SMART WATER SYSTEM

TEAM MEMBERS

622621121052

P.SUBASH

PHASE-1 SUBMISSION DOCUMENT

SMART WATER SYSTEM

Smart water systems allow the collection, treatment, distribution and recycling of water. These systems, often deployed underground, can leak, freeze, or breakdown. These systems are widely deployed on infrastructures nowaday

Smart water management aims to guide the utilisation of water in a manner that drives efficiency, sufficiency, and sustainability by integrating innovative technologies such as sensors, smart water metering, information systems, data acquisition and decision support systems.

Who made smart water system

Glaceau Smartwater (stylized as smartwater) is a brand of bottled water owned by Energy Brands, a subsidiary of The Coca-Cola Company. Introduced in 1996 in the United States, by 2016 it was one of the top five most sold brands of bottled water in that country with sales worth nearly $830 million in 2017.

PH of smart water

comparison of 6 top water bottle brands

	Voss	Smartwater
pH	6.0	6.5
Naturally Alkaline	No	No
Sodium bicarbonate (Baking soda)	No	Yes
Minerals	Low	Low

Coding

```
import RPi.GPIO as GPIO
import threading
import time

from data_generator import
DataGenerator
from lib.switch import Switch
from lib.File import File

DEBUG = False
```

```
class Water_System:

    # Pins
    push_button = 7
    led = 11
    path = "/home/pi/Desktop/Smart-Water-System/data/sensor_reading.csv"

    def __init__(self):
        self.lock = threading.Lock()
        self.data_generator = DataGenerator(self)
        self.status = 0
        self.last_water_end_time = 0

    def pi_setup(self):
        GPIO.setmode(GPIO.BOARD)
```

```
    def pi_cleanup(self):
        GPIO.cleanup()

    def write_data(self,lock):
        if self.last_water_end_time == 0:
            last_watered_time = 0
        else:
            last_watered_time = time.time() -
self.last_water_end_time
        with lock:
            File(Water_System.path).write_row(
self.data_generator.collect_data(self.status,
last_watered_time))

    def run(self):
        self.pi_setup()
        switch_obj = Switch(self,
```

```
    def run(self):
        self.pi_setup()
        switch_obj = Switch(self,
Water_System.push_button)
        switch_obj.run(Water_System.led)

        thread1 =
threading.Thread(target=self.data_generator.
monitor_data, name="thread1",
                                 args=(self.lock,),
daemon=True)
        thread1.start()
        try:
            while True:
                pass
        except KeyboardInterrupt:
            return
```