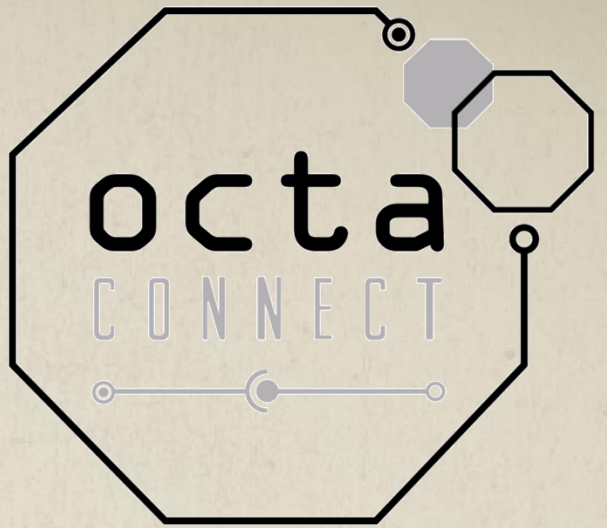


Controle-applicatie voor OCTA-Connect

Eindpresentatie – Bachelorproef Kevin Van de Mieroop – 2015-2016

Scriptiesamenvatting (handout): **bit.ly/bapkevinpdf**
Eindpresentatie (pptx): bit.ly/bapkevinpptx
Publieke repo: github.com/kevinvdm/bachelorproef-public

Situering

- Universiteit Antwerpen

- OCTA-Connect
  - IoT Platform
  - Gateway & sensoren
  - Low-power, draadloze communicatie
  - Bpost project

Controle-applicatie

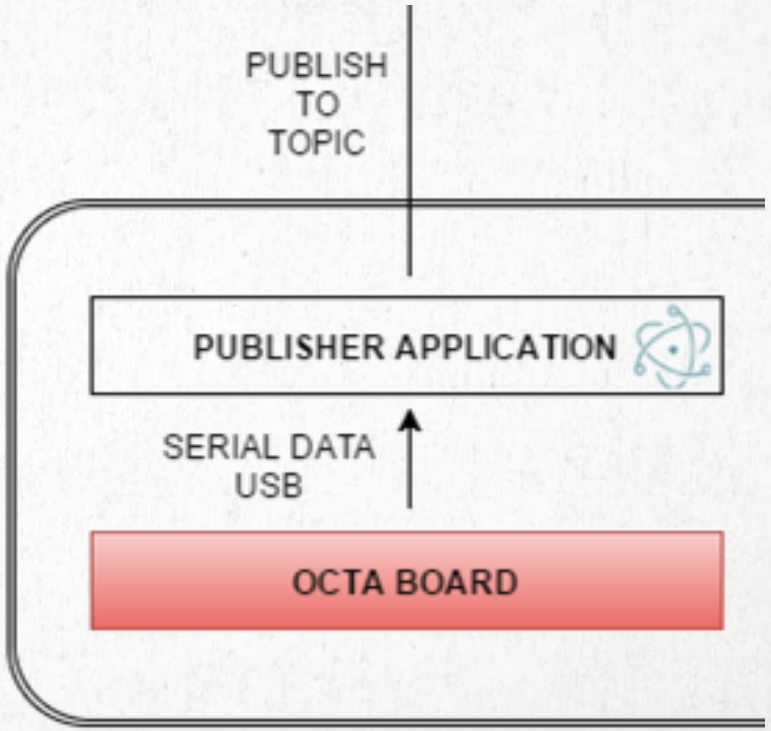
Concept

Controle-applicatie

Desktop-app

Desktop-applicatie:

- Sensoren naar gateway
- Publisher naar MQTT

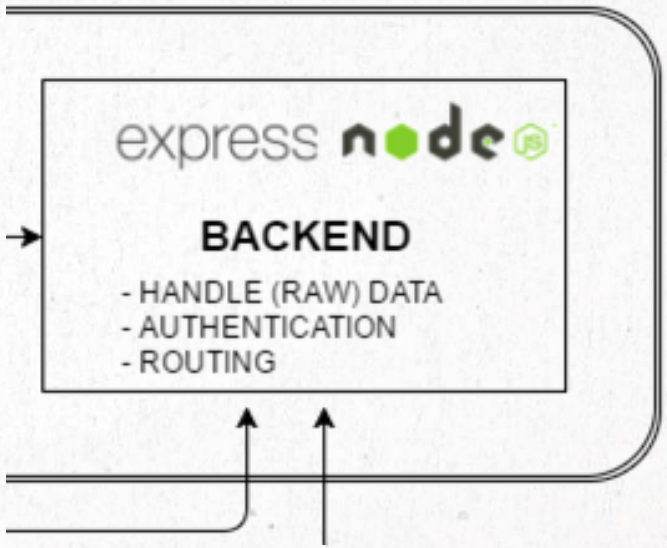


Controle-applicatie

Backend

Backend:

- Data vanuit MQTT
- Authenticatie
- Routing via Express



Controle-applicatie

Database

Database:

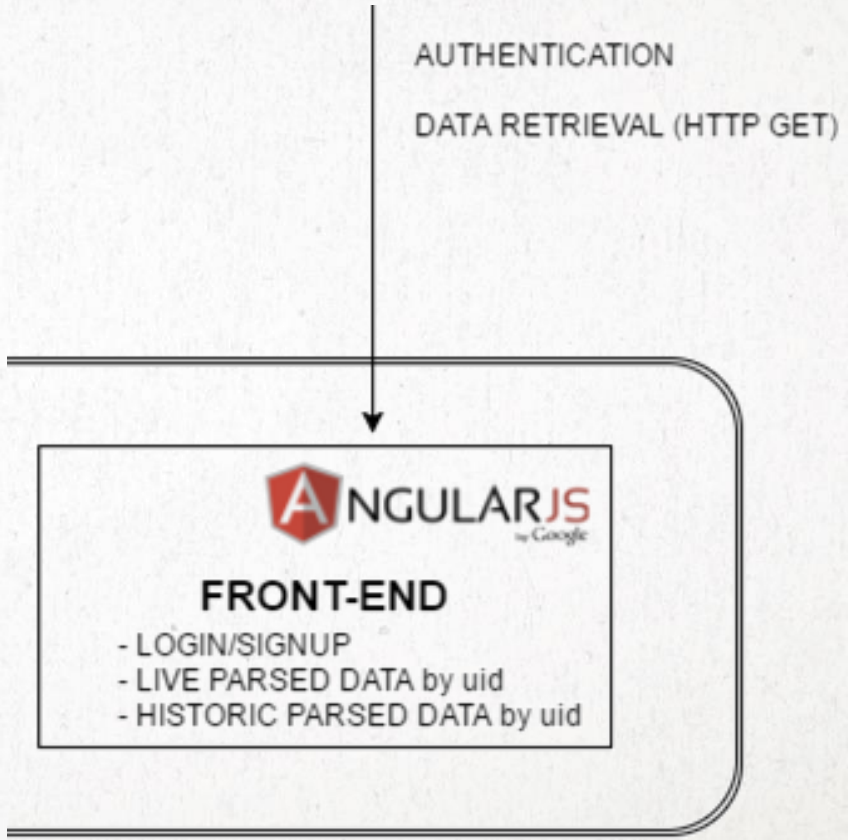
- MongoDB
- 2 collecties

Controle-applicatie

Front-end

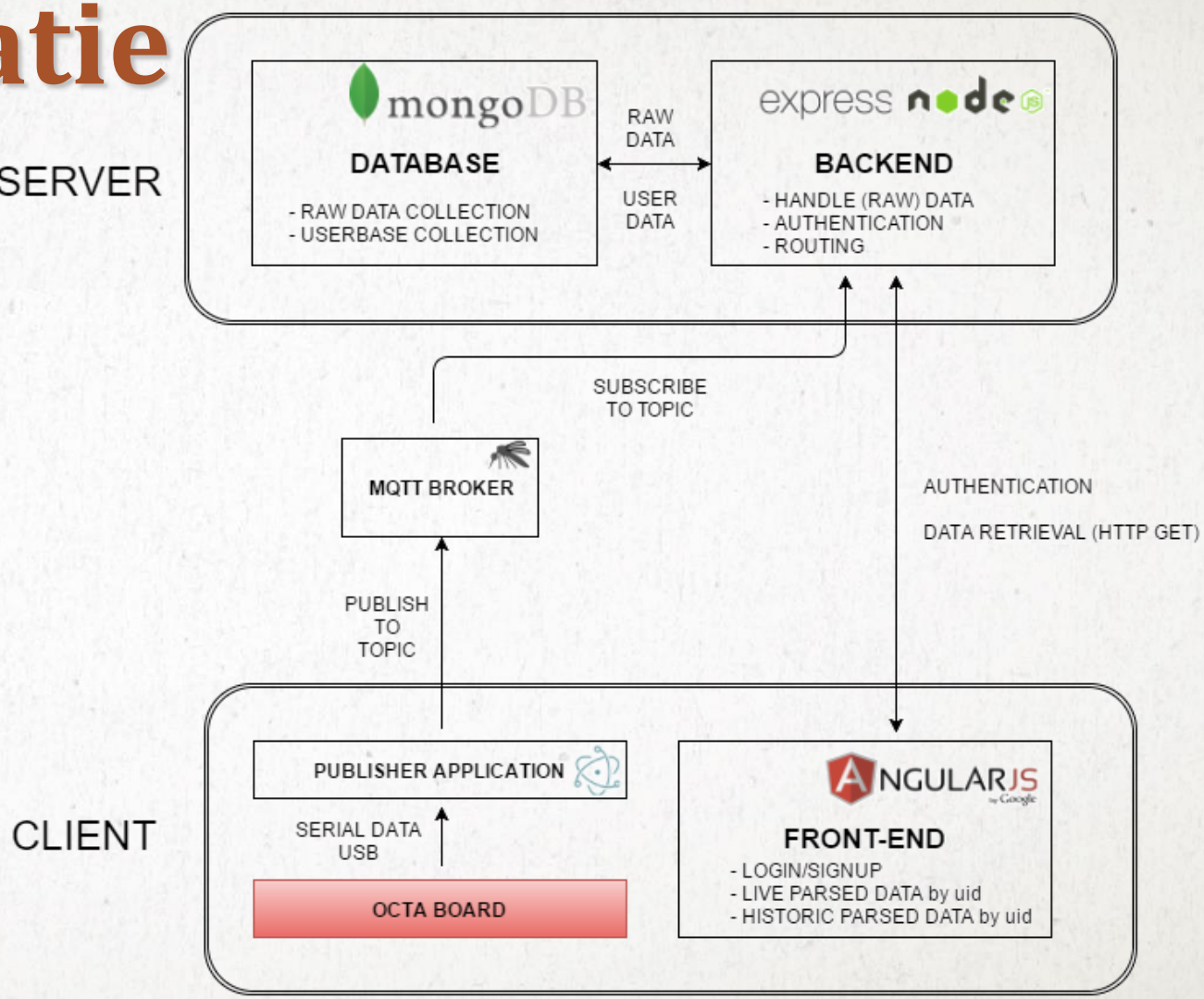
Web-applicatie:

- Registreren/inloggen
- Via device id (UID)
- Data gevisualiseerd



Controle-applicatie

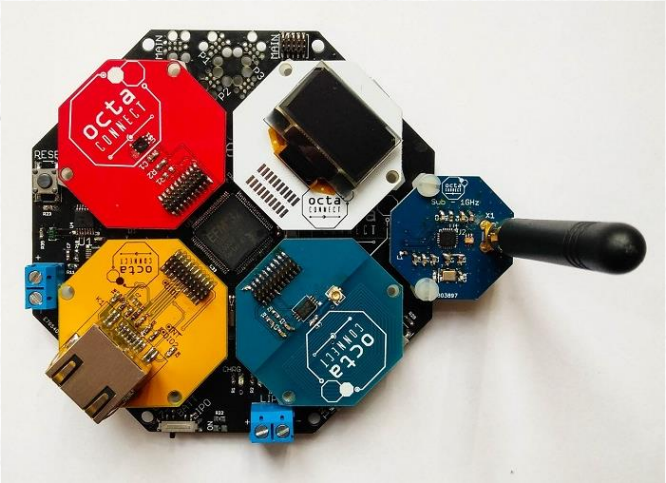
Volledig schema:



Hardware

- Aanvankelijk: Arduino Uno
  - Dummy data
- Tussenoplossing: Giant Gecko
  - DASH7 module
- Uiteindelijk: OCTA Gateway

Evolutie

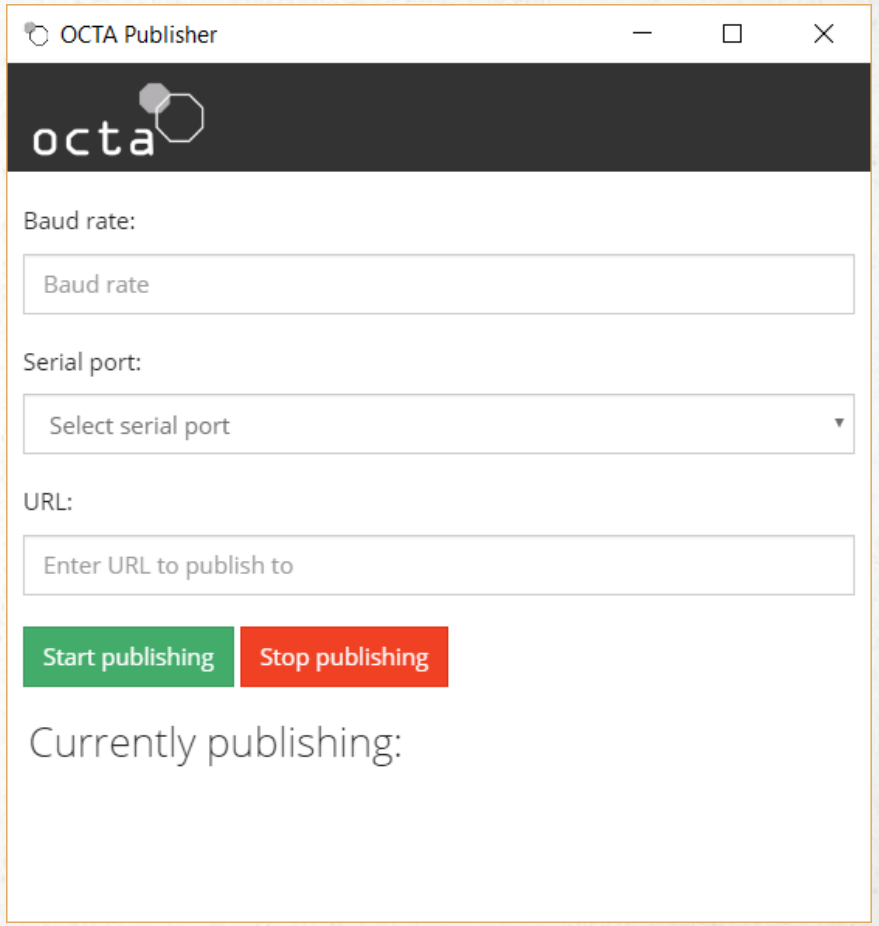


DASH7 PACKET

		STATUS.RAW	RESPONSE_TO	DEVICE ID					ISF OFFSET			PAYLOAD								
44	04	87	00	00	20	24	e4c30454ef97b7		20	40	00	17	db079743	e17a1644	1f00	fa00	c201	4d	b4e54c42	f7378d40
													TEMP	LIGHT	RH	CO2	VOC		LAT	LONG
D7 HEADER	ORIGIN	FIFO TOKEN	REQUEST ID	ADDRESSEE_CTRL					ALP OP TYPE	FILE ID		LENGTH IN HEX	UINT32					CHECKSUM	LITTLE ENDIAN FLOAT	

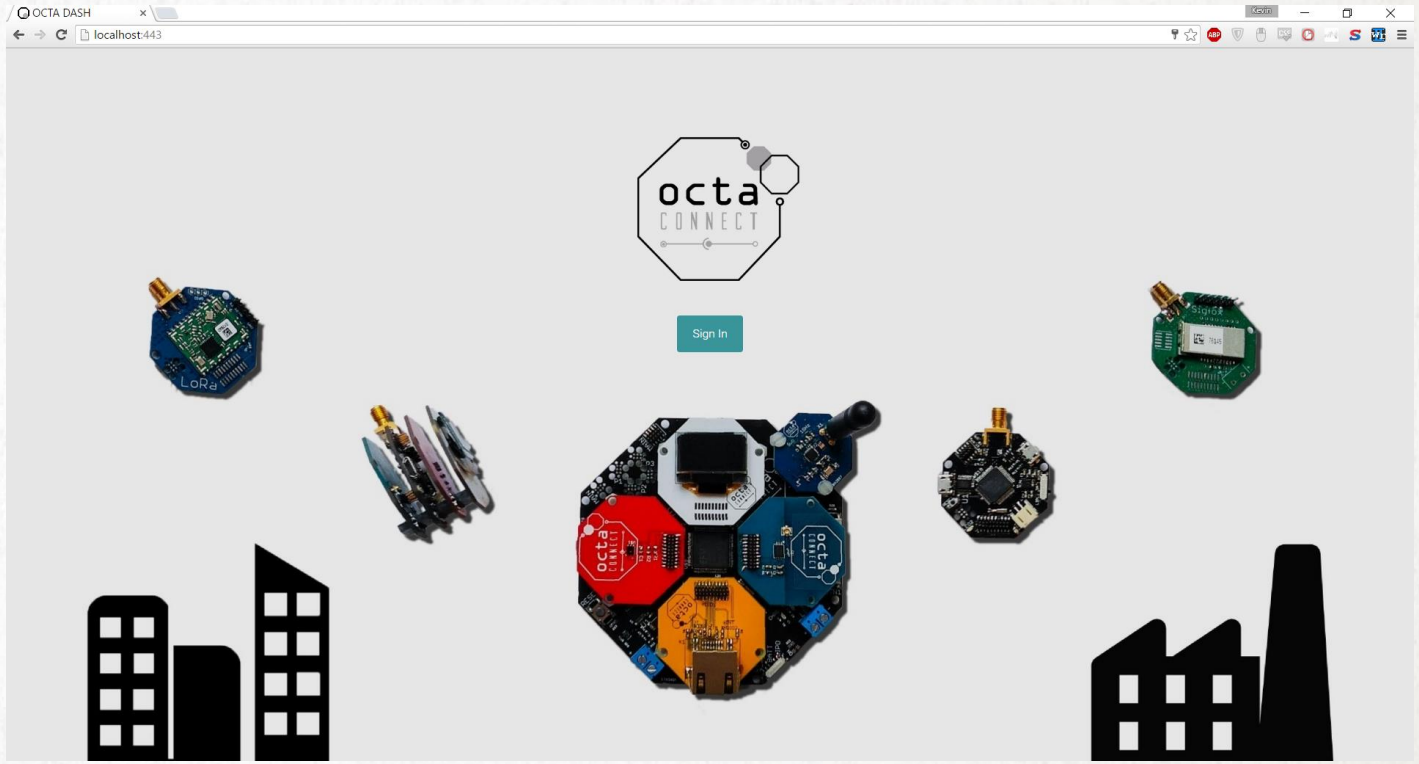
Desktop applicatie

- Electron (Node.JS)
- Seriele poort & MQTT
- Input:
  - Baud rate
  - Seriele poort
  - Start & stop
  - Toekomst: URL (verschillend dashboard)
- Onderaan *last published*



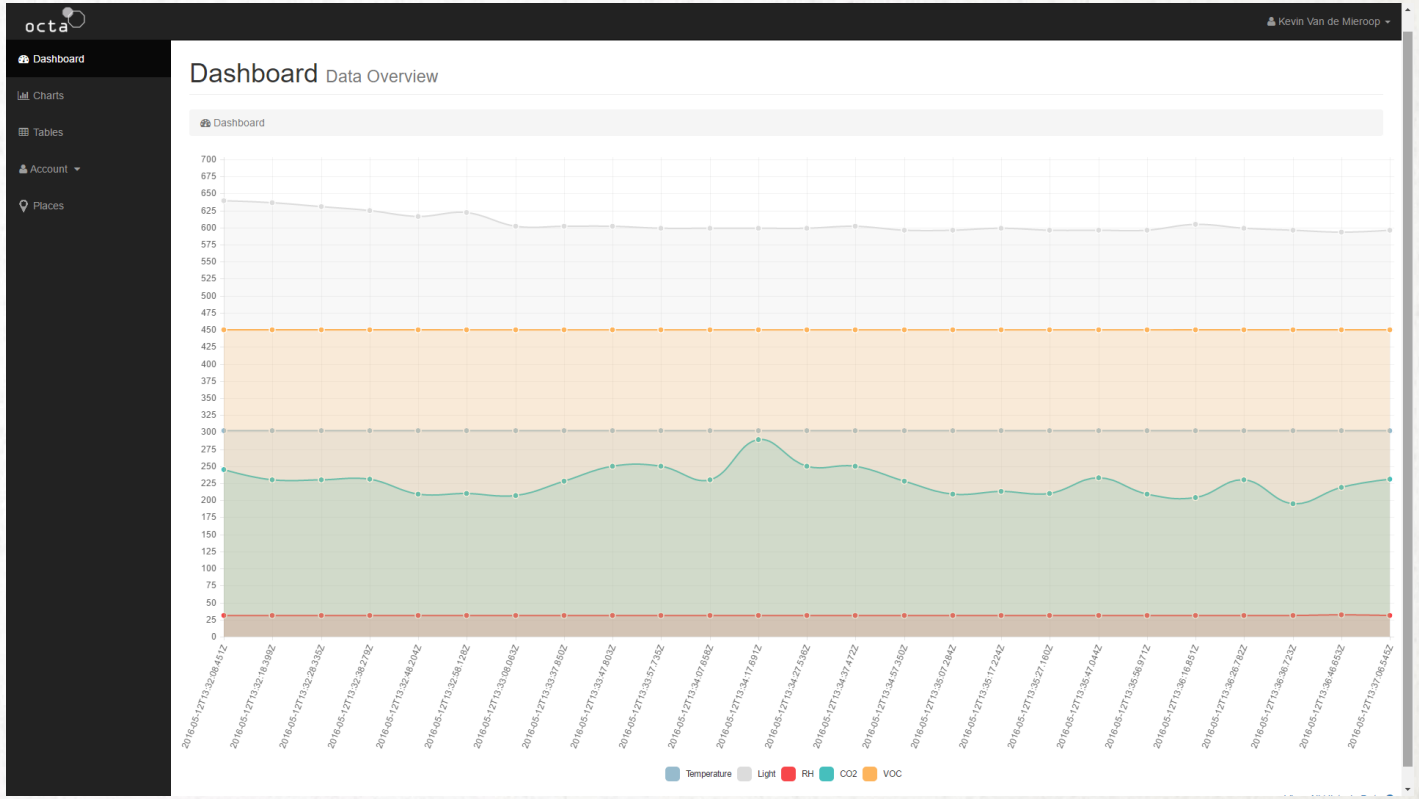
Web-applicatie

- AngularJS
- Registreren per device id
- Login



Web-applicatie

- Enkel eigen data
- Dashboard
- Charts
- Tables
- Places



Resultaat

Demo

Uitbreidingen

- Dynamische parser
- Ondersteuning voor meer draadloze netwerken