General

- neOCampus | infrastructure overview,
- neOCampusLabs,
- accessOCampus | a neOCampus use case.
Infrastructure overview

Power meter

868MHz
Up to 6 CT

Ambient sensors

Wide range of sensors: Temperature, Humidity, IR...

Decision agent

1 building → 1 Raspberry Pi*

FM 868MHz

*At least, one Raspberry Pi per building in order for power meters to get reachable from its 868MHz link.
Infrastructure overview
Infrastructure overview

neOCampus infrastructure

neOCampusLabs (U4 300,301,302)

Bibliothèque Universitaire

neOCampus / FabLab (U4 rdc)

12 x SAS 300GB 15ktpm
2 x 6 Xeon E5-2609v3 @ 1.9GHz
64 GB DDR4 RAM

Users storage space: 2.7TB RAID6
1.6GB/s raw read, 6500 iops read & 2200 iops write.

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(4 x Ethernet Gigabit aggregated links)
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QR-code is a just a http link to Django application managing sensors / actuators. GPS data will be read from browser.

Register sensors & actuators with GPS pos.

List of sensors / actuators ...

- Sensor 1 | temperature | U4 | 301 | topic=neocampus/U4/301/lux | ...
- Sensor 2 | luminosity | U4 | 301 | topic=neocampus/U4/301/lux | ...
- actuator1 | shutters | U4 | 302 | topic=neocampus/U4/302/shutters | ...
- sensor3 | access | U4 | 301 | topic=neocampus/U4/301/nfctag | ...
- actuator2 | access | U4 | 301 | topic=neocampus/U4/302/door | ...

ADD
DEL
Edit

*SUE projet M1
Registered devices fetch their configuration ...

- Topic to publish to / to subscribe to,
- Login / passwd,
- ClientID to use,
- Agent to launch,
- ...

Sensors / actuators management

- Sensor-x | ....
- Sensor-y | ....
- neOCampus | infrastructure overview,
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NFCreader & camera sensors registration. Lock controller registration.

Retrieve sensors / actuators topics setup and others stuff.

Django application

accessOCampus management

- Access NFCid/u4-302/date
- Access NFCid/u4-302/date
Intership summary

- Complete rewrite* of the access control application with Django,
- Application(s) will benefit from our new neOCampus infrastructure,
- Applicant will be part of the neOCampusLabs integration,
- Keywords: Raspberry Pi, Arduino, I2C bus, Django, MQTT, MongoDB,
- 4 months starting April 4th (part is related to L3 UE Stage),
- Applicant: Théo Bueno (L3) theo.bueno@univ-tlse3.fr.

* previous version was based on nodeJS and executed as a stand alone application.
Questions

- Data flows | http://neocampus.univ-tlse3.fr/node-red
- UI | http://neocampus.univ-tlse3.fr/domoticz