

Building knowledge,
interactions and communities
for lifelong learning and urban
belonging

Opening Up Smart Learning Cities

LINK TO SLIDES: <https://tinyurl.com/open-smartcities>

DR PEN LISTER

Intro

THE AIM OF THIS PAPER

“to acknowledge the interplay between citizen and place, for both expert knowledge and User Generated Content”

THE ISSUES OF INTEREST

- ▶ How users access expert knowledge
- ▶ How users generate knowledge they can contribute to community archives
- ▶ How users access each others content in the archive

REVISITING PRIOR RESEARCH

- ▶ How users interact with and experience their urban environment
- ▶ Use of ad-hoc mobile apps to provide augmented reality triggered geospatially relevant knowledge content: video, audio, images, text
- ▶ The potential for engagement, motivation and value to facilitate *incidental* learning



Context of prior research

Locations, apps & activities

- Two *smart learning journeys*: London, UK and Valletta, Malta.
- HP Reveal to provide an AR interactive interface of choices
- Links to video, audio, webpages and image searches

People

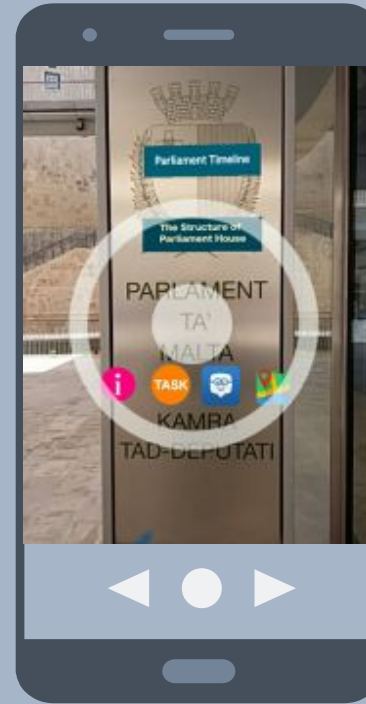
- Three groups of students from two universities (LondonMet and Uni of Malta)
- Undergrad & postgrad
- Multinational
- Aged 20-35

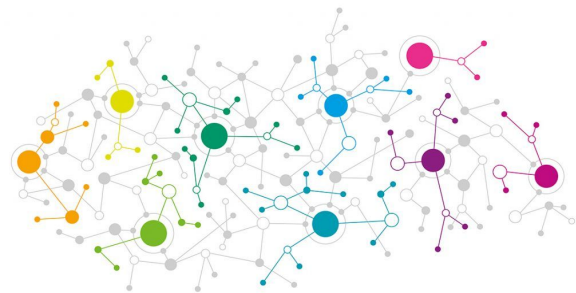


Mobile app AR

Urban digital interactions access knowledge related to place

Using AR to trigger content *in place*
Displaying content choices for video
images or webpages to learn about
the city heritage

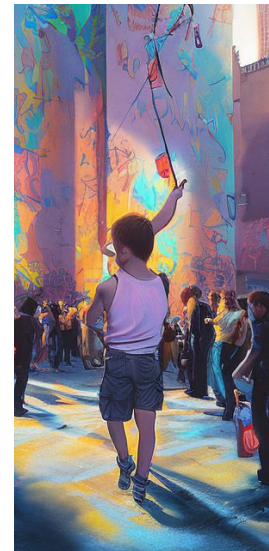




*Digital urban place
locations offer
content
opportunities:*

- ☐ Expert
- ☐ Community
- ☐ Civic

*Users
interact:
Find expert
knowledge
Create own
content*



Blue is
architecture,
built
environment

1

Pink is
community
discussion &
creative content

3

Yellow is public
information,
help and
advice

5

Green is nature,
environment
and
sustainability

2

Purple is
science and
technology

4

Orange is
history, politics,
heritage

6

Reading and writing the city

... a way of
describing how
citizens read and
contribute
knowledge
content related
to urban places...

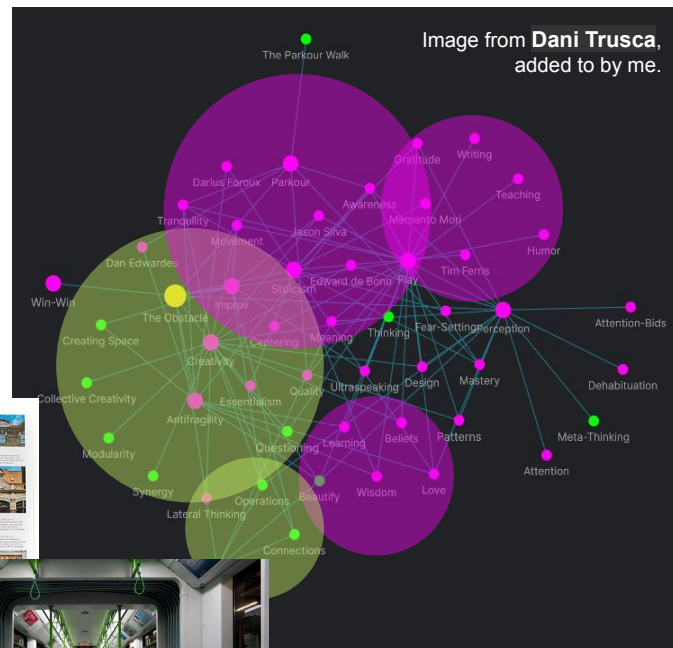
... *reading about science, buildings,
literature, art or heritage*

... and then **contributing to a community
archive** of citizen memoir and lived
experience about those places - and also
reading what others say.



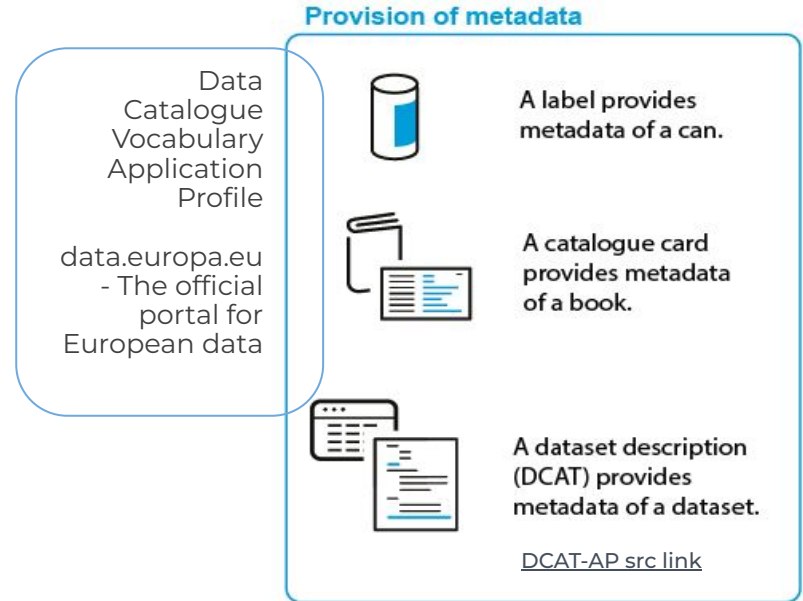
WHAT KIND OF KNOWLEDGE?

-
- MAY**
1. A two-story brick house with a white picket fence.
2. A large, ornate building with a central dome and multiple windows.
3. A small, single-story house with a red roof and white trim.
4. A large, multi-story building with a prominent central tower and many windows.
5. A small, single-story house with a red roof and white trim.
6. A large, ornate building with a central dome and multiple windows.
7. A small, single-story house with a red roof and white trim.
8. A large, multi-story building with a prominent central tower and many windows.
9. A small, single-story house with a red roof and white trim.
10. A large, ornate building with a central dome and multiple windows.
11. A small, single-story house with a red roof and white trim.
12. A large, multi-story building with a prominent central tower and many windows.
13. A small, single-story house with a red roof and white trim.
14. A large, ornate building with a central dome and multiple windows.
15. A small, single-story house with a red roof and white trim.
16. A large, multi-story building with a prominent central tower and many windows.
17. A small, single-story house with a red roof and white trim.
18. A large, ornate building with a central dome and multiple windows.



Metadata for findability

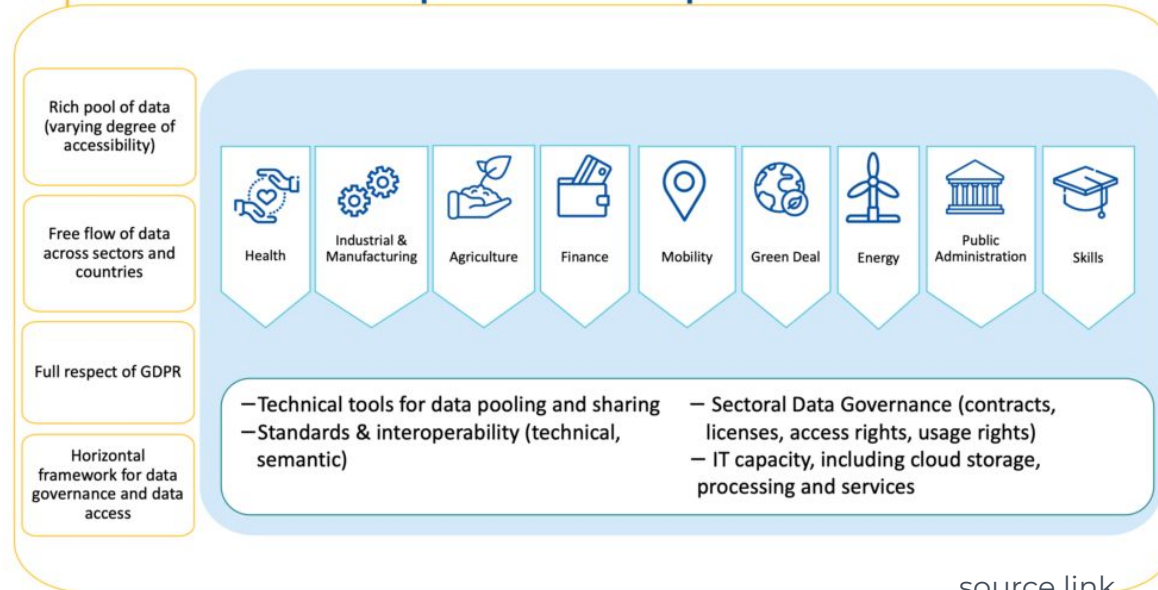
- ▼ Metadata > *describing the content and linking datasets*
 - ▲ Linked Open Data
 - ▲ Open Access
 - ▲ OER
 - ▲ *Citizen archives*
 - ▲ Open Graph / DC / Schema
 - ▲ Knowledge 'type' / category
 - ▲ Geo-spatial



Data & Content archives

- ▼ *RISks of 'walled gardens' and proprietary file formats*
- ▼ *Unreliable maintainability & access to content*

Common European data spaces



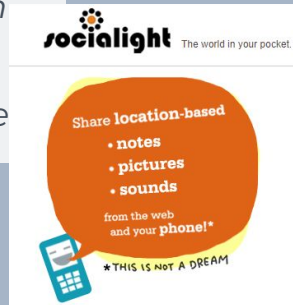
[source link](#)

Community mapping

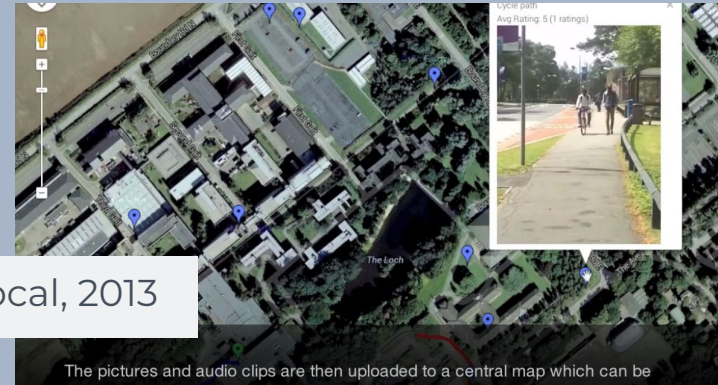
Online map interactions access knowledge related to place

Users add content to maps using website interfaces or custom apps

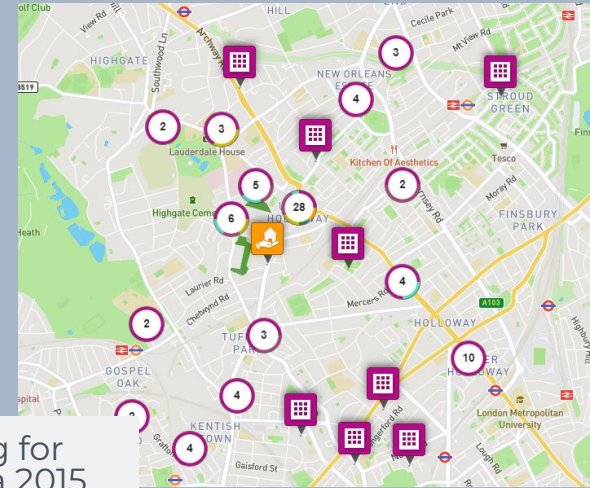
These ideas have been around for a while - since 2004, with Sociallight, for example



MapLocal, 2013



UCL Mapping for Change, circa 2015

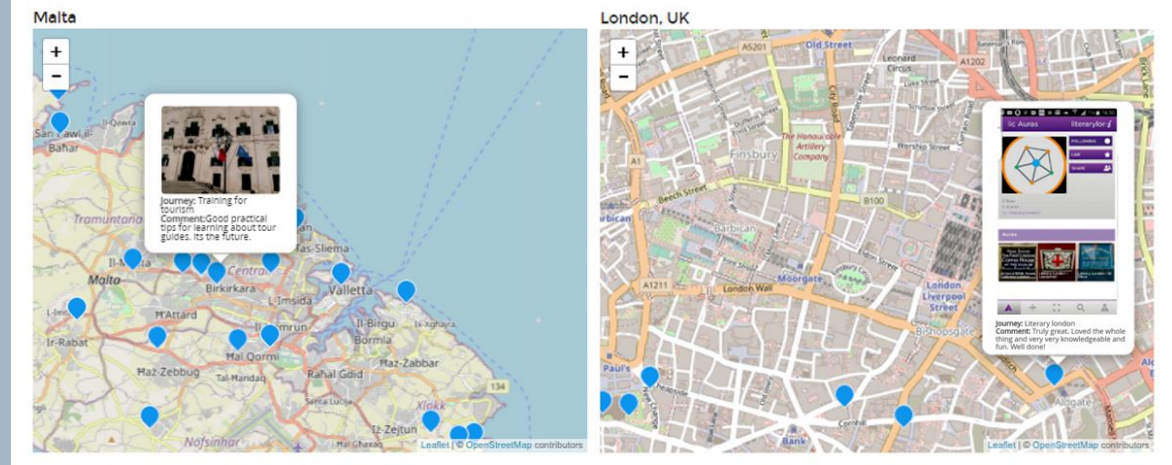


The Learner Feedback Map

Using free apps and web functionality, give user a direct way to add urban contextual knowledge to places and things, using a simple web form, and GPS pins.

Other users can access the map on the phone, view content and comments left by others, as well contribute.

This leaves a trail of citizen knowledge that builds a feeling of being part of something, of value, and belonging.



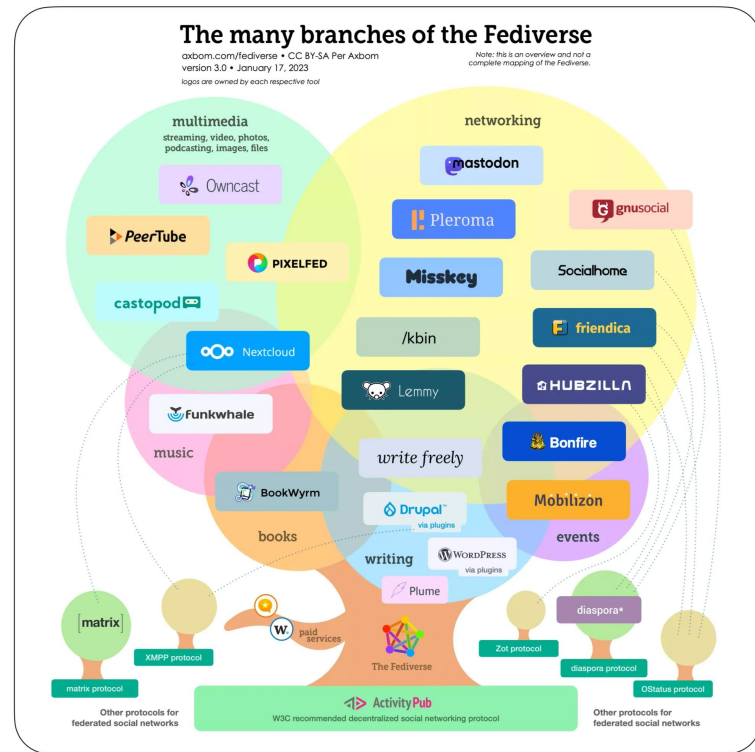
The Learner Feedback Map, 2017-2021

Jotform, Google Sheets, Sheetsee.js, Zapier, JSON/CSS, Open Street Map and a WordPress website

The Decentralised Future of the Knowledge Web

THE ROLE OF THE FEDIVERSE AND ACTIVITYPUB

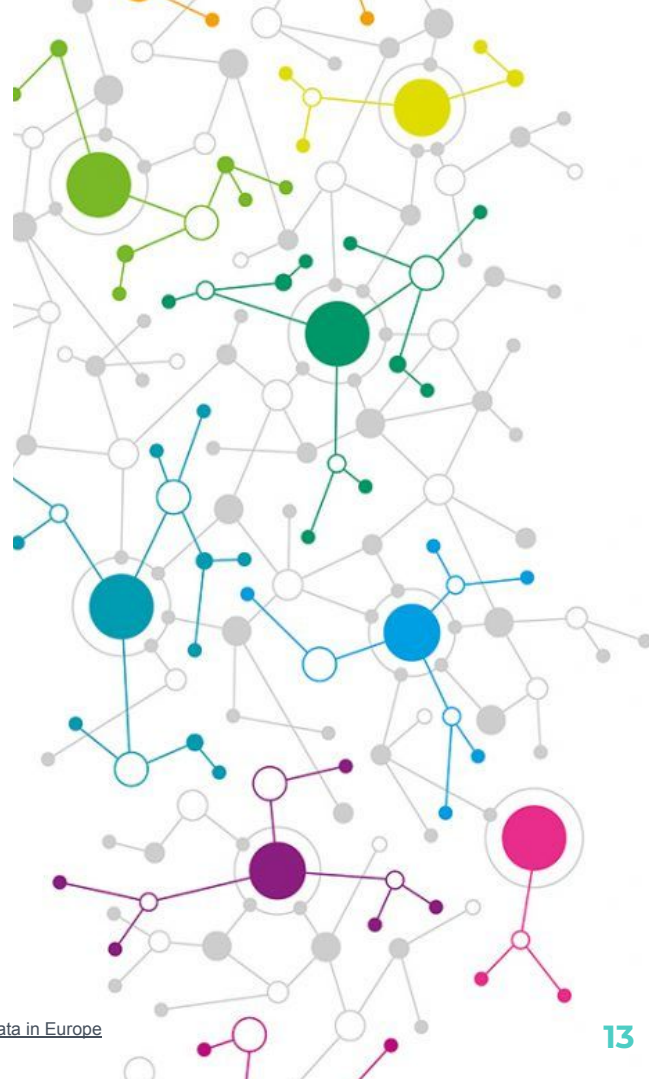
- ▶ Federated server content hosting, owned by civic orgs
- ▶ Apps & interfaces separate from data itself
- ▶ User account portability - 'Nomadic (portable) ID'
- ▶ Decentralised federated knowledge content finding & sharing
- ▶ *Geo-spatial findability*
- ▶ *Subject area/provider UID*



Per Axbom, <https://axbom.com/fediverse/>

Conclusions

- ▶ “(u)rban space is not just a container for social relations, but a product of social relations” (Boy, 2022)
- ▶ “Data and content needs to be decoupled from platforms and apps, ... empowering users (expert and citizen) to move between platforms, viewing and sharing the same (open) data sources, and that archived content is owned and maintained in civic federated archives for the benefit of all.” (Lister, 2023)





AI images in this presentation were generated by Nightcafe or StarryAI, using Stablediffusion algorithms.

Credit is given to every digital artist whose unacknowledged work was scraped by the image recognition data gathering models used in the generation of these images.

This presentation
and all content
was developed by
Dr Pen



THANK YOU

Edited and adapted
Desdemona Template, free to
use under [Creative Commons
Attribution license](https://creativecommons.org/licenses/by-nc-nd/4.0/)