



DEcentralised Citizens **O**wned **D**ata **E**cosystem

decode

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Project Technical Coordinator

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A vertical dotted line is positioned to the left of the text. Scattered around the text are several small squares in green, yellow, orange, and magenta.

**DECODE in a
nutshell...**

Scattered around the text are several small squares in green, yellow, orange, and magenta. Below the text, there are two horizontal bars: a teal one on the left and an orange one on the right.

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What is DECODE?



“DECODE provides tools that put individuals in control of whether they keep their personal information private or share it for the public good”.

- EU – H2020 - CAPS call funded project (5 M Eur.)
- 3 years (Jan. 2017-Jan. 2020)
- Coordinated from BCN (Francesca Bria, CTID)

Who is DECODE?

14 partners, 6 countries (ES, NL, UK, FR, IT, SW)



Nexa Center for Internet & Society
Politecnico di Torino



Why DECODE?



“Data is the new oil*” vs “Data is the new soil**”

- Oil is highly pollutant
- Oil is difficult to treat and extract and find
- Oil cannot be produced by humans
- Oil's distribution of benefits tends to be highly skewed (accumulated for the very few)
- Oil fields generate diminishing returns
- Soil is the basis of life
- Soil is easy to find and spot and treat
- Soil can be “curated” by humans and regenerated
- Soil distribution of benefits tends to be less skewed (if property of land is shared)
- Soil, if not over-exploited, can produce sustained returns over time

* **Clive Humby** (2006) + many others (Wired Magazine 2014...)

****David McCandless'** TED talk (2010), **but applied to DataViz**

Why DECODE?



Current paradigm

- Data is a **commodity**, that one can buy and sell
- Data handling is **opaque**
- Even if there is regulation, there is **no possible enforcement!**
- We produce the data, *they* own it.
- Benefits of data *sharing* are privatized

Intended paradigm

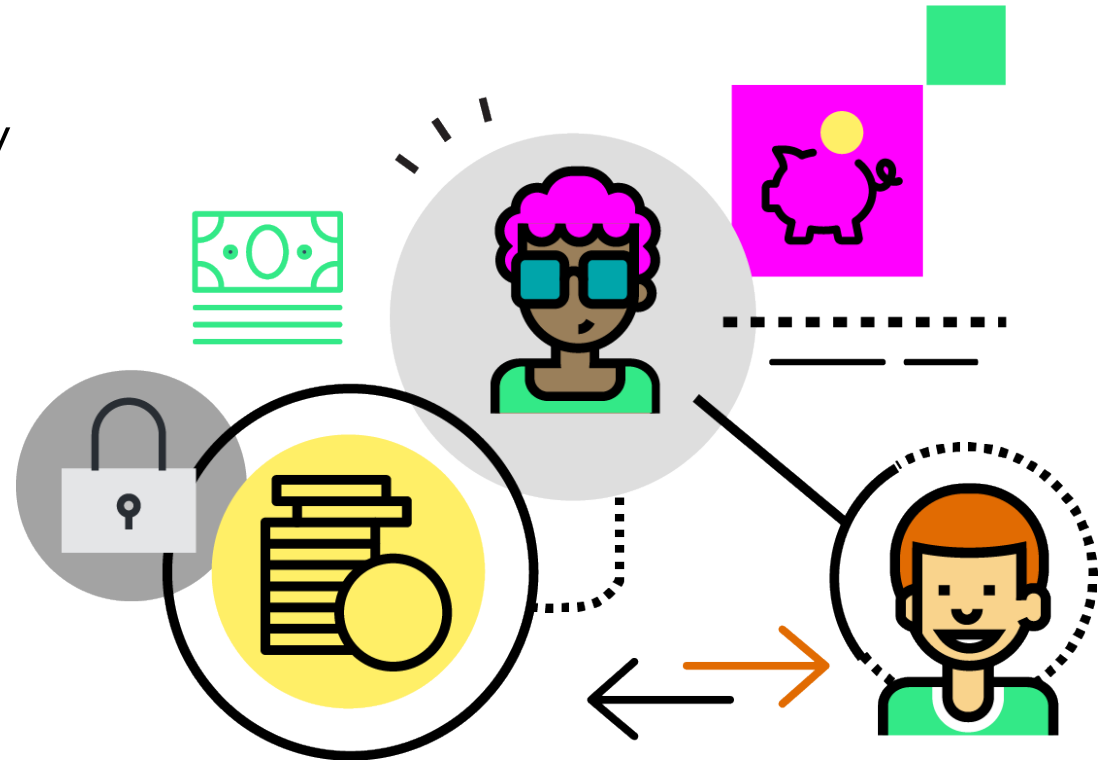
- Data is a **common infrastructure** where to build projects upon.
- Data handling and usage is **transparent**
- Data is shared according to rules set by **common** (enforceable) **governance**
- Benefits of data sharing are reverted to the community

Where is DECODE relevant? (1/n)



Sharing Economies... ?!

but with whom are we really sharing our needs and desires?



Where is DECODE relevant? (2/n)



Internet of Things...

communicating on our behalf...

but who are they
speaking with and
about what?



Where is DECODE relevant? (3/n)



One can **detect issues**
and collaboratively
solve them!

but if data is a
monopoly of a few,
collective intelligences
are lost...



Challenge: Enabling the Data Commons

Can we **regain control** of our data?

We want to decide *liquidity* **who** to share it with, under which **rules**, **when** and for **what** purpose?

In short: Real **data sovereignty**

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3 main axis of Data Commons



People/
community



Support/
playing field

Projects

3 main challenges of DECODE



Technological (Support/playing field)

- Distributed data storage architecture?
- Fully transparent and secure?
- Portable / open standard!
- Free & Open source!



Societal (People/comm.)

- Incentives?
- Legal implications of sharing data?
- Who does the data belong to?
- Social awareness?
- Governance?



Practical (Projects)

- Are there good use cases ?
- UX?
- Can we make it work?
- Will communities understand it?



**Praxis: DECODE
Pilots**

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DECODE Pilots



4 pilots:

(just now finishing pilot definition phase!)

■ 2 AMS:

Localized social networks + FairBnB

■ 2 BCN:

Participatory democracy + IoT citizen sensing

Methodology (I)



■ “Discovery”: What would a good pilot be for DECODE?

... provide a practical example that shows how the new proposed technological architecture, legal framework and smart sharing rules can be used to solve an existing problem, while raising awareness on the general problem of data exploitation/privacy/ownership and proposing a (genuinely) different type of approach that the already existing ones.

Community +
Real Need +
Feasibility



Methodology (II)



- “Inception”:
Co-creation
with
community
(1 full week
of intense
work)



Elevator pitch + Personas + User journeys + Tech sessions + RAID analysis

BCN Participatory democracy: Idigital + BCNNow!



Community:

decidim.barcelona users



Need:

- Accountability on signing petitions, yet privacy on political beliefs
- Detection of city problems
- Provide tools to users with similar interests to interact
- Platform of political participation
- +30k users
- Open Source
- No demographic information storage
- Centralized, based on “trust”

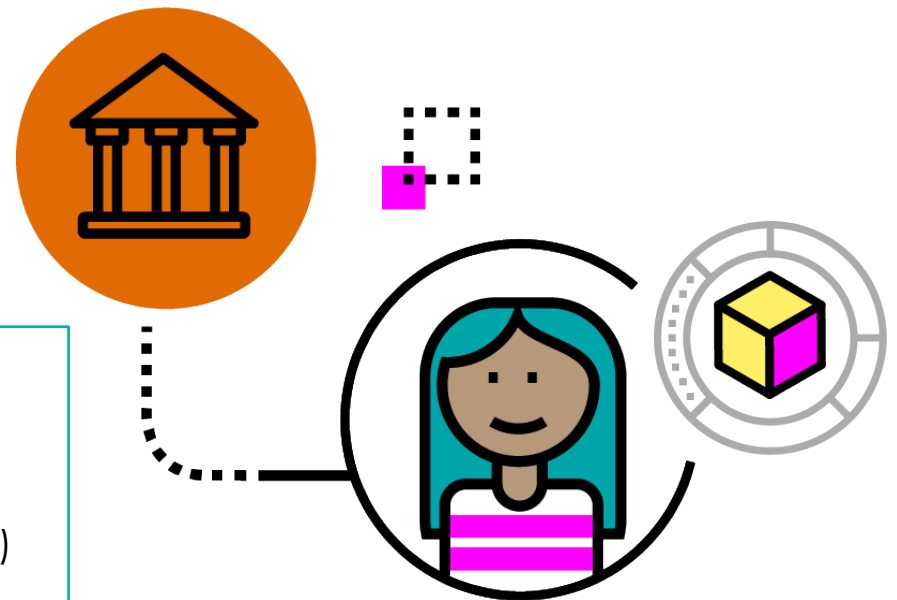
BCN Participatory democracy: Idigital



Use-case 1: Empower citizens to **disclose selectively** details of their profile when supporting initiatives, while **remaining private** with regards to the authority yet their support **remaining valid**

Carme wants:

- **Support initiatives** at the platform, but
- **Stay anonymous** from central authorities but **be counted!** and
- **Disclose some** of her **details** (gender, age, location...) to contribute to the understanding of city problems



BCN Participatory democracy: BCNNow!



Use-case 2: Visualize personalized citizen interests merging public data sources + disclosed data from the commons + personal interests to find/be found by similar profiles while ensuring privacy

Júlia wants:

- **Be informed** about relevant issues on her neighborhood
- **Participate** in ongoing initiatives
- **Be found** by people with similar interests to hers



BCN: IoT, Let's talk about data rights!



Community:

smartcitizen.me/makingsensecommunity

Need:

- IoT data might be privacy-sensitive
- Crowd sensing of a problem with IoT makes sense in the framework of a community
- Need rules to share this data for a common goal!



Making Sense

Advances and experiments
in participatory sensing

- Platform of citizen IoT sensing
- Open by default, centralized
- Open Source
- Centered in strong, engaged communities (50 power users)

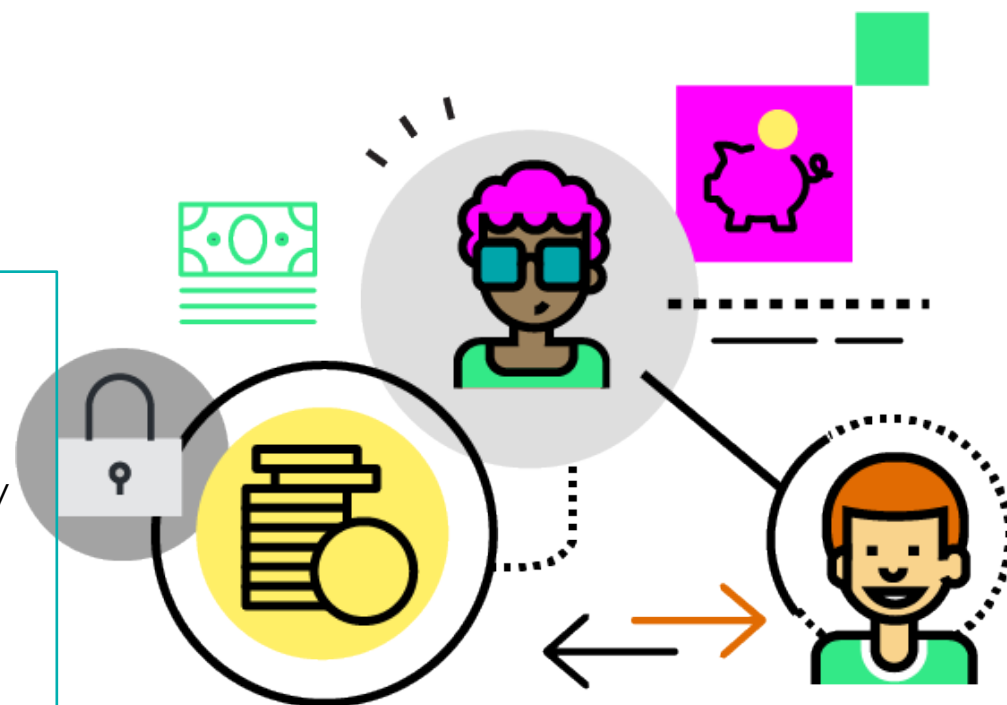
BCN: IoT, Let's talk about data rights!



Use-case: Provide physical device so users own their data and decide who and under which conditions to share it with, introducing the notion of a **data-community**

Alba and Joan own a noise sensor and a fitbit each, and they want to:

- **Collaboratively raise data** on noise in neighborhood to map a problem
- **Share all their data stream** among them (they trust each other and want to see if noise is affecting their health)
- Only share aggregated noise readings with "the world"

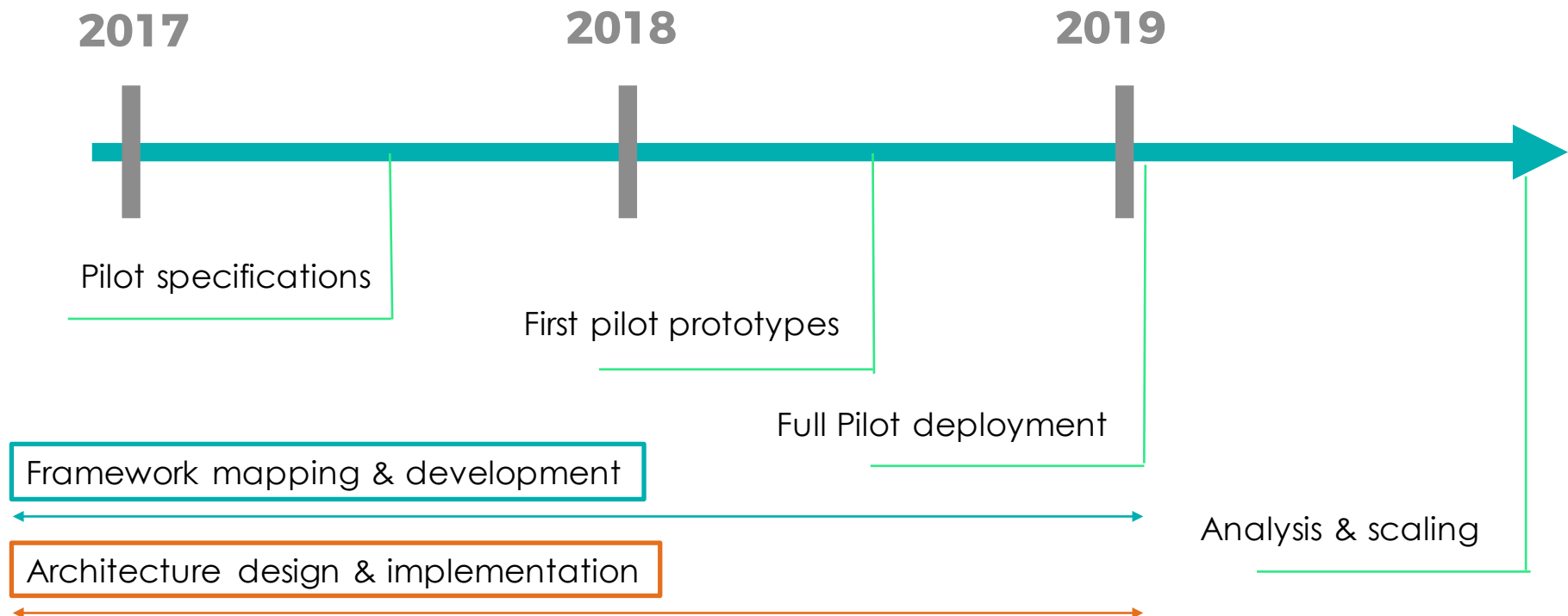




What's next?

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Calendar





Contact us!
info@decodeproject.eu

www.decodeproject.eu

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AMS: Local and social networks

Community: gebiedonline.nl

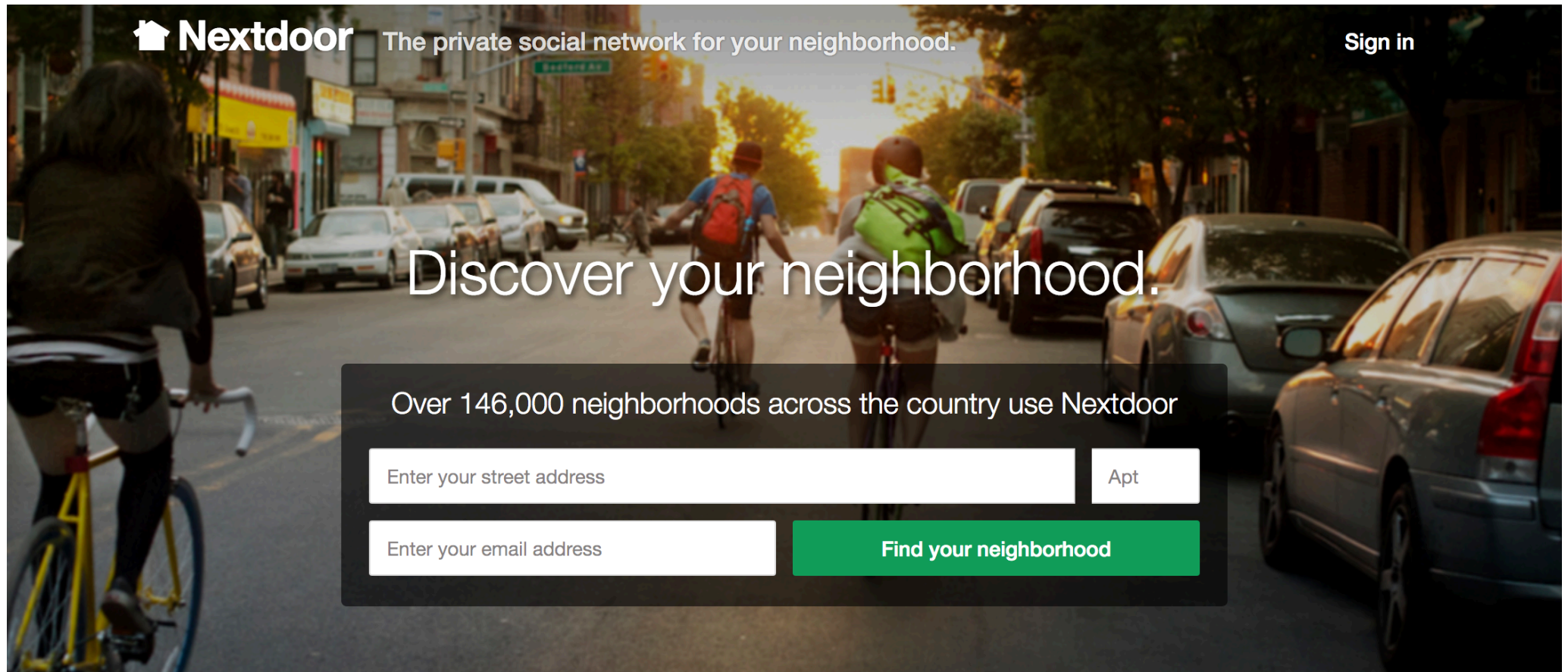
Need:


- Trust system – Crowd certification that someone is a neighbor
- Transparent and auditable
- Alternative to nextdoor



- Neighborhood social platform
- Cooperative-based
- Semi-decentralized: one platform per neighborhood (~20k distributed users)
- Based on trust, no data security

AMS: Local and social networks

The background of the banner is a photograph of a city street at sunset. Three cyclists are riding away from the camera. The street is lined with parked cars and buildings. The Nextdoor logo is in the top left, and a 'Sign in' link is in the top right. The main headline 'Discover your neighborhood.' is centered. Below it, a dark grey box contains a statistic and a registration form with two input fields and a green 'Find your neighborhood' button.

 **Nextdoor** The private social network for your neighborhood. [Sign in](#)

Discover your neighborhood.

Over 146,000 neighborhoods across the country use Nextdoor

Enter your street address

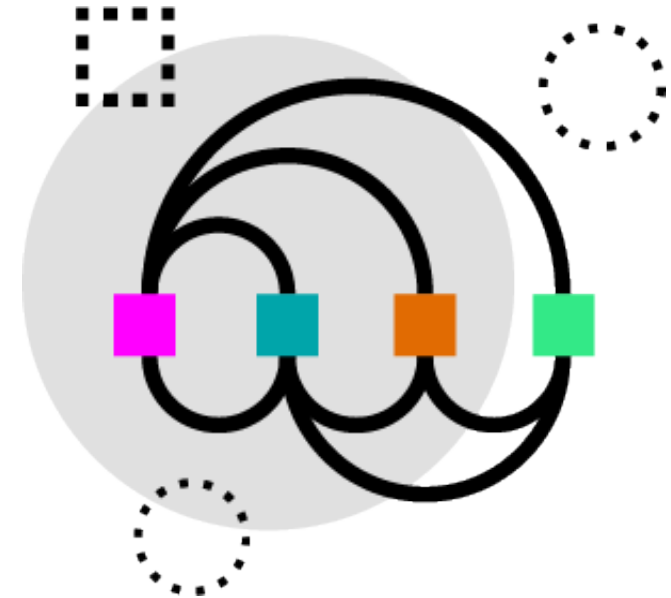
Enter your email address

AMS: Local and social networks

Use-case: Provide P2P trust based system and allow for non data-extractivistic neighborhood interaction platform

Theo wants to:

- Share tools with trusted people in his neighborhood (for free!)
- Does not want his personal data to be sold to private companies to receive personalized ads



AMS: FairBnb

A take on the “sharing” economy

Community: fairbnb.coop /
AMS city council

Need:

- Set up auditable housing rental registry
- Enable a true P2P home sharing platform
- Return benefits to community to mitigate effects of tourism



City of
Amsterdam



- Coop of neighbors/guests/owners... (+/- 50 people)
- Business model, proof of concept and architectural trials (thesis)

AMS: Local and social networks

Use-case: Provide auditable, transparent, benefit distributed, system for P2P home short-term rental

Mariska wants to:

- Ensure that his neighbor's house is not rented more than needed for short-term stays

Teun wants to:

- Find a way to revert the benefits of his short-term renting to the neighborhood, so it stays interesting

Ellen wants to:

- Get statistical information on tourist rentals per area (she works at the city council)

