Tagging Usages in the Reality

SONY Computer Science Labs (CSL)

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The CSL approach

- TAGora provided big insight into Online tagging systems

- The CSL tries to apply this new knowledge on other environments then the Web

CSL Projects

- NoiseTube
  - Nicolas Maisonneuve

- # Linking Linke
  Phenotypes /Limited Forms
  - Armin Linke, Peter Hanappe et al.

Noise Tube:
The underlying bigger Problem

- Real world Data gathering is still a serious problem

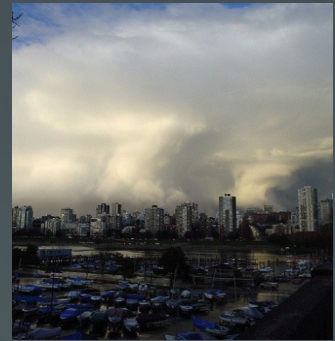**Water: limited accurate** information on water and treatment systems

Food: Agricultural statistics **deteriorated over time**

Health: uncertainty in exposure assessment

[Poor data, weak agencies hamstring U.N. environmental oversight, NY Times, 2009]

[FAO, Audit 2009]

[Uncertainty and Data Quality in Exposure Assessment, WHO, 2008]

Poor monitoring system

Proposal: Participative sensing

Growing public concern

Empowerment in the digital world

Democratization of powerful & sensor-rich phones

- **New usage of mobile phones**
  - personal measurement instrument on
- **Individual level:**
  - **new user experience** Autonomy to measure local phenomena
  - New form of expression and collaboration
- **Collective level:**
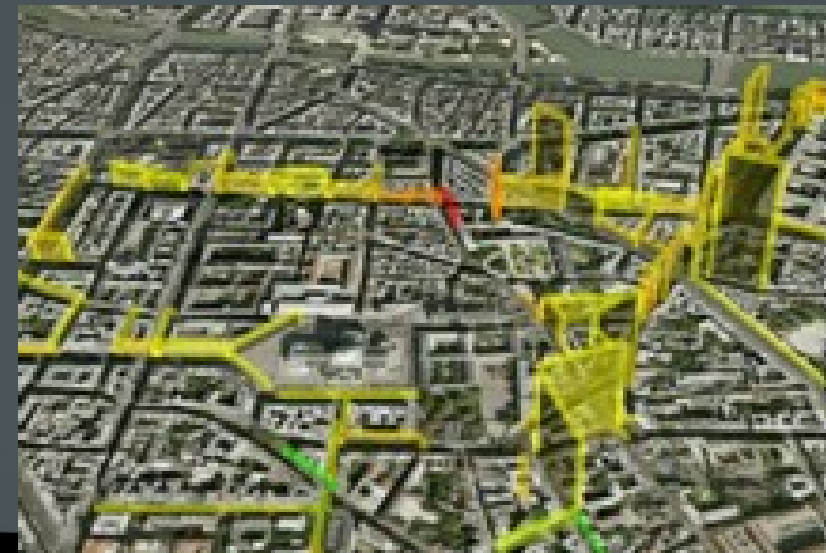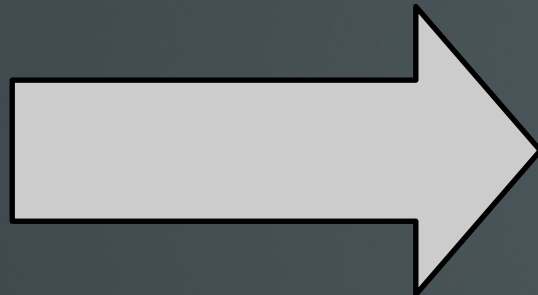 - **adaptive sensor network** with a limited cost
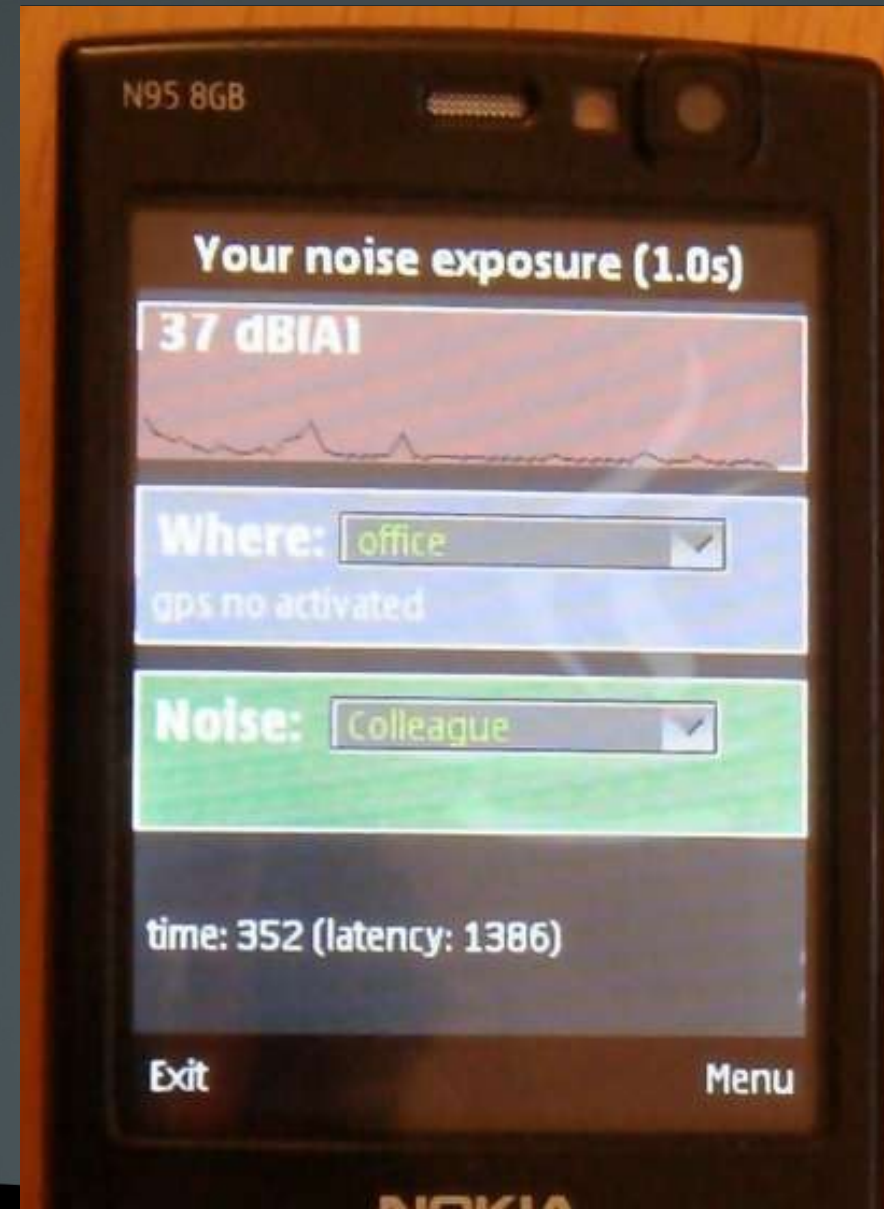
CSL Project: NoiseTube
"Environmental Tagging"

- New approach to collect Environmental (noise) exposure data

    - Involve the general public which it concerns

    - Measure individual (noise) exposure

    - Tag sources of noise

    - Use Mobile phone as environmental sensor

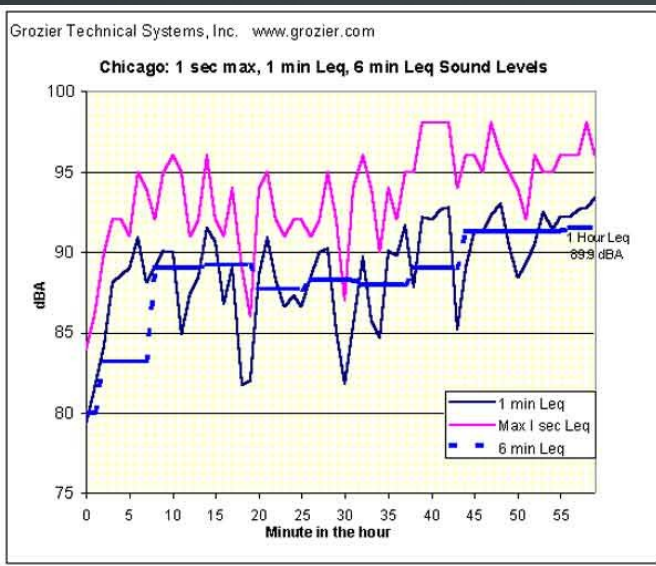# Mobile phone as Environmental Sensor

- Real-Time measure
  - microphone + RT signal processing algorithm
- Geolocalisation
- Tagging
  - Contextualized
  - Closed list of sources
- User experience
  - Real time feedback
  - Low effort to collect

N95 8GB

Your noise exposure (1.0s)

37 dB(A)

Where: office
gps no activated

Noise: Colleague

time: 352 (latency: 1386)

Exit   Menu

NOKIA

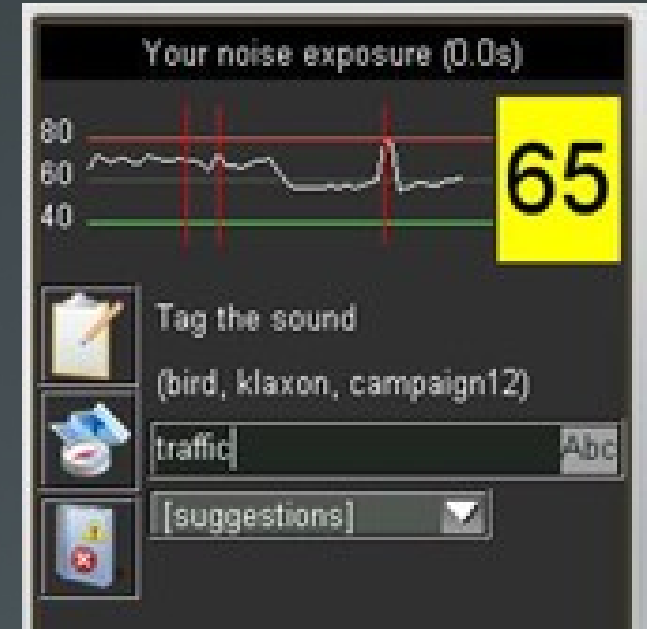# Tag sources of exposure?

- **Currently:**
  - Difficult to find/separate sources of noise from recorded sounds
  - Modeled Noise maps are limited to the assumed sources of Noise
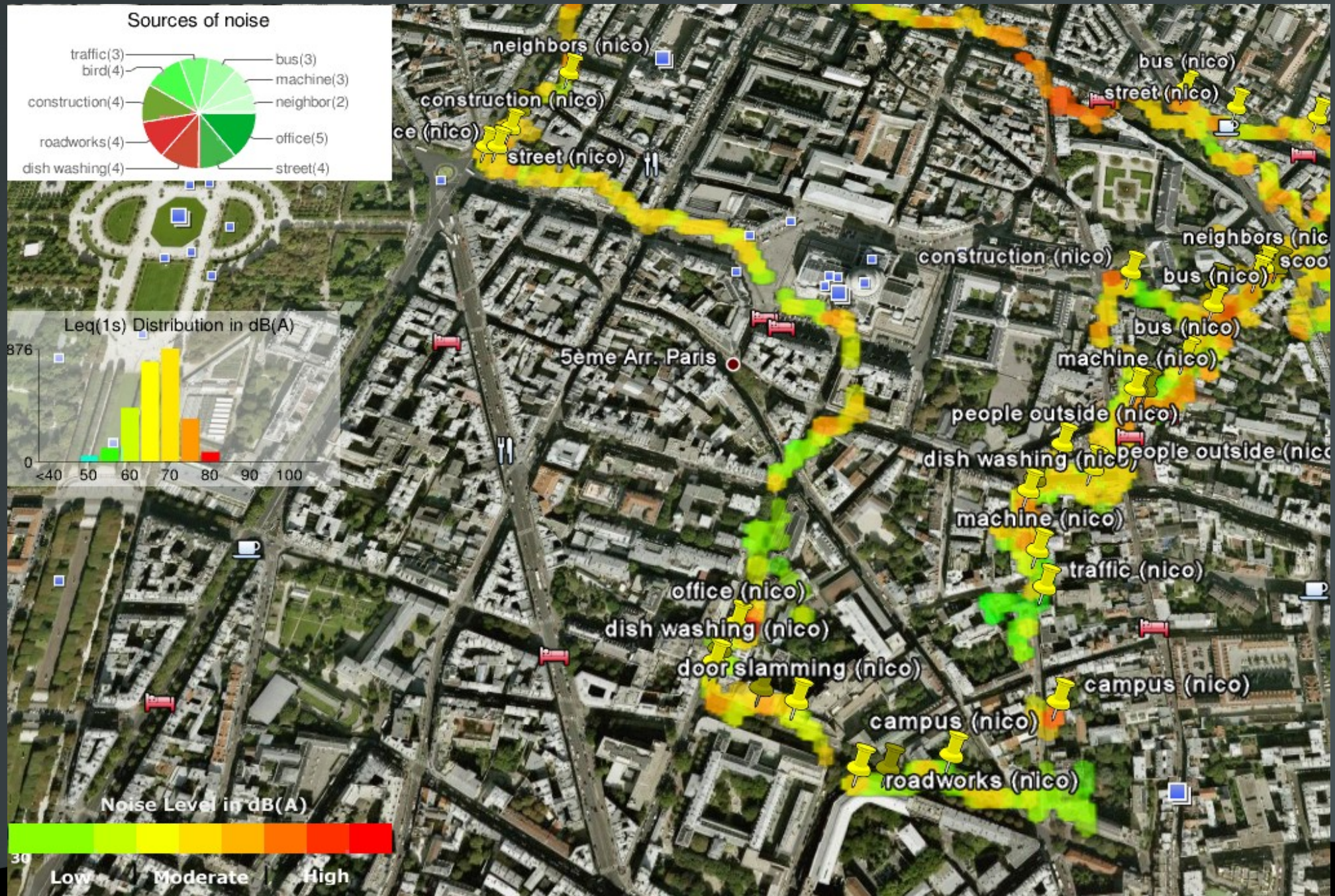
Tag sources of exposure!

- Utilize people as sensors

- Add **layer of meaning** to a measurement

- Users are motivated to inform the community about a sources of annoying noise

Noise exposure map with semantic layer

Tagged Noise Map

Sharing Environmental Information

- Connecting people (in progress)

  - Spread Environmental Information by Social Networking Services

- Connect to the Web-Ecosystem

  - 1st public web API delivering Environmental Information of places and people

    - Bi-directional service

Experimentations

- Subway in Paris (2008)

  - No public data about noise in the subway (only private by the RATP)

- Mumbai, India (2009)

  - Lack of agencies to assess the impact of local policies

Project available

- The Project is available at
  - *http://noisetube.net*

- Java base application was released two weeks ago and is free to test

CSL Project: Linking Linke
Phenotypes /Limited Forms

- **What?**

  - 1000 high-quality paper prints of Armin Linke's photos

  - Three shelves, 12 meters long, carrying all the photos

  - One table, where visitors can create, tag and print their book in site

  - A projection that shows the tag clouds of most recently created book ("connected books")

- **How?**

  - RFID technology to detect the photos on the table

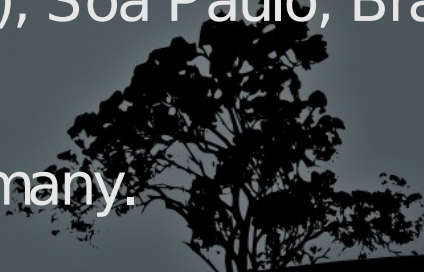# CSL Project: Linking Linke
Phenotypes / Limited Forms

Art Installation

CSL Project: Linking Linke
Phenotypes /Limited Forms

- **Why?**

  - Explore tagging in physical world

  - Controlled experiment

- **Where?**

  - "You_ser", Zentrum für Kunst und Medien (ZKM), Karlsruhe, Germany.

    - 10/2007 – present.

  - Institute for Contemporary Art and Thought (ITYS), Athens, Greece.

    - 03/2008 - 07/2008

  - Arts Bienal (Fundação Bienal de São Paulo), Soa Paulo, Brazil.

    - 10/2008 - 11/2008

  - Museum of Contemporary Art, Siegen, Germany.
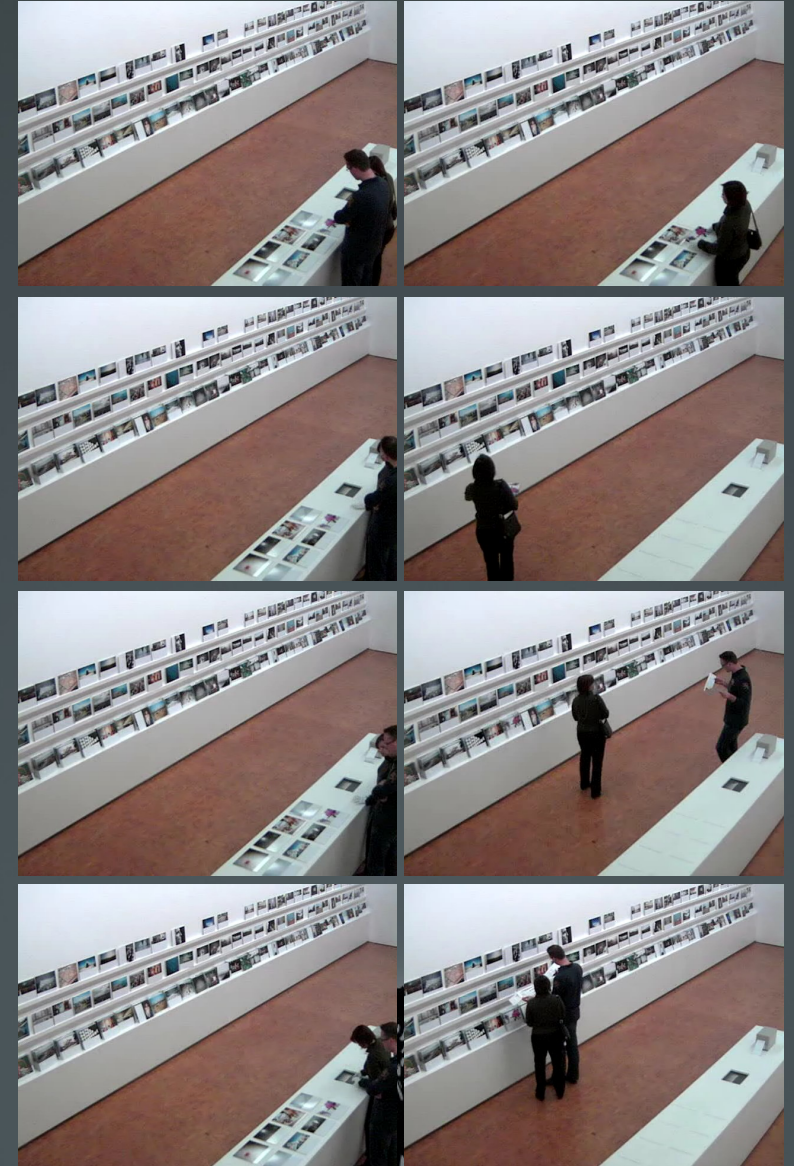
    - 05/2009 - present.

ZKM, Karlsruhe

ITYS, Athens

Bienal, Sao Paulo

Instructions

1) Put on the white gloves

2) Brows thought the archive

3) Let a topic emerge

4) Choose eight photographs

5) Arrange your selection on the editing table

6) Input the title of your topic

7) Print

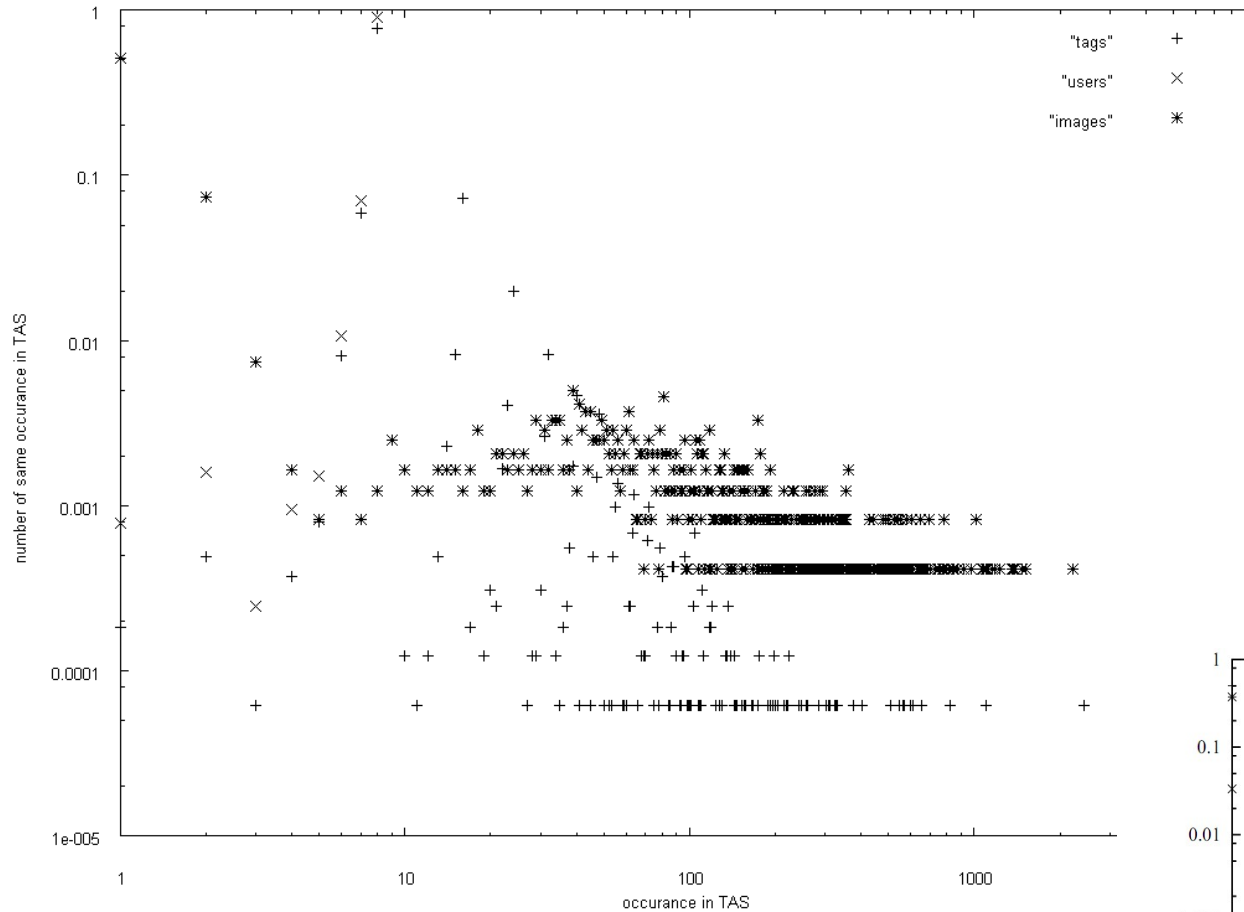8) Return photographs to the archive

9) Take your book

Linking Linke Data

- Dataset of 2 and ½ months runtime

- ~190.000 Tag assignments (TAS)
  - ~24.000 individual visitors
  - ~ 2.400 different images
  - ~17.000 different Tags
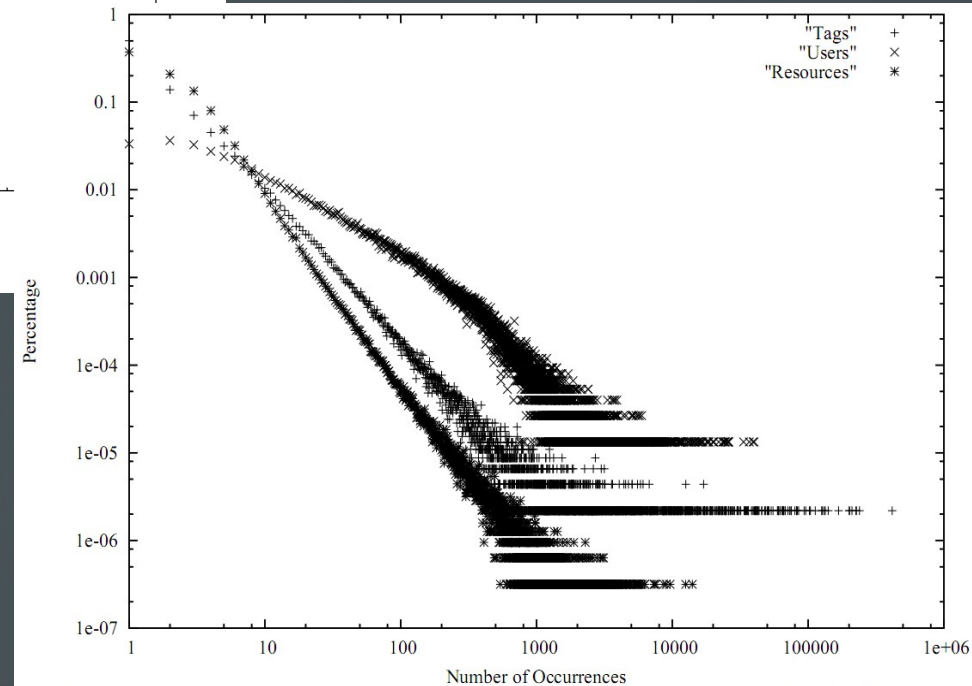
So far analysis results

Linking Linke - Data

[Information Retrieval in Folksonomies:
Search and Ranking
Andreas Hotho, Robert J¨ aschke at al.]

Fig. 2. Number of TAS occurrences for tags, users, resources in del.icio.us

Thank you for your attention

Measure individual exposure?

- Environmental issues are anthropogenic effects
  - Involvement causes change of behavior

- "Environmental issues are best handled with the participation of all concerned citizens.."
  - [Prinziple 10, Rio Declaration, 1992]

➔ Environmental data should be collected by the citizens on a personal level