water resources. It leverages technology, data analytics, and automation to optimize the distribution and use of water in various sectors, including agriculture, industry, and municipalities. By integrating sensors, IoT devices, and software solutions, smart water management systems can detect leaks, measure water quality, forecast demand, and enable remote control, ensuring the responsible use of this precious resource while reducing waste and costs.

Problem Statement:

Develop an integrated smart water management system for parks and gardens to optimize water consumption, reduce wastage, and ensure sustainable green spaces while considering factors such as weather conditions, soil moisture levels, plant types, and visitor patterns.

DESIGN THINKING

1.Project Objective:

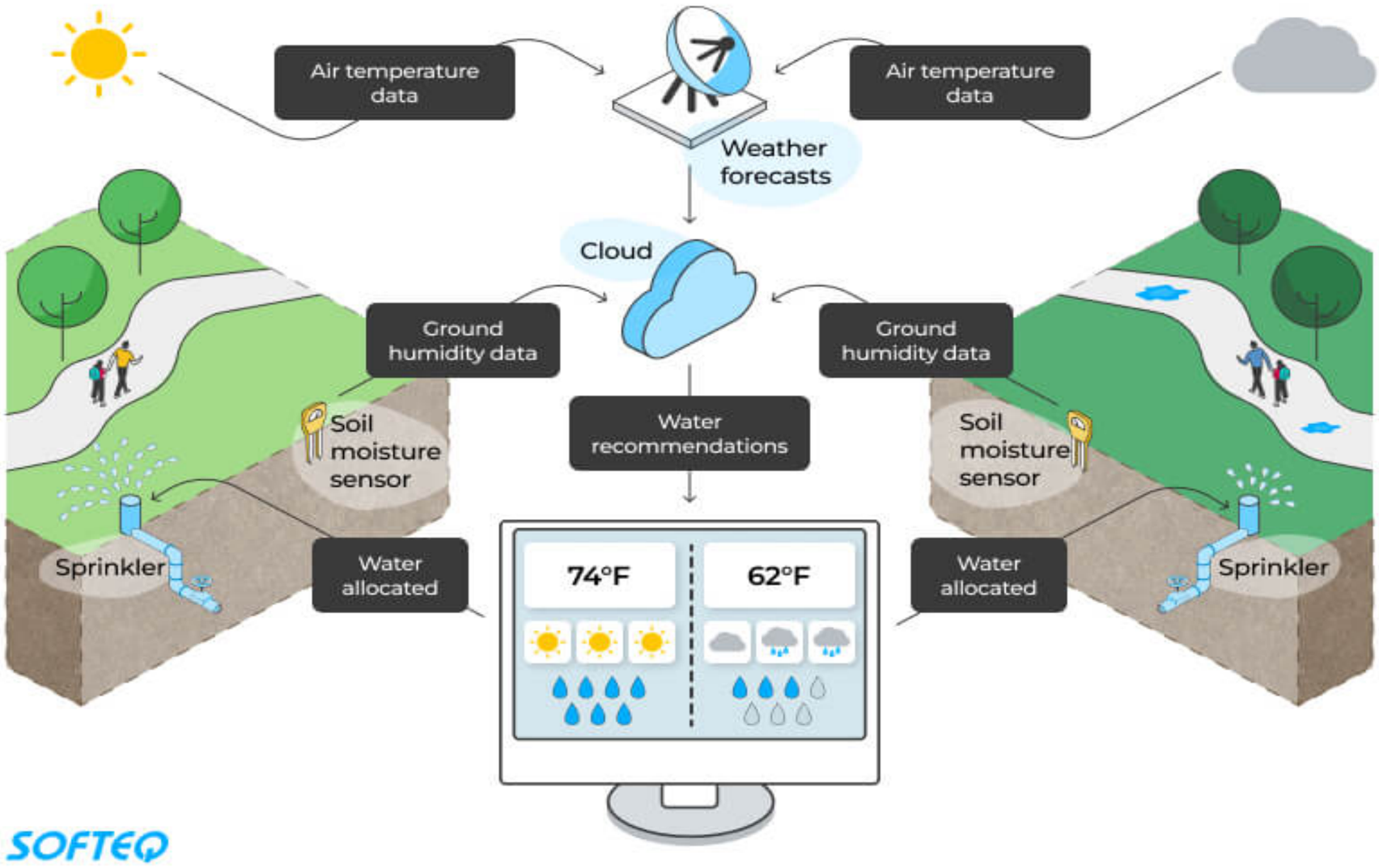
"To implement a comprehensive smart water management system in parks and gardens with the aim of optimizing water consumption, reducing waste, and promoting sustainability. This system will employ sensor technology, data analytics, and efficient irrigation practices to ensure the responsible use of water resources while maintaining the health and beauty of green spaces. "

2.IOT Sensor Design:

There are _various IoT sensors used in smart water management for park or garden water consumption._Some common types include:

- Soil Moisture Sensors: These measure the moisture content in the soil to determine when and how much water is needed.
- Flow Sensors:Flow sensors can monitor water flow in irrigation systems to optimize water usage.
- Weather Stations: Weather sensors can provide data on temperature, humidity, and precipitation, helping to adjust watering schedules based on weather conditions.
- Water Quality Sensors: These sensors can assess the quality of water sources, ensuring that plants receive the right type of water.
- Water Level Sensors: Used in reservoirs or tanks to monitor water levels and trigger refilling or irrigation when necessary.

This are some of the general types might encounter in smart water management systems for parks or gardens.



3.MOBILE APPLICATIONS:

To Develop a User Friendly monile for Monitoring the Water resources and Make a Public awarness about the Water consumption.

4.INTEGRATION APPROACH:

IoT sensors send data to data sharing platforms through a series of steps:

- Data Collection
- Data Processing
- Data Transmission
- Connectivity
- Data Packaging
- Security
- Data Ingestion
- Data Storage
- Data Access Control
- Data Sharing
- Data Analytics and Visualization
- Alerts and Automation
- Scalability and Redundancy