

BeGeo 2024

LA CONNEXION A L'ETAT PUR
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The use of AI in digital participation platforms

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Outline

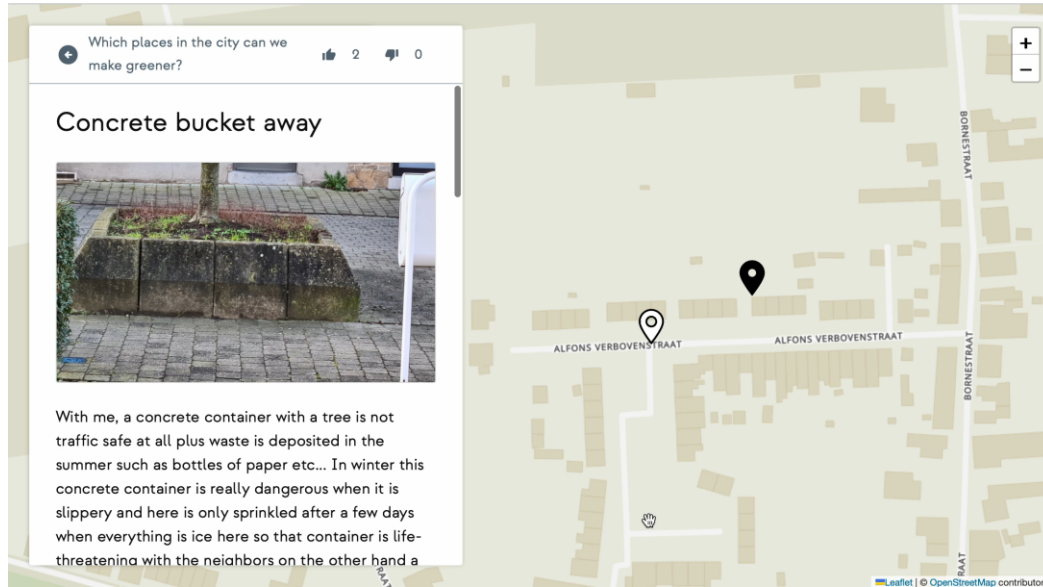
- Current challenges of Digital Participation Platforms (DPP)
- Potential use of AI in DPP
- Current use of AI in DPP
- Guidelines for the use of AI in DPP

Citizen participation

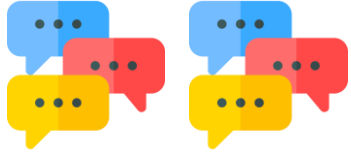
- Citizen participation's goal is to **engage citizens** in a **communication and cooperation** process with the government
- Digital participation aims at **enabling and enhancing** the public participation through the **use of technology**.



Citizen participation

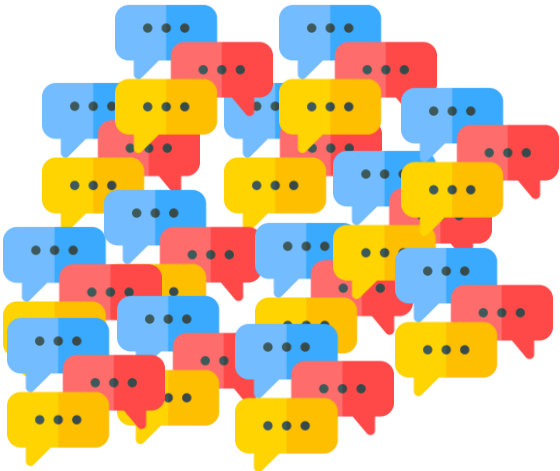


New challenges



Traditional participation

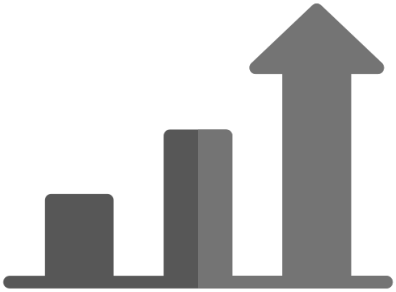
New challenges



Online participation

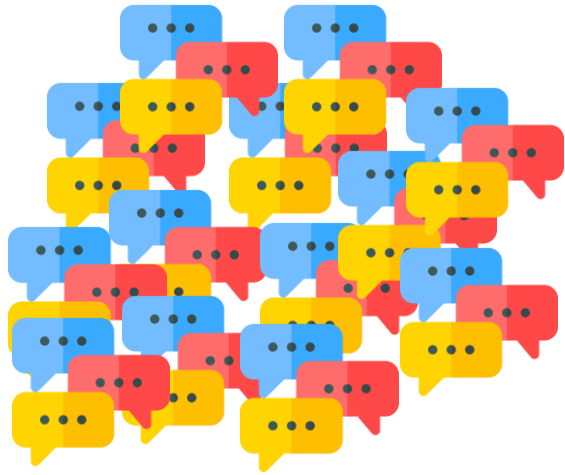


Traditional participation



Information overload

New challenges



Online participation



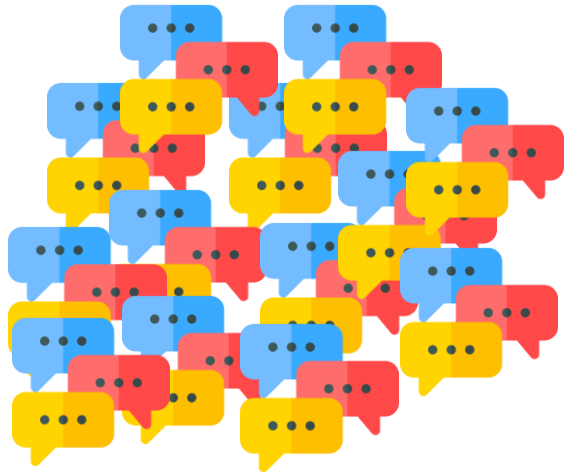
Information overload



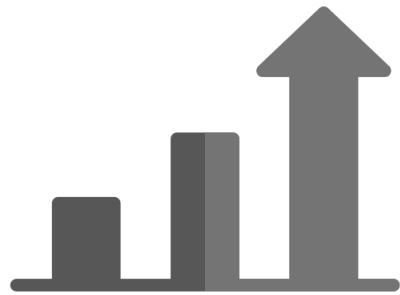
Online participation



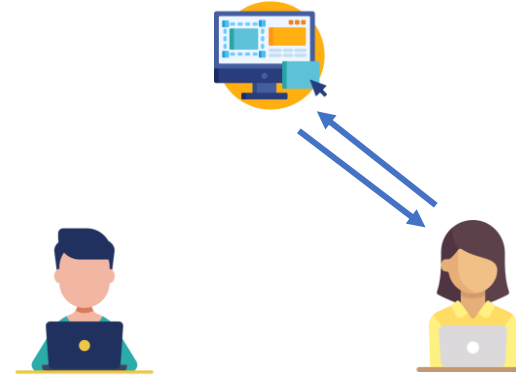
New challenges



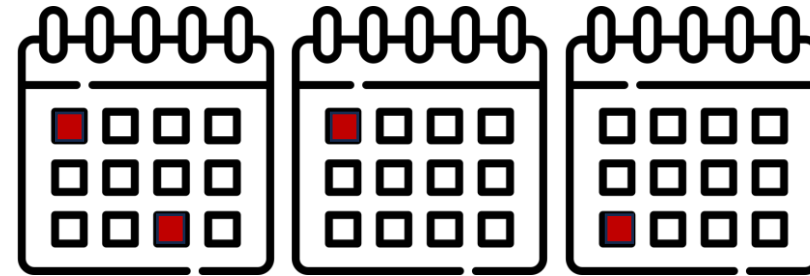
Online participation



Information overload

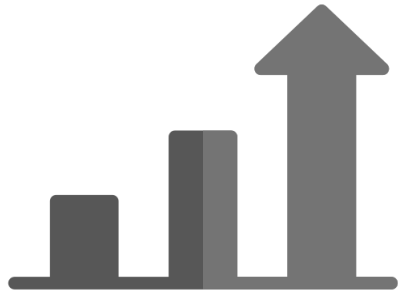


Online participation

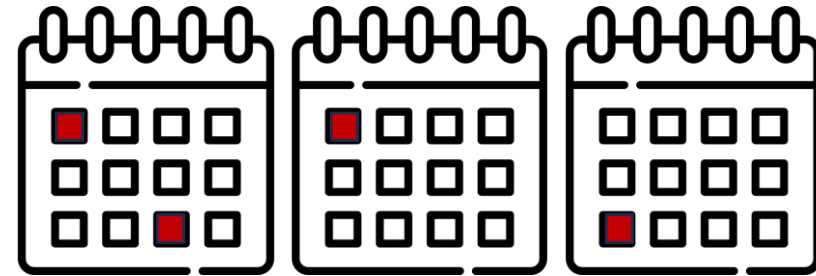


Asynchronous process

New challenges

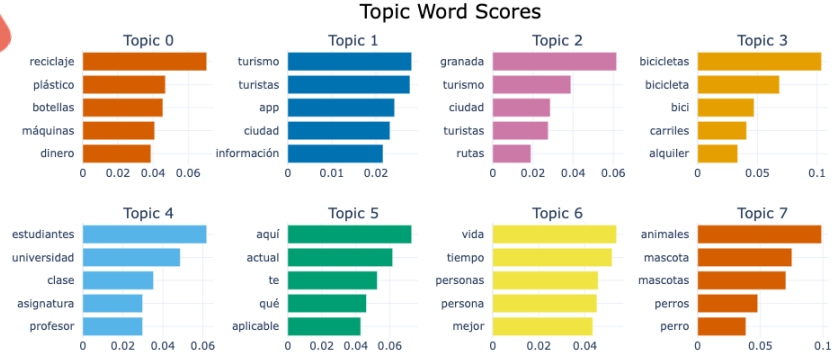
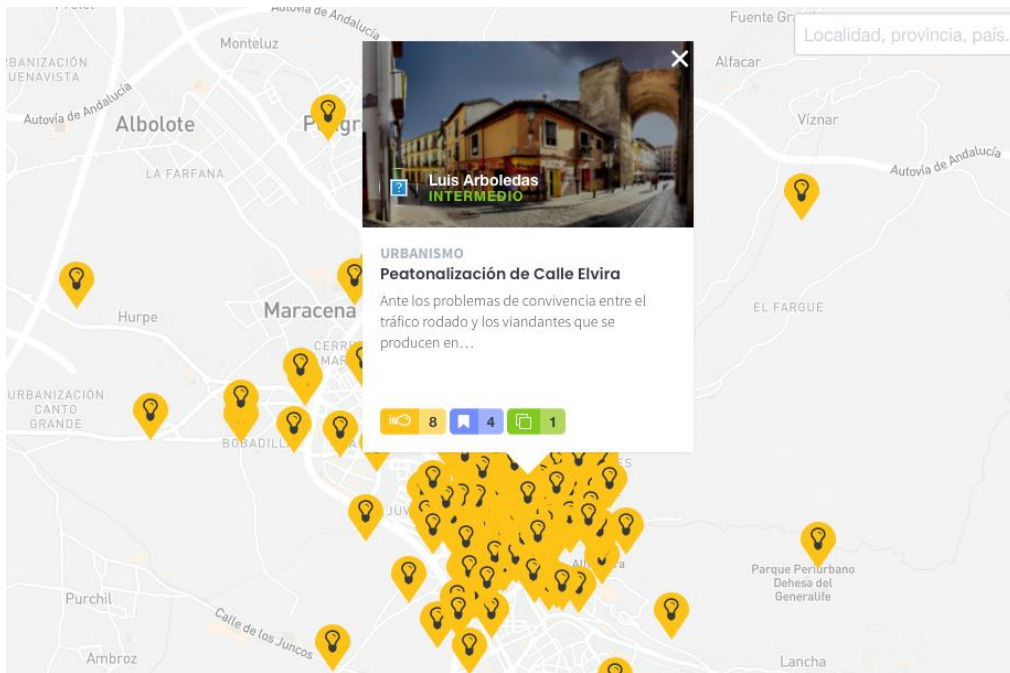


Information overload



Asynchronous process

New challenges



- “A machine that recycles plastic bottles and give money back from every bottle”
- “Installing a recycling bottles machine in the supermarket”
- “Add a machine that provides money for recycling plastic bottles and cans”
- “Interactive touchscreen map where tourists can get information about the city and plan routes based on preferences”
- “Touristic app that creates personalized routes based on the user preferences”
- “Develop a touristic app with several points of interest and routes around the city.”

Repetition of ideas: No discussion

New challenges

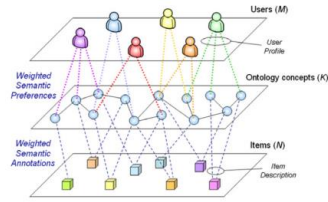
- New technologies help to **increase the participation of citizens.**
- New paradigm brings new problems in the form of the **high amount of information.**
- **Problem** for policy makers to analyze but also for people to **dialogue and exchange ideas.**



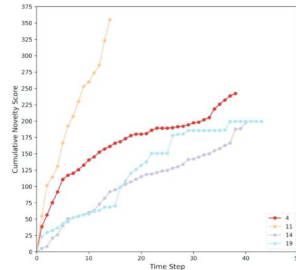
Possible solution: Use of AI techniques to process and manage information

AI in Citizen participation

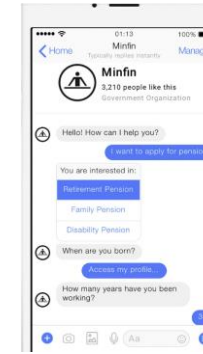
Result of the analysis	Criteria
Improvable	Public Services and Safety
Considered	Mobility and Accessibility
Considered	Living and Social network
Improvable	Education and Labor Market
Incomplete	Recreational Areas and Green Spaces
Improvable	Economy and Innovations



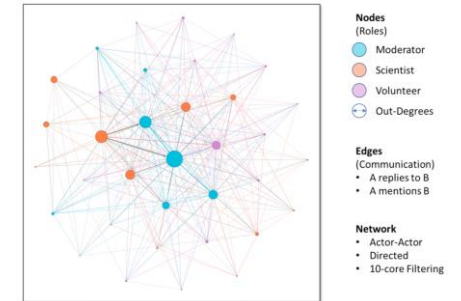
Recommender systems



Automated feedback

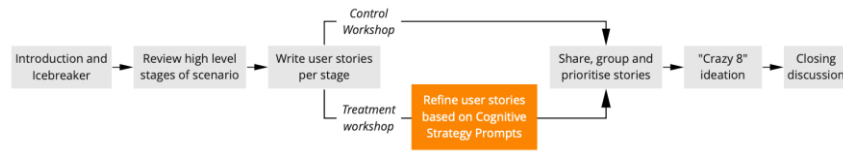


Chatbots

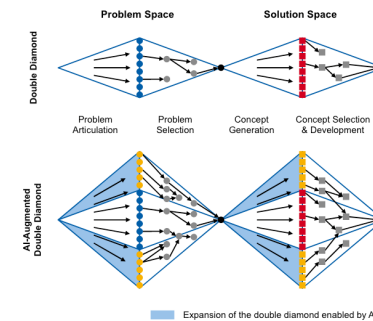


Network analysis

NLP techniques



AI cognitive strategy prompts

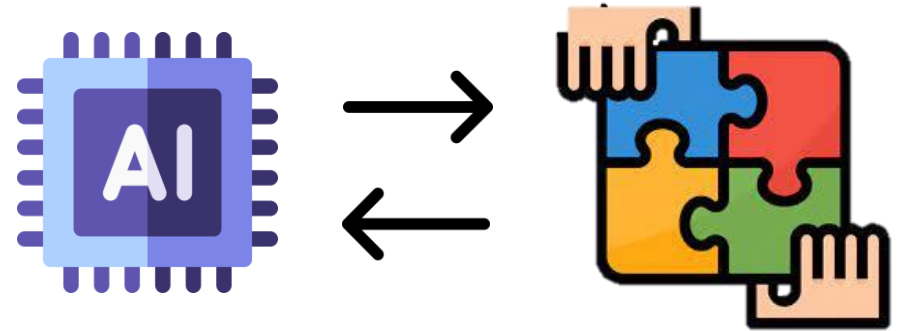


Generative AI

Understand the potential role of AI in digital participation platforms

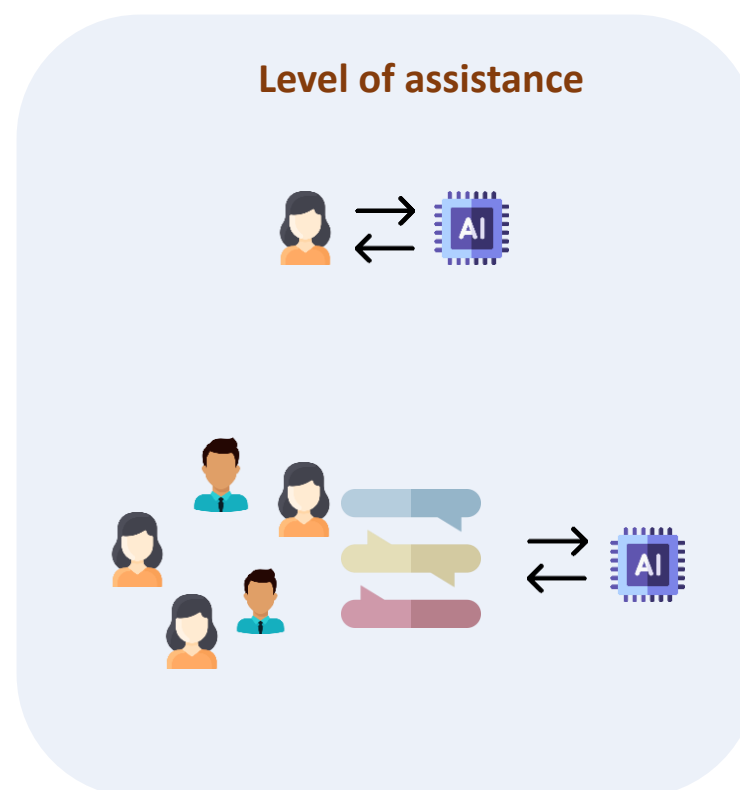
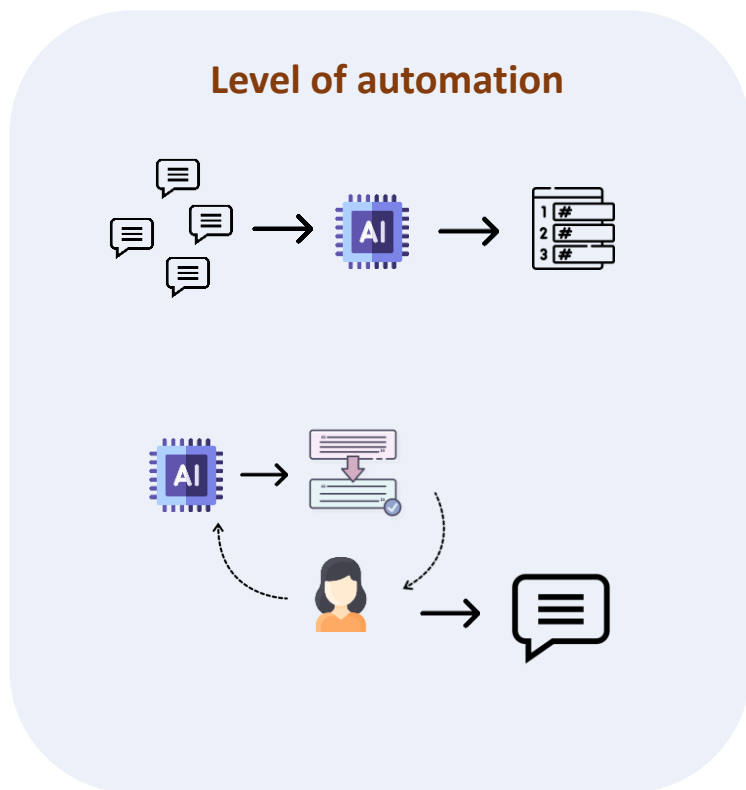
AI in Citizen participation

- AI can take **different roles** and affect **different parts** of the participation process.
- AI can enhance some aspects of the process. **Results** can be **positive or negative** at the social level.
- Need to **characterize and analyze** the different solutions and approaches related to co-creation.

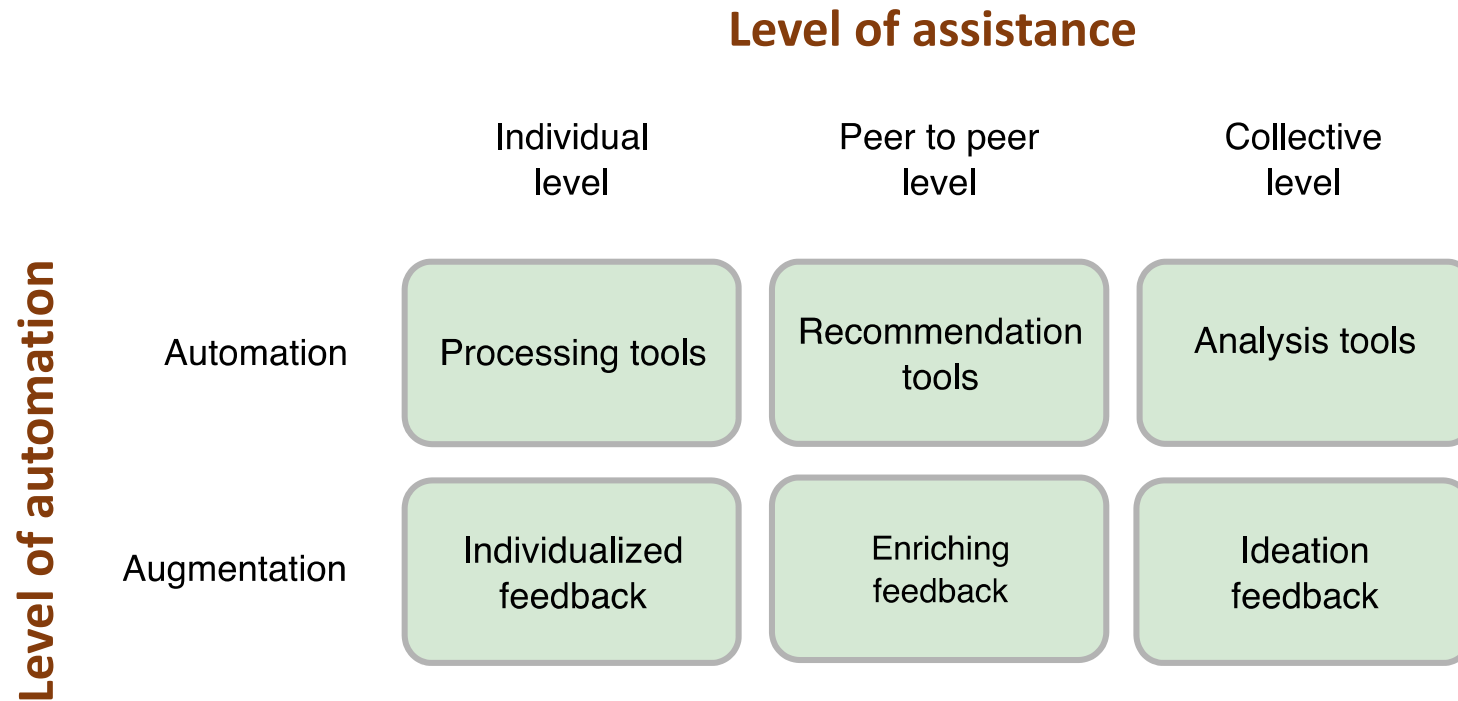


Classification of AI solutions (existing and potential)

AI in Citizen participation



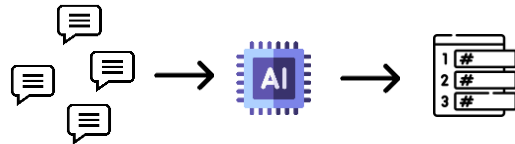
AI in Citizen participation



What is it?

AI in Citizen participation

Processing tools



Result of the analysis	Criteria
Improvable	Public Services and Safety
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Level of assistance

Individual level

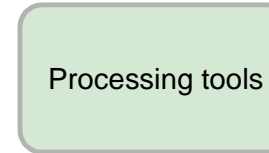
Peer to peer level

Collective level

Level of automation

Automation

Augmentation

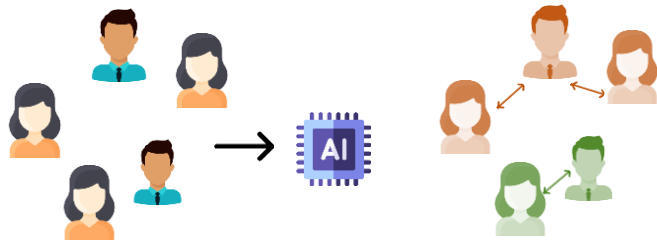
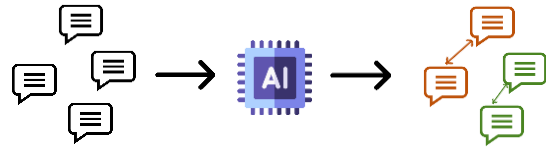


Processing information that facilitates the **individual tasks** of the participants during the ideation process

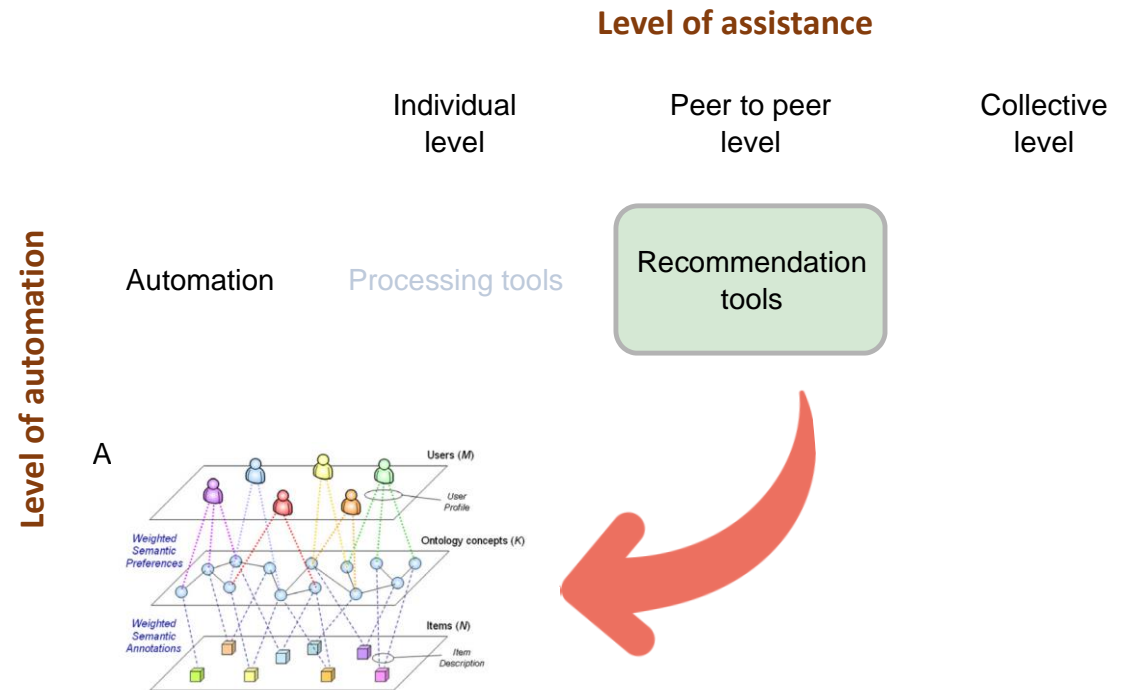
Example implementation: Summarize a selected proposal (Automatic labelling)

AI in Citizen participation

Recommendation tools



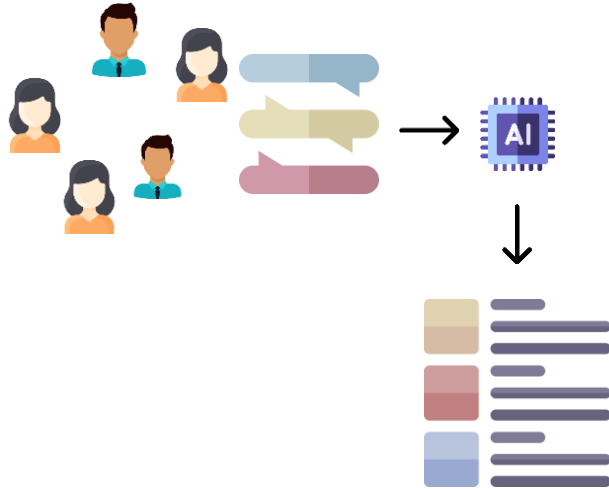
Generating **potential links** in terms of proposals or users



Example implementation: Find similar proposals/ similar users (Recommenders)

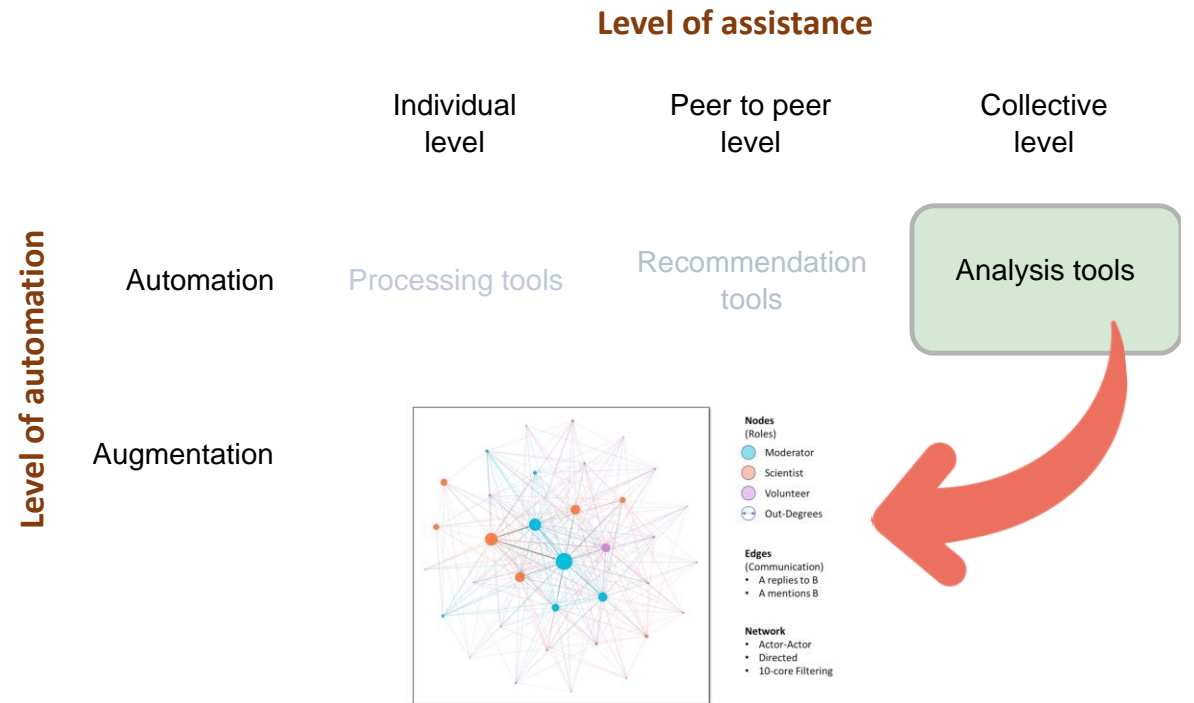
AI in Citizen participation

Analysis tools



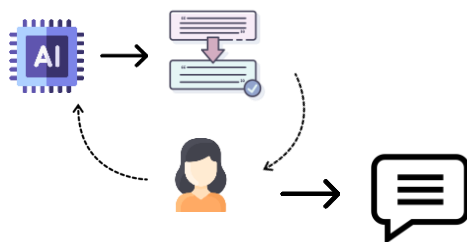
Generating indicators **related to the global outcome** of the ideation process

Example implementation: Identify topics and key contributors (Ideation statistics)

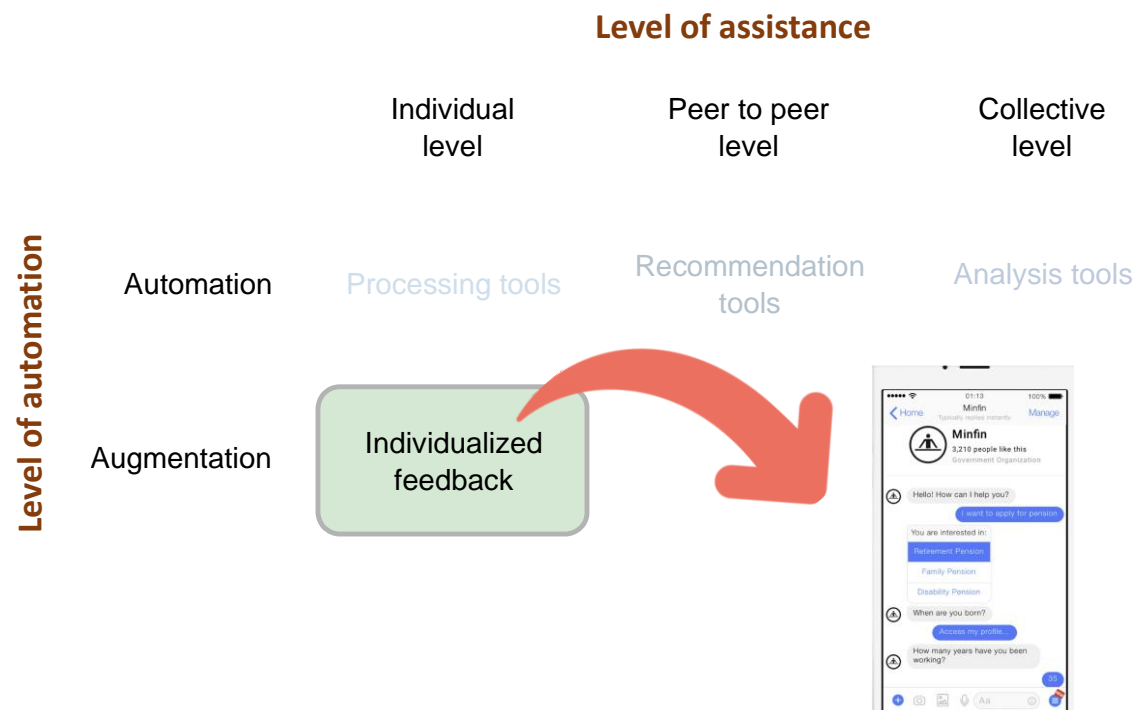


AI in Citizen participation

Individualized feedback



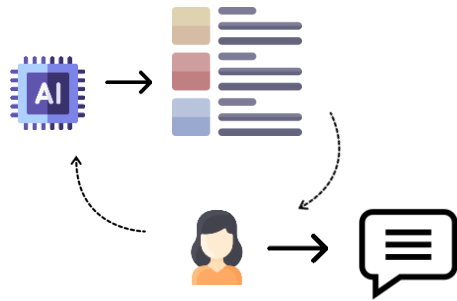
AI interaction to improve the **performance, motivation or knowledge** of individuals



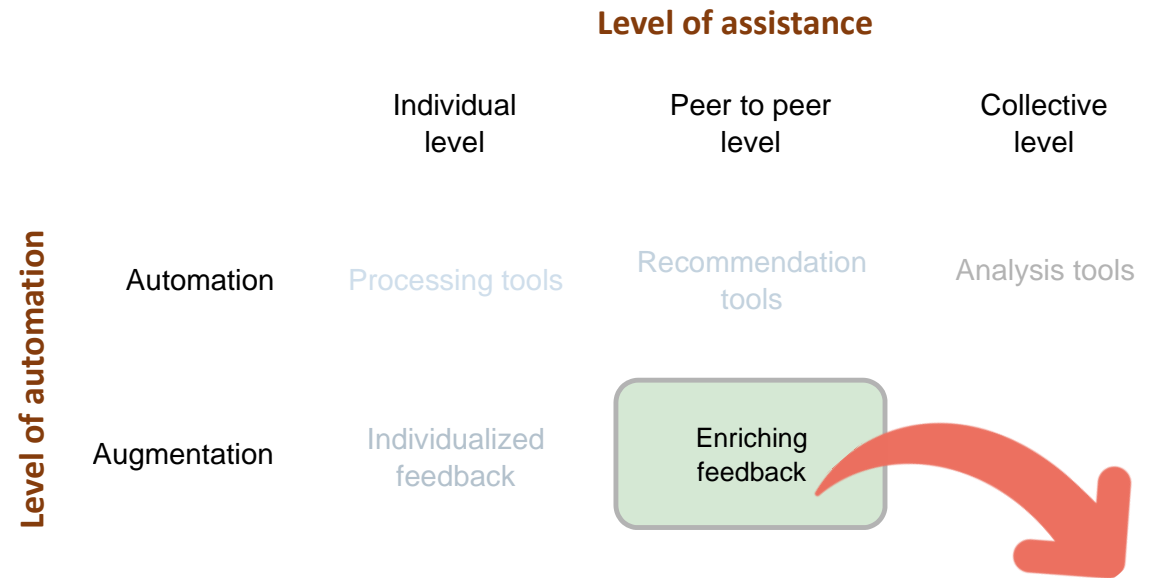
Example implementation: Feedback on the suitability of a submitted idea (Chatbot or feedback pop-up)

AI in Citizen participation

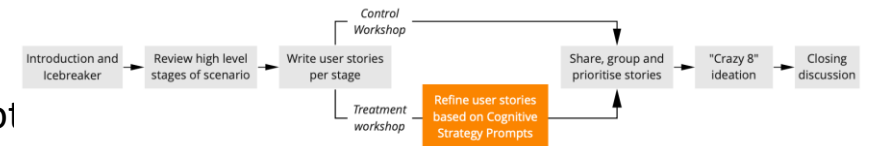
Enriching feedback



AI interaction to **trigger knowledge relations** and enrich the individual and collective inputs

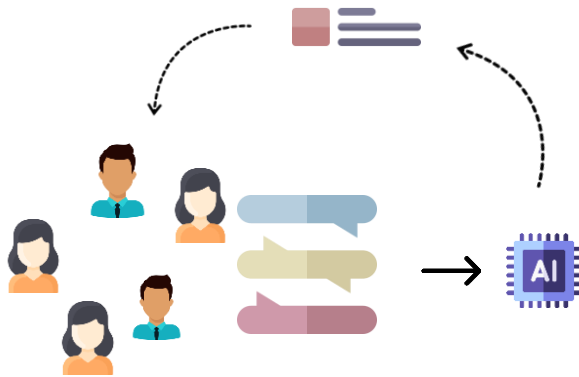


Example implementation: Provide relations with of (Suggestions or information snippets)



AI in Citizen participation

Ideation feedback



AI interaction based on processed **collective data** to optimize the overall ideation process

Example implementation: Feedback to develop r
unexplored areas (Adaptative front end)

Level of automation

Level of assistance

Individual level

Peer to peer level

Collective level

Automation

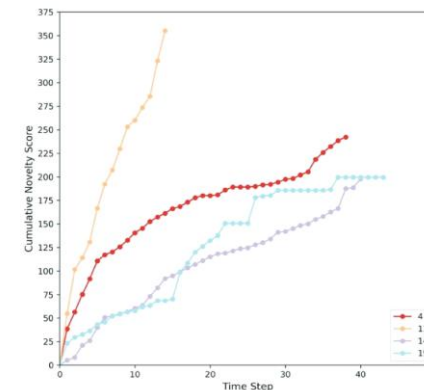
Processing tools

Recommendation tools

Analysis tools

Augmentation

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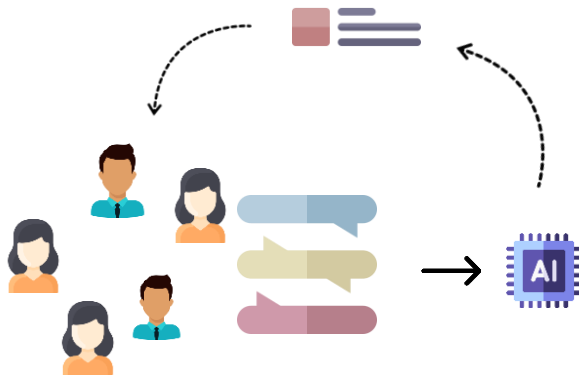
Collective feedback



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AI in Citizen participation

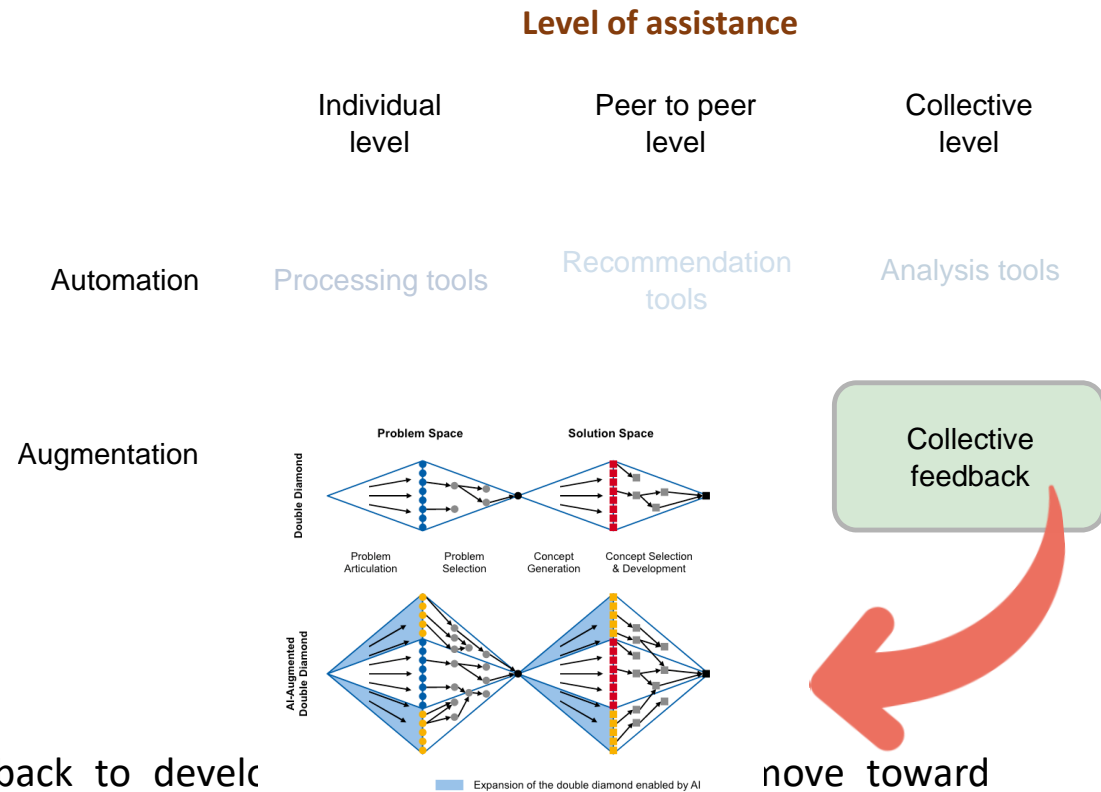
Ideation feedback



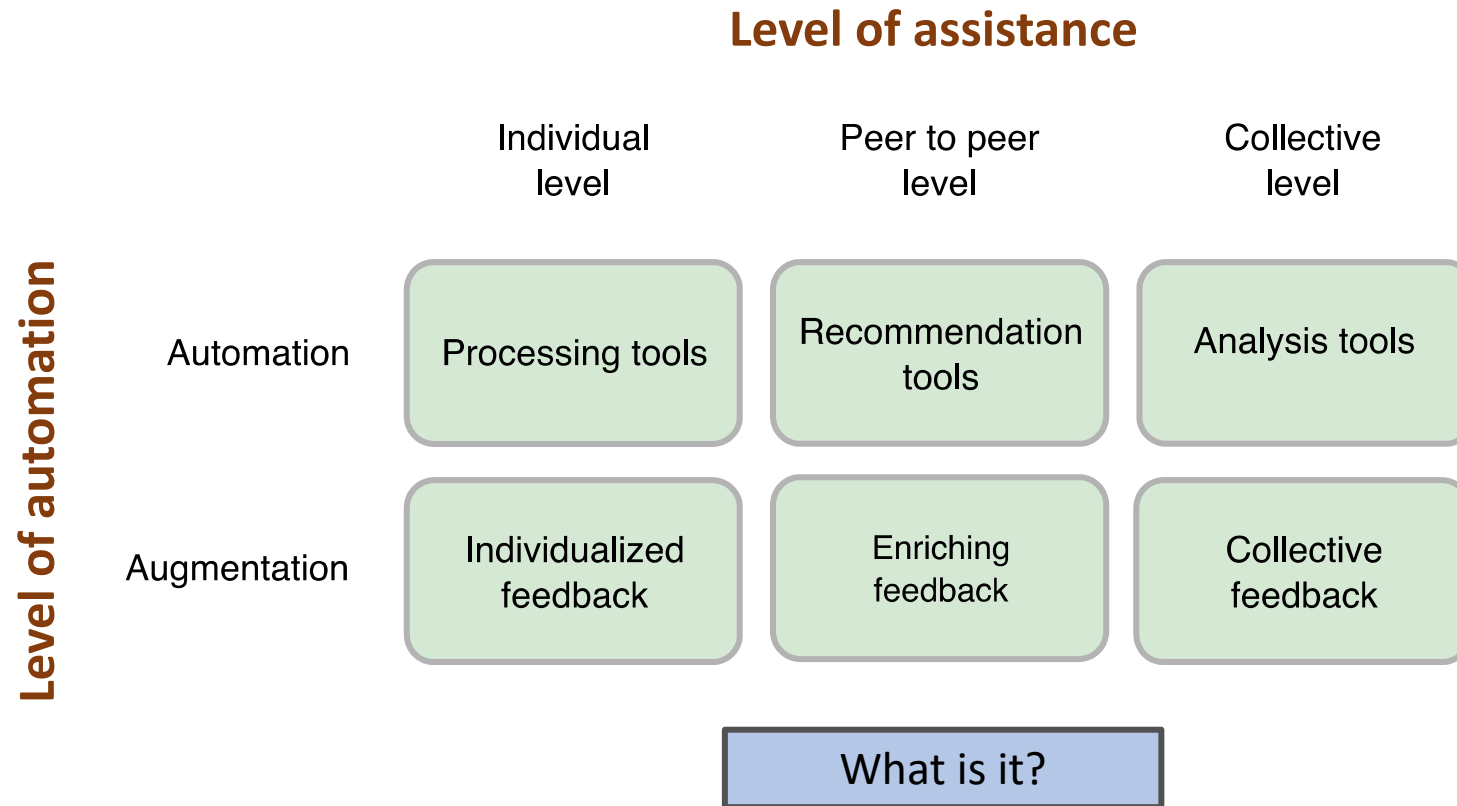
AI interaction based on processed **collective data** to optimize the overall ideation process

Example implementation: Feedback to develop unexplored areas (Adaptative front end)

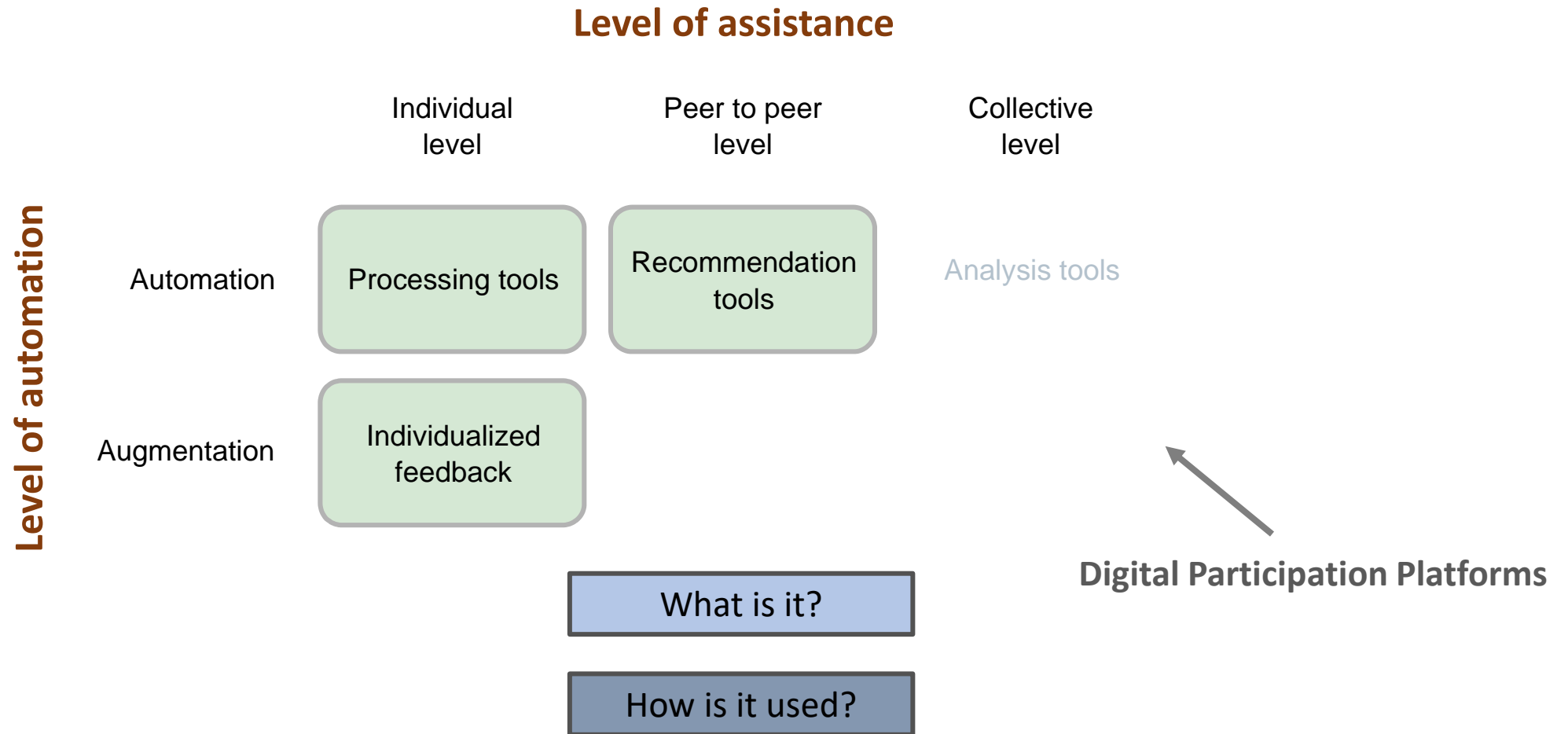
Level of automation



AI in Citizen participation



AI in Citizen participation

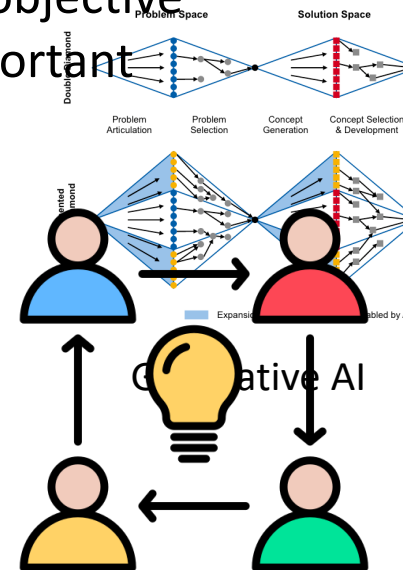
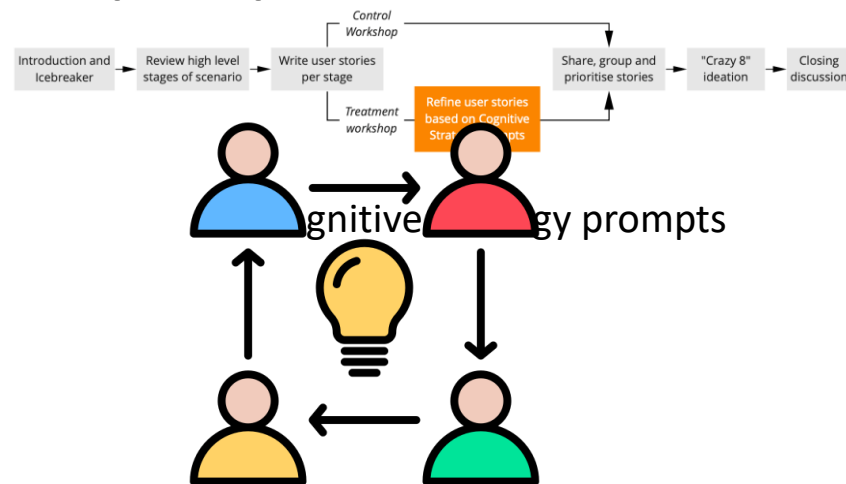


AI in Citizen participation

Differences with other fields

Similar platforms for **open innovation and creativity** experiment with more advanced uses of AI

- **Innovation/creativity:** Outcome of the process is the main objective
- **Citizen participation:** The outcome and the process are important

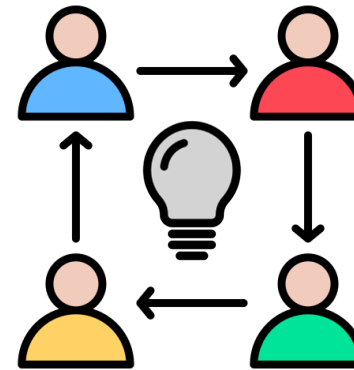
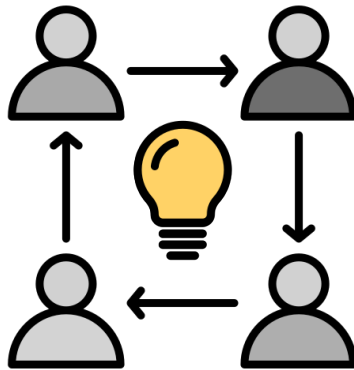


AI in Citizen participation

Differences with other fields

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AI in Citizen participation

How should it be used?

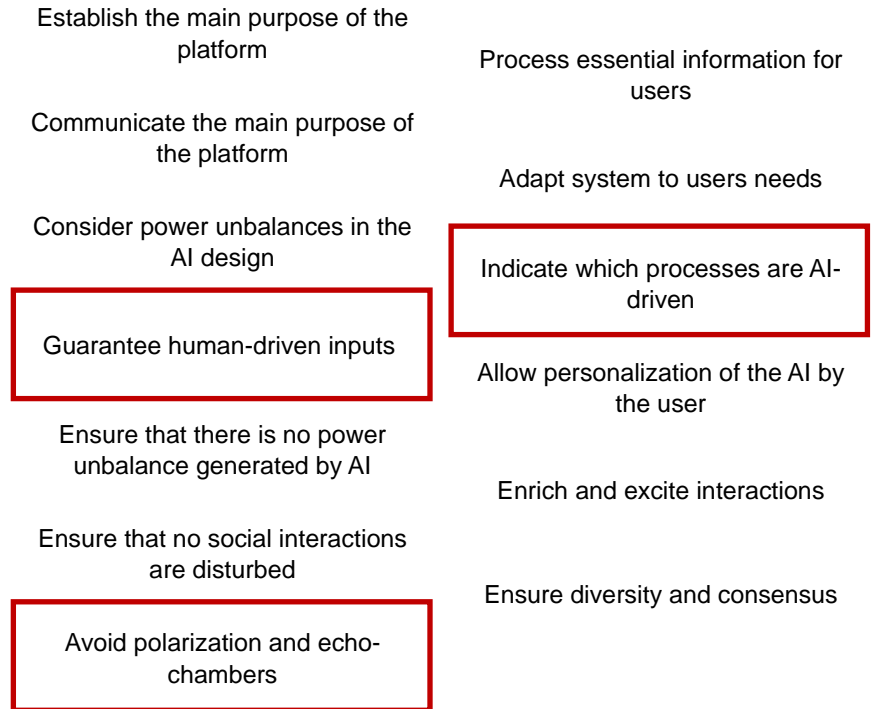
Design principles

Holistic socio-technical approach:

- Consider the impact of AI in the functioning of the platform
- Exploit the potential of AI to empower citizens
- Evaluate the interaction AI-AI or AI-citizen

AI in Citizen participation

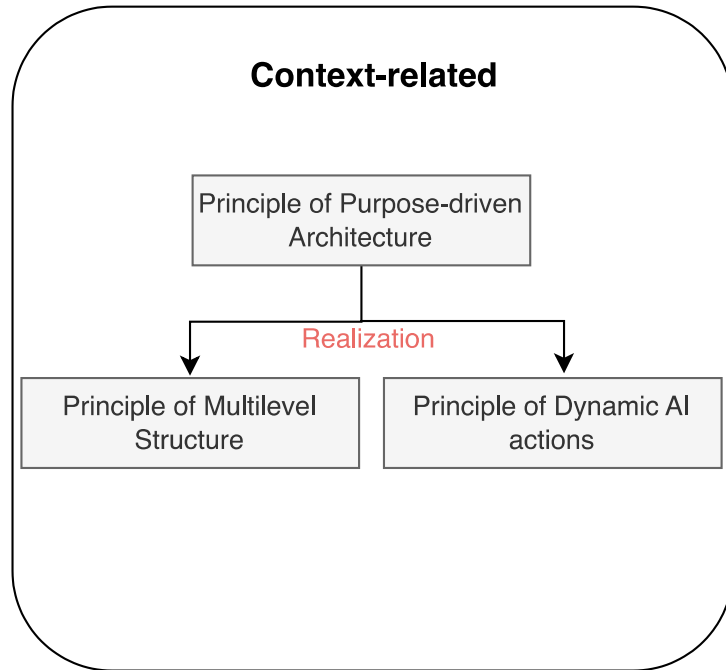
Requirements



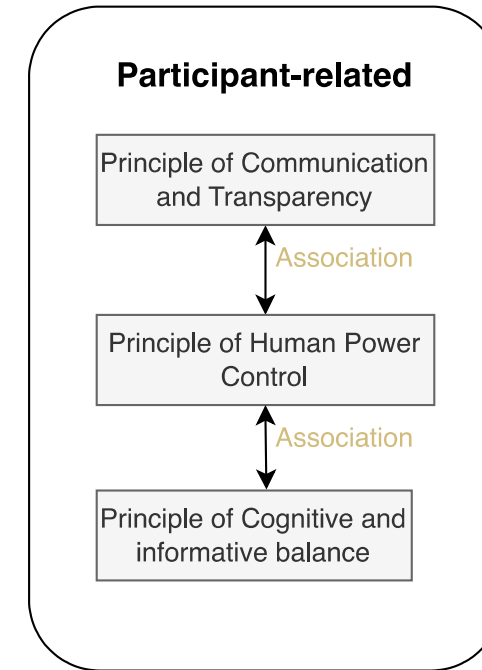
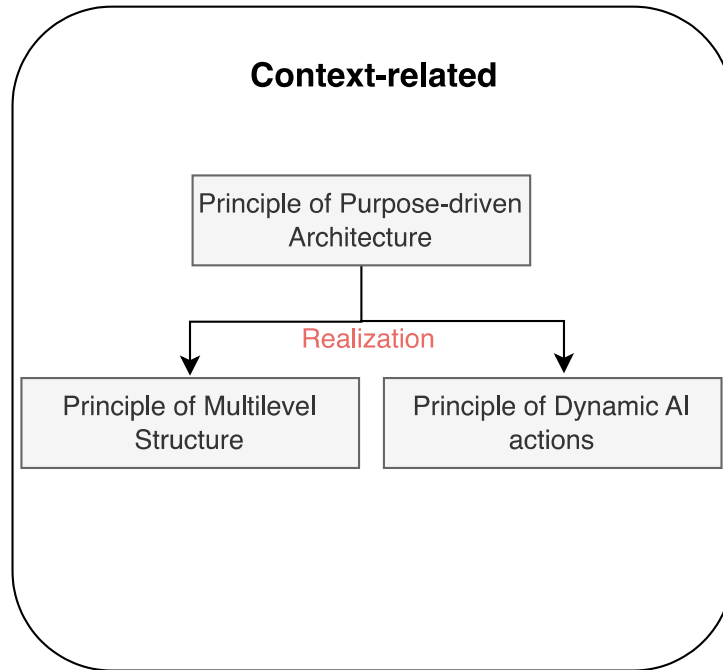
Design principles

- Principles of purpose-driven architecture
- Principle of Communication and transparency
- Principle of structured levels
- Principle of Collective monitoring
- Principle of dynamic AI resource allocation
- Principle of human power control
- Principle of cognitive and informative balance

AI in Citizen participation



AI in Citizen participation



Future work

- Design principles of *implementation*
- Research on the interaction and effect of these systems
- Develop features and artifacts based on these principles

AI in Citizen participation

Main takeaways

- AI has great potential in the field of citizen participation
- Not easy: Need to understand the impacts of these technologies
- Need for guidelines for the use AI in this context

THANK YOU