# SMART WATER MANAGEMENT

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## SMART WATER MANAGEMENT:

IoT water management systems leverage numerous sensors that collect real-time insights on how resources are used. These devices transmit the gathered data to the user's application online. This information empowers analysis of consumption patterns and encourages more rational water consumption.

Type Of Water Management:

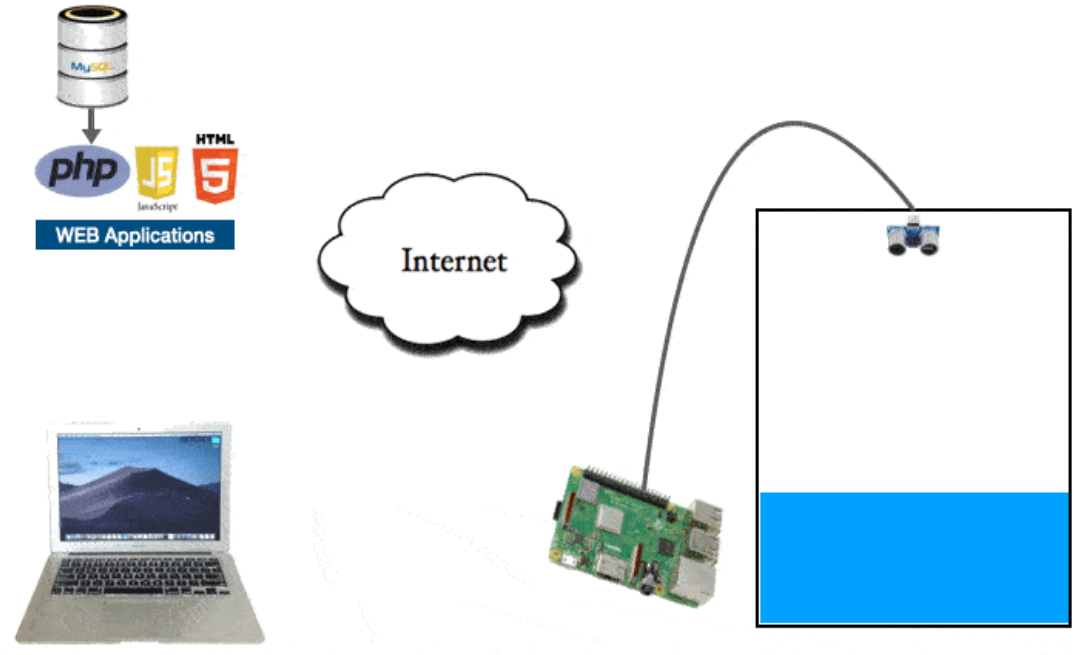
- Technology for Smart Water Management
- Rain gauges, flow meters, water quality monitoring and other environmental data.
- Acoustic devices for real-time leakage detection.
- Video camera for asset management.
- Smart water meters for measuring consumption.
- Pressure monitoring for leakage detection and pump optimization.

### Device using for IOT

Sensors: IoT sensors are used to measure various parameters of water quality, such as pH, temperature, dissolved oxygen, and the presence of chemicals and microorganisms. These sensors can be placed in rivers, lakes, and other

bodies of water, and they can transmit data in real-time to a central monitoring system.

Diagram and device




Program:
Code for water tank

```
import json,time,conf  #conf contains the SID,AUTH TOKEN,FROM NUMBER,TO NUMBER, API and DEVICE ID
from boltiot import Sms,Bolt

bot = Bolt.(conf.API,conf.ID)
sms = Sms.(conf.SID,conf.TOKEN,conf.FROM,conf.TO)

print("Smart Tank System Initiated....")
```

```
while True:
 full = bot.digitalRead("1")
 over = bot.digitalRead("2")
 data = json.loads(full)
 data1 = json.loads(over)
 full_value = int(data['value'])
 over_value = int(data1['value'])
 try:

  if full_value == 0:  #Water level is less
    print("The Tank is not Full. You may fill more water....")
    bot.digitalWrite("3","LOW")
    bot.digitalWrite("4","LOW")
  elif full_value == 1:
   if over_value == 0:  #Reached Full Mark
    print("The Tank is Full. You may stop the Water Supply")
    bot.digitalWrite("3","HIGH")   #The LED turns ON
   elif over_value == 1: #Reached overflow mark
    bot.digitalWrite("4","HIGH") #The Buzzer turns ON
    print("The Tank is Overflowing! Switch off the Water Suplly Immediately...")
    response = sms.send_sms("The Tank is overflowing... Switch of the Water Supply
Immediately")
    print("Details of the SMS:")
    print(response)
 except Exception as e:
  print("Error:")
  print(e)
 time.sleep(30)
```