City of
Amsterdam

Agile & Open Development

The Datapunt Amsterdam Infrastructure enables us to quickly solve real problems and collaborate

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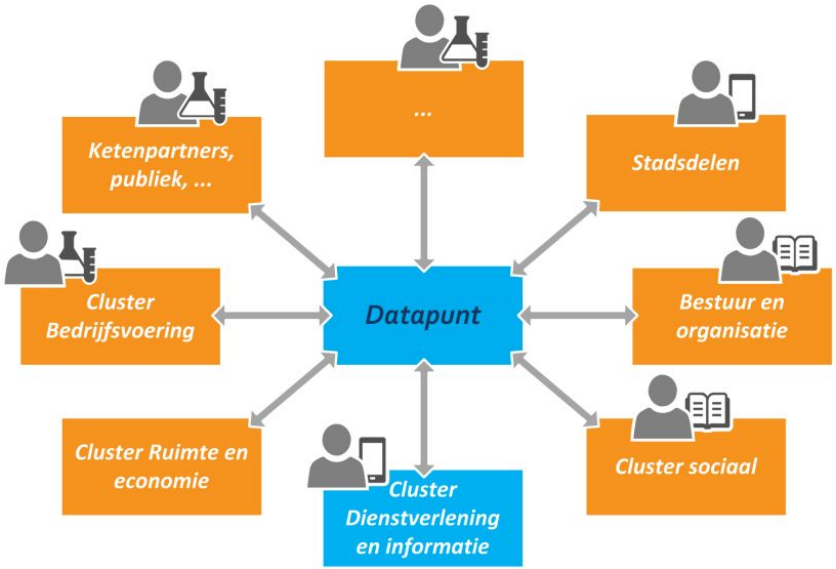
Software in the city

Datapunt: Connecting City Data

- Development team
- Tasked to **connect city data** in Amsterdam
  - Connect internal and external data
  - With internal users, partners and the public
  - To who wants it and is allowed to
- Mix of own and 'client' work



Datapunt: Team

- An Agile Scrum workflow enabling iterative development
- Using DevOps and Continuous Delivery to accelerate development
- Team includes Backenders, Frontenders, DevOpsers, Supporters, Privacy experts, Designers, Architects, Product Owners

We have to use Open Source

City Data APIs

- APIs for Maps, Statistics, 360° Imagery, Addresses, Company information Historical data, etc, etc, etc
- REST APIs, WMS/WFS services and map tiles
- Access control for restricted data
- All with OpenAPI documentation

Gemeente Amsterdam City Data

REST API's

Dit overzicht van browsable interfaces en openAPI documentatie beperkt zich tot de API's en services ontwikkeld door programma DataPunt van Onderzoek, Informatie en Statistiek. API's en services van andere partijen vind je in de datasetcatalogus.

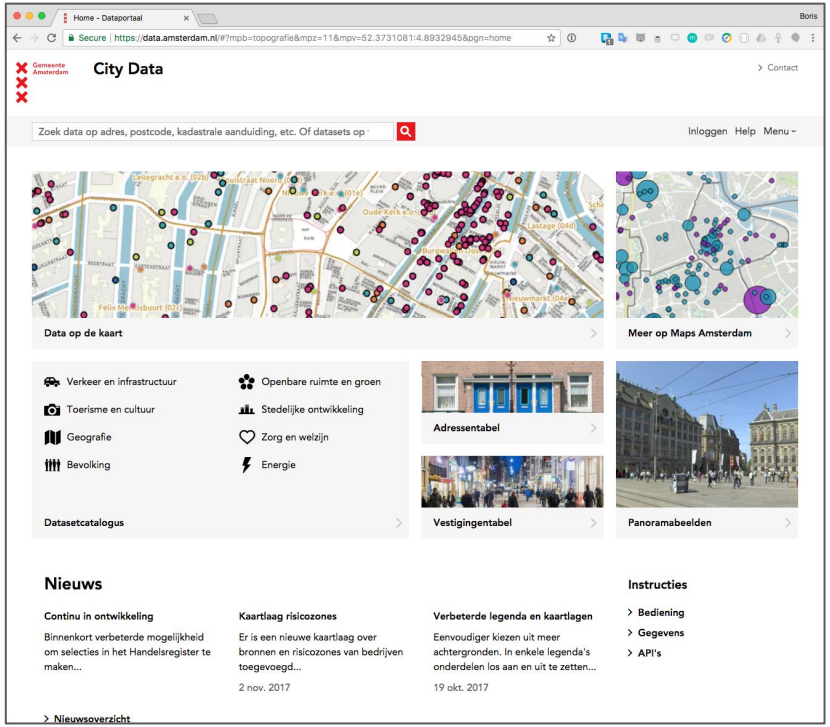
Instructies, bijv. over omgaan met autorisatie, vind je op de helppagina over API's gebruiken.

Naam			Status
Afvalregels bij locatie x, y	Online API		Live
Basisregistratie Adressen en Gebouwen (BAG)	Online API	OpenAPI Documentatie	Live
BAG Search	Online API	OpenAPI Documentatie	Live
Basisregistratie Amsterdamse Gebieden	Online API	OpenAPI Documentatie	Live
Basisbestand Gebieden Amsterdam (BBGA)	Online API	OpenAPI Documentatie	Live
Basisregistratie Kadaster (BRK)	Online API	OpenAPI Documentatie	Alleen bereikbaar binnen de gemeen
Gemeentelijke beperkingenregistratie (WKPB)	Online API	OpenAPI Documentatie	Gedeeltelijk publiek
Geosearch		OpenAPI Documentatie	Live
Handelsregister	Online API	OpenAPI Documentatie	Alleen bereikbaar binnen de gemeen
Locatie bij Postcode huisnummer	Online API	OpenAPI Documentatie	Live
Milieuthemas	Online API	OpenAPI Documentatie	Beta

Data products

Open data portal for existing open data

- Frontends to the City Data APIs
- For the public, partners and internal users (progressive disclosure)

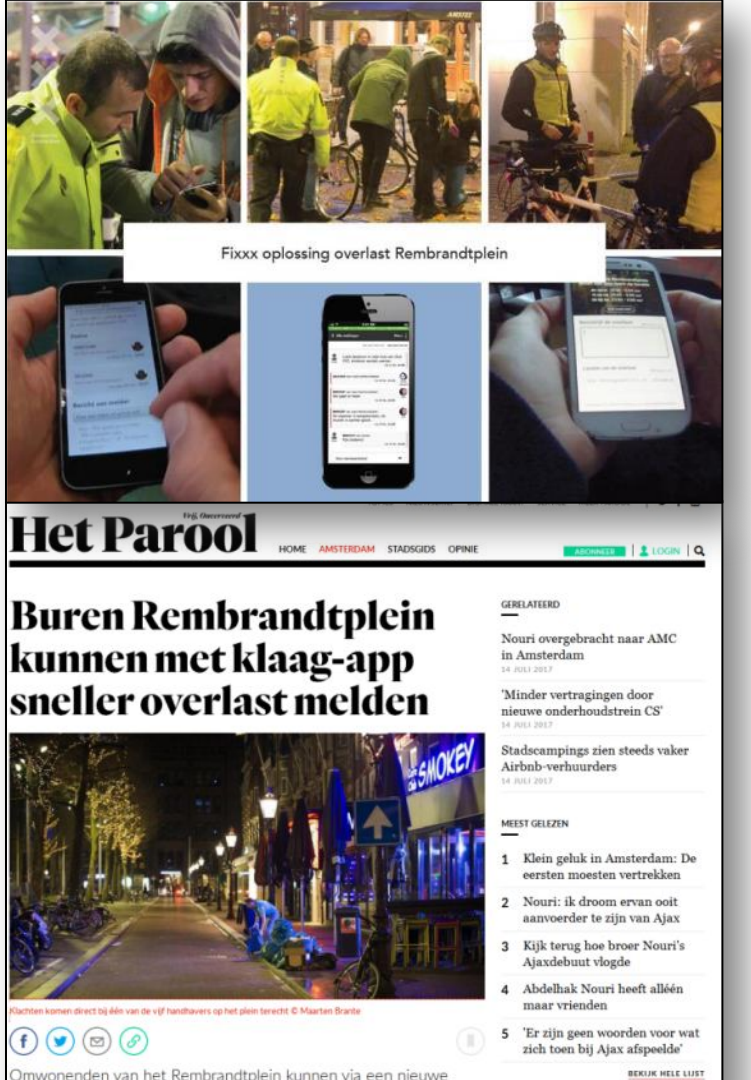


We have to use and contribute to Open Source

«Oh, we can develop apps easily!»

FIXXX Applications

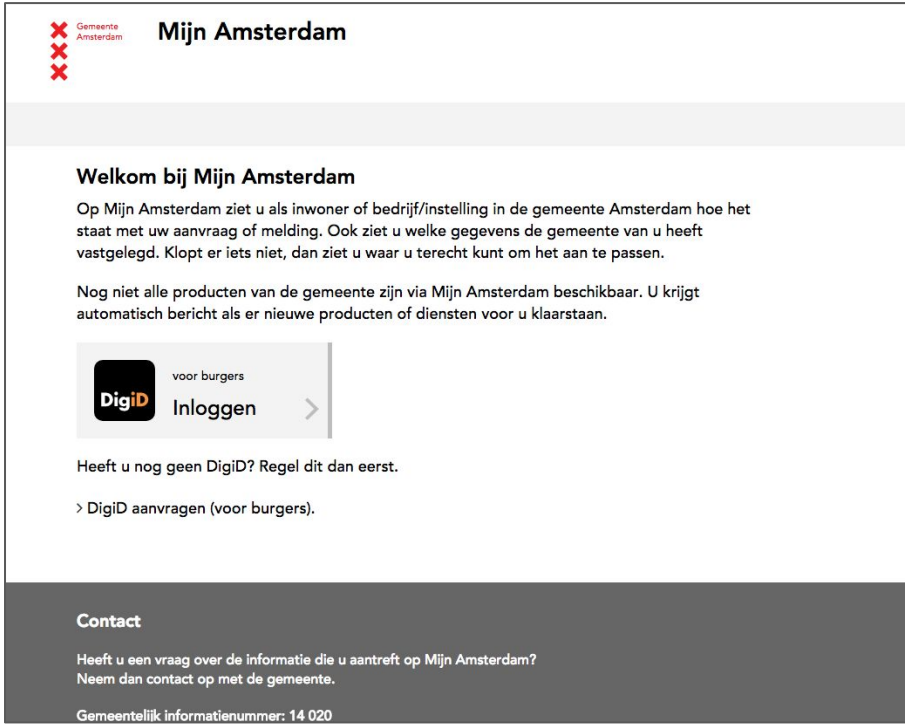
- **Solutions to actual problems** inside the organisation
- Often connected to the data but not always
- Deals with similar progressive disclosure issues
- Apps for the fire department, tour bus operators, collaborative public safety and more



My Amsterdam

A citizen self-service portal

- One place where a citizen can see what is happening all across the City organisation with their cases
- Aggregating and showing data on cases
- Leaving business logic with the departments
- A new UI for citizens to deal with the City



Code == Code

We have to use, contribute to and develop Open Source

Why Open Source

- Collaboration
- Security
- Transparency
- Support, reliability and maintainability
- Agility
- Reusability
- Attractiveness

amsterdam.github.io

City of Amsterdam

Open Source

Home Projects Guides

Open Source at the City of Amsterdam

The City of Amsterdam is both a user and contributor to and developer of, **Open Source** projects.

Our projects range from a **360° panorama processing system** to an **OAuth 2.0 server written in Go**.

We publish the source code to **our projects** on **GitHub.com/Amsterdam**. We publish the source code under Open Source licences (most commonly MPL2.0) that allows anyone to view the source and to copy our source code to use it in their projects. We do not provide any warranties or guarantees on the reuse of our source in others' projects.

We are looking forward to collaborating with you!

Why the City of Amsterdam uses, contributes to and develops Open Source

Being a part of the Open Source ecosystem – in which we are both a user and contributor – is an essential enabler to the development of our digital services.

Collaboration

We live in a time where most of the problems we're facing – including societal, technological, mobility, growth and climate – as a city are too large to solve on our own. We need to collaborate with other cities, governments, businesses and individuals to solve these problems. Meaning we are sharing our knowledge as much as possible, so that we can learn from our peers, and can collaborate on solutions.

Using and developing Open Source and actively participating in its ecosystem enables us to create valuable collaborations that would otherwise not be possible.

Security

Our software processes sensitive data and it informs us in making crucial decisions about citizens. Using and developing Open Source is essential in providing the security we need. If you don't know what is in the software you rely on, you cannot tell there is no backdoor.

We play an active role in improving the security of Open Source projects we depend on, and we invite the broader community to audit the security of our projects, as well as suggest improvements.

Transparency

The software we work with and produce handles the often private information of citizens and companies. Using and developing in Open Source provides a necessary level of transparency for our users and clients.

We put a lot of effort into providing high quality internal and Open Data. Using and developing Open Source and being transparent about how the data we use for decision making is created and utilised gives it the context it needs to be useful and reliable.

github.com/amsterdam

All of our code is on GitHub

- Models
- City Data Portal
- Data pipelines
- APIs
- Infrastructure

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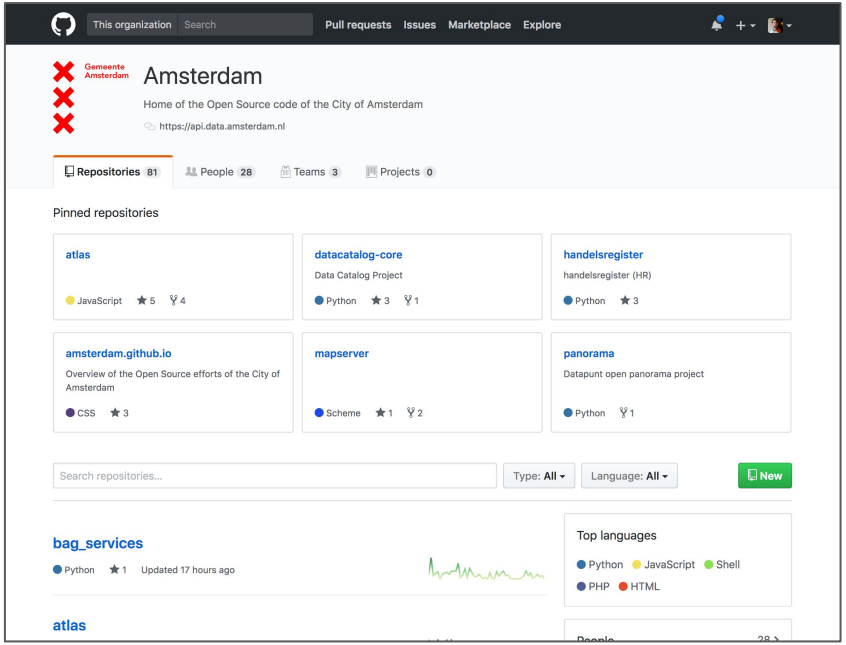

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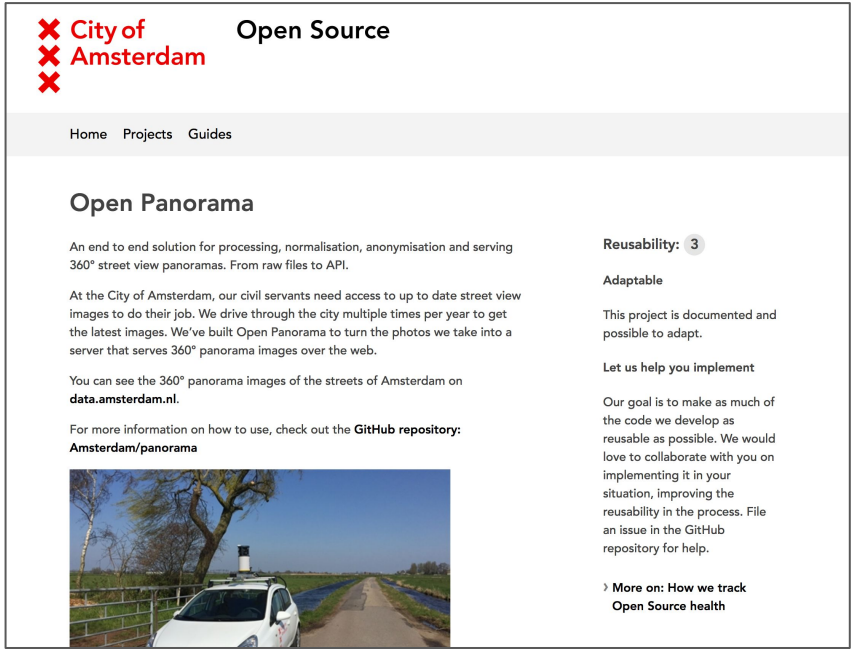
Just started

- Comprehensive showcase of products
- All the guides and policy we have or know on Open Source



Projects

City of Amsterdam **Open Source**

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Authz

An **OAuth 2.0** compatible authorization service written in Go.

This service:

- Implements the implicit flow as described in **RFC6749 section 4.2**
- Uses JSON Web Keys (**RFC7517**) for key management
- Creates JSON Web Tokens (**RFC7519**) using HMAC or ECDSA (HS256, HS384, HS512, ES256, ES384, ES512)
- Provides interfaces for identity providers, state storage (with implementations for single node in-memory storage and Redis), authorization providers (to map users to scopes) and client registries.

For more information on how to use, check out the **GitHub repository: Amsterdam/authz** or the **Documentation on GoDoc**.

Reusability: 4

Reusable, configured

This project is configured specifically, easily reconfigurable.

› **More on: How we track Open Source health**

City of Amsterdam **Open Source**

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Atlas

The interface for all APIs – Open Data and internal – offered by Amsterdam City Data.

Atlas is deployed at **data.amsterdam.nl**.

The source code for Atlas is at the **GitHub repository: Amsterdam/atlas**

Features

A big map with all the API data on it

Reusability: 1

Custom, opaque

This project is very specific and not easy to learn from.

Let us help you implement

Our goal is to make as much of the code we develop as reusable as possible. We would love to collaborate with you on implementing it in your situation, improving the reusability in the process. File an issue in the GitHub repository for help.

› **More on: How we track Open Source health**

City of Amsterdam **Open Source**

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De Stem Van

The participation platform 'De Stem Van' was originally developed to give the citizens of the Stadsdeel West borough of Amsterdam the ability to put items on the political agenda.

Reusability: 1

Custom, opaque

This project is very specific and not easy to learn from.

Let us help you implement

Our goal is to make as much of

City of Amsterdam **Open Source**

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Open Panorama

An end to end solution for processing, normalisation, anonymisation and serving 360° street view panoramas. From raw files to API.

At the City of Amsterdam, our civil servants need access to up to date street view images to do their job. We drive through the city multiple times per year to get the latest images. We've built Open Panorama to turn the photos we take into a server that serves 360° panorama images over the web.

You can see the 360° panorama images of the streets of Amsterdam on **data.amsterdam.nl**.

Reusability: 3

Adaptable

This project is documented and possible to adapt.

Let us help you implement

Our goal is to make as much of

An Open Source Ecosystem for cities

City of
Amsterdam

Foundation For
Public Code

Thanks

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