PHASE 2-IOT (Smart Water Fountain)

Steps to design Smart Water Fountain:

Step 1: Technology Selection

Research IoT Platforms: Look for user-friendly and cost-effective IoT platforms like Arduino, Raspberry Pi, or ESP8266/ESP32 to build the fountain's hardware.

Step 2: Hardware Assembly

Assemble the Hardware: Start with a basic water fountain design. Attach a water pump to a water source, and connect it to your chosen microcontroller (Arduino or Raspberry Pi).

Step 3: Sensor Integration

Add Water Flow Sensor: Integrate a water flow sensor into the water line to measure water usage.

Temperature Sensor: Include a temperature sensor to monitor water quality.

Step 4: Software Development

Write Code: Develop simple code (in Arduino IDE or Python) to control the water pump and collect data from the sensors.

User Interface: Create a basic user interface using a simple LED display or a basic web page for user interaction.

Step 5: Data Storage

Use Cloud Storage: Set up a free cloud storage service (e.g., Google Sheets) to log water consumption data from your fountain.

Step 6: User Engagement

Educational Signage: Create posters or signs near the fountain to educate users about the benefits of drinking tap water.

User Feedback: Collect feedback from users manually through suggestion boxes.

Step 7: Sustainability

Energy Source: Consider using a low-power source like a battery or a small solar panel to power the microcontroller.

Cleaning Schedule: Establish a regular cleaning schedule to maintain water quality.

Step 8: Security

Protect Data: Ensure data privacy by anonymizing data and securing it in your cloud storage.

Physical Security: Secure the hardware from tampering or vandalism.

Step 9: Testing

Test in Controlled Environment: Set up the fountain in a controlled environment to check if it dispenses water and records data accurately.

Gather Feedback: Ask friends or colleagues to use the fountain and provide feedback on the user experience**.**

Step 10: Deployment

Install in a Public Space: Find a public space where you can install the fountain with permission.

Monitor Remotely: Set up remote access to monitor data and ensure the fountain is functioning correctly.

Step 11: User Education and Outreach

Engage with the Community: Partner with local schools or community groups to raise awareness about the Smart Water Fountain.

Share Benefits: Share data on water consumption and environmental impact with users.