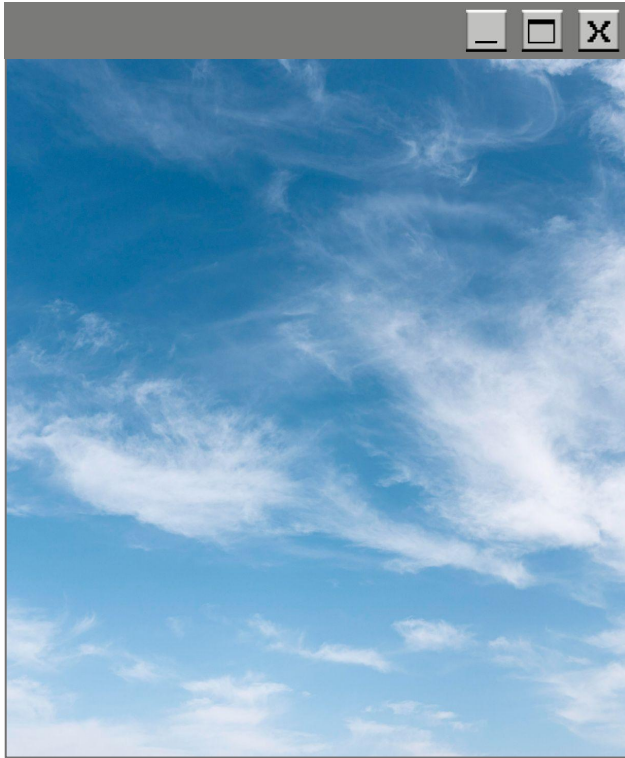


# IoT in Action: From Sensors to Scope





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Ente IoT Story



Home automation, Engotta, Server Management,  
Raspberry pi's etc..

IoT around us



UPI, Smartwatch, smart-anything, Industry 4.0  
...



## Sensor

Collects data



## Device

Processes signals



## Network

Transmits data



## Cloud

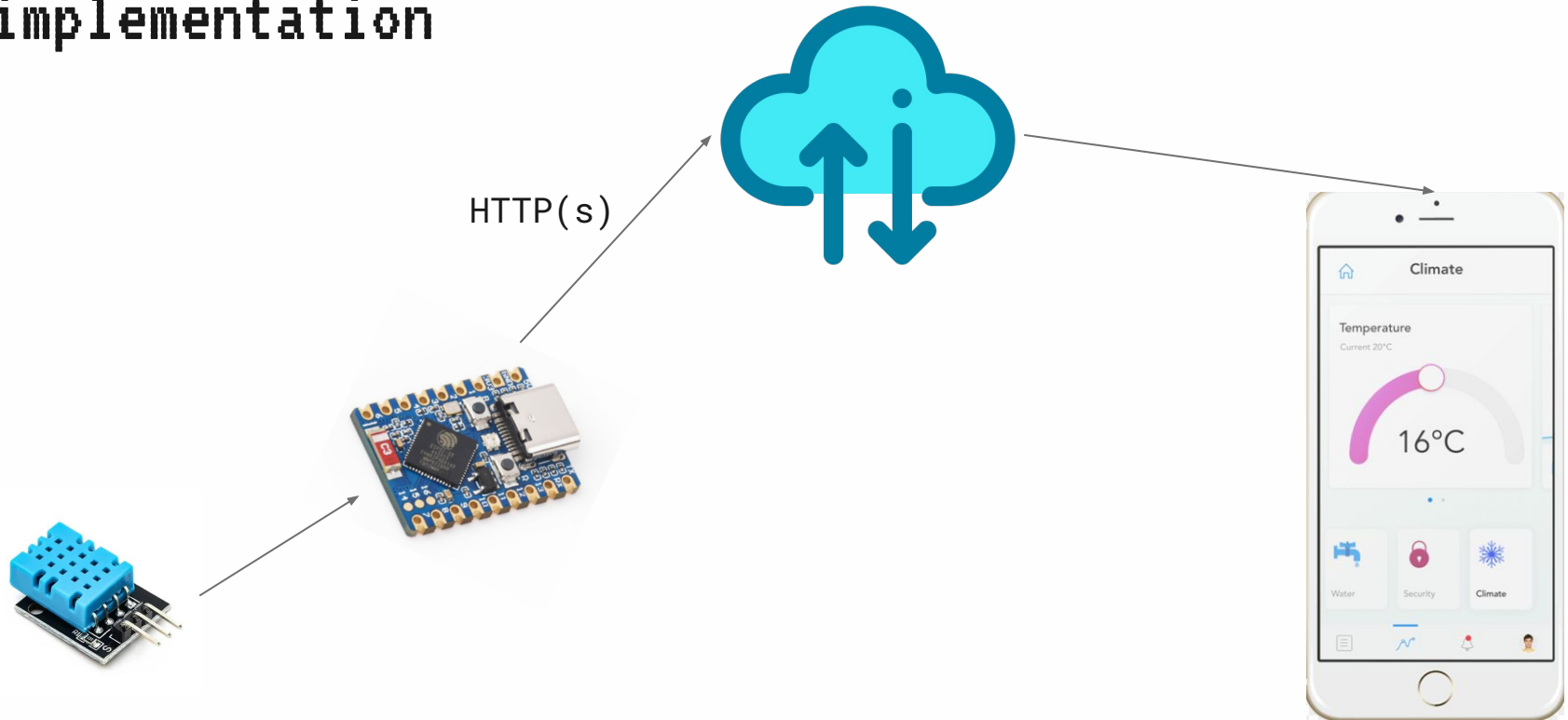
Stores & analyzes



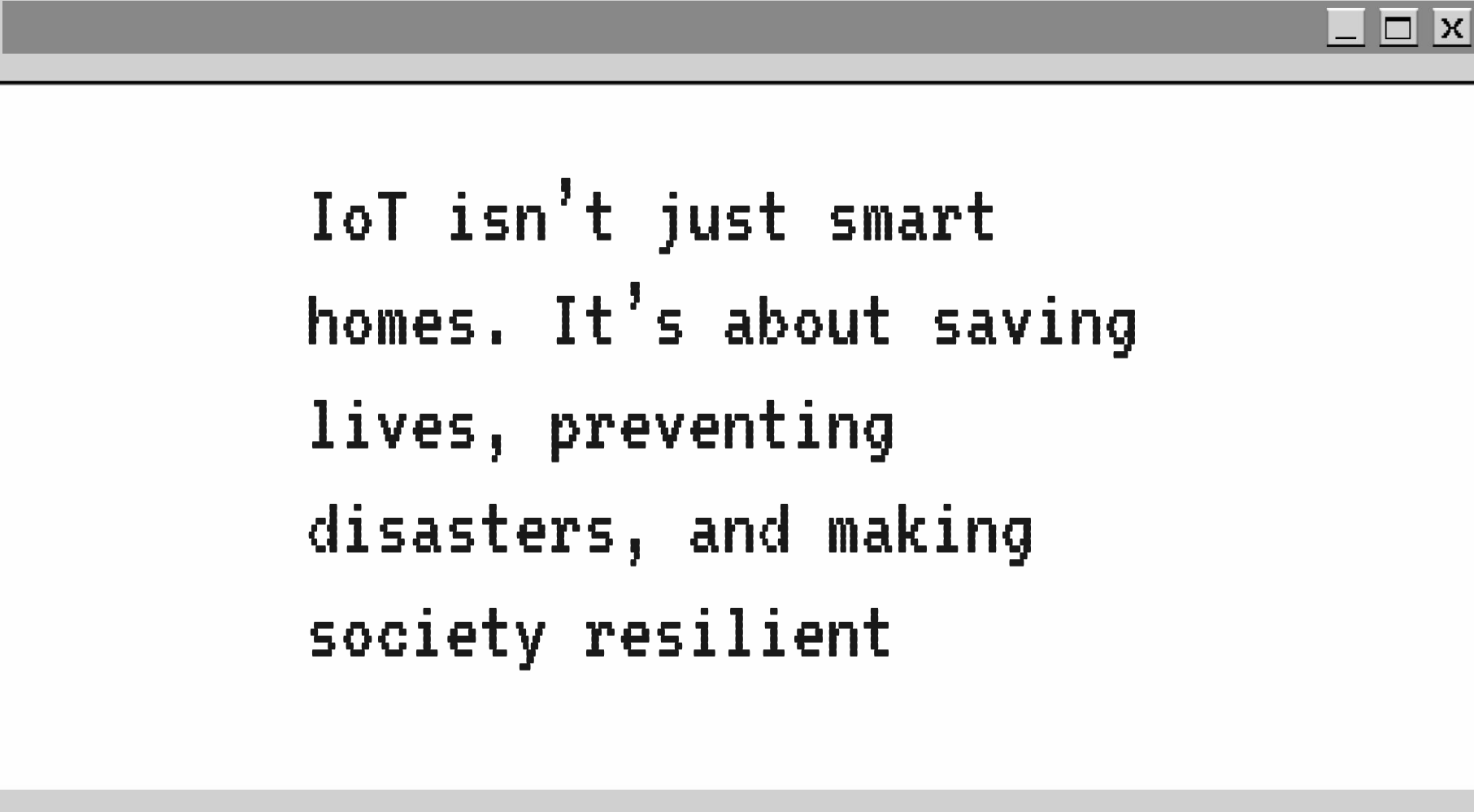
## Application

User interface

# implementation







IoT isn't just smart  
homes. It's about saving  
lives, preventing  
disasters, and making  
society resilient



# You getting started with Practical IoT

Esp 32 Boards, Raspberry Pi etc...

## Spinning up an IoT system

Thingspeak + wokwi



## Cloud-Hosted IoT

- Services like Adafruit IO, AWS IoT
- Easy setup but limited customization
- Monthly fees and data restrictions
- Dependent on internet connectivity

## Self-Hosted IoT

- Node-RED, ThingsBoard, Mosquitto MQTT
- Complete control and customization
- One-time setup costs only
- Works offline on local networks

## Why Self-Host Your IoT Infrastructure?

### Privacy & Control

Your data stays within your network. No third-party access, complete ownership of sensitive information.

### Lower Costs

Eliminate recurring subscription fees. One Raspberry Pi can handle hundreds of IoT devices efficiently.

### Customization

Build exactly what you need. Custom dashboards, unique automations, specialized data processing.

### Offline Ready

Works without internet. Perfect for remote locations, factories, and critical applications requiring reliability.

Real-world relevance: Factories, hospitals, and farms often self-host for security and reliability. Running Mosquitto MQTT + Node-RED on a Raspberry Pi = your own private IoT cloud!



IoT jobsssss//doubts



Thankyou