Internet 2015 Panel

Data Analytics over the Internet: Capturing Humans' Behavior

Bourret Christian, University of Paris East, France
Josef Noll, University Graduate Center, Norway
Jan Radil, CESNET, Czech Republic
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Summary of discussions
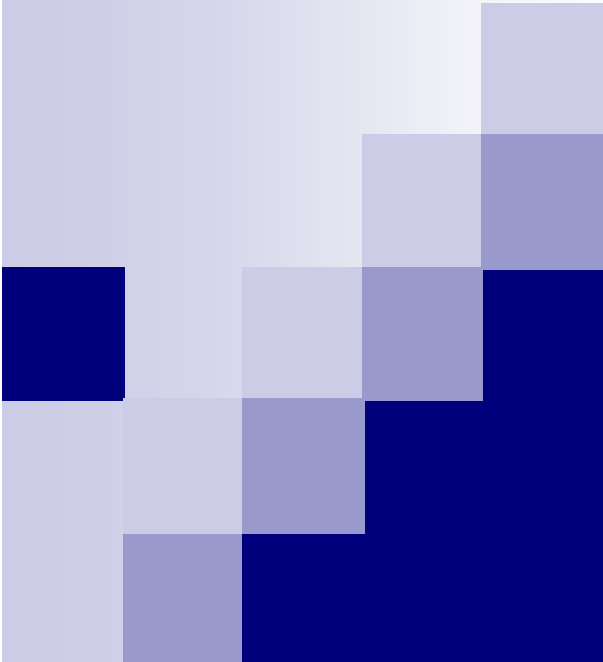
Current data gathering expert systems
- Silo systems
  - multiple data gathering of same nature for different purposes
- Privacy of data gathered is not trusted by consumers
  - Ex.: Medical data records shared among pool of doctors
- Lack of adaptability to customers' needs
  - Customers are placed into small number of categories, generating pain (e.g. Fraud detection in financial transactions)
  - Lack of feedback mechanism to improve expert systems

Future data gathering expert systems
- Need for a trusted entity to control data gathering, enforcing strict Access Control to multiple human behavior expert systems on a per needed basis.
  - Ex.: medical data; driving data (car manufacturer liability);
- Need for control of predicted model results dissemination (self fulfilling prophecy/syndrome)
  - Ex.: suicidal individuals; disease predictors; accident likelihood

University Paris East / Marne-la-Vallée   **Research Team DICEN IDF**

Behavioural and Social Innovations through ICT Devices to Change the French Healthcare System

Christian BOURRET

HUSO 2015 – Saint Julian's / Malta – October 15th
***Panel on** Data Analytics over Internet: Capturing Humans' Behavior*

Crisis of the French Healthcare System

- Huge **costs** (12 % of GNP) and "**walls**" between primary care and hospitals and between professions (problem of **efficiency**).

- Focus on **ICT** to change it (Health Electronic Record, Digital Territories of Care, etc.).

- Need of Evolutions particularly from a only **curative** system to a **preventive** system with all the aspects of the "**quantified self**".

- It needs improving the **patients' commitment** and developing new processes.

The Challenge of Improving Patients' Commitment

- Importance of the **2002 Law** on the Rights of Sick People and the Quality of the Healthcare System : notion of "**sanitary democracy**" and development of **New Interface Organizations** (Healthcare Networks).

- High Authority of Health – **HAS** (2007) on Patients' Therapeutic Education.

- **Compagnon – Ghali** Report (2014) propose to develop New Rights for the Patients.

- At the Heart of the **2015 new Law** to Modernize the French Healthcare System.

- With the use of ICT devices linked with Internet via **platforms** such as **DMP** (shared patients records).

3

New Ways

- "**Case Managers**" around each **complex** patients and **PPS** (Personalized Plans of Care).

- Patients more **committed** and with stronger **responsibility** and observance.

- "**Tracer Patient**" in a Quality Approach in the Hospitals / **Pathways** = traceability (interviews …)

- **Interface Organizations** especially Healthcare Networks better patients' centered and promoting cooperations.

- "**Mediator Patients**" more committed and listening the patients and their families.

- Better integrating patients' **skills, emotions** and feelings (idea of emotional skills) in a new global knowledge perspective to **services coproduction** : **Behavioural Intelligence** through **Internet devices**.

New Ways (2)

- In **TSN** (Digital Care Territories) and around **platforms** for example in **proximity telemedicine** projects (Diapason) with also **training** dimensions through Internet.

- The link with Internet tools through **platforms** for **quantified self** to better **personalize** the cure and the care, prevent diseases, favour observance, etc.

- And also individualize the **costs** and … the **fees** (prices) : the great fear of the French people.

- And the key issue of **privacy** for example in the case of **Big Data**.

- And in **Social** sector also the great challenge of using the ICTs against **Loneliness.**

Thank you for your attention

Questions ?

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ICCGI Panel, 15 October 2015
Data Analytics over Internet:
Capturing Humans' Behavior

What about privacy of your data?

Jan Radil, CESNET

Czech Republic

Data Analytics over Internet: Capturing Humans' Behavior

- What has changed in the post-Snowden era?
- Do we need privacy? What levels?
- Capturing packets – what can be published?
- Do we need human behaviour theories?
- Do we need some models for interactions with the Internet?
- Regional, political and cultural expectations vs. global expectations.

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Privacy-supporting Approach for Data Analytics

Josef Noll

Co Founder and Visionary at **Basic Internet Foundation**

Prof. at **University Graduate Studies (UNIK), University of Oslo (UiO)**

Head of Research at **Movation AS**

Oslo Area, Norway

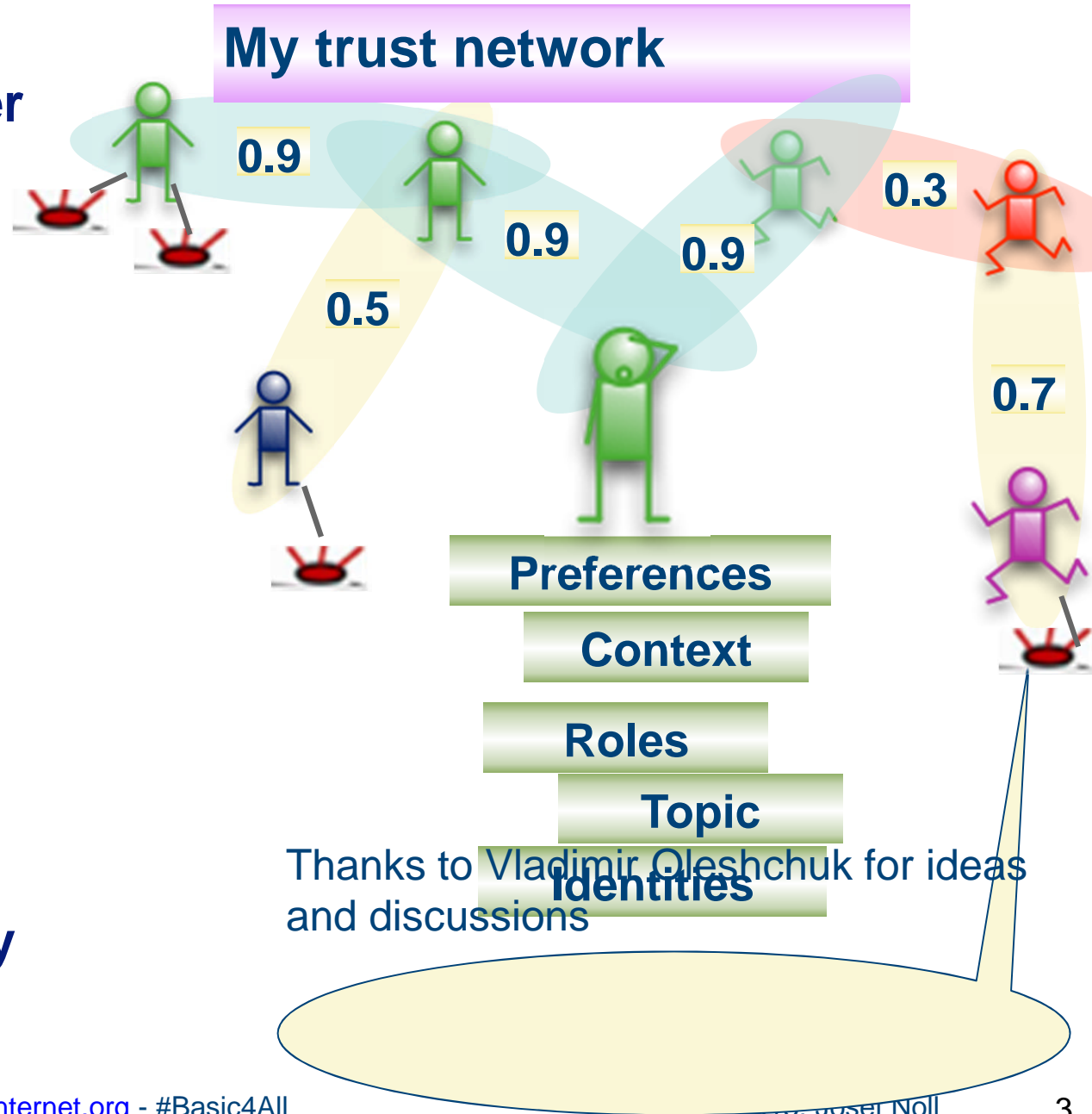# Human perspective in
The IoT ecosystem

- **Creating business**
  - openness, competitive
  - climate for innovation
- **Public authorities**
  - trust, confidence
  - demand
- **Consumers**
  - (early) adapters
  - education
  - inclusion
- **Trust, Reputation**
  - between people
  - between sensors
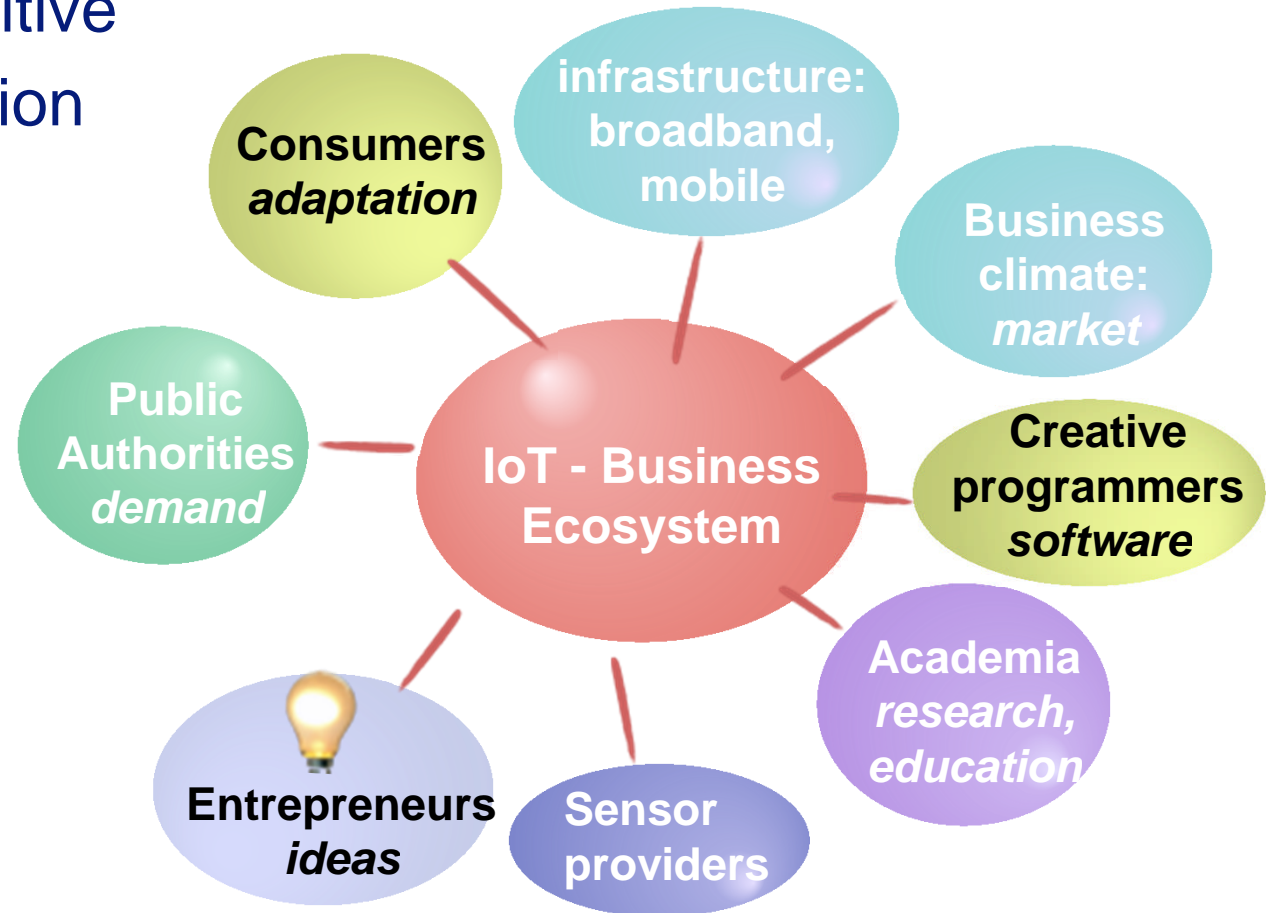
- Trust related privacy
-> **Representing the user adequately**

- Connecting to **sensors**, **devices** and **services**
-> **Provide privacy and ensure trust relations**

- An ever increasing complexity in the digital environment
-> **Hiding the complexity from the use**

My trust network

0.9

0.9

0.9

0.3

0.5

0.7

Preferences

Context

Roles

Topic

Identities

Thanks to Vladimir Oleshchuk for ideas and discussions

Example: Health

- Remote monitoring
  - ➡ puls
  - ➡ fall,
  - ➡ diabetes
- Currently
  - ➡ data to the cloud

- Sustainable model?
  - ➡ supervision
  - ➡ trust
  - ➡ reputation
  - ➡ interworking challenges
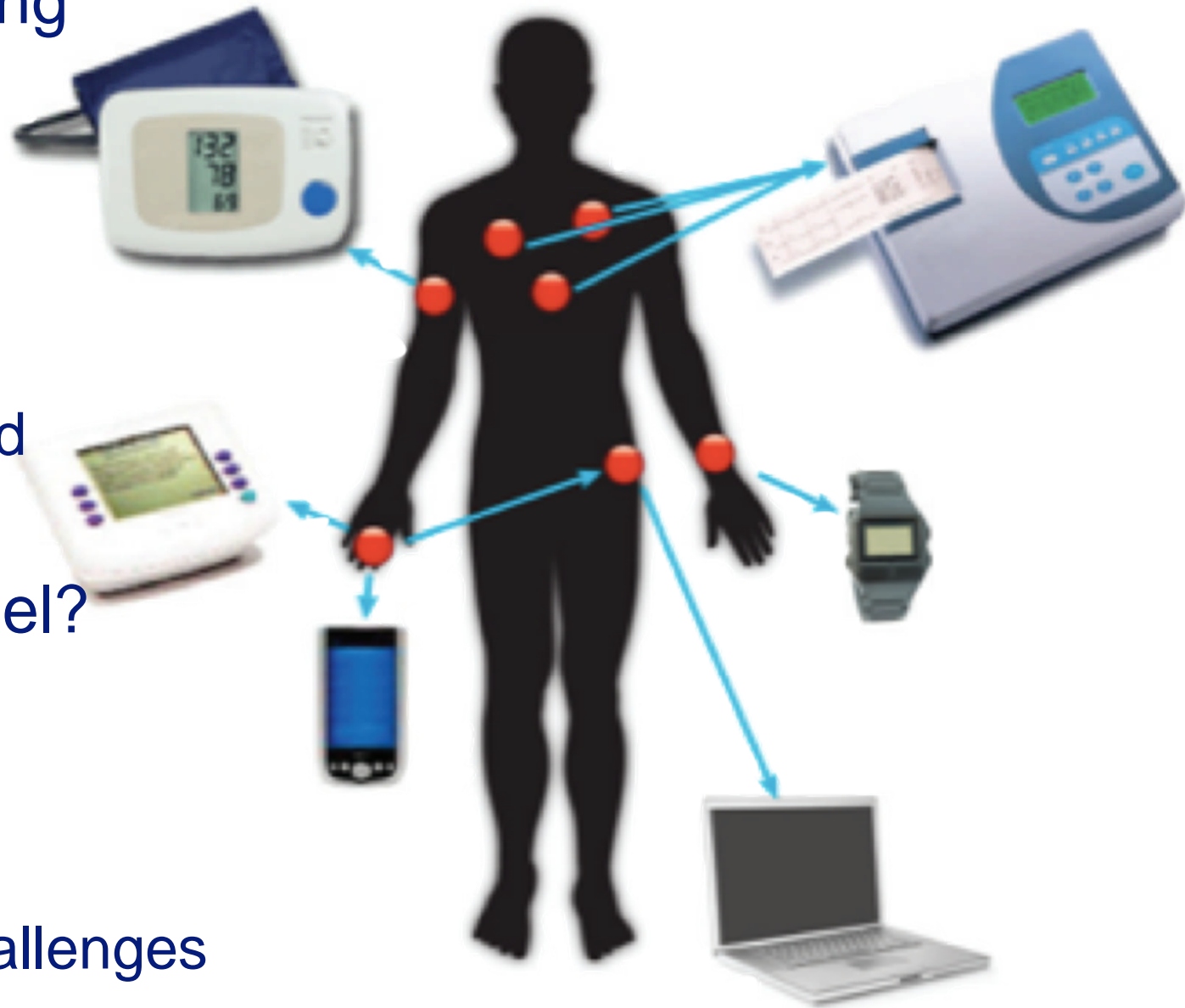
Privacy-supporting Approach of anonymous User Statistics for Data Analytics

- Awareness of privacy
- My data stay with me
  - ➡ user app on mobile phone
  - ➡ «fog computing»
  - ➡ no medical data to the cloud
- Proactive
  - ➡ call if …
  - ➡ pills, measure
- New role of health professionals
  - ➡ sensors, devices
  - ➡ remote
  - ➡ mentor

Proactive (call if …)

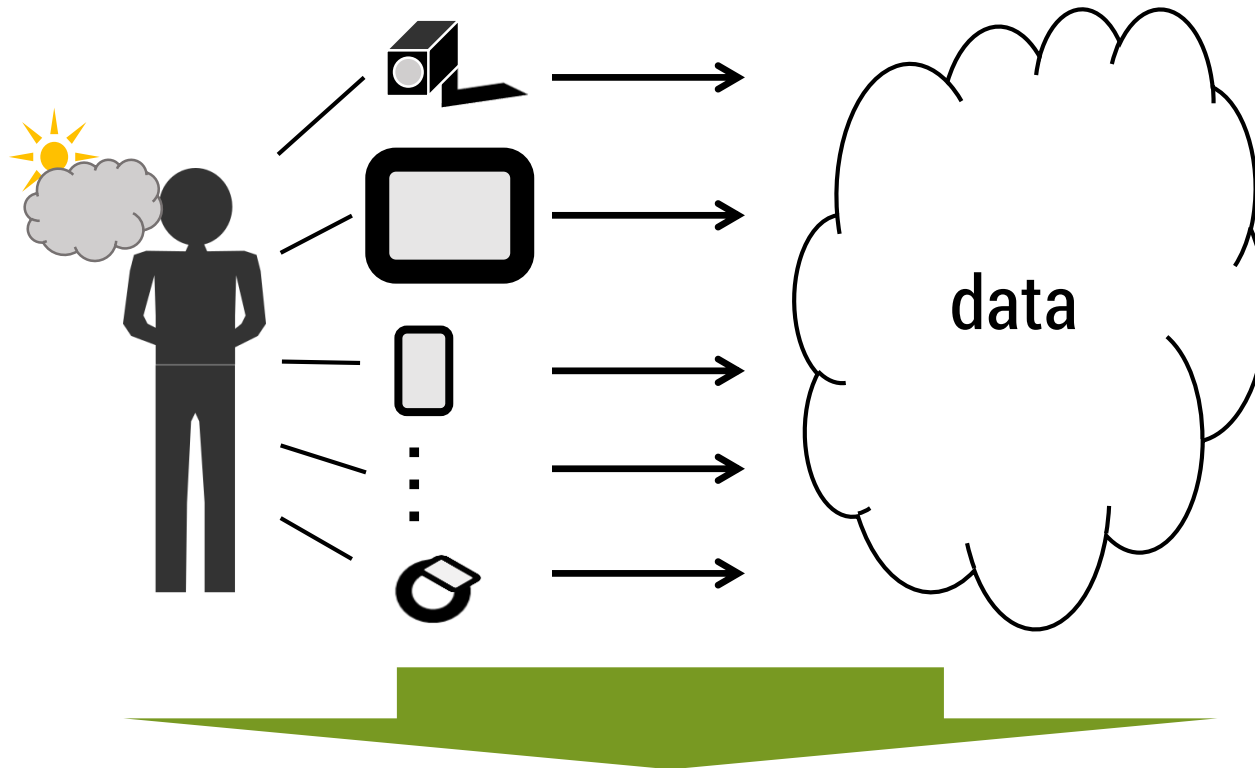Remote monitoring

Gravid
BEDRE HELSE FOR MOR OG BARN

New role of health professionals

http://GravidPluss.org
http://privacy.gravidpluss.org

## Using strength of human <u>and</u> electronic data processing!!!
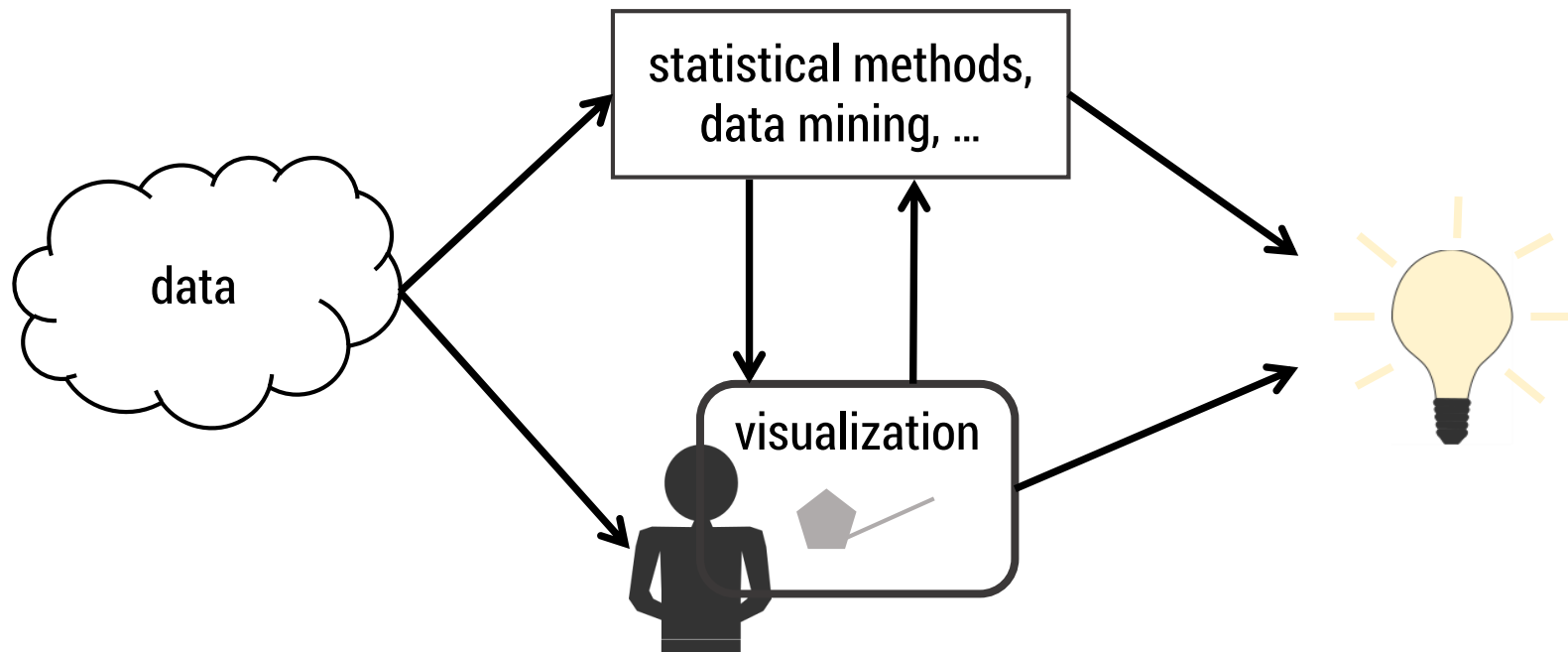
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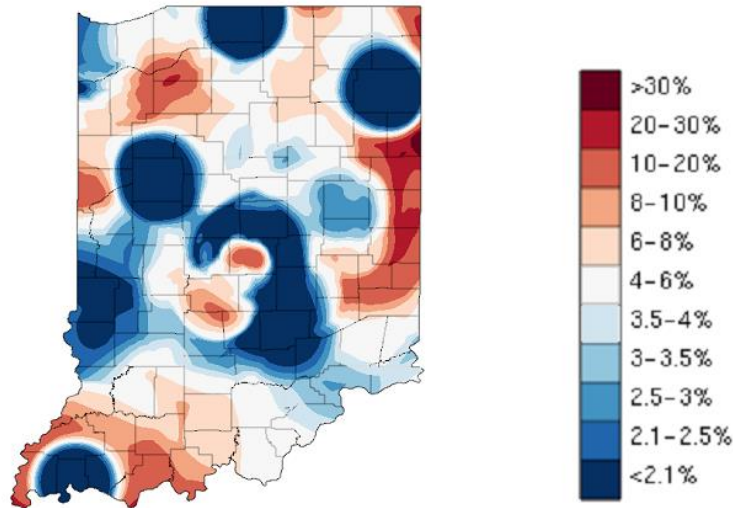
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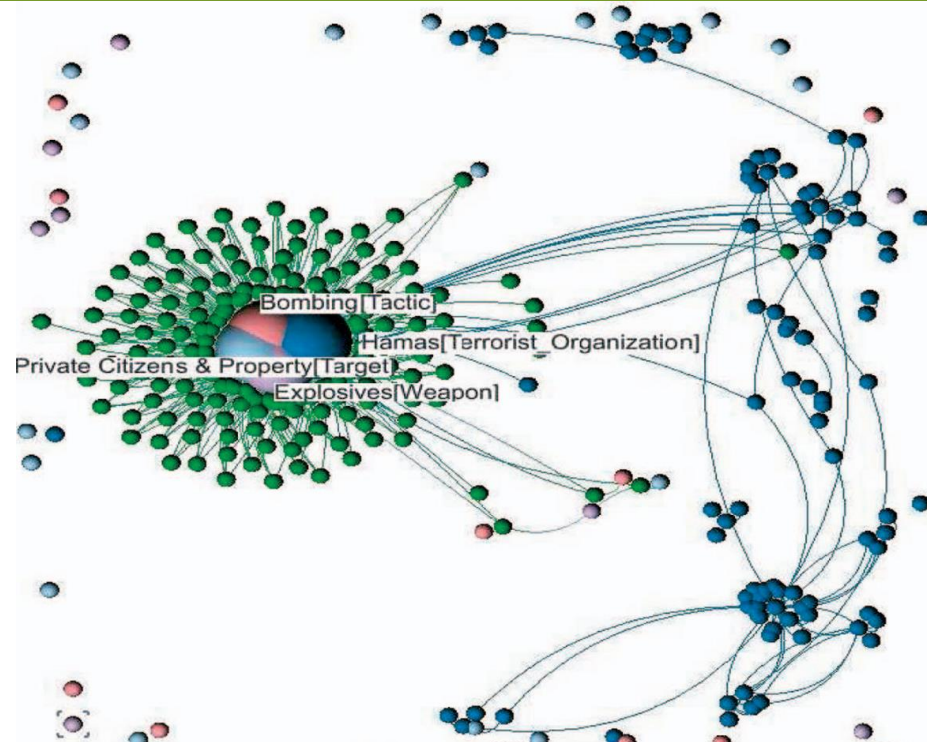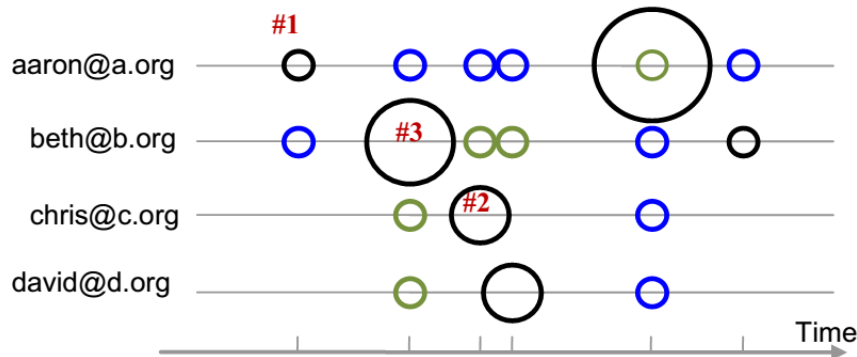
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