Riccardo La Grassa

# WeatherLink

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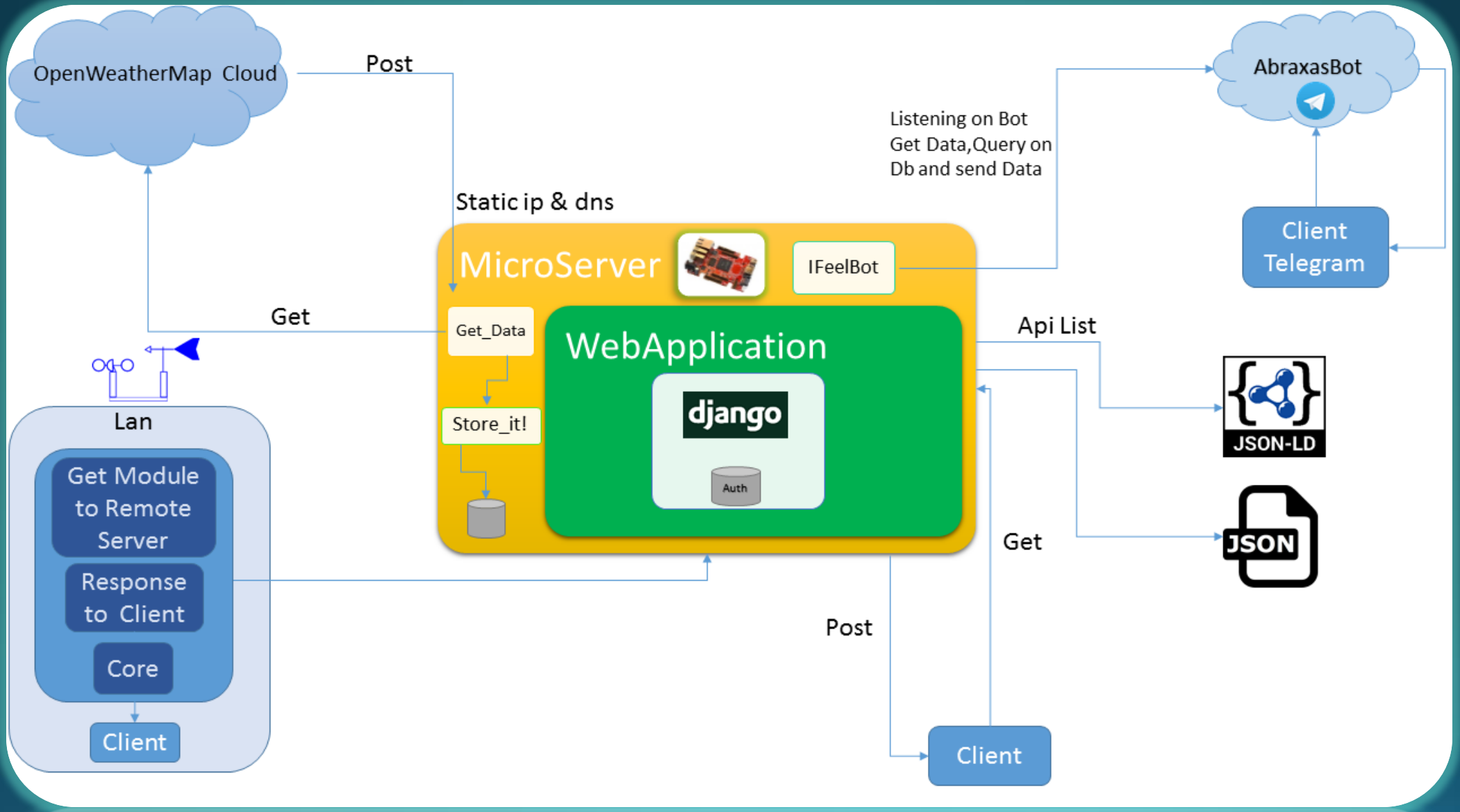
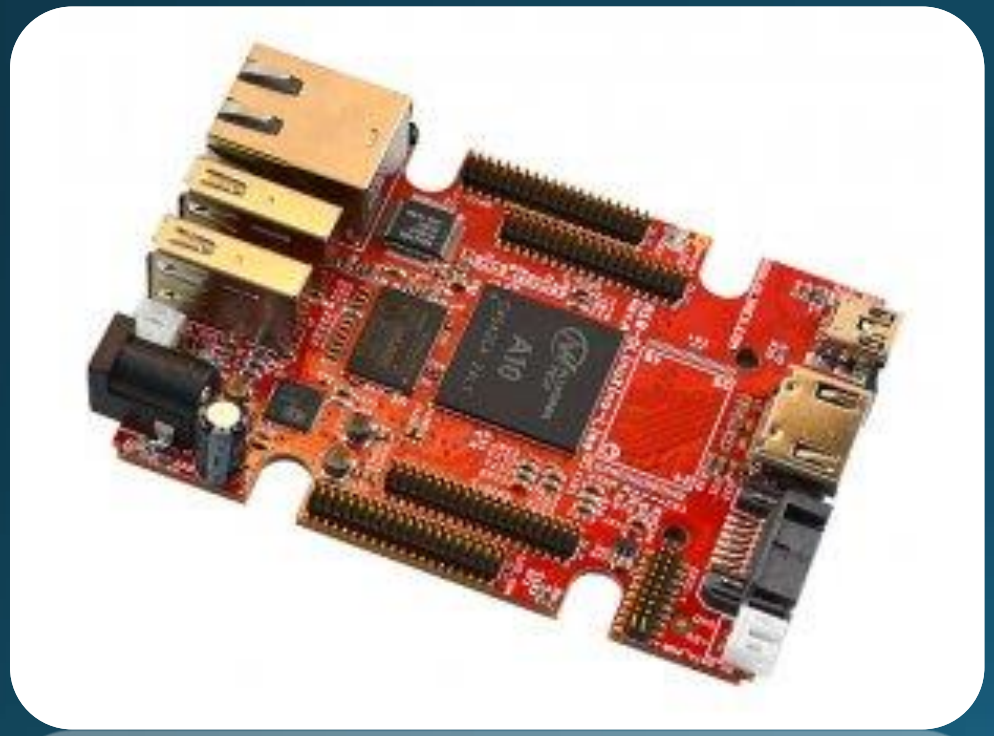
- WeatherLink Platform (Overview)
- The importance of the linked-data

# Overview


OpenWeatherMap Cloud
Post
AbraxasBot
Listening on Bot
Get Data,Query on
Db and send Data
Static ip & dns
Client
Telegram
MicroServer
IFeelBot
Get
Get_Data
WebApplication
Api List
Lan
Store_it!
django
Auth
JSON-LD
JSON
Get
Get Module
to Remote
Server
Response
to Client
Core
Client
Post
Client

# Server



- Board: Olimex A10 Why?

Because it's a low cost and a low consume, but also it's a low performance

Good idea for IoT project

SATA connector

HDMI FullHD 1080p

160 GPIOs on three GPIO connectors!

# Anemometer

Price: $84.24 & **FREE Shipping**. Details

Only 8 left in stock - order soon.

**Want it tomorrow, May 26?** Order within **7 hrs 28 mins** and choose **One-Da** checkout. Details

Sold by D Marketing Corp and Fulfilled by Amazon. Gift-wrap available.

- Battery powered - last for months continuous use
- Accurate (3 to 4% of reading or +/- 1mph)
- 1 second update rate for gusts
- Captures Max and Average
- Dual digital display can be hundreds of feet away

**Used & new** (5) from $58.31 & FREE shipping.

DAVIS & SANFORD

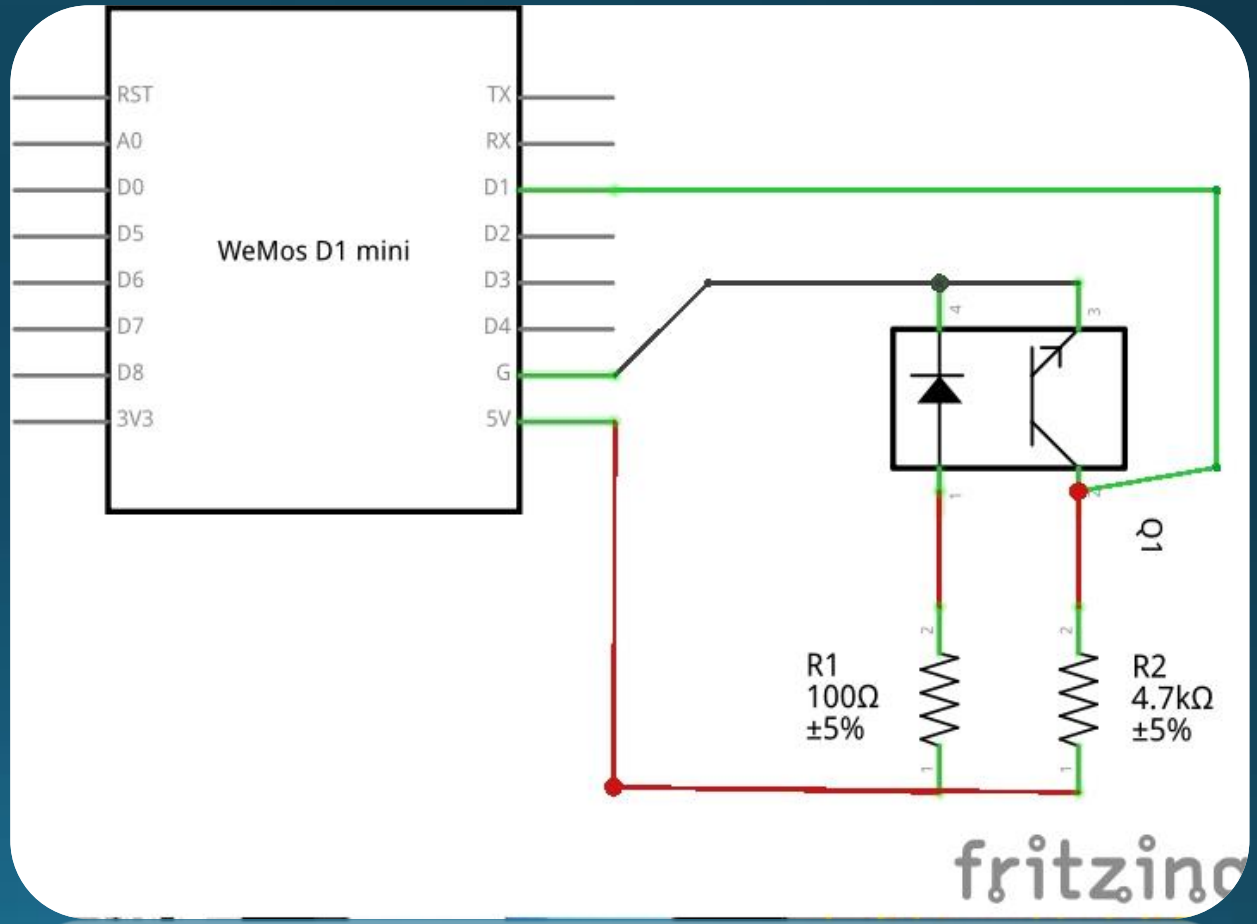
*Lightweight Ball Head Tripod*

› Shop now

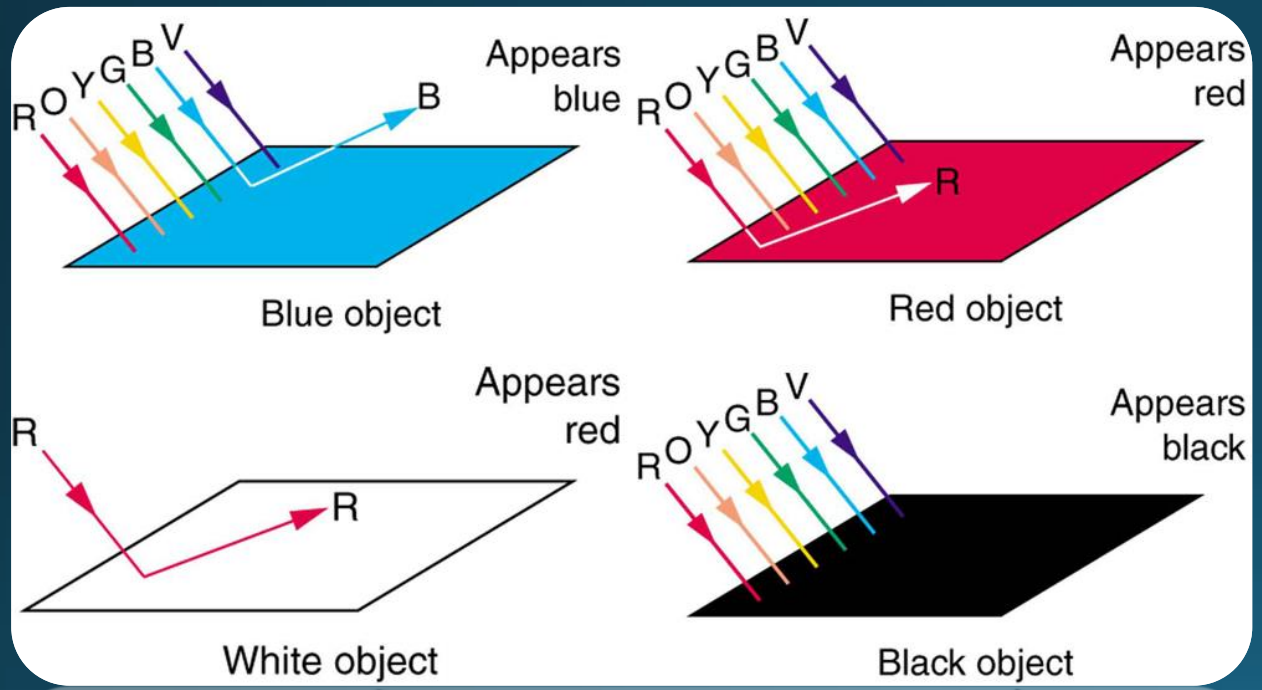
Davis & Sanfor
TR553-P228 T
Super Compac

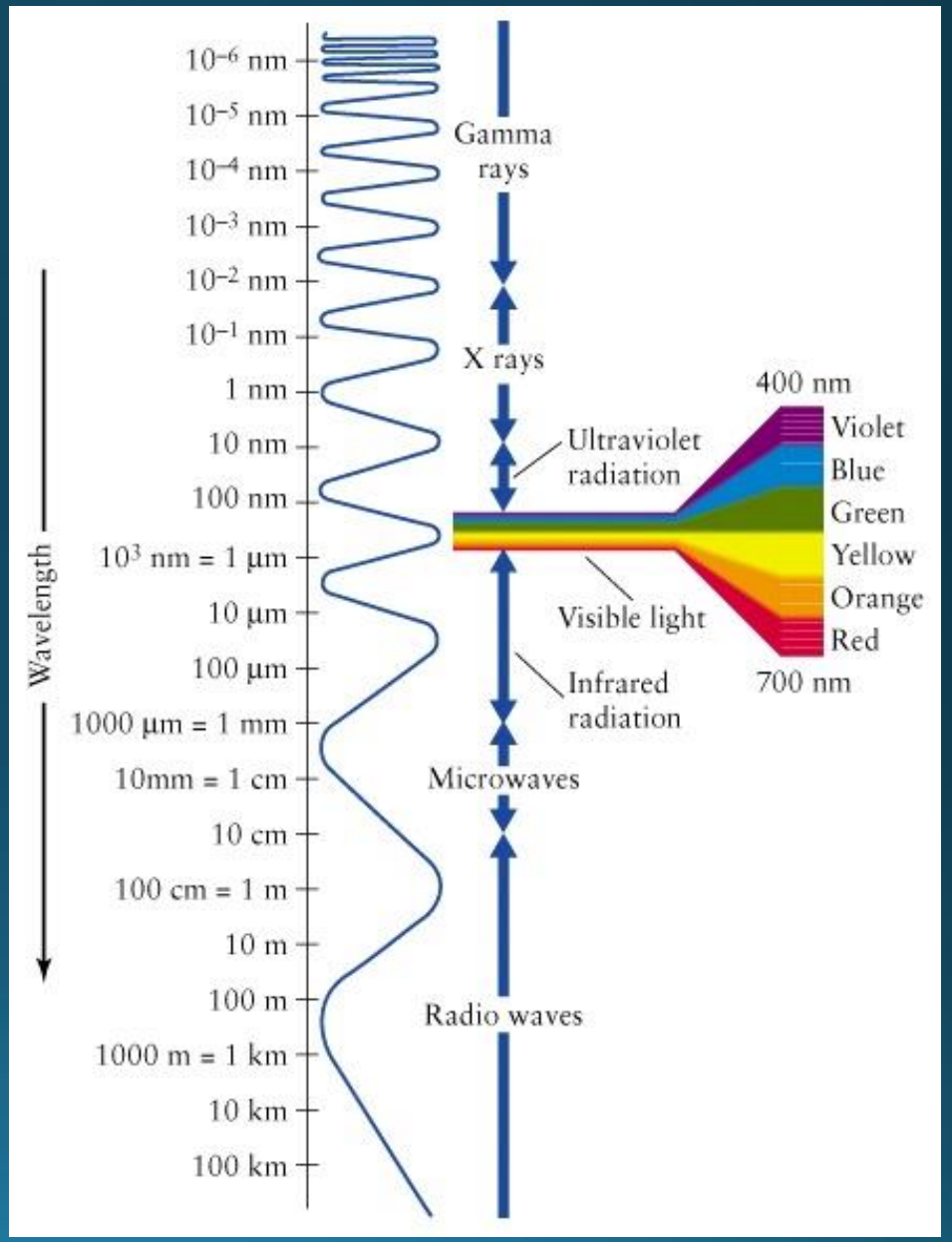
$140.99 $99

# Optical sensor: TCRT5000

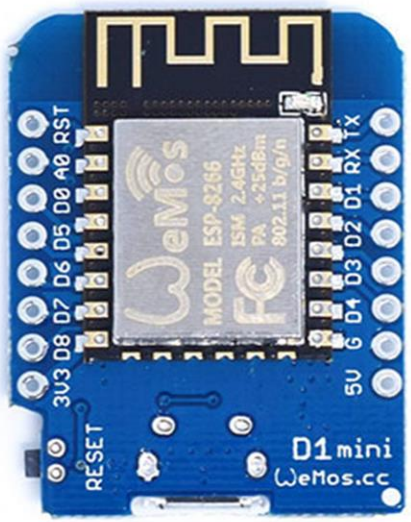


# The Reflection



Top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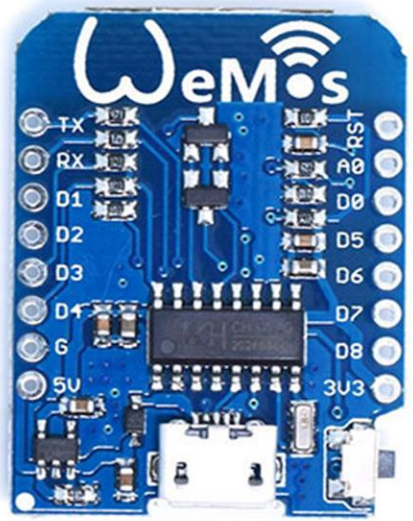
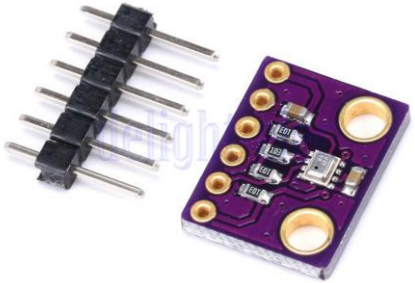
RST A0 D0 D5 D6 D7 D8 3V3
RESET
D1 mini
WeMos.cc

Bottom


WeMos
TX RX D1 D2 D3 D4 G 5V
RST A0 D0 D5 D6 D7 D8 3V3


VCC
DATA
GND

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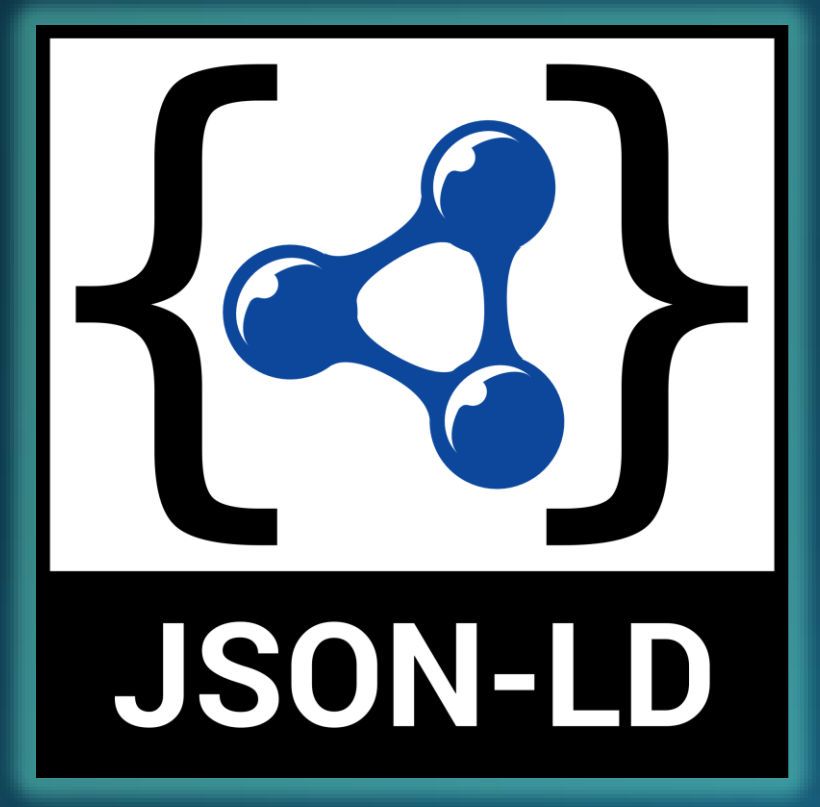
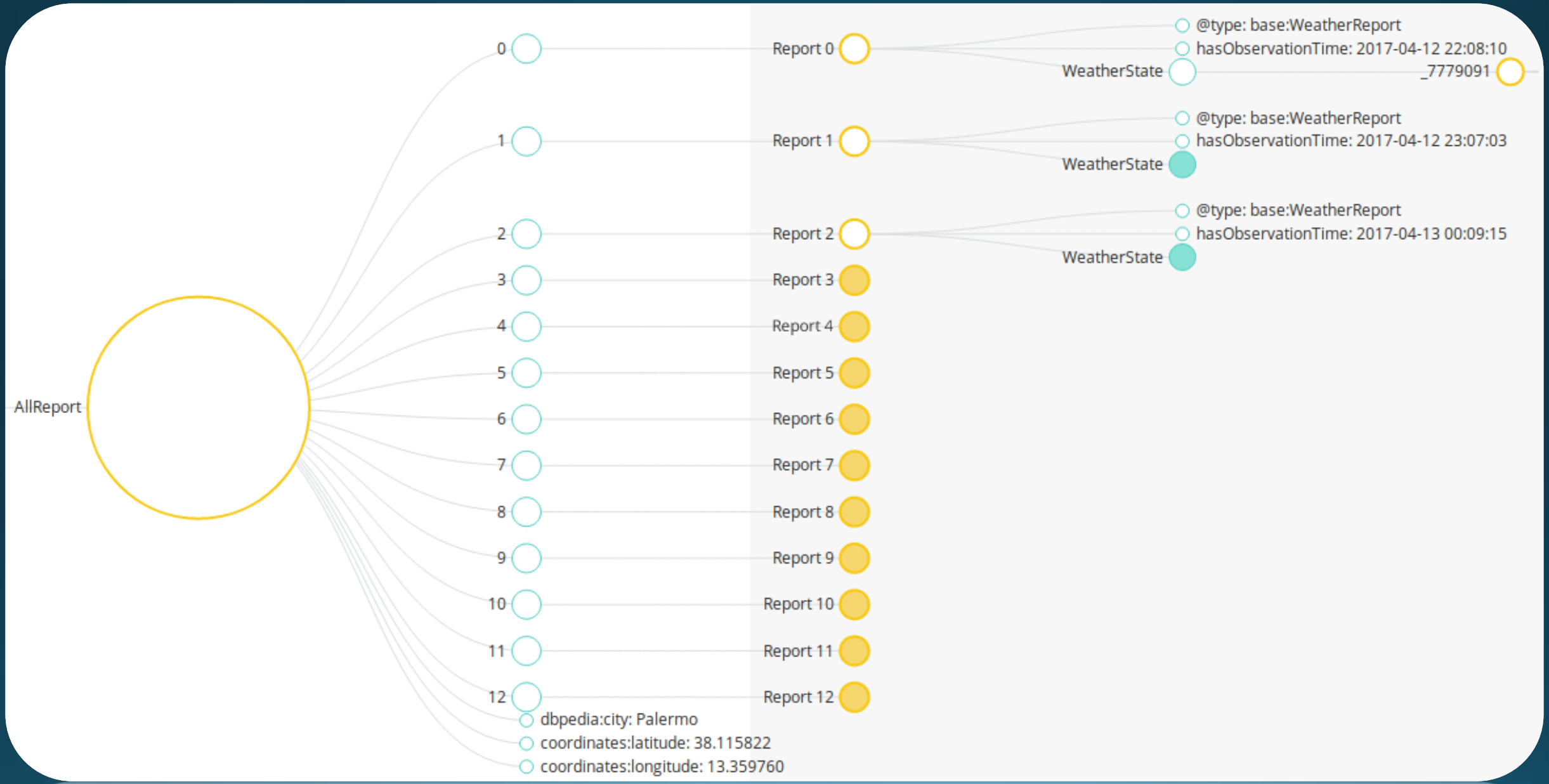
# Web Application


- Python
- Design MVC
- Information Retrieval from DB
- Authentication Users
- Sign up Weather Stations
- Plotting Data
- Api 1.0 (Json,Json Linked Data)
- RealTime Data (From Weather stations and OpenWeatherMap) on OpenStreetMap

# Linked-Data




Why this is important?


AllReport
0
1
2
3
4
5
6
7
8
9
10
11
12
Report 0
Report 1
Report 2
Report 3
Report 4
Report 5
Report 6
Report 7
Report 8
Report 9
Report 10
Report 11
Report 12
@type: base:WeatherReport
hasObservationTime: 2017-04-12 22:08:10
WeatherState
_7779091
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hasObservationTime: 2017-04-12 23:07:03
WeatherState
@type: base:WeatherReport
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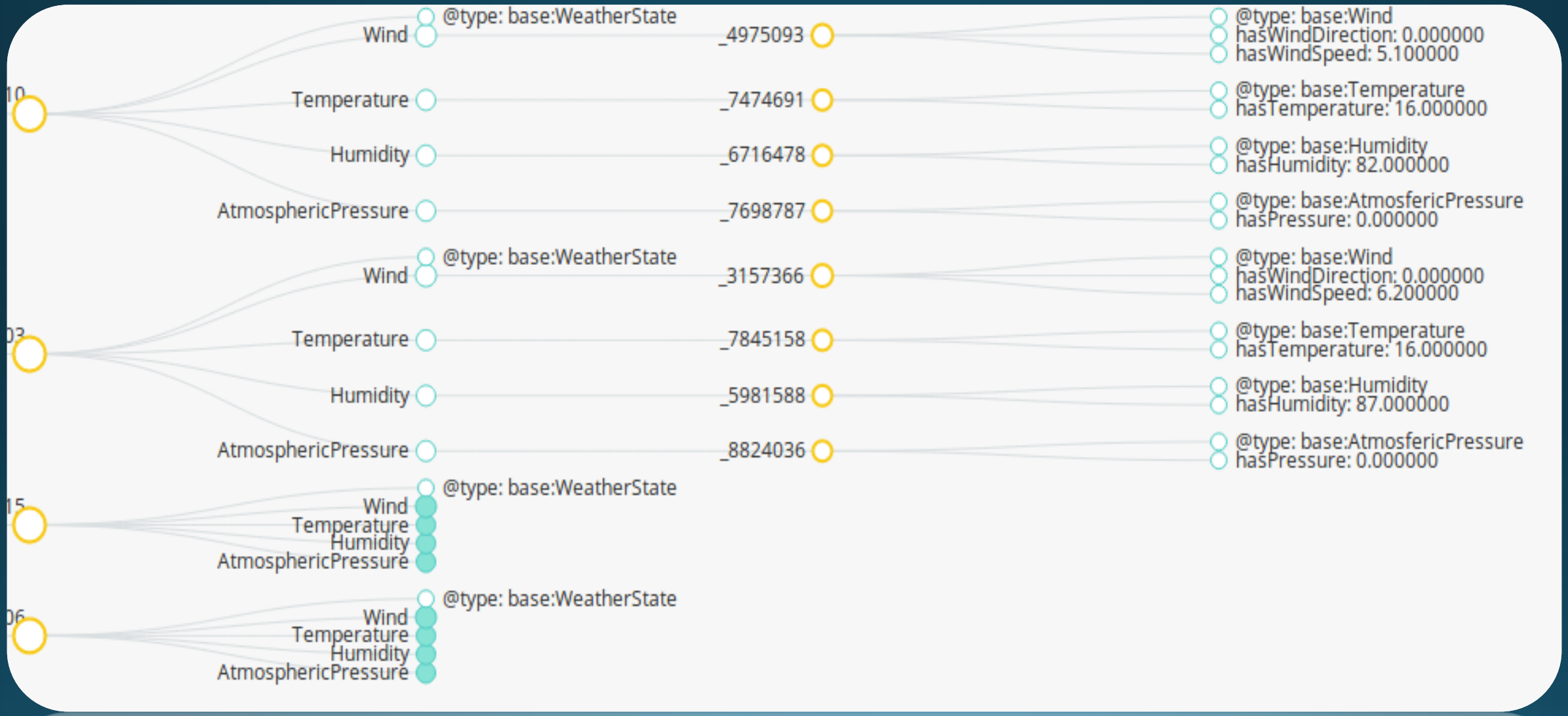
coordinates:longitude: 13.359760


10
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Temperature
Humidity
AtmosphericPressure
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_7474691
_6716478
_7698787
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hasWindDirection: 0.000000
hasWindSpeed: 5.100000
@type: base:Temperature
hasTemperature: 16.000000
@type: base:Humidity
hasHumidity: 82.000000
@type: base:AtmosfericPressure
hasPressure: 0.000000
03
Wind
@type: base:WeatherState
Temperature
Humidity
AtmosphericPressure
_3157366
_7845158
_5981588
_8824036
@type: base:Wind
hasWindDirection: 0.000000
hasWindSpeed: 6.200000
@type: base:Temperature
hasTemperature: 16.000000
@type: base:Humidity
hasHumidity: 87.000000
@type: base:AtmosfericPressure
hasPressure: 0.000000
15
Wind
@type: base:WeatherState
Temperature
Humidity
AtmosphericPressure
06
Wind
@type: base:WeatherState
Temperature
Humidity
AtmosphericPressure

# Conclusion

- Create a net of weather stations ( built a low cost )
- Converge Data to a single point
- Create a Micro Server at home. Zero cost of third-parties
- Build the core for the retrieval Data and to handle of all system
- In the future:
  - Extend the weather station with other sensors
  - Develop system to handle the Api Google Speech ( Vocal commands )
  - Project and realize a system to use solar energy.