

Welcome to **Thing**ithon

- About today's Thingithon
- What is The Things Network (TTN)?
- Introducing the prototype hotspot
- Resources
- Ready... Set... Go!



THE THINGS
NETWORK

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Today

10:00:	Registration
10:15:	Introduction and questions
10:45:	Teams and ideas
11:00:	Go!
15:00:	Show and Tell – 5 mins per team
15:45:	Vote for your favourite idea
16:00:	Finish



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A quick introduction to **THE THINGS NETWORK**

- What is The Things Network (TTN)?
- Where is it?
- What can I do with it?
- How can I get involved?

We're on a mission...



...to build a global open crowdsourced
Internet of Things data network

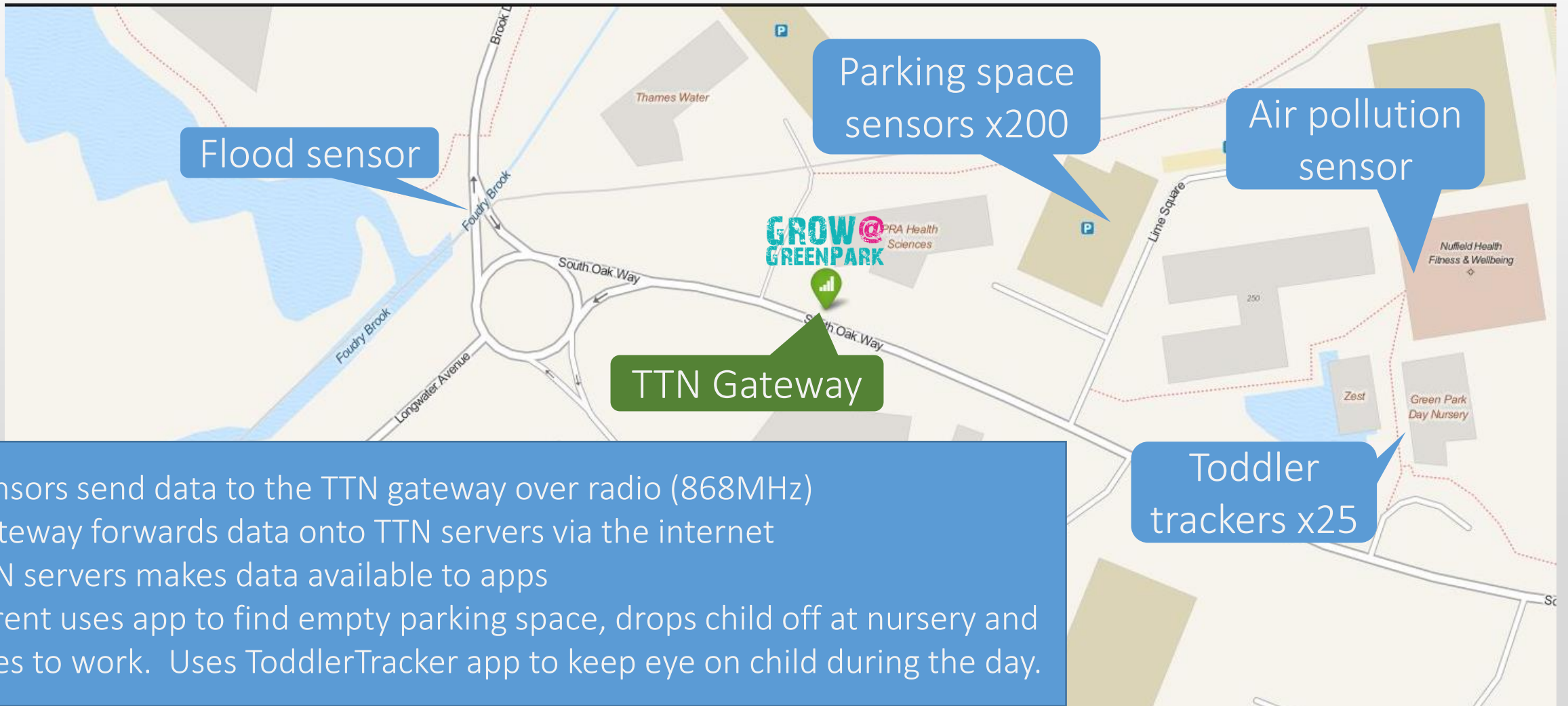


What is a “Things network”?

The Things Network is made of nodes, gateways and servers

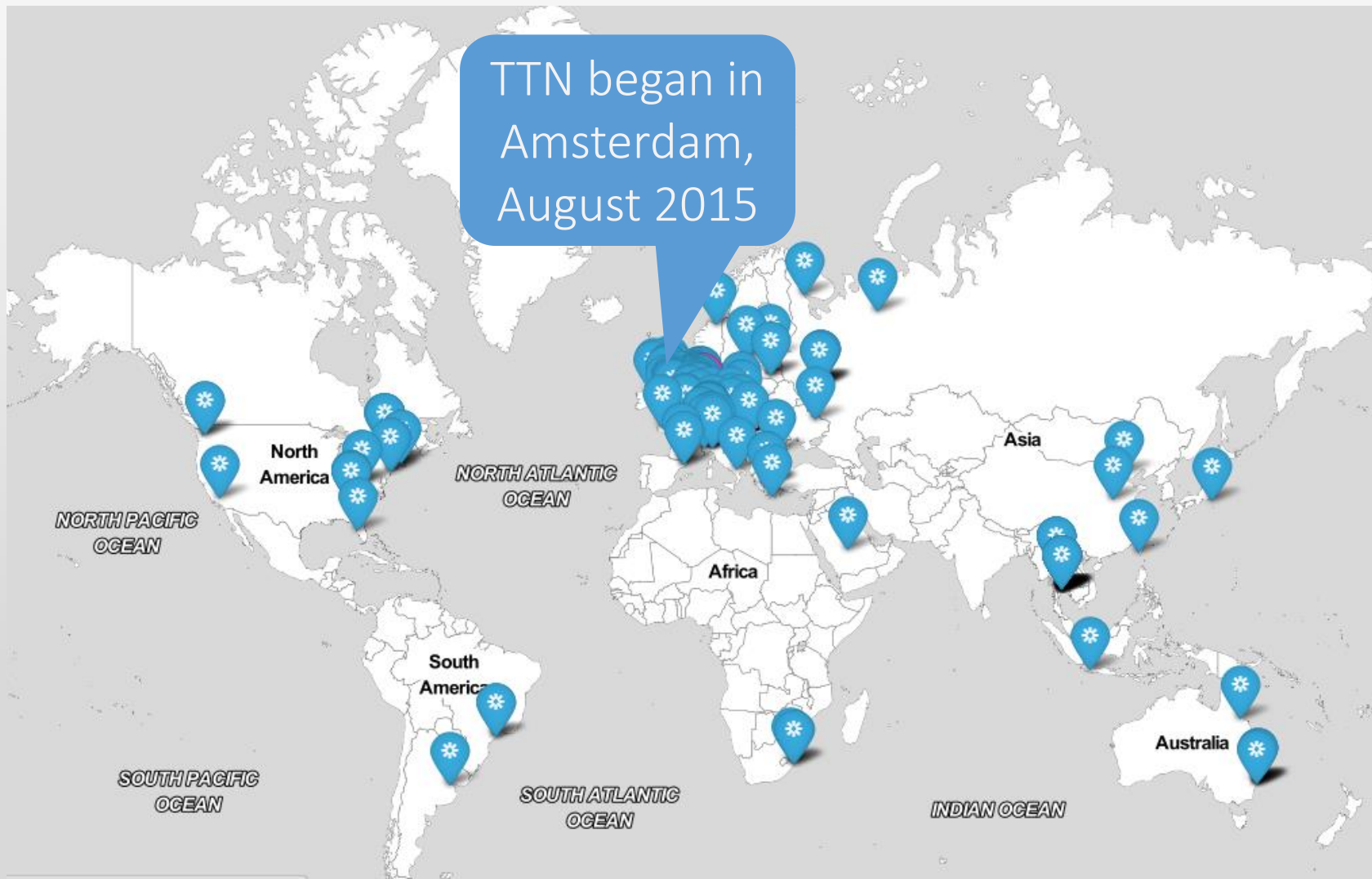
- **Nodes** - the “Things” in Internet of Things. Nodes talk to gateways by radio
- **Gateways** transfer data between your nodes and the servers on the internet
- **TTN Servers** live in the Cloud and route the data to and from your apps

For example



1. Sensors send data to the TTN gateway over radio (868MHz)
2. Gateway forwards data onto TTN servers via the internet
3. TTN servers makes data available to apps
4. Parent uses app to find empty parking space, drops child off at nursery and goes to work. Uses ToddlerTracker app to keep eye on child during the day.

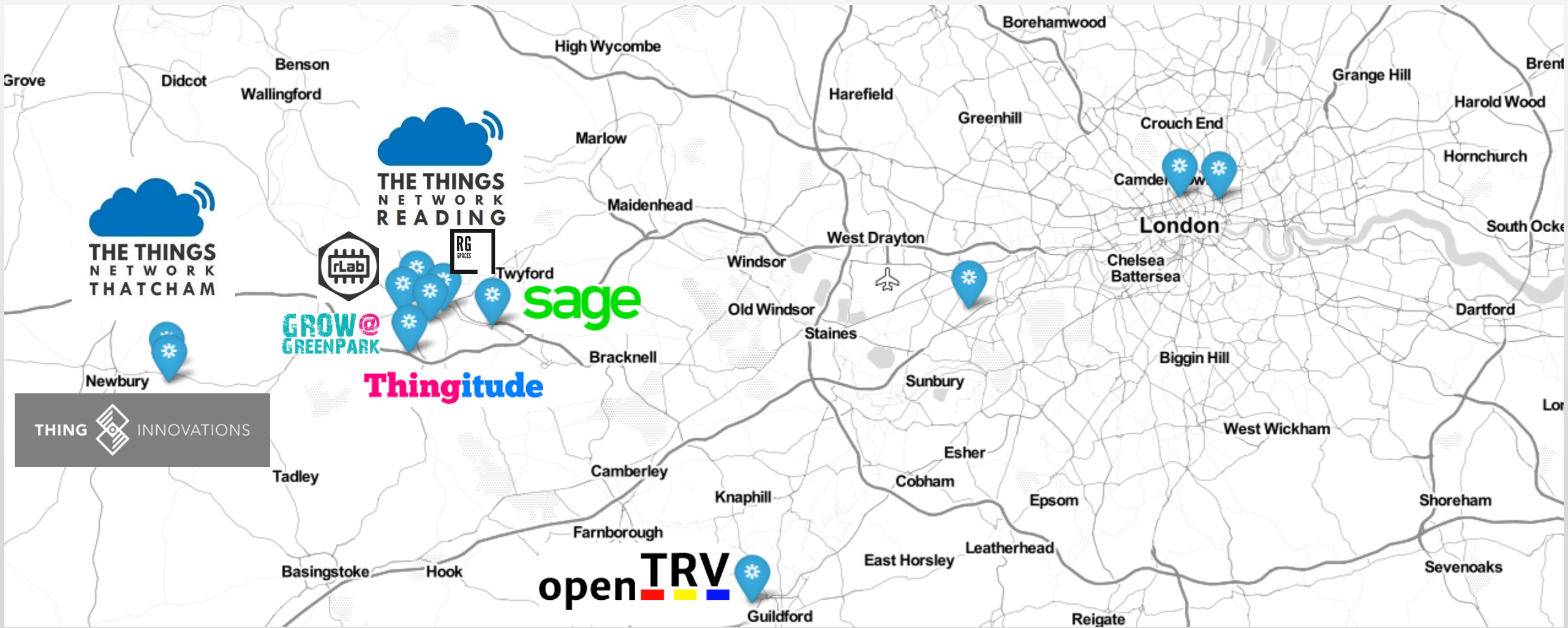
TTN is growing fast



...in the UK



...especially in Berkshire!



What can I use it for?

The Things Network uses LoraWAN technology

- TTN is free to use. No fees to Vodafone, EE, etc.
- Batteries in nodes last several years - LoraWAN uses very little power.
- The gateways are long range: 1-2km in a built up area; 10km+ in open space so we need fewer, and can cover remote areas - farmland, lakes, and parks

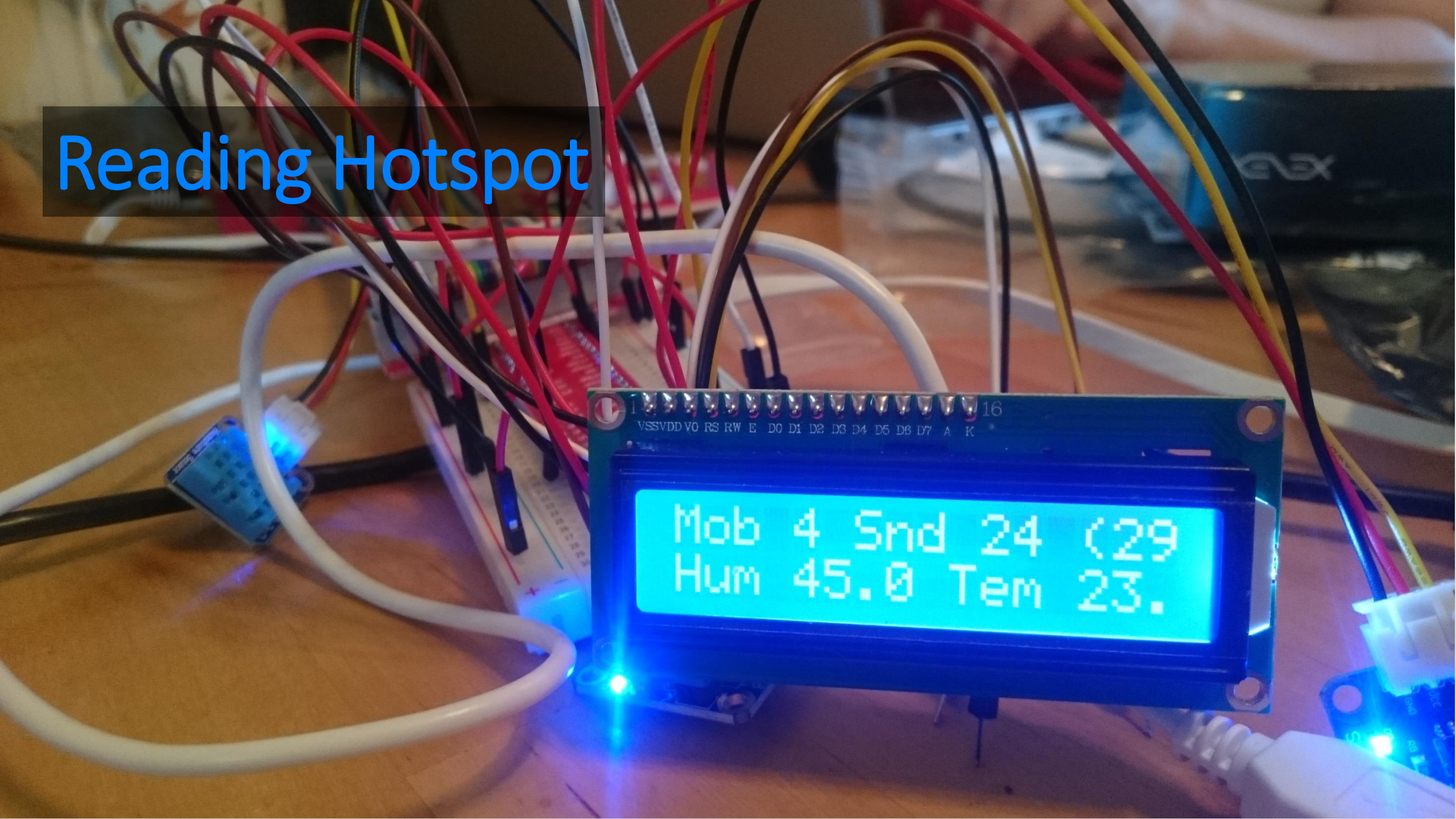
Its big constraint is that it only handles small data packets (242 bytes max)

TTN has many uses



- Monitoring water levels in rivers and providing automatic flood alerts to residents at risk of flooding
- Tracking your cat's nocturnal manoeuvres, or locating a runaway dog
- Smarter car alarm which alerts you on your mobile if your vehicle is broken into, and then tracks its position using GPS so the Police can recover it
- Remote monitoring of allotments and gardens so you can keep an eye on your prize tomatoes while you are sipping cocktails by the pool

Reading Hotspot

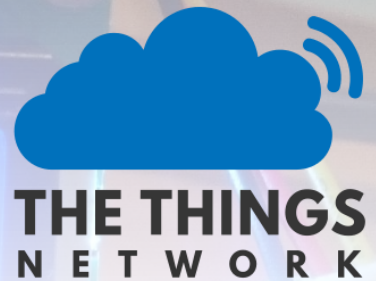


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Reading Hotspot

Thingitude project for Reading Year of Culture
Working with students this summer

- Estimate the number of people at an event
- Log data over time
- Provide venue/event owners with statistics
- App that says “Where’s HOT in Reading?”



Reading Hotspot



Gateway



Thingitude
server

Fancy a challenge?



A close-up, low-angle shot of Darth Vader's helmet, which is centered in the frame. The helmet is dark and metallic, with its iconic breathing apparatus visible. The background is dark and industrial, with some metallic structures and a hint of a light source from the left, creating a dramatic, moody atmosphere.

Fancy a challenge?

Announce when a person enters the office

- Can you play their theme tune?
- Send a drone to greet them
- Have the person appear in Minecraft office
- <insert your idea here>

Resources for today

1 x Reading hotspot prototype #1 – Pi – networked, live data
1 x Reading hotspot prototype #2 – TP-Link router
1 x Arduino Uno plus ThingInnovations development shield
2 x TTN UNO beta v5 boards (pre-production)
1 x Sound meter

PLUS whatever you have brought with you...?

Also: <https://github.com/Thingitude/thingithon01/wiki>
and: <https://github.com/Thingitude/project-wiki/wiki>



Server details

Server: 5.44.273.19 (thingitude.com)
Login: thing1/thingithon
Directory: /var/www/thingithon
URL: thingitude.com/thingithon/<pages>
Mongo: thingithondb
Code: <https://github.com/Thingitude/thingithon01>



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