HAPPY PIG CARE TAKER

Happy E Water

MOTIVATION

Nowadays in Thailand, The weather is crazier day to day. Which lead us to consume more and more resources including Power and Water. So we want to know how temperature and rainfall affect the usage of water and electricity and usage of our electricity and water.

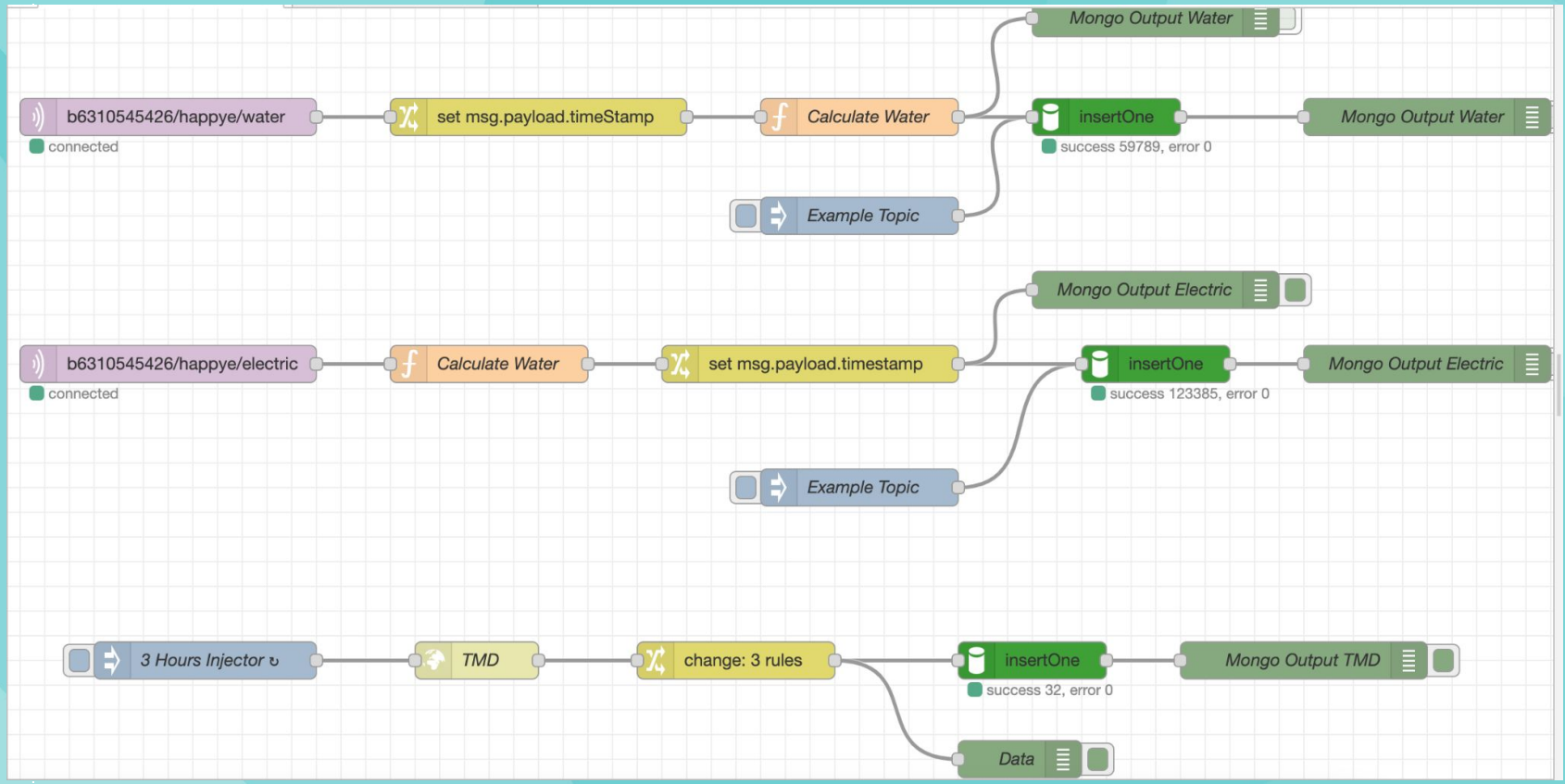
PAIN POINT

01 ELECTRICITY PRICE IS TOO HIGH

02 WATER PRICE IS TOO HIGH

03 WE DON’T KNOW REASON WHY ELECTRICITY AND WATER PRICE IS TOO HIGH

DATA AGGREGATION



OVERALL ARCHITECTURE

GO LANG

For Backend

In this project we use golang for **BACKEND** because go is useful for carrying out programming for scalable servers and large software systems

OVERALL ARCHITECTURE

VUE

For Frontend

In this project we use VUE for **FRONTEND** because Vue 3 provides smaller bundle sizes, better performance, better scalability, and better TypeScript / IDE support

OVERALL ARCHITECTURE

MONGODB

Fro Database

In this project we use MongoDB for **DATABASE** because it easy for developers to store, manage, and retrieve data when creating applications with most programming languages.

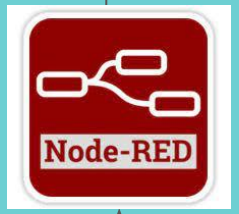
OVERALL ARCHITECTURE

Database

Query data

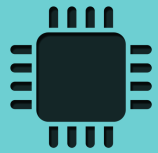
Backend

Send Data via API



NodeRED

Publish the data via MQTT Broker



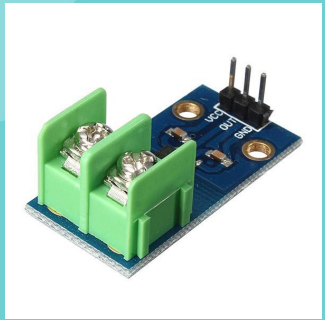
Device

Frontend

DATA SOURCE

YF-S201 For measure Water usage

Primary



GY-712 For measure Electric usage

Primary

TMD For Temp, Rain data

Secondary

API

00 **PREFIX**
https://daq.ku.sirateek.dev

01 **GET UNIQUE DATE OF DATA**
/api/<tmd, elec, water>/date

02 **GET DATA PER DY**
/api/<tmd, elec, water>/perday

03 **GET ALL DATA**
/api/<tmd, elec, water>

04 **GET DATA BY 3 HOURS**
/api/<elec, water>/3hour

DATABASE SCHEMA

ELECTRIC DATA SCHEMA

```
{
    _id       :  Object
    Watt      :  Float
    Amp       :  Float
    timestamp :  Int
}
```

WATER DATA SCHEMA

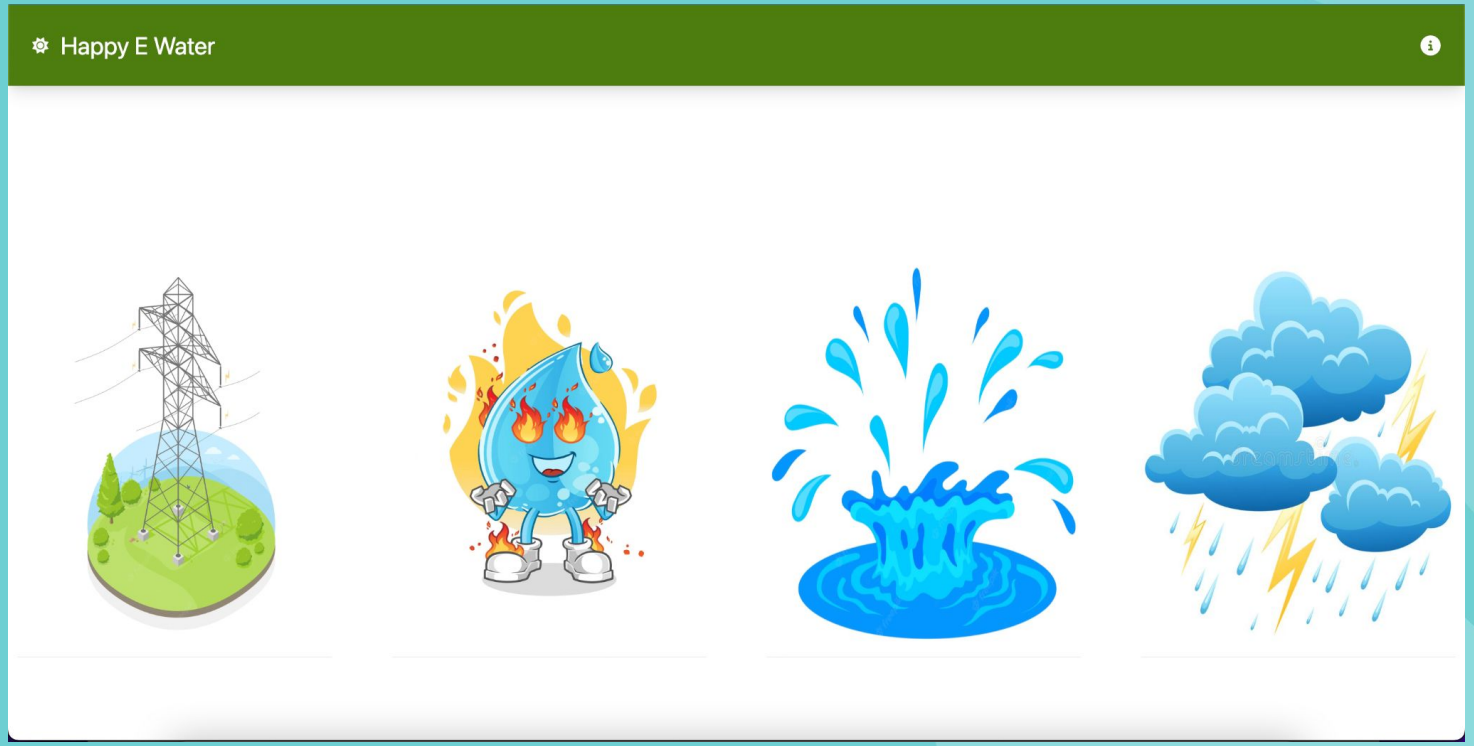
```
{
    _id       :  Object
    flowRate  :  Float
    Water     :  Float
    timestamp :  Int
}
```

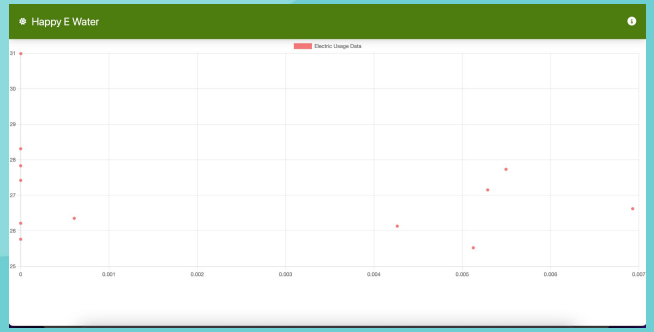
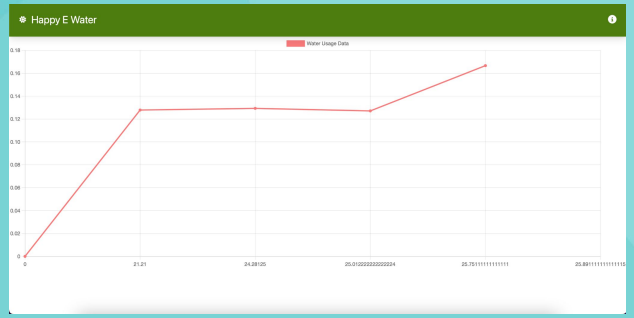
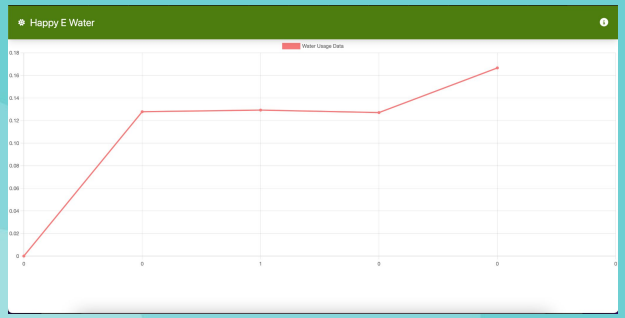
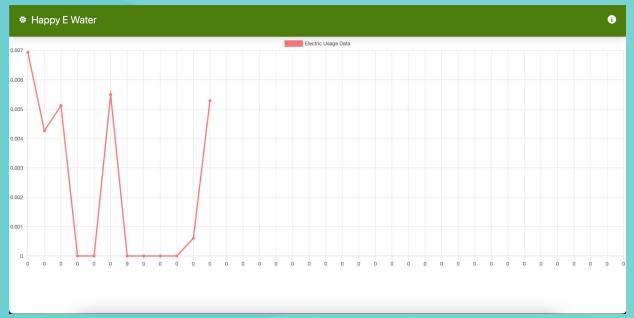
TMD DATA SCHEMA

```
{
    _id       :  Object
    Temp      :  Float
    rain      :  Float
    timestamp :  Int
}
```

DATA VISUALIZATION

https://daq.ku.sirateek.dev



KEY FEATURE

Analyze Data with in form of GRAPH