

# Controle-applicatie voor OCTA-Connect

Eindpresentatie – Bachelorproef Kevin Van de Mierop – 2015-2016

# Situering

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



# Controle-applicatie

Concept

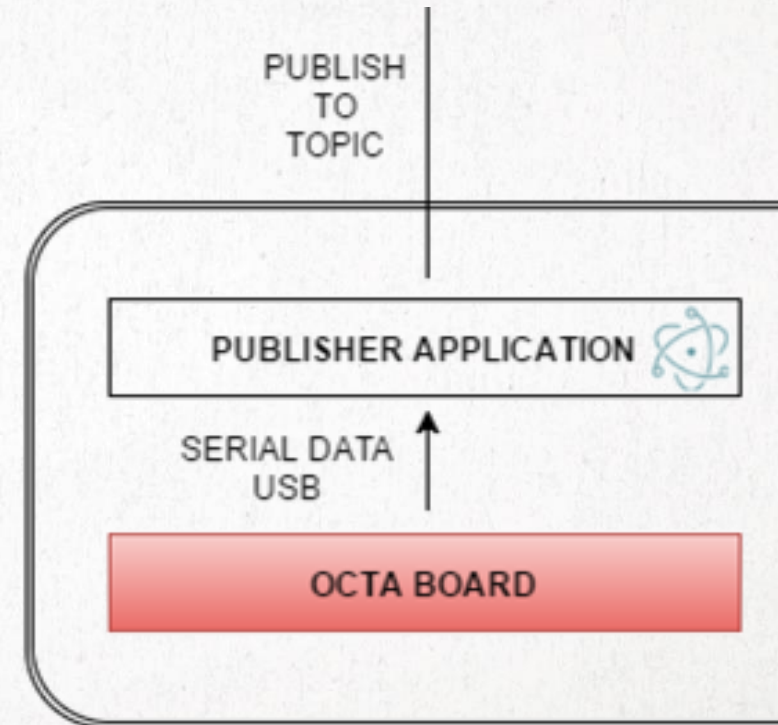


# Controle-applicatie

Desktop-applicatie:

- Sensoren naar gateway
- Publisher naar MQTT

Desktop-app



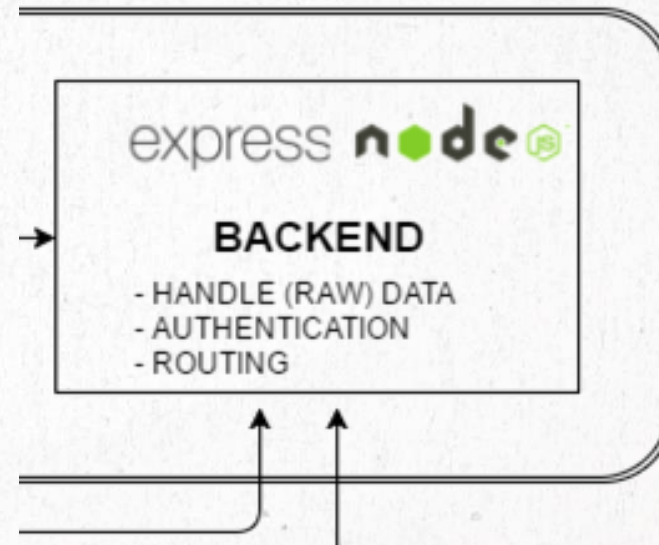


# Controle-applicatie

## Backend

Backend:

- Data vanuit MQTT
- Authenticatie
- Routing via Express



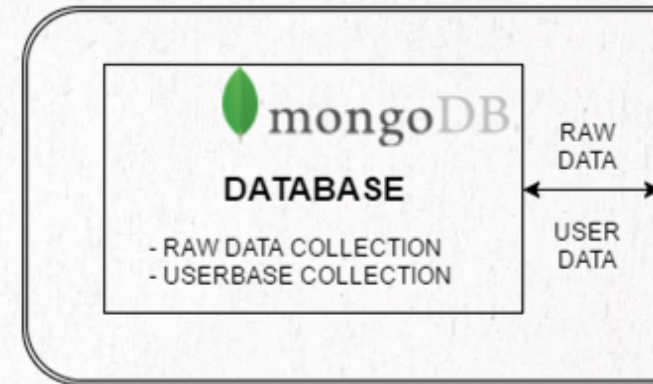
# Controle-applicatie

## Database

Database:

- MongoDB
- 2 collecties

SERVER



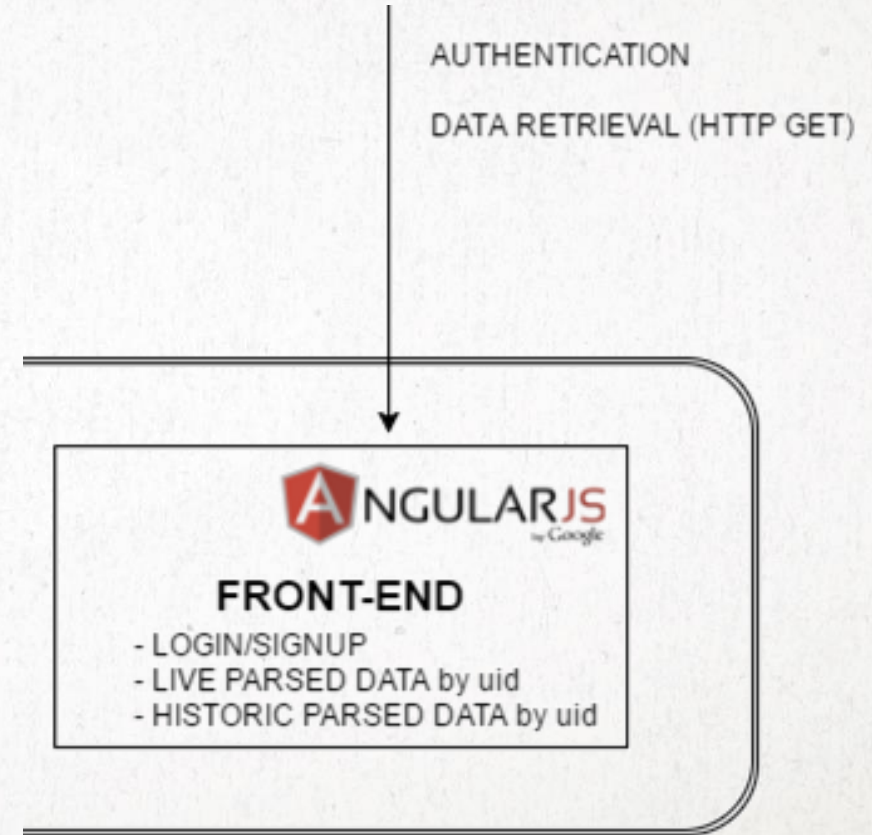


# Controle-applicatie

## Front-end

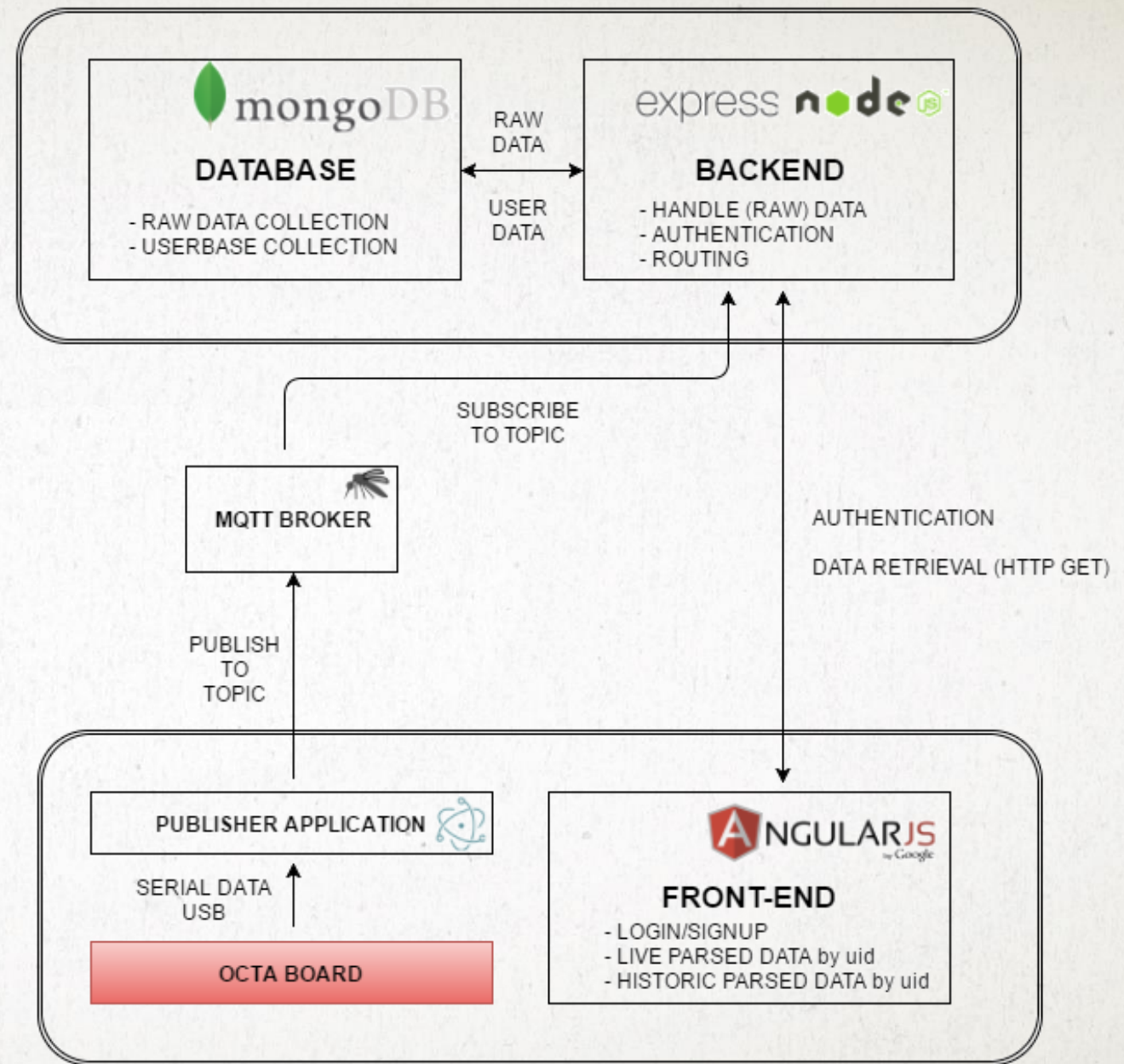
Web-applicatie:

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



Volledig schema:

SERVER

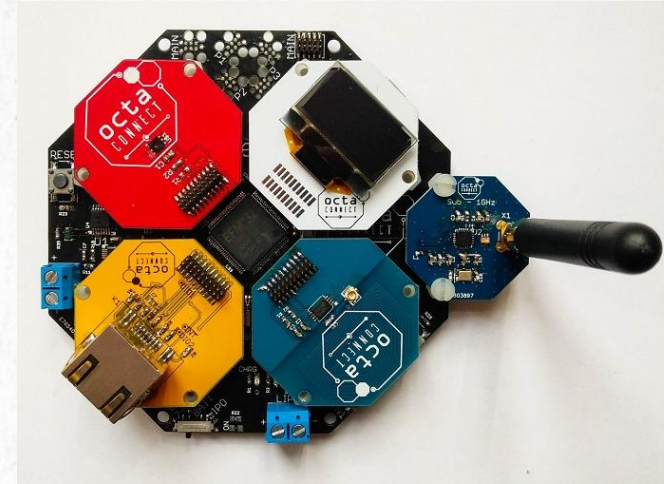




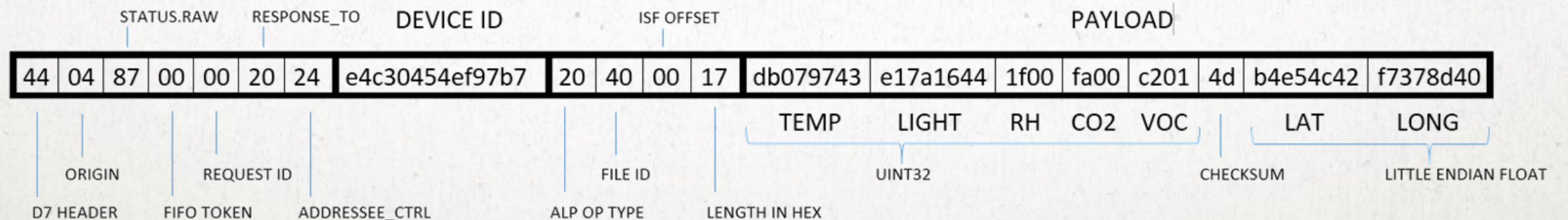
# Hardware

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

## Evolutie

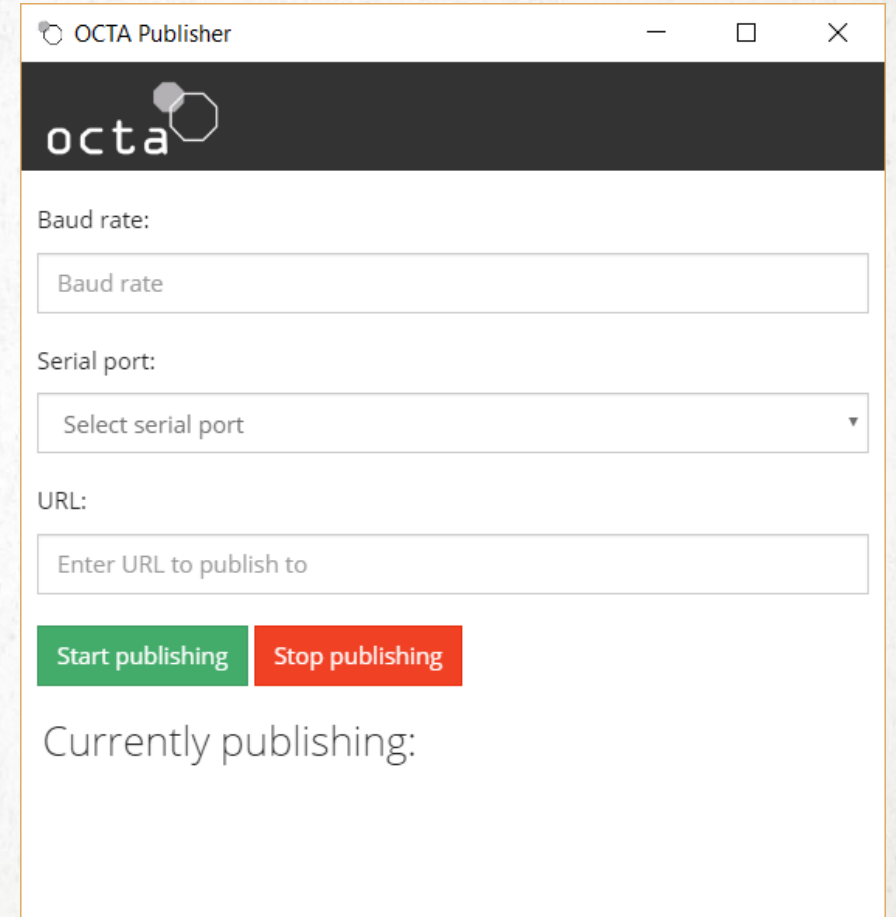


## DASH7 PACKET



# Desktop applicatie

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



The screenshot shows a desktop application window titled "OCTA Publisher". The window has a dark header bar with the "octa" logo. Below the header, there are three input fields: "Baud rate:" with a text input, "Serial port:" with a dropdown menu, and "URL:" with a text input. Below these fields are two buttons: "Start publishing" (green) and "Stop publishing" (red). At the bottom, there is a label "Currently publishing:" followed by a large empty space for displaying the status.

OCTA Publisher

octa

Baud rate:

Baud rate

Serial port:

Select serial port

URL:

Enter URL to publish to

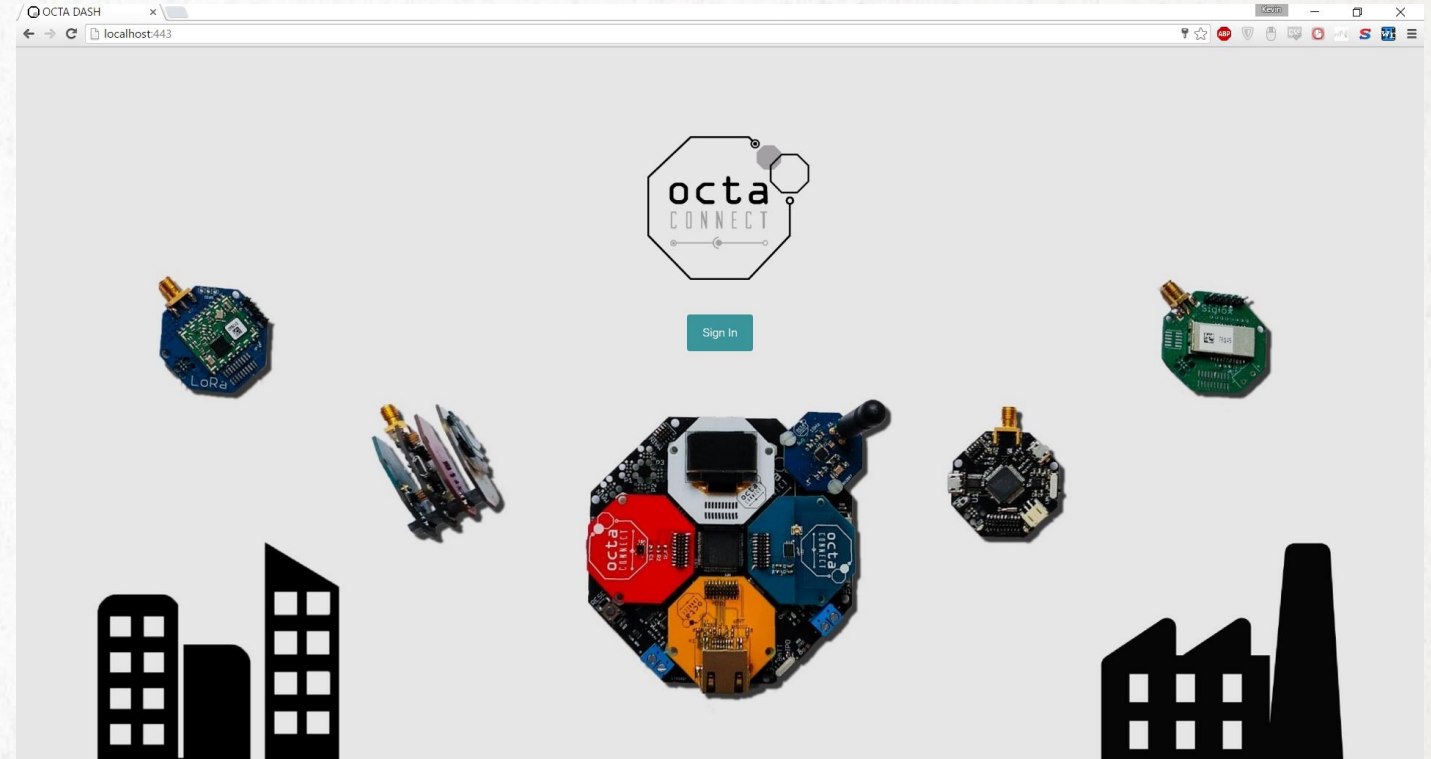
Start publishing Stop publishing

Currently publishing:



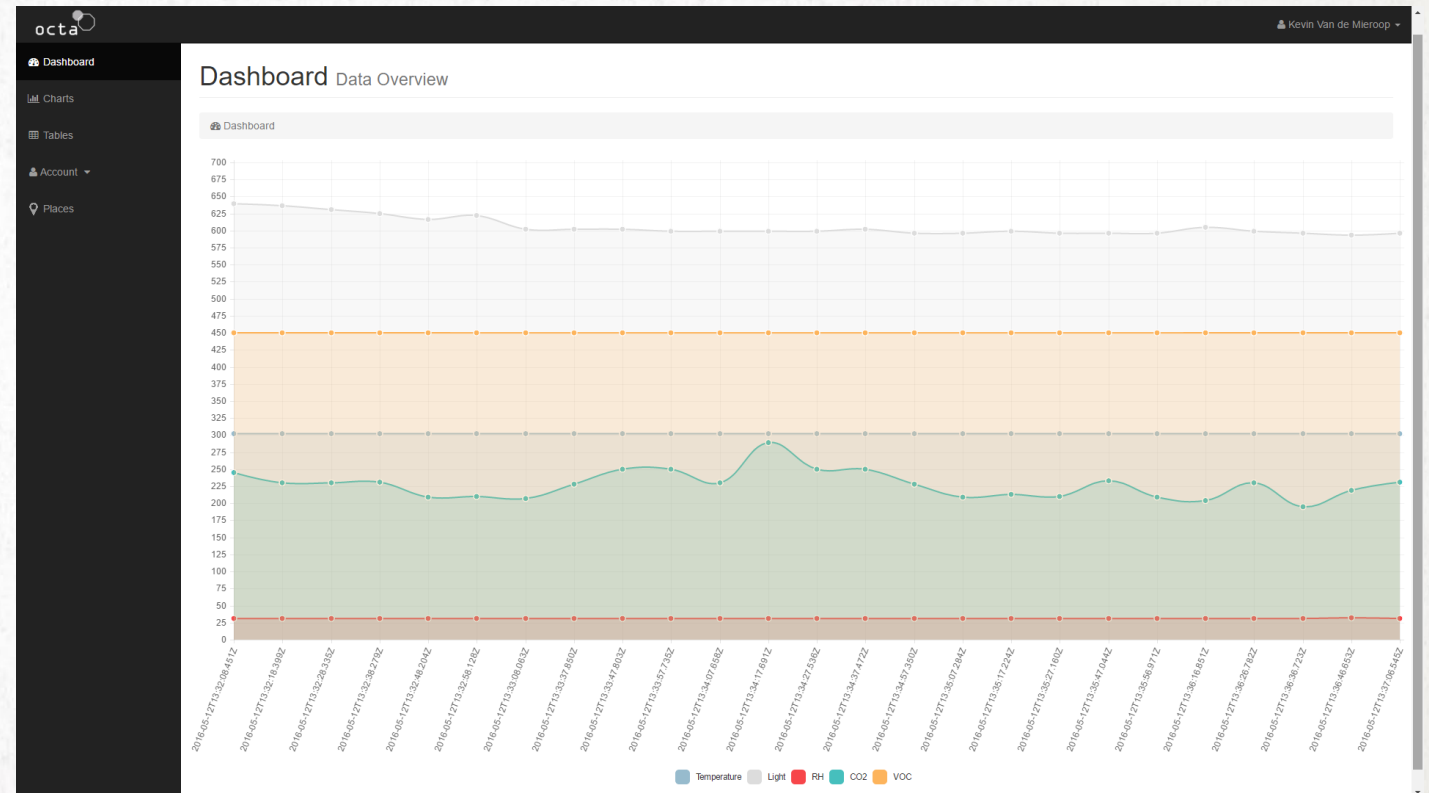
# Web-applicatie

- AngularJS
- Registreren per device id
- Login



# Web-applicatie

- Dashboard



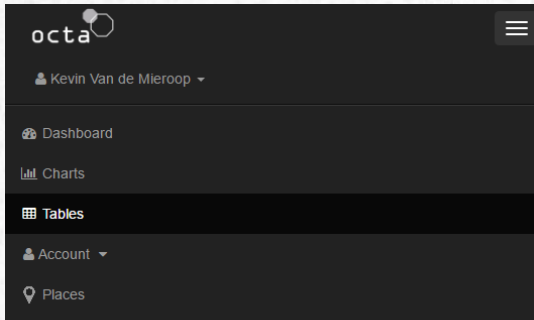


- Charts



# Web-applicatie

- Tables



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Dashboard

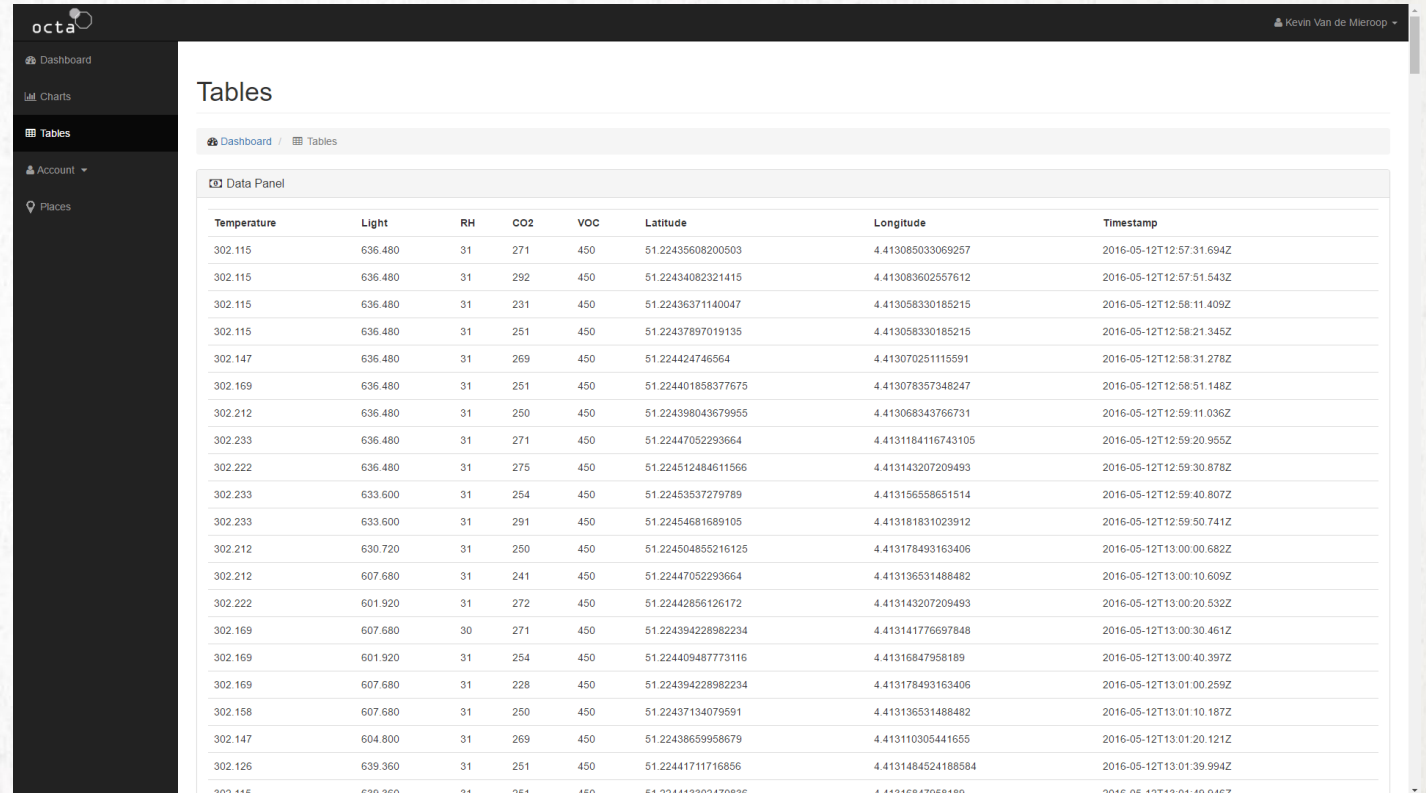
Charts

**Tables**

Account

Places

Temperature	Light	RH	CO2	VOC	Timestamp
997517696	2179068993	61440	61468	8220	2016-05-12T12:57:31.694Z
997517696	2179068993	61442	16412	8222	2016-05-12T12:57:51.543Z
997517696	2179068993	61454	28684	8218	2016-05-12T12:58:11.409Z
997517696	2179068993	61455	45068	8219	2016-05-12T12:58:21.345Z
997459512	2179068993	61440	53276	8222	2016-05-12T12:58:21.345Z



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Dashboard

Charts

**Tables**

Account

Places

## Tables

Dashboard / Tables

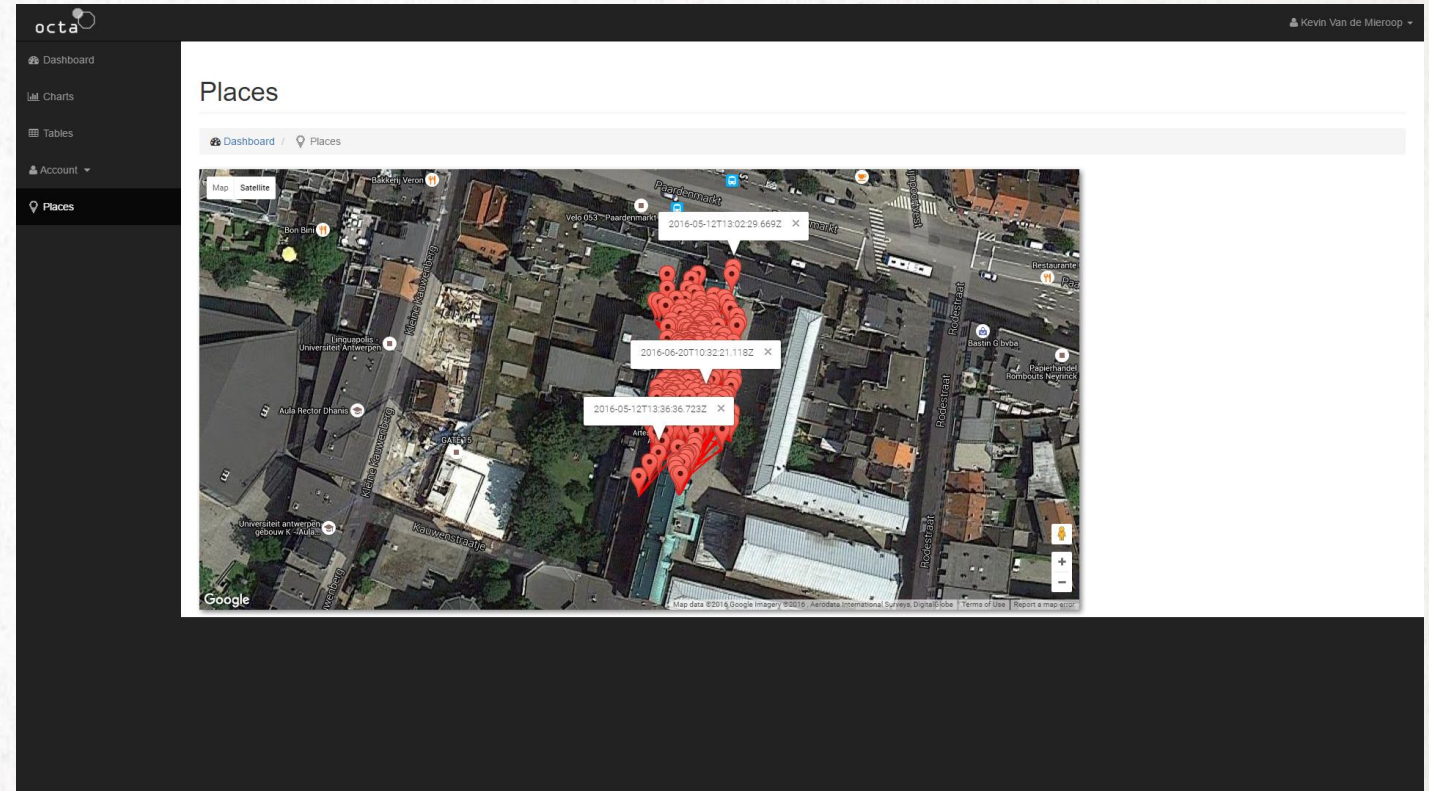
### Data Panel

Temperature	Light	RH	CO2	VOC	Latitude	Longitude	Timestamp
302.115	636.480	31	271	450	51.22435608200503	4.413085033069257	2016-05-12T12:57:31.694Z
302.115	636.480	31	292	450	51.22434082321415	4.413083602557612	2016-05-12T12:57:51.543Z
302.115	636.480	31	231	450	51.22436371140047	4.413058330185215	2016-05-12T12:58:11.409Z
302.115	636.480	31	251	450	51.22437897019135	4.413058330185215	2016-05-12T12:58:21.345Z
302.147	636.480	31	269	450	51.224424746564	4.413070251115591	2016-05-12T12:58:31.278Z
302.169	636.480	31	251	450	51.224401858377675	4.413078357348247	2016-05-12T12:58:51.148Z
302.212	636.480	31	250	450	51.224398043679955	4.413068343766731	2016-05-12T12:59:11.036Z
302.233	636.480	31	271	450	51.22447052293664	4.4131184116743105	2016-05-12T12:59:20.955Z
302.222	636.480	31	275	450	51.224512484611566	4.413143207209493	2016-05-12T12:59:30.878Z
302.233	633.600	31	254	450	51.22453537279789	4.413156558651514	2016-05-12T12:59:40.807Z
302.233	633.600	31	291	450	51.22454681689105	4.413181831023912	2016-05-12T12:59:50.741Z
302.212	630.720	31	250	450	51.224504855216125	4.413178493163406	2016-05-12T13:00:00.682Z
302.212	607.680	31	241	450	51.22447052293664	4.413136531488482	2016-05-12T13:00:10.609Z
302.222	601.920	31	272	450	51.22442856126172	4.413143207209493	2016-05-12T13:00:20.532Z
302.169	607.680	30	271	450	51.224394228982234	4.413141776697848	2016-05-12T13:00:30.461Z
302.169	601.920	31	254	450	51.224409487773116	4.41316847958189	2016-05-12T13:00:40.397Z
302.169	607.680	31	228	450	51.224394228982234	4.413178493163406	2016-05-12T13:01:00.259Z
302.158	607.680	31	250	450	51.22437134079591	4.413136531488482	2016-05-12T13:01:10.187Z
302.147	604.800	31	269	450	51.22438659958679	4.413110305441655	2016-05-12T13:01:20.121Z
302.126	639.360	31	251	450	51.22441711716856	4.4131484524188584	2016-05-12T13:01:39.994Z
302.115	639.360	31	251	450	51.224413302470836	4.41316847958189	2016-05-12T13:01:49.946Z



# Web-applicatie

- Tables



# Resultaat

## Demo



# Uitbreidingen

- Dynamische parser
- Ondersteuning voor meer draadloze netwerken

