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FROM HERE TO THE WORLD

Smart-Water Leakage Detection System

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OBJECTIVE

The objective of this project is to develop an **Arduino-based water leakage detection system** that can monitor pipelines in real-time, **detect leaks**, and measure the **duration and severity** of the leakage.

WORKING

- **Conductive Sensing**: A conductive wire is placed along the water pipeline. When a leak occurs and water touches the wire, the resistance drops, which is sensed by the Arduino.
- **Voltage Reading**: The Arduino reads the voltage through an analog pin. If it drops below a preset threshold, it indicates a leak.
- **Severity & Duration Monitoring**:
  - The system tracks **how long the leakage continues** using a timer.
  - Based on voltage levels, the system **estimates the severity** of the leakage.
- **Alerts & Response**:
  - **LEDs** indicate leak status (severe or minor).
  - Optionally, buzzers or mobile alerts can be integrated.

RESULT AND OBSERVATION

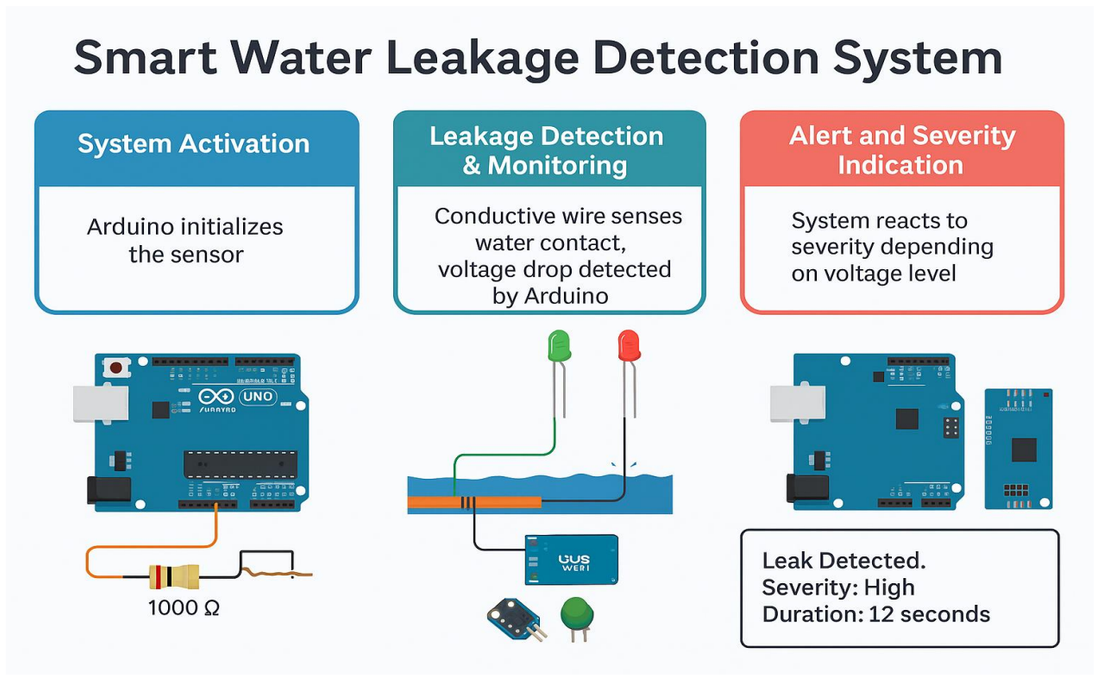
- The system **successfully detects water leakage** by sensing voltage changes.
- Real-time tracking allows users to **monitor ongoing leakage**.
- **LED indicators** help classify the **severity of the leak**.
- The system is simple, affordable, and easy to install along household pipelines.

CONCLUSION

Our prototype is a practical and effective solution for detecting water leakage in pipelines. By focusing on **real-time detection** and **severity monitoring**, it helps prevent water wastage and damage. It's especially useful in homes, agriculture, and industrial applications.

FUTURE OUTLOOK

-Add **buzzer alerts or mobile notifications** using GSM or Wi-Fi modules.



SCAN FOR DEMO