



TYP03 as Things Management System

Talk by Fedir RYKHTIK

@FedirFr, WebDev, Toulon, France

T3CON13DE, Stuttgart, Germany



Hello World

I'm Fedir RYKHTIK.

Developer/SysAdmin at Stratis (Toulon, France).

TYP03 developer since 2007.

Certifications PHP, TYP03.

Also participate at Drupal, OpenStreetMap, Raspberry PI, Linux and lots of other open culture projects.



The evolution of Internet

Web0.0 – prehistoric times (mails, FIDO, BBS)

Web1.0 – static sites, beginning of CMS

Web2.0 – social networks, cloud computing

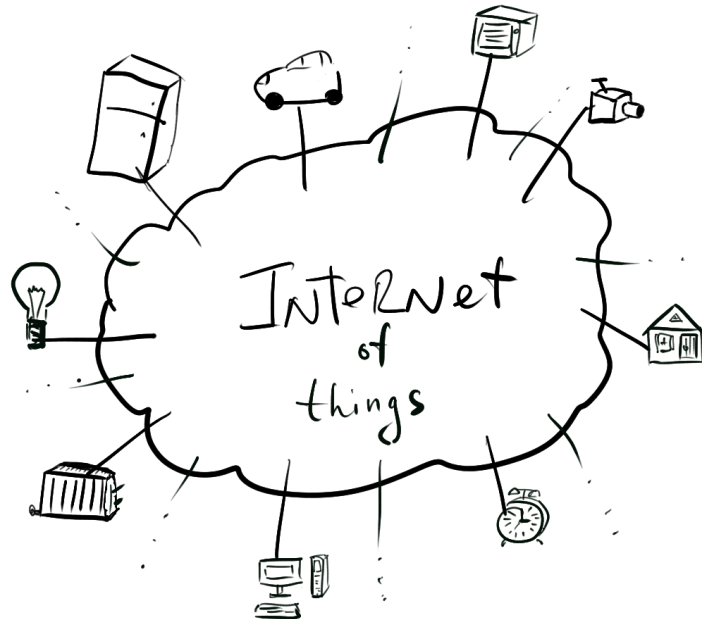
Web3.0 – semantic stuff, 3D, augmented reality

Web4.0 – ... ?



So let's make Web4.0 !

Welcome to the Internet of Things.



Let's change our idea about the Internet.

From the abstract information to real life.

And TYP03 still could be successfully used.



Where are we now ? Or when ?

Looks like TYPO3 is used mostly for static sites.

Some extensions provides functionalities of social pulls (CWT Community, HOI Community etc)

Some extensions adds semantic support.



TYP03, the future TMS leader

Always in motion is the future.

Master Yoda



First CMS => First TMS

TYP03 was one of first open source CMS, the most complete on the market.

It's the moment to be one of first TMS.



How it works

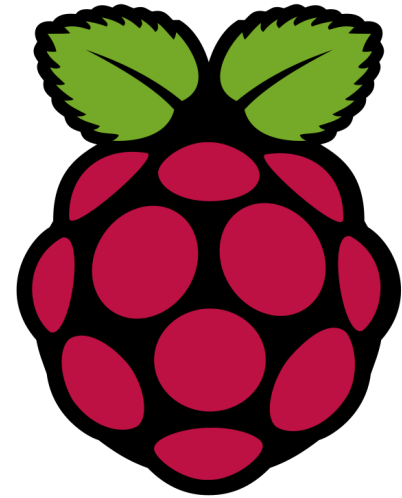
The basics of Things Management

T3CON13DE, Stuttgart, Germany



Simplest realisation – Raspberry PI

- 700 MHz ARM processor
- 256M/512M RAM
- Works on Linux (Debian etc)
- Ethernet / USB port
- GPIO

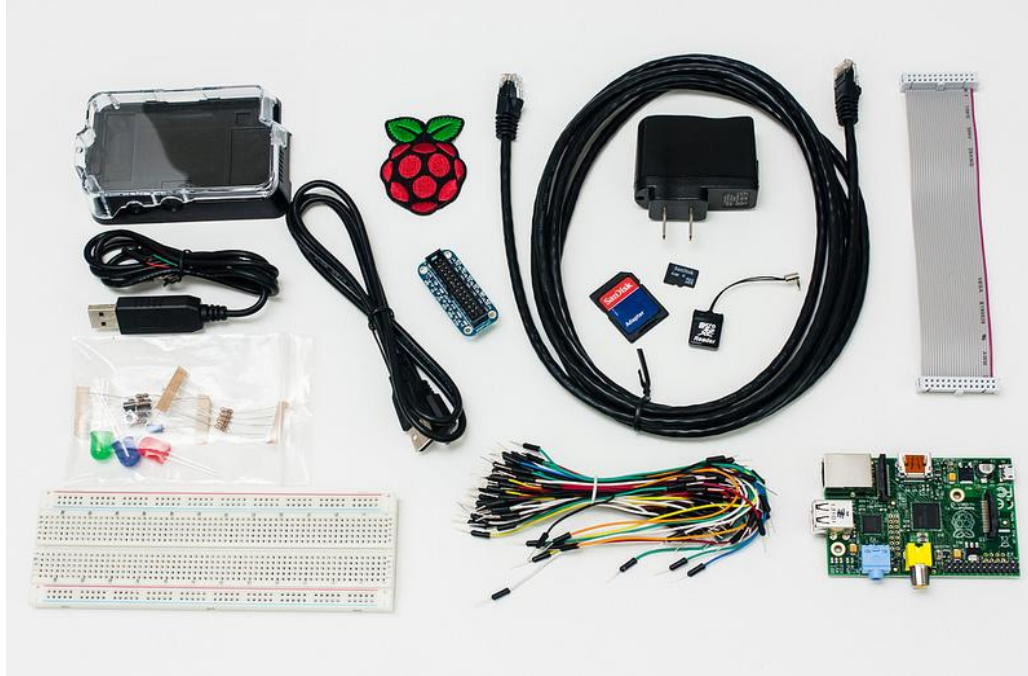


GPIO

Raspberry PI natively has GPIO (general-purpose input/output) pins. It could be directly connected to an external interface to get data and to set data.



Starter Kit



Some components for GPIO connection

- **Sensors**
 - Movement
 - Light
 - Temperature
 - Sound
- **Buttons**
- **Switches**
- **LEDs & Displays**
- **Servo motors**
- **Buzzers & Speakers**



How TYP03 works with external devices

- PHP if the CMS is hosted on the same PC
 - <https://github.com/ronanguilloux/php-gpio>
- Web-GPIO for remote
 - <https://code.google.com/p/webiopi/>
 - <https://github.com/swooningfish/raspberrypi-web-gpio>



PHP-GPIO tiny example

```
<?php
require 'vendor/autoload.php';
use PhpGpio\Gpio;
echo "Setting up pin 17\n";
$gpio = new GPIO();
$gpio->setup(17, "out");
echo "Turning on pin 17\n";
$gpio->output(17, 1);
echo "Sleeping!\n";
sleep(3);
echo "Turning off pin 17\n";
$gpio->output(17, 0);
```



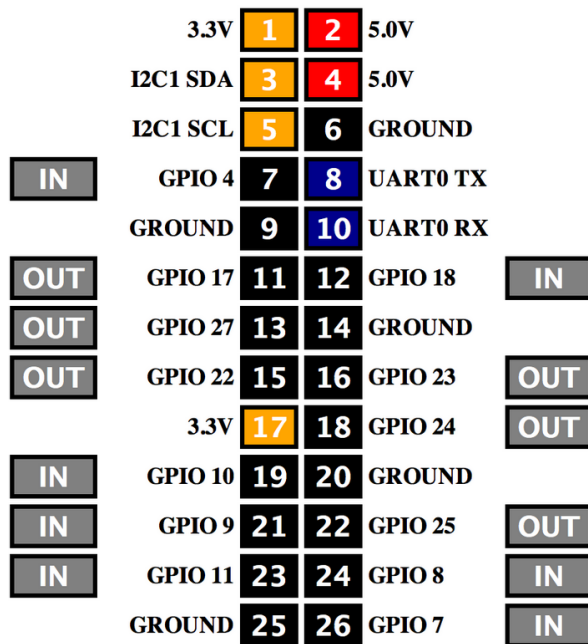
WebIOPI

Web interface

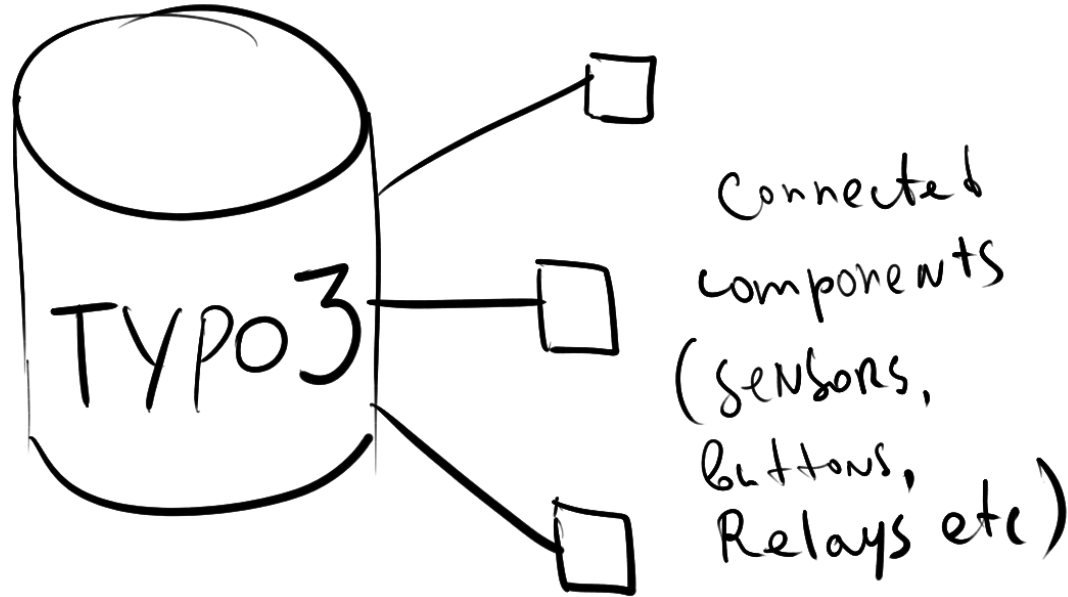
Press the OUT/IN button to change GPIO direction

Press pins to change the GPIO output state

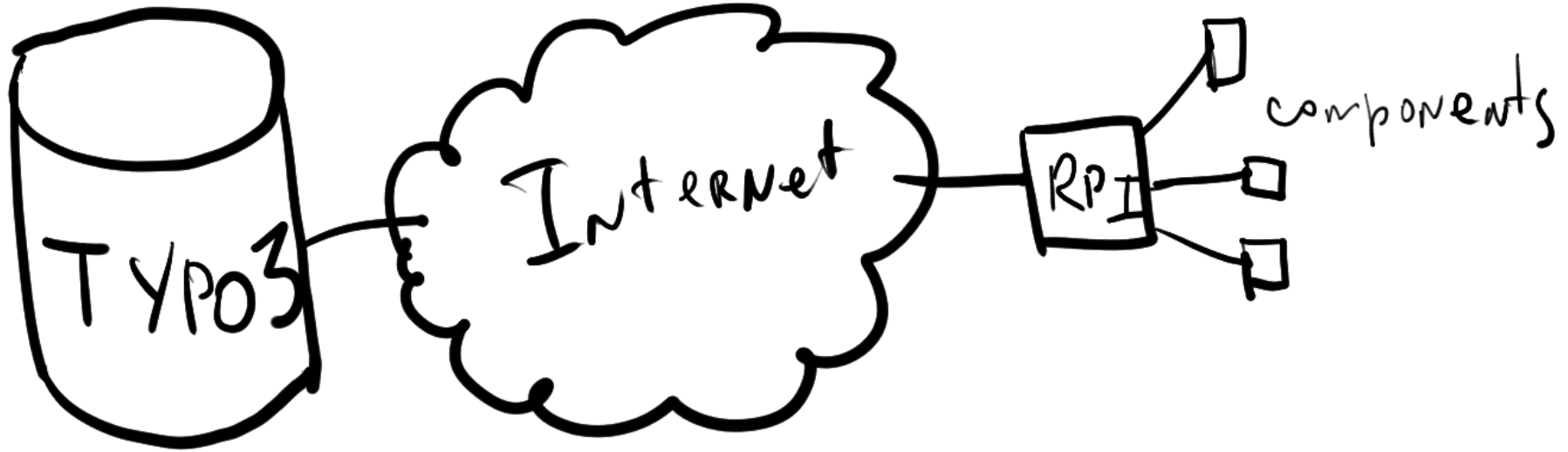
AJAX will do the job



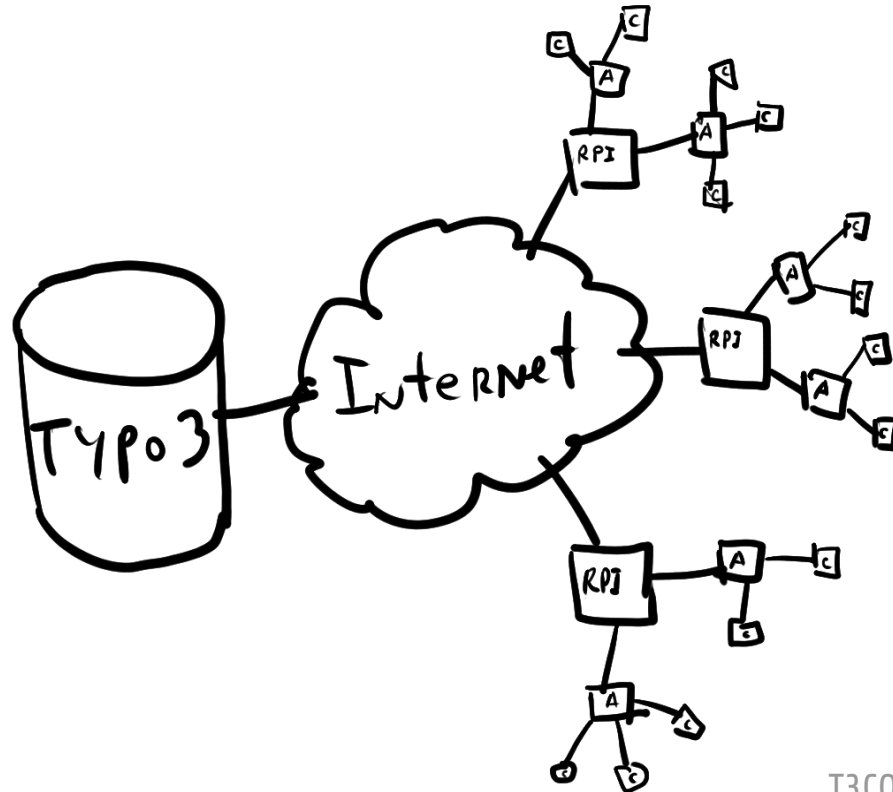
Same PC example



Remote PC example



Remote + RPI managers + Atmel agents



System architecture based on TYP03 TMS

TYP03 side implementation

T3CON13DE, Stuttgart, Germany



Hierarchical structure

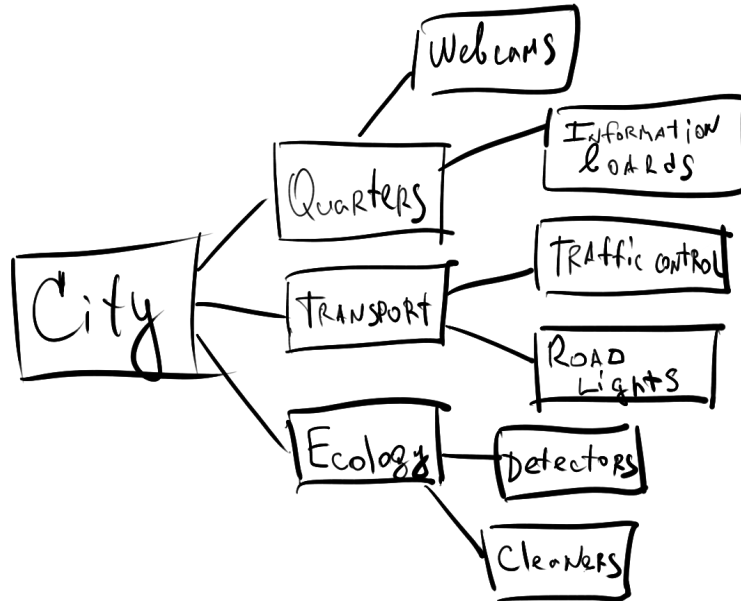
Page tree to define the system hierarchy

FCE to describe elements

TypoScript to pass the configuration



DDD to define relations and behaviour



It's easy to implement

- TYP03 Neos + FLOW3
- Extbase will work fine – for TYP03 6.2 LTS



TYP03 as Things Management System

TYP03 is bigger than You think.

FLOW3 is not only for sites, it's for everything.

TYP03 Neos is coming (as winter).



Wants to participate

Let's do it together !

<https://github.com/fedir/TYP03.TMS/>



Q&A

Please, ask You questions, we have few minutes
(if the timing was well calculated).



Useful links

- http://en.wikipedia.org/wiki/Internet_of_Things
- <http://www.raspberrypi.org/>
- <http://www.skpang.co.uk/catalog/raspberry-pi-c-240.html>
- <http://www.instructables.com/id/Web-Control-of-Raspberry-Pi-GPIO/>
- <http://uk.farnell.com/>





- http://en.wikipedia.org/wiki/File:Raspberry_Pi_Logo.svg
- <http://www.flickr.com/photos/kenfagerdotcom/9044342859/>
- <http://www.flickr.com/photos/55514420@N00/3314993893/>



contacts

Fedir RYKHTIK

@FedirFR

<https://github.com/fedir/>

<http://fedir.github.io/>

