# Inclusive narratives: Designing with and for all through AI and co-creation

## NEM SUMMIT 2025

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CERTH
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Information Technologies Institute

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# Why inclusive narratives matter in XR media?

- **Expanding XR world → risk of digital exclusion**
- **Representation = power**
- **Inclusion must start at design time, not after deployment**


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Gaggi, O. (2022, June). A study on accessibility of google reCAPTCHA systems. In *Proceedings of the 2022 Workshop on Open Challenges in Online Social Networks* (pp. 25-30).

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Kosti, M. V., Diplaris, S., Georgakopoulou, N., Runnel, P., Marini, C., Rovatsos, N., ... & Kompatsiaris, I. (2025). i-Game: Redefining Cultural Heritage Through Inclusive Game Design and Advanced Technologies. *Electronics*, *14*(6), 1141.



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**Project Coordinator:** CERTH-ITI

**Website:** https://igameproject.eu/

**Duration:** 01/02/2024 – 31/01/2027

**Type of Action:** HORIZON RIA

**Project Coordinator:** CATALINK

**Website:** https://alfie-project.eu/

**Duration:** 01/10/2024 – 31/09/2027

**Type of Action:** HORIZON RIA

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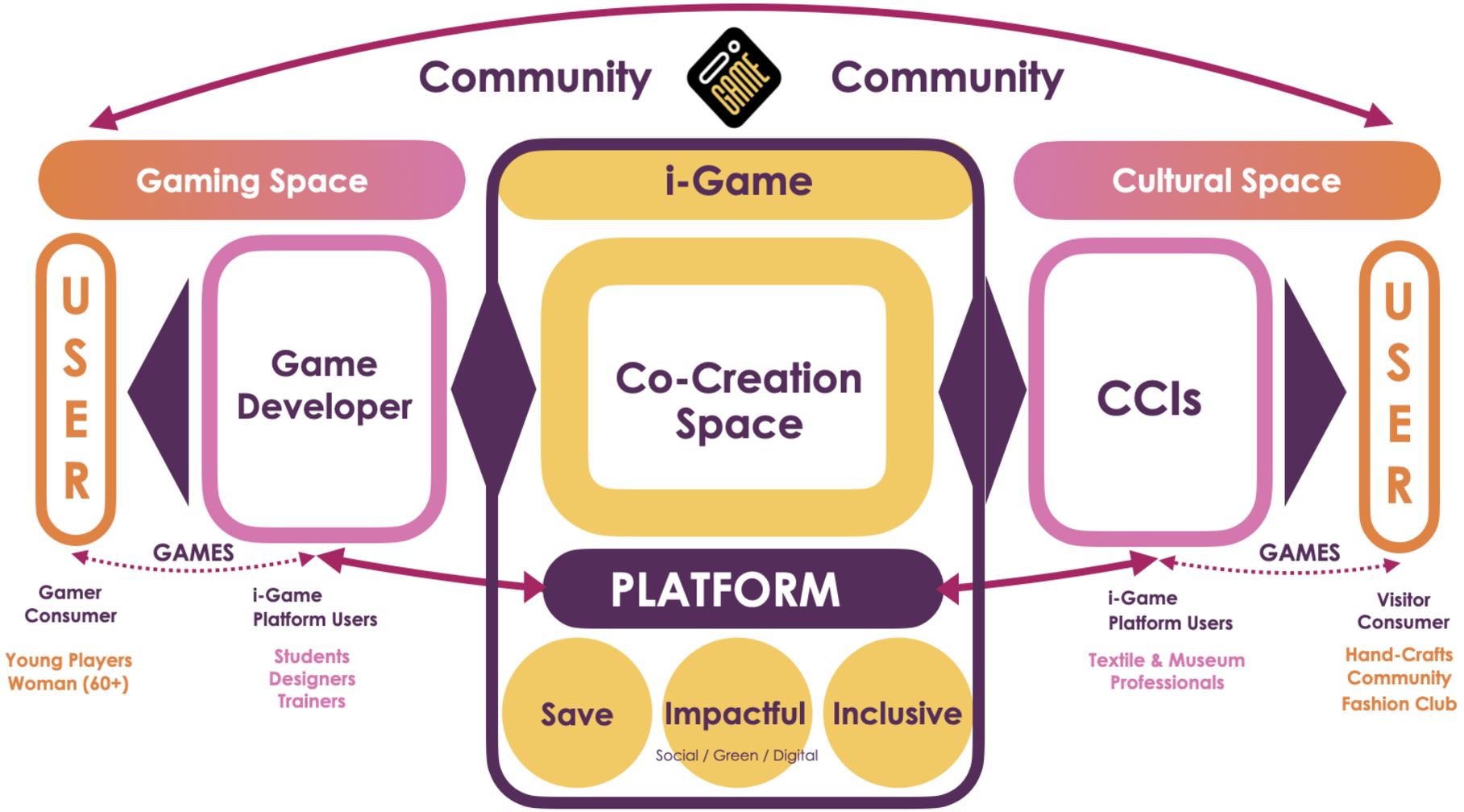
# GAMING 4 CULTURE & SOCIETY

## i-Game: Inclusive Co-Creation in Cultural Heritage Serious Games

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# Understanding the i-Game Community

*Insights from 158 participants across 4 stakeholder groups*

- **TG1 – Museums & Cultural Heritage professionals** → contextual expertise, narrative authenticity
- **TG3 – Textile & Fashion industry professionals** → creative industries perspective, craft & design heritage
- **TG6 – Game co-creators** → players, educators, and communities engaged in participatory design
- **TG7 – Game industry professionals** → technical & production know-how
- **Inclusion criteria:** gender, age, skills, capabilities, language preferences

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# Co-Creation platform, four phases, the tetrad

Co-Creation

Community My Projects

Makrina Viola Kosti Thread Starter

## Welcome to the iGame co-creation platform

An inclusive open-source game development platform that facilitates participation, enriches the community with diverse ideas and backgrounds, fosters new alliances, and brings new opportunities to light.

Go to projects → Discover Community → Complete your profile

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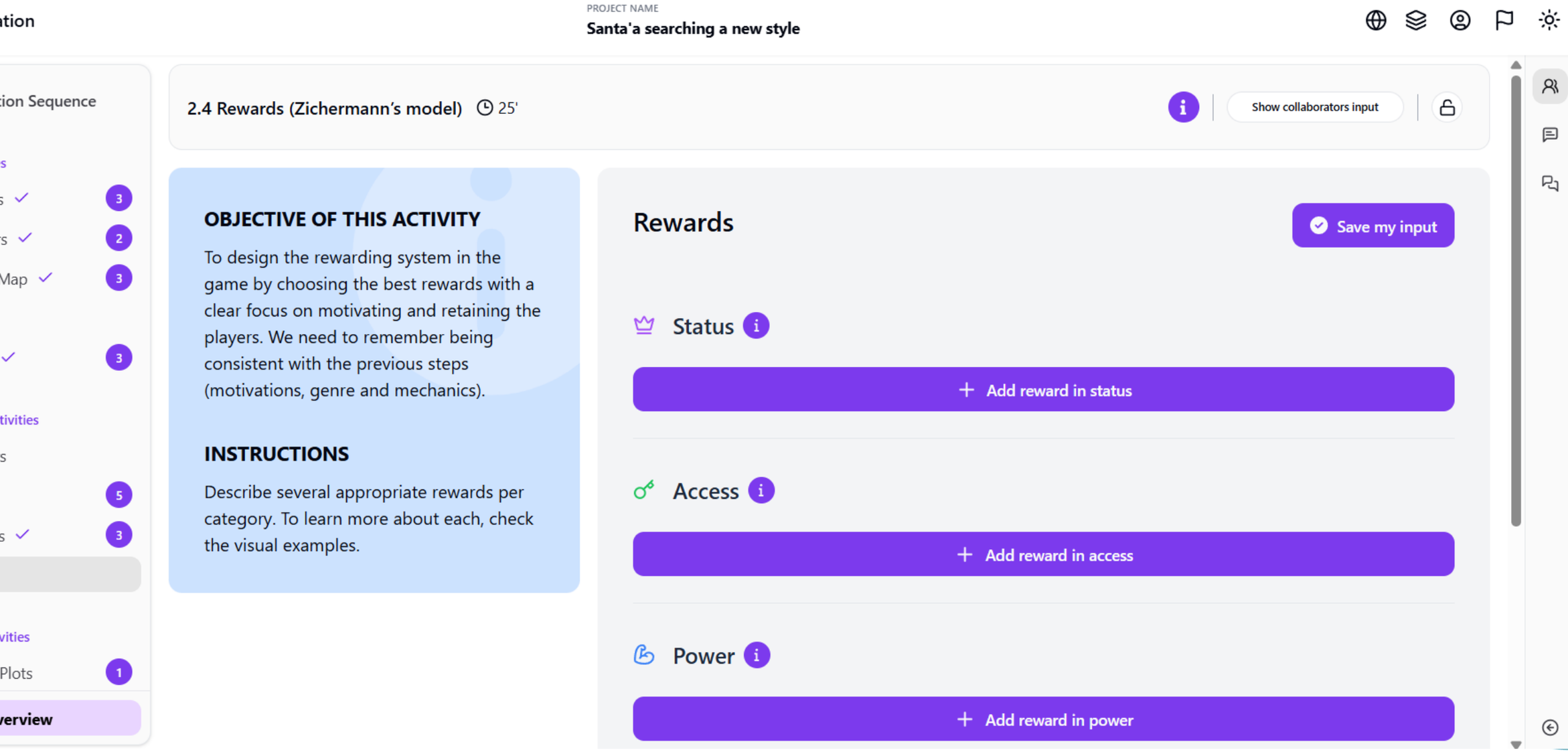


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Co-Creation

PROJECT NAME
Santa'a searching a new style

Co-Creation Sequence

2.1 Motivators
2.2 Genre ✓ 5
2.3 Mechanics ✓ 3
2.4 Rewards

Storytelling activities

3.1 Universal Plots 1
3.2 Tone
3.3 Story ✓ 1
3.4 Characters
3.5 Elements

Aesthetics activities

4.1 Game Visual Style
4.2 Art

Project overview

4.1 Game Visual Style 25'

Show collaborators input

## INSTRUCTIONS

If you want to **personalise** your own style select the **"Multimedia"** style.

To learn more about each style and see visual examples, click on its information button.

**Characters, Environments, and Items**

Click on the desired type of Game Visual Style that includes characters, environments, and items. **Select only one**.

**Typography and Menus**

Click on the desired type of Game Visual Style for the Typography and Menus. **Select only one.**

**Maps**

Click on the desired type of Game Visual

## Game Visual Style

Save my input

### Characters, Environments and Items

Retro style

Cartoon style

Minimalistic style

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# Understanding the i-Game Community

*Embedding Explainable AI and Accessibility in Game Design*

- **Four-phase co-creation cycle:** Kick-Off → Game Design → Storytelling → Aesthetics
- **AI modules support each phase:** content generation, adaptive storytelling, accessibility checks
- **Explainable AI (XAI):** SHAP & LIME methods make AI suggestions transparent to users (WP4)
- **Accessibility compliance:** platform designed under **WCAG 2.2 Level AA** and EU Accessibility Act guidelines
- **Multimodal interaction:** voice, text, image inputs enable participation for users with different abilities and languages
- **Pilot testing:** Estonia • Italy • Greece

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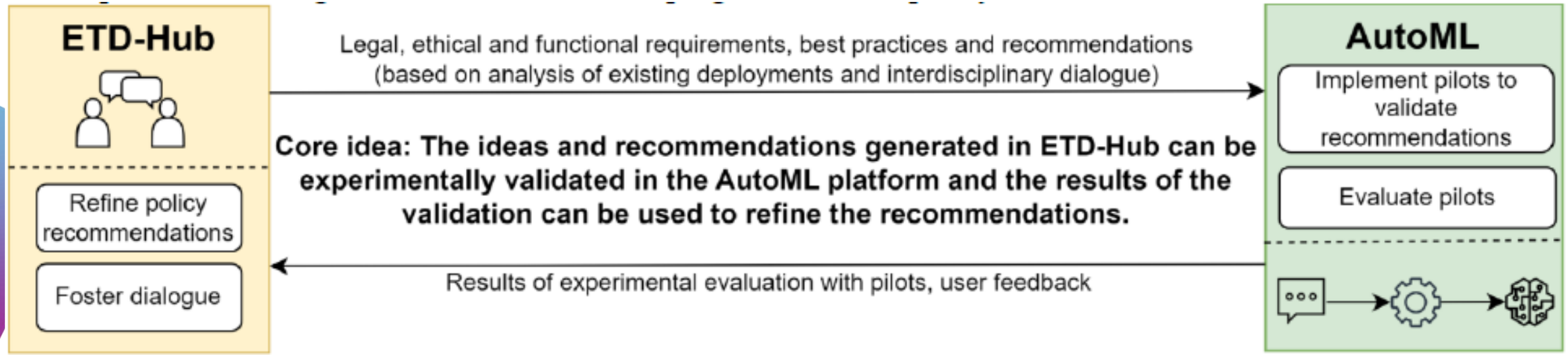
# ALFIE: Inclusion in AI itself

*Embedding Explainable AI and Accessibility in Game Design*

- **EthiTech Dialogue Hub (ETD-Hub) ↔ AutoML Platform**
- **Stakeholders → citizens, policymakers, AI experts**
- **Bi-directional loop Policy ⇄ Technology**

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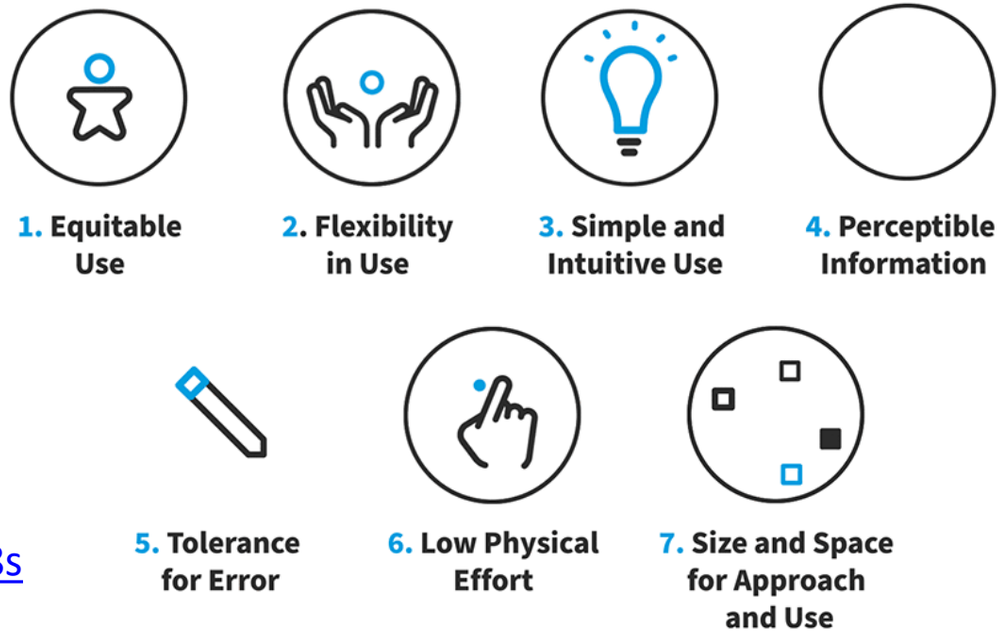
https://www.youtube.com/watch?v=3ZCz_6JNf9g&t=58s
ALFIE will bring together professionals,

# ALFIE: Inclusion in AI itself

*Designing Bias-Free, Human-Centred AI*

- **User-Centred Design + Universal Design (ISO 9241-210)**
- **Inclusive requirements elicitation (“ALFIE postcards”)**
- **Co-design workshops → trust, acceptance, feedback**




https://www.youtube.com/watch?v=3ZCz_6JNf9g&t=58s

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# From Inclusion in Stories → Inclusion in Code

- **i-Game = inclusive story co-creationALFIE = inclusive algorithm co-creation**
- **Shared values → Transparency • Accessibility • Empowerment**

**Across both projects, the principle stays the same: participation and transparency.**

- **In i-Game we empower people to co author stories**
- **In ALFIE we empower them to co author the logic that shapes those stories.**

**Inclusion, in this sense, becomes systemic as it moves from narrative content to the very architecture of the tools.**

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# Thank You

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