WateringMe

Members

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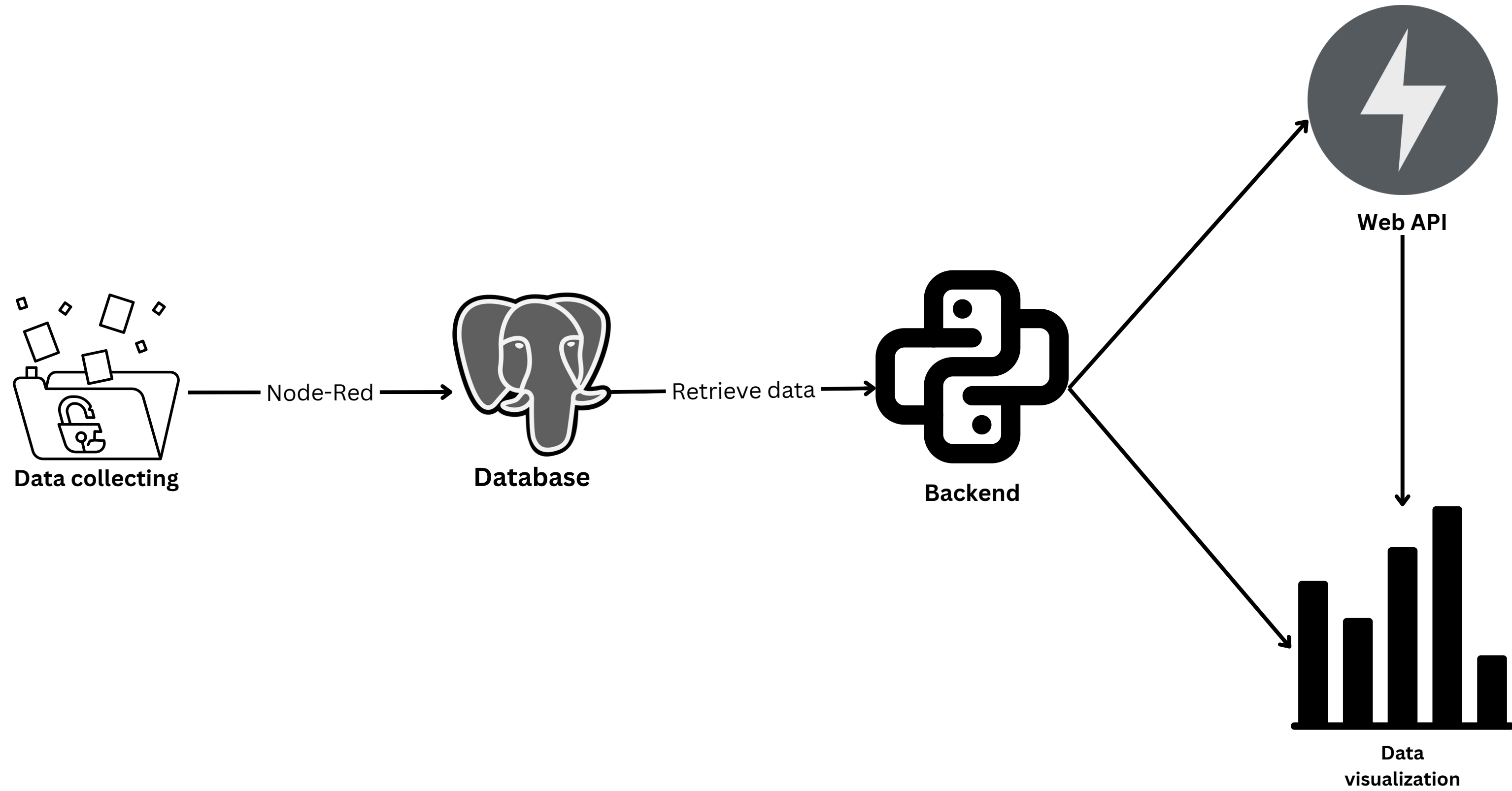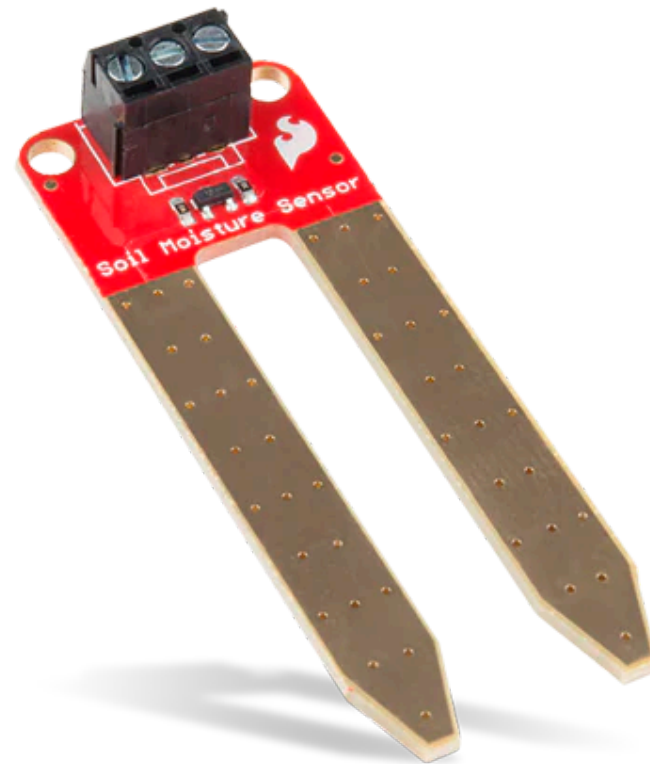Natthadit Lertpisanwut 6510545403

Overview

WateringMe is home plant monitoring application designed to promote the way gardener water by analyzing past and current data of soil moisture and weather condition
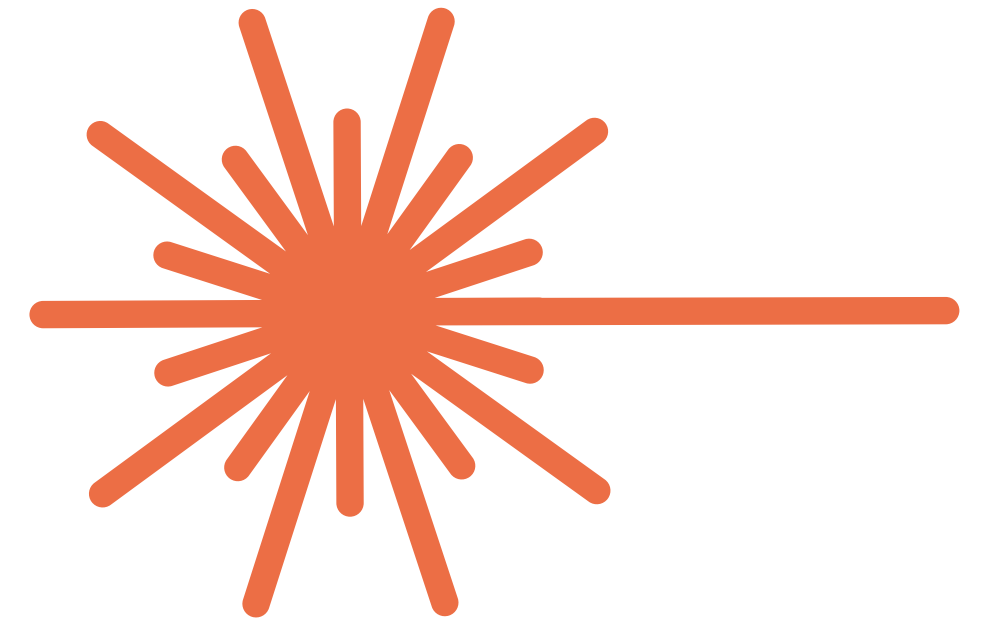
Overall architecture

Data collecting — Node-Red → Database — Retrieve data → Backend → Web API → Data visualization

Data sources

ZX-SOIL
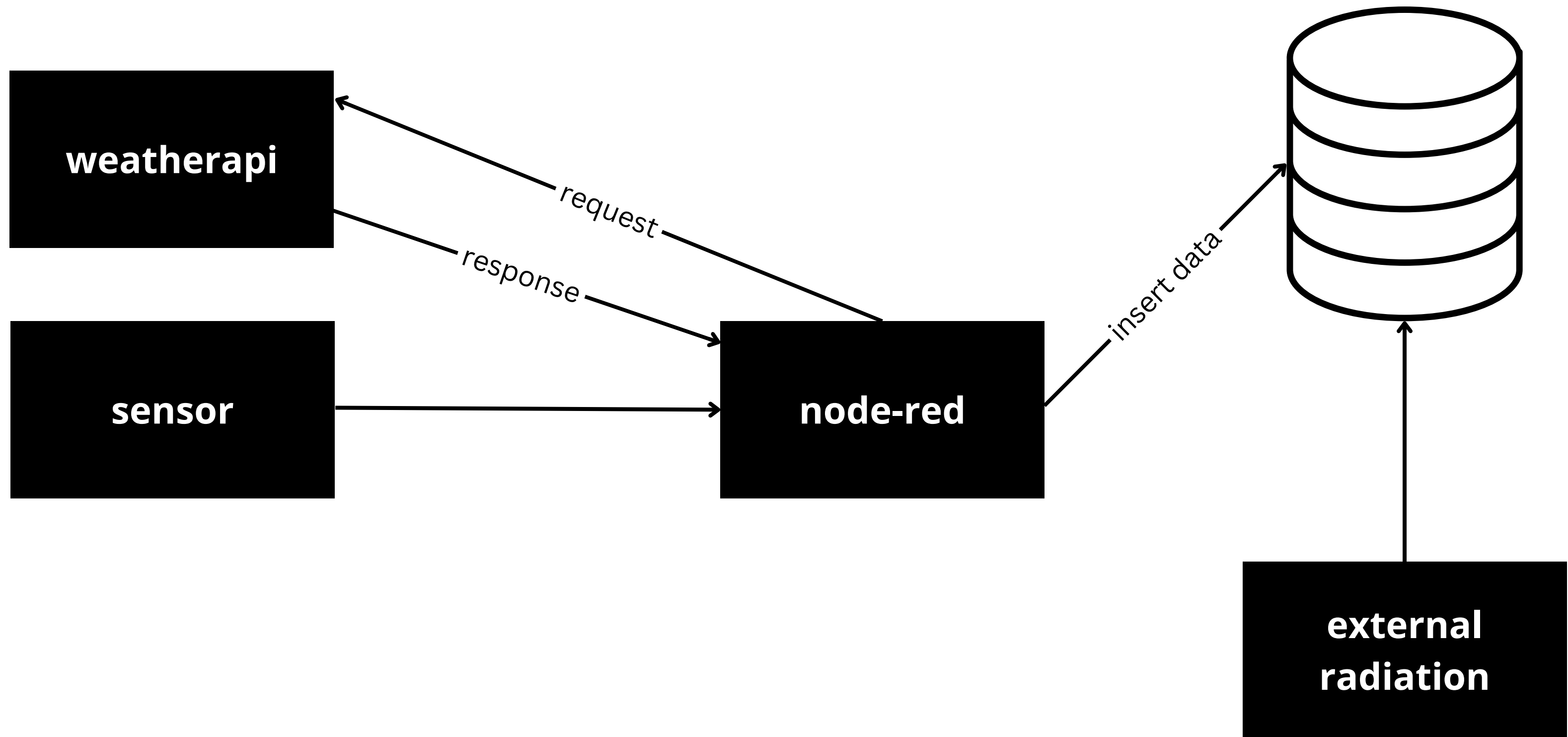**as primary source**

weatherapi
as secondary source

external radiation table
as secondary source

Data collecting

Database schema

external radiation
id: int
lat: float
monthly: str
ra: float

frc_pet
id: int
lat; float
lon: float
pet: float
ts: timestamp

kidbright
id: int
lat: float
light: float
lon: float
sm: float
ts: timestamp

weather_api
id: int
condi: str
conic: str
humid: float
lat: float
lon: float
precip: float
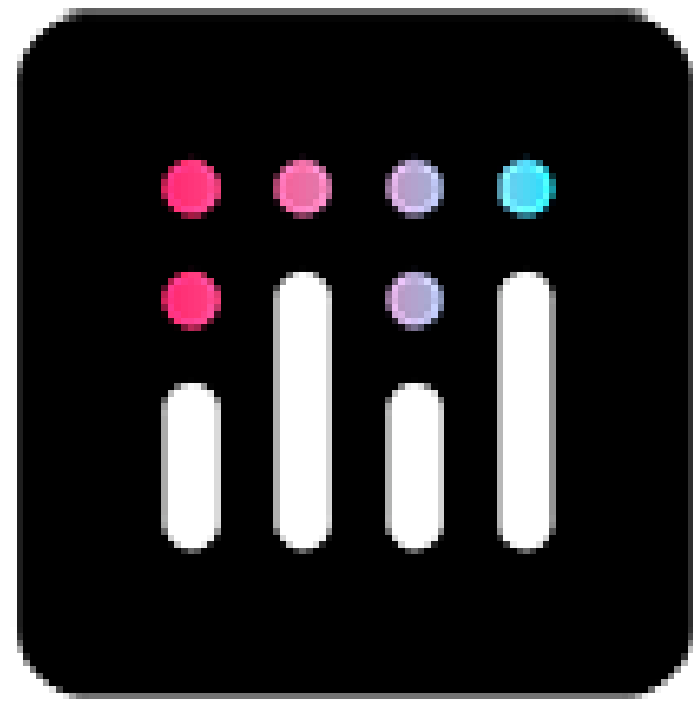temper: float
ts: timestamp

weather_frc
id: int
chance_rain: float
condi: str
conic: str
humid: float
lat: float
lon: float
precip: float
temper: float
ts: timestamp
will_rain: int

Data sharing API

Data visualization

API endpoints

Watering suggestion

| GET | /watering | Returns weather details, current soil moisture level and suggestion |

Soil

| GET | /soil/current | Returns currently hour soil details |

| GET | /soil/forecast | Return predicted soil details |

| GET | /soil/hour/{date}/{hour} | Returns soil details at specified date and hour |

| GET | /soil/day/{date} | Returns soil details at the specified date |

Weather

| GET | /weather/current | Returns currently hour weather details |

| GET | /weather/forecast | Returns a list of forecast weather details at the current day |

| GET | /weather/hour/{date}/{hour} | Returns weather details at specified date and hour |

| GET | /weather/day/{date} | Returns weather details at the specific date |

PET

| GET | /pet/forecast | Returns PET at the current day |

DEMONSTRATION