



sociotal

Creating a socially aware citizen-centric Internet of Things

CO-CREATION WORKSHOP EXPERIENCE

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Centar za promociju nauke



Main idea

■ Motivation

- First wave of IoT research and IoT deployments is predominantly enterprise centric
- Lack of human centric information on the IoT restraints innovation and business in this domain

■ Enable a **citizen-inclusive** and **pro-citizen** second wave of the IoT

- Encourage citizen participation in the IoT to boost (societal) innovation
- Provide direct benefits to citizens, help addressing true needs of neighbourhood, communities and society at large
- Put control into the hand of the citizen on who can access information

Approach

- Design and provide key enablers for a **reliable, secure and trusted IoT environment** by encouraging people to contribute their IoT devices and information flows
- Provide a **citizen-centric IoT approach towards creation of large-scale IoT solutions of interest to the society** in order to exploit billions of new IoT information streams
- By equipping communities with secure and trusted tools that increase user confidence in IoT environment, **enable their transition to smart neighbourhoods, communities and cities**



Enabling users – Key Features

- Intuitive

- It should be easy to use. Not too much to install, smooth learning curve, natural UI metaphors where possible

- Trustworthy

- No unwanted information leaks, enforce privacy policies, flexible about policies depending on context of use

- Assistive

- Assist in common tasks, (e.g. place an alarm if energy consumption data are suspicious)

Engaging with users

- Initial technological and socioeconomic barriers identified:
 - Lack of third party trust providers
 - Lack of oversight for SME's in technological landscape and success stories
 - Lack of rich scenarios
- Envisioned counter-measures:
 - **Co-creation workshops**
 - Stakeholders engagement

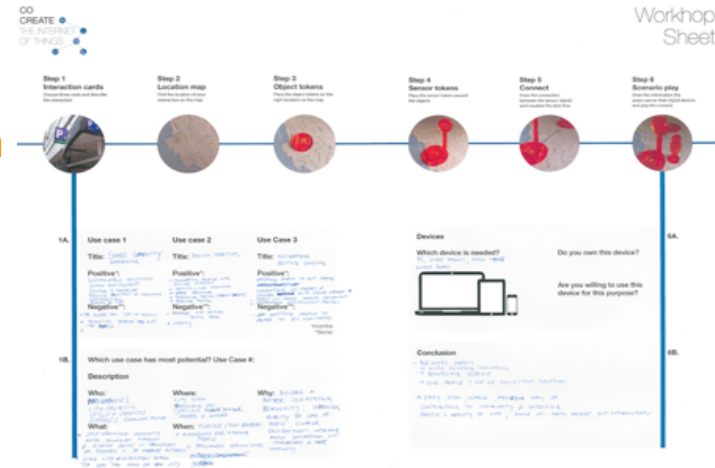
Involving end-users – Co-creation WS

- Purpose:

- Uncover end-users needs
- Identify positive and (potentially) negative reception
- Build effective device/sensors interface

- Approach

- Pick a card depicting daily-life situations
- Assess positive and negative aspects
- Introduce sensors, define their role and placement
- Design interfaces and way to interact with sensors (tablets, smartphones, PCs)



*Nathalie Stembert

Co-creation workshops: SAN and UC



Co-creation workshops: NS, DunavNet and CPN



Outcomes of Co-creation WSs:

Envisioned pilots

- Service Pilots for Novi-Sad city:
 - **Mood of the city**
 - Computation of the city's happiness index (CHI)
 - CHI Visualization using public display dashboard
 - **Elevator supervisor**
 - Automatic elevator malfunction detection
 - Data access control and notifications for multiple users (e.g. tenants, company responsible for repair, etc.)
 - History track and information about previous repairs, monitoring, etc.
- Service Pilots for Santander city
 - **Santander Citizen (Weather forecast/Sharing info)**
 - Users sharing data from their devices within a set of identified consumers (Community)
 - **Santander Dusk (Ubiquity)**
 - Discovering users/devices and set of defined data (observations)
 - **Enabling Santander (Route Calculation)**
 - Adapted routes from one point to another in the city, based on events uploaded by users
- Pilots in Taipei (new partner)
 - **Smart retail**
 - Improving user experience by sharing preferences in a privacy-preserving manner
 - Commercial District in Taiwan



Engaging with Stakeholders – Meetups



SOCIOTAL Meetups

No	Location	Date	Attendees	Topics
1	Ghent	17-01-14	45	Smart City
2	Santander	21-02-14	19	IoT in Santander
3	Novi Sad	27-02-14	50	IoT in Novi Sad
4	Ghent	13-03-14	47	Local <u>startups</u> / SME
5	Guildford	24-03-14	29	Citizen IoT focus
6	Ghent	17-04-14	14	I-Minds <u>Distr-Net</u>
7	Novi Sad	24-04-14	20	EU Smart City
8	Guildford	12-05-14	34	IoT Trends
9	Novi Sad	29-05-14	9	Danube IT Conference
10	Santander	30-05-14	25	TST /Ear-It/ <u>Fablab San</u>
11	Ghent	16-06-14	24	RFID / <u>Hackercamp</u>
12	Grenoble	23-06-14	9	Introduction Meeting
13	Guildford	15-07-14	27	Security
Total			352	

IoT Meetup Novi Sad 2015

#5	Novi Sad	09-02-15	20	IoT in Novi Sad
#6	Belgrade	10-02-15	15	IoT in Belgrade



IoT Summer School - SenZations

- The **SenZations** summer school has become an annual event on the agenda of young researcher talents across Europe and other parts of the world.
- Covering in depth a range of advanced topics from wireless sensor networks to M2M to Internet of Things and their applications with support of excellent lecturers and senior researchers from academy and industry, senZations has attracted more than 400 students during the past 8 events.
- A unique opportunity to learn first-hand from the leading European research projects about the latest developments and open challenges in an attractive area, that is expected to significantly impact our way of life and the way future business will be done in our economies.
- It combines lectures on fundamental and applied aspects of the Internet of Things with hands-on tutorials and experimentation, providing the participants with a solid understanding and experience to further advance research in this field.
- Center for the Promotion of Science is giving the supporting to SenZations Summer



THANK YOU!



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