



# IoT.js

A JavaScript platform for the Internet of Things

Ziran Sun

[ziran.sun@samsung.com](mailto:ziran.sun@samsung.com)

Samsung Open Source Group  
Samsung Research, UK

FOSDEM 2018  
Brussels, Belgium, February 3 & 4, 2018.



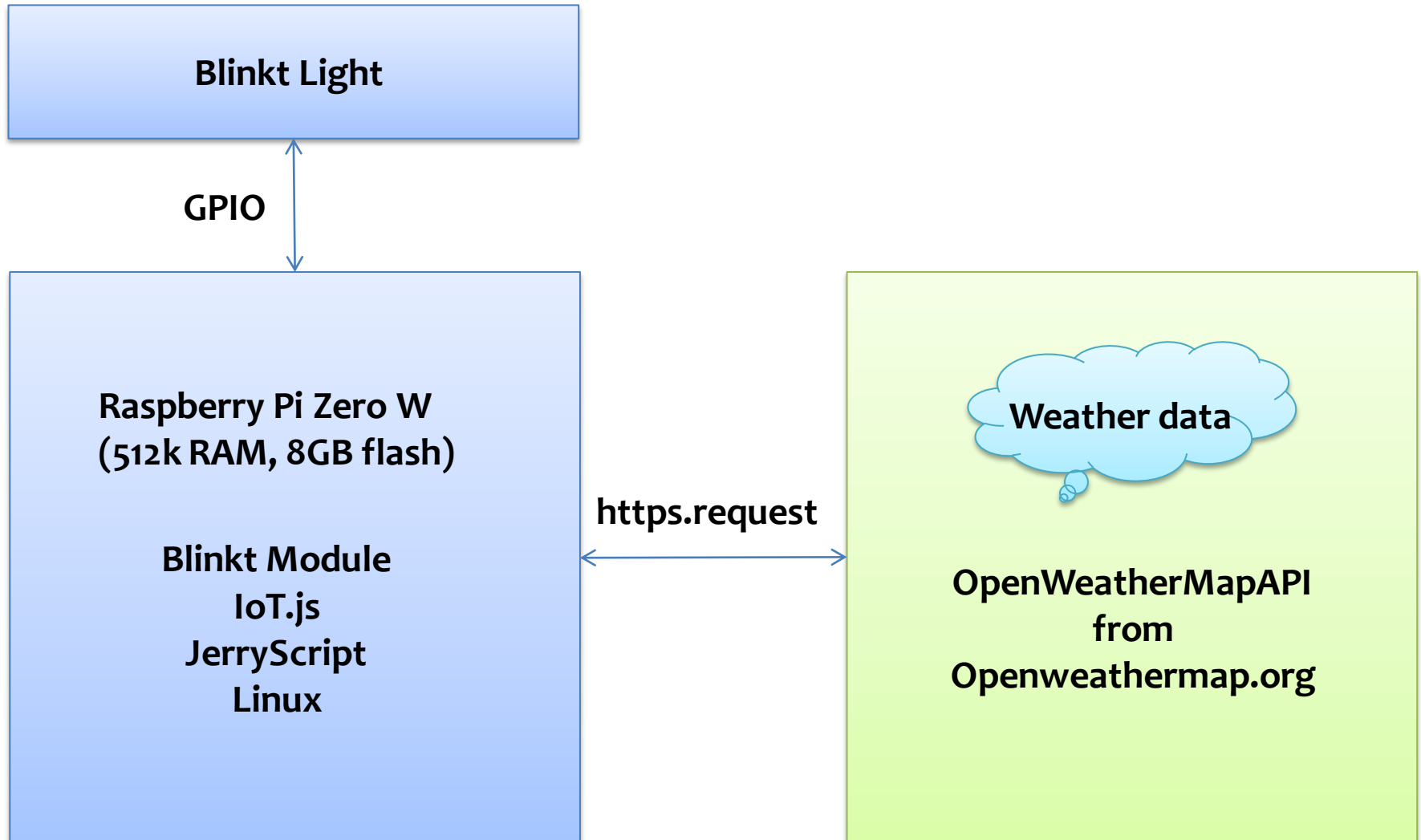
# Overview

- IoT.js Blinkt! light demo
- Demo walk-through
  - IoT.js
  - Blinkt! module
- Questions

# IoT.js Blinkt! Light Demo



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**Demo implemented**

***Fully in JavaScript***

# IoT.js

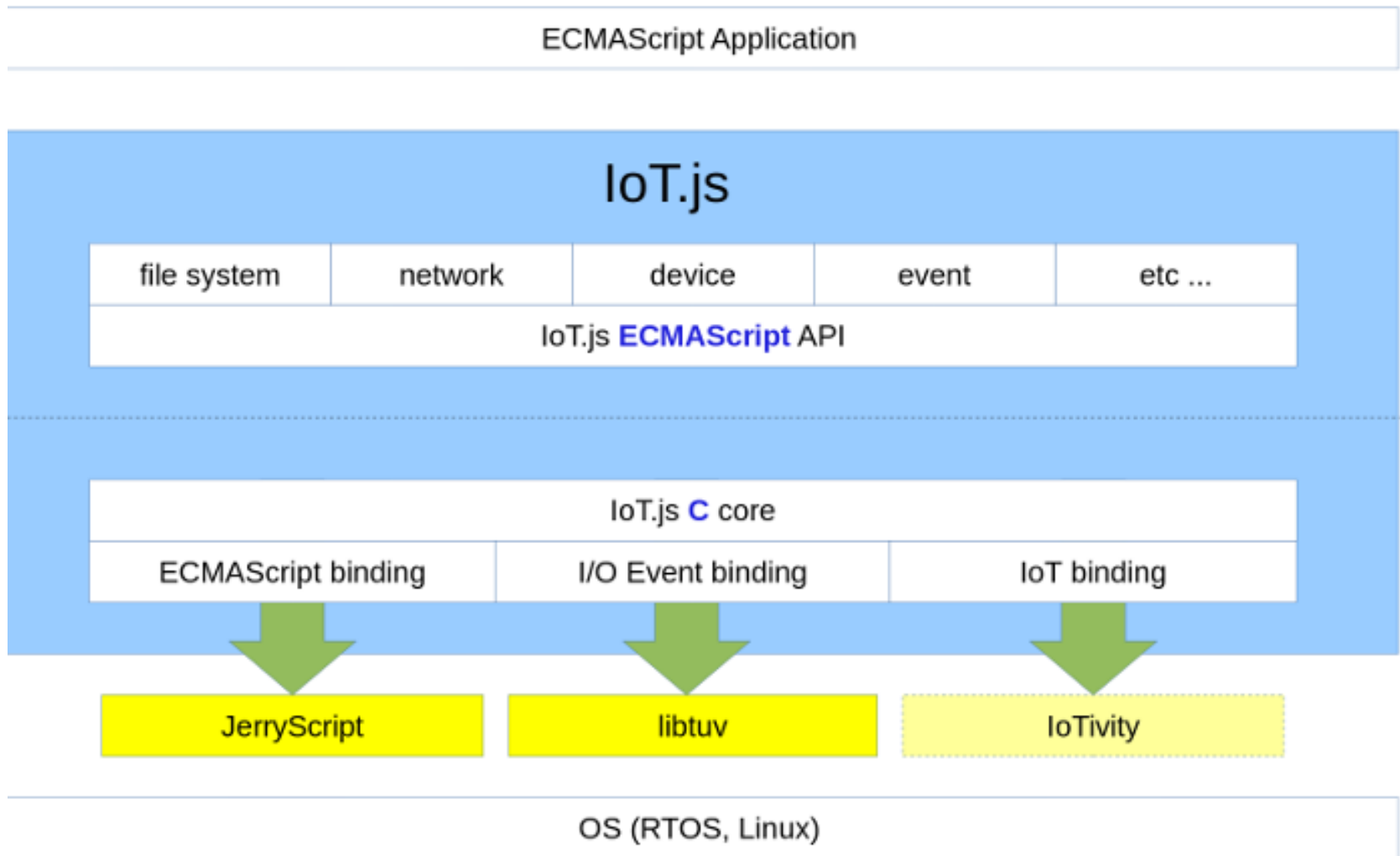


# IoT.js



- IoT.js aims to provide inter-operable service platform in the world of IoT.
- Based on web technology and run on top of JerryScript
- Designed to bring the success of Node.js to constrained IoT devices.
- Runs ECMAScript application which can access device resource (network, File system)

# IoT.js architecture





# JerryScript



- An ultra lightweight JavaScript engine
- Originally developed from scratch by Samsung
- Heavily optimized for low memory footprint
- Self-contained and extremely portable

# JerryScript

- Transferred to JS Foundation in 2016
- Lightweight, modular, ECMAScript
- Features added:
  - Introduced a debugger
  - ES6 related features:  
promise, TypedArray
  - More hardware support:  
e.g. ARM m-bed



# IoT.js



- **Released 1.0 (July 2017)**

- Asynchronous, event driven I/O (libtuv)
- Module system: native (C) and JavaScript modules
- Node.js friendly architecture
- Supports a subset of core Node.js modules, e.g. fs, events, http, net and stream etc
- Provide a list of I/O control hardware modules

# Blinkt! Light Module



# Blinkt! Light Module

- A JavaScript library to Interact with Blinkt! LEDs on RPi
- Use GPIO interfaces in IoT.js

```
var gpio = require('gpio');  
Blinkt.prototype.setup = function setup() {  
  gpio_dat = gpio.open({  
    pin: DAT,  
    direction: gpio.DIRECTION.OUT  
  }, function(err) {  
  });  
}
```

```
function writeByte(byte) {  
  var bit;  
  ...  
  gpio_dat.write(bit);  
  ...  
}
```



# Integrate Blink! Module in IoT.js

- Add module in `iotjs/src/modules.json`

```
"blinkt": {  
  "js_file": "js/blinkt.js",  
  "require": ["gpio"]  
}
```

- Enable module in Build

```
-- ENABLE_MODULE_BLINKT
```



**Thank you.**

