Planning

Olivier Liechti & Simon Oulevay
COMEM Web Services 2016

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

heig-vd

Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

Objectives

Objectives for the course

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

- Understand the **generic** concept of "**Web Service**".
- Understand that "**REST**ful APIs" are **one way** to expose web services.
- Be able to explain the **core principles** of the REST architectural style
  - Resource identification & URLs
  - HTTP verbs
  - Content-negotiation & resource representation
- Learn how to **implement** a RESTful API in JavaScript

heig-vd

Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

Theme

IFLUX.IO

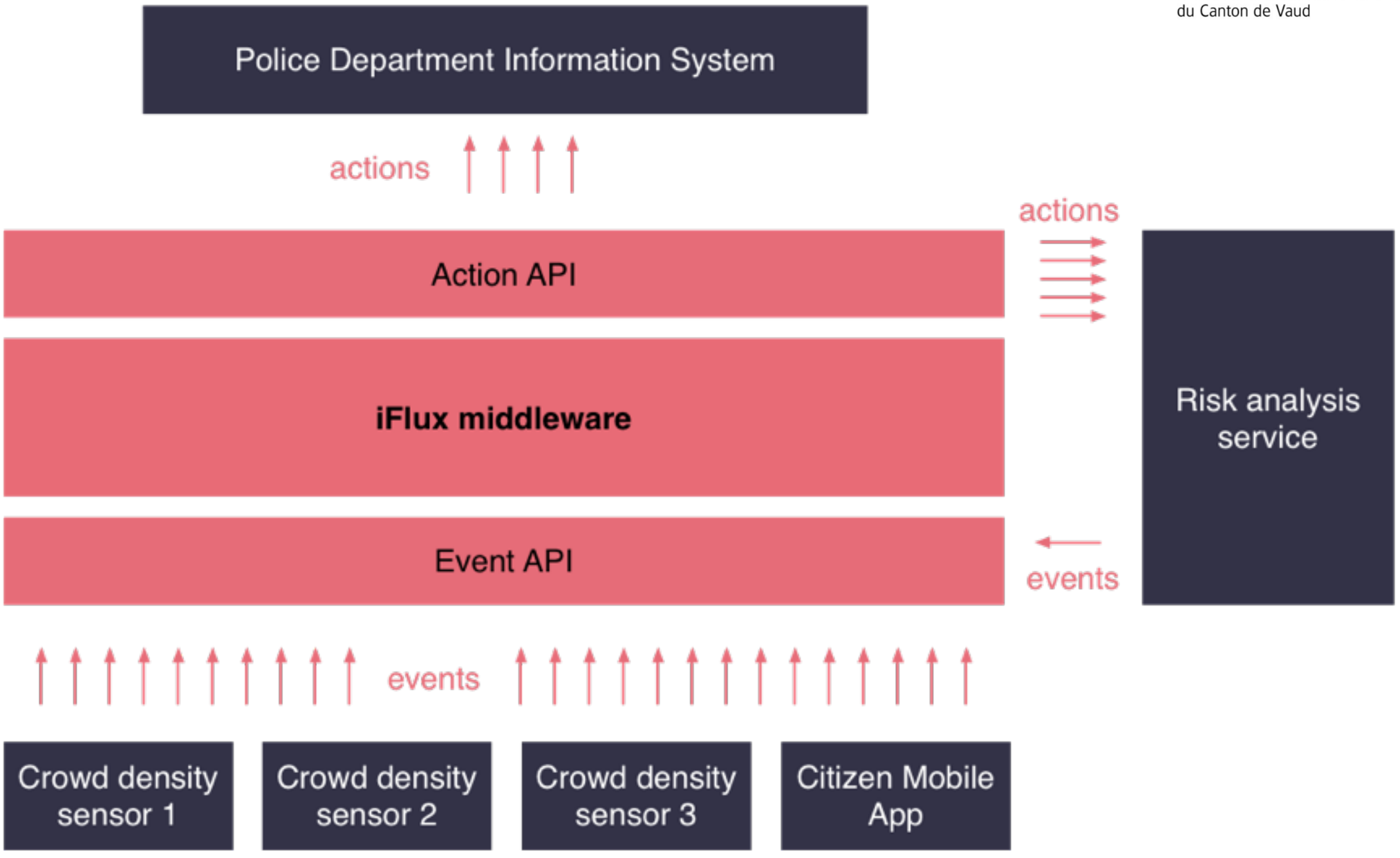
SANDBOX BLOG API

IOT MIDDLEWARE FOR REACTIVE CITIES

IF my city breathes THEN I can feel its pulse

CONTEXT

iFLUX is an ongoing project, conducted in the broader context of the **iNUIT** research programme at the University of Applied Sciences Western Switzerland. Whereas iNUIT intends to create a complete **IoT stack for smart city applications**, iFLUX focuses more particularly on the **middleware layer**. Our goal is to build an event-driven, rule-based environment that will make it easier to integrate the various iNUIT components and to automate urban workflows.


Police Department Information System
actions
actions
Action API
iFlux middleware
Risk analysis service
Event API
events
events
Crowd density sensor 1
Crowd density sensor 2
Crowd density sensor 3
Citizen Mobile App

Citizen Engagement

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

How to report a problem

1. Enter a nearby UK postcode, or street name and area
2. Locate the problem on a map of the area
3. Enter details of the problem
4. We send it to the council on your behalf

3,831 reports in past week

5,276 fixed in past month

575,445 updates on reports

Recently reported problems

Large tree branch fallen
11:06 today

Misaligned bus lane road signs
10:46 today

Rubbish strewn over alley
10:42 today

Broken wooden fence post
10:33 today

Fly tipping
10:22 today

The FixMyStreet App

Download on the App Store

ANDROID APP ON Google play

Powered by FixMyStreet Platform

Are you a developer?

Would you like to contribute to FixMyStreet? Our code is open source and available at fixmystreet.org.

Are you from a council?

Would you like better integration with FixMyStreet? Find out about FixMyStreet for councils.

Gestion

Stamford Street Safety

Olivier

openplans.org/demo/street-safety/

Share a street safety issue.

Double Parking | Crosswalk Timing | Long Distance to Cross | Red Light Running | Jaywalking | Poor Visibility | Speeding | Failure to Yield | Cyclist Behavior

Provide more information about the issue.

Description...

Your Name

Your Email

optional

Please provide some optional/private information about yourself.

Okay | Decline

Stamford Street Safety

Stamford residents deserve and expect safe streets. But too many people are seriously

Theme

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

Foster **citizen engagement**, by making it possible and easy for people to raise issues and give feedback to local authorities. To illustrate the point, think of a mobile app that city inhabitants could use to report a **broken streetlight**, a **dangerous crossroad** or a **critical situation**. In iFLUX terms, **citizen become event sources** (the mobile app is a user agent that provides an interface to the system). Every issue raised by a citizen becomes an event, that can trigger actions based on configured rules.

Specifications

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

http://www.iflux.io/blog.html

heig-vd

Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

Planning & Guidelines

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

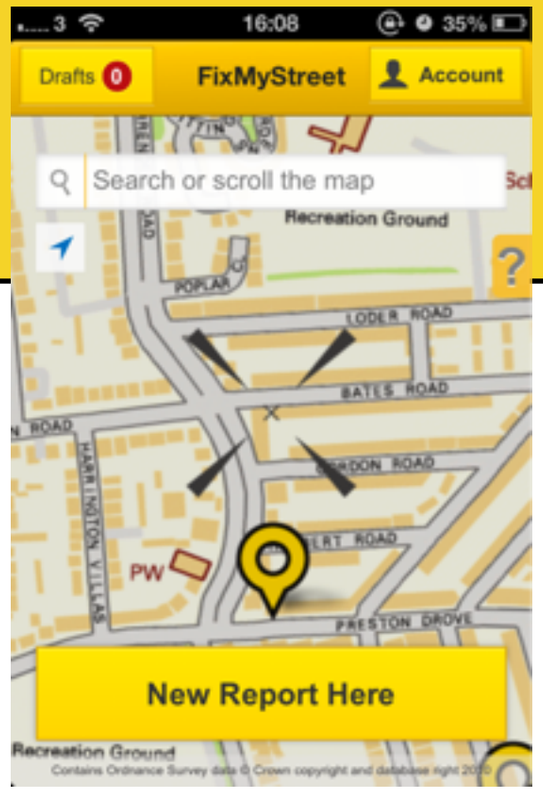
Tuesday	Wednesday	Thursday	Friday
Introduction to REST APIs	REST API principles, domain model, documentation	Deployment	Coding
JS Installation of tools	JS Coding	JS Coding	Demo

Today
Introduction
Big Web Services vs REST Core REST concepts and principles
JavaScript, Node.js & npm
Implementing a REST API (Express.js, MongoDB, Mongoose)

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

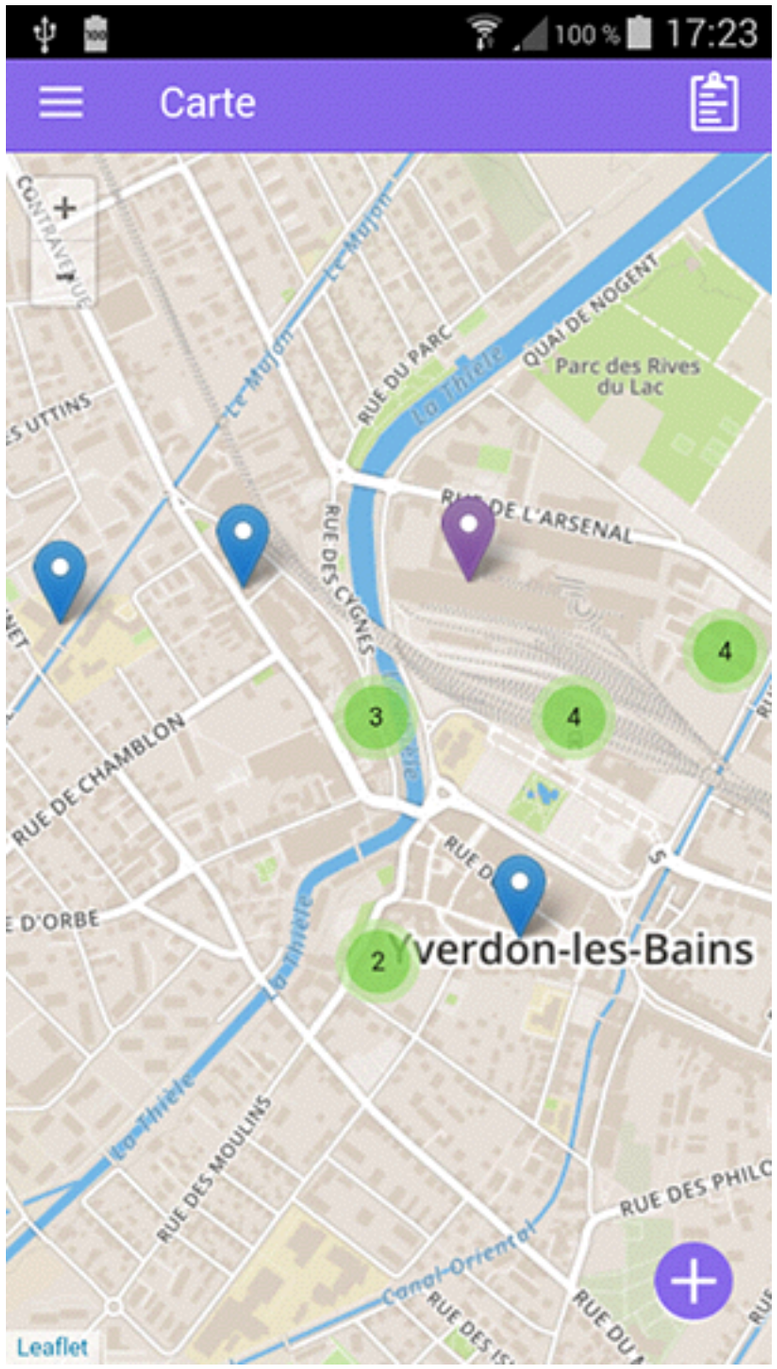
Web Services Course

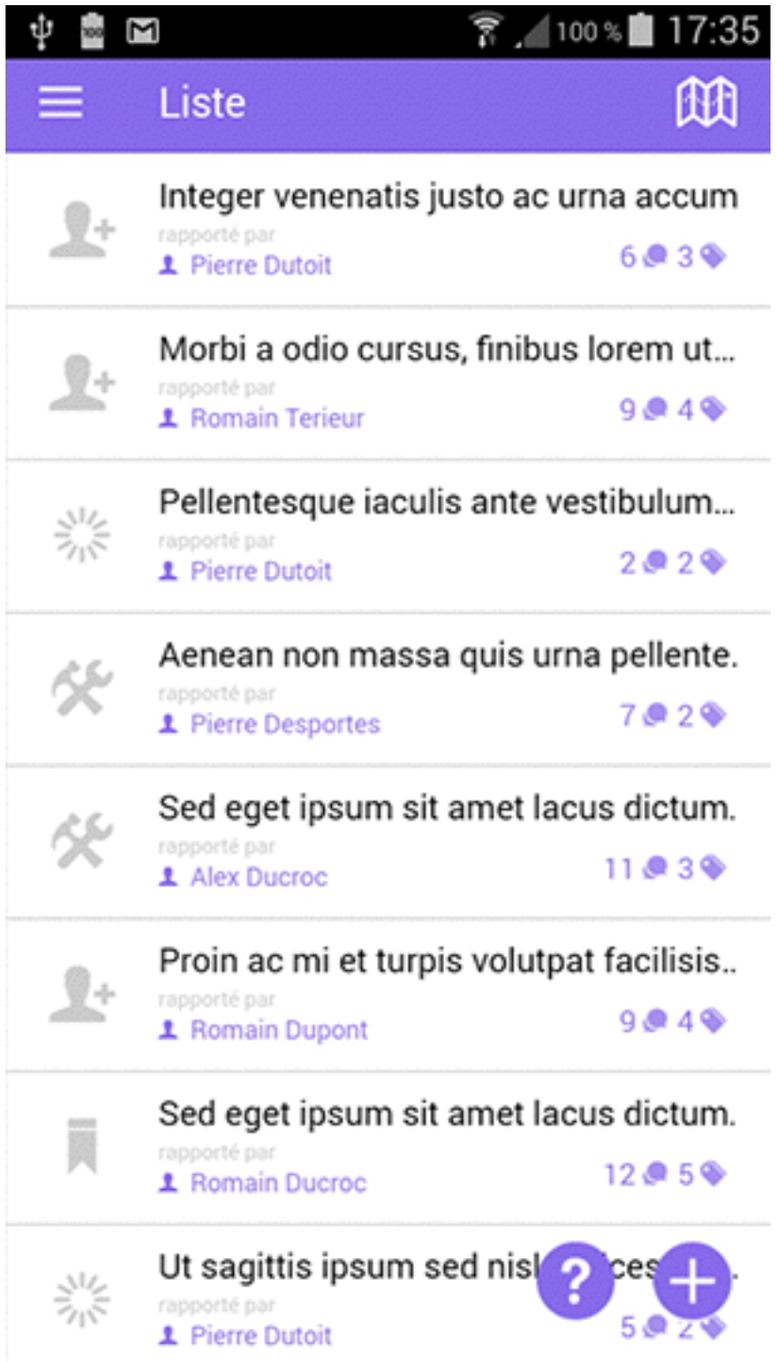
Mobile App Course

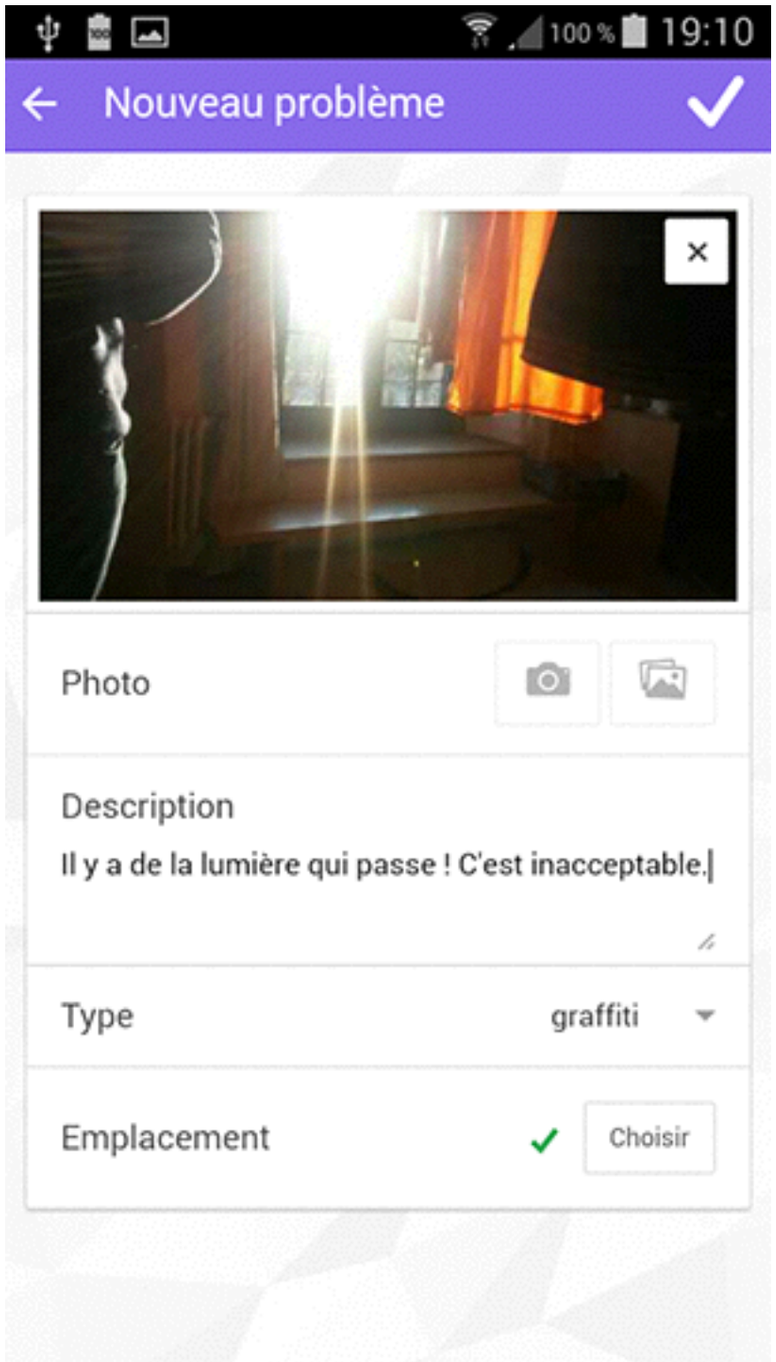


APPMOB: CityZen

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud







Guidelines & delivery

heig-vd
Haute Ecole d'Ingénierie et de Gestion
du Canton de Vaud

- You will work in groups of up to 4 people
- You will implement a REST API that follows the functional specification described in the iFlux blog post
- You will document this REST API
- You will deploy this REST API and its documentation on the Heroku platform
- You will be graded on the following criteria:
  - Adherence to REST principles and consistency of the implementation
  - Quality of the implementation and respect of the conventions of the languages and tools used (JavaScript, Node.js, Express.js, etc)
  - Quality of the REST API documentation