

FLOOD WATCH

Empowering the local community by monitoring the rivers around

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FLOODING IN THE UK



- Estimated **£1 billion in damages** per year
- 2016 had the most severe floods in 100 years
- Canterbury is in Flood Zone 3 (**High risk area**)
- Growing government investment into **flood damage reduction** projects



Usage

- API could be used to create clear visual representations to monitor levels
- Can be used to predict flooding in future



Database

- InfluxDB stores time series based readings from sensor
- MySQL stores device and area information
- Redis caches the latest reading for performance



The Things Network

- A community based distributed network of gateways allowing us to send data quickly and power efficiently



API

- **JSON API** provides a **RESTful** interface
- Allows for querying data on:
 1. Devices & their areas
 2. Time series data & statistics



Environment
Agency

SCALABLE

- **Grouped by area**, devices can be setup and attached in **various environments**
- Data gathered from each device, builds a **widespread picture** of the rivers in the area



30cm

Device

- **Ultrasonic** sound waves to measure river depth
- Wireless **LoRaWan** to send data periodically
- Long life **rechargeable battery**
- **Engineering menu** for configuration & debugging

5m