Usability Still Matters

Towards Human-Centred Conversational AI Tools

Charalampos Kyfonidis | Synapsi – Human-Centred Design Solutions | Thessaloniki, Greece | kyfonidis@synapsi.gr

Speaking our language does not automatically make an AI tool usable.

JackDaw is an AI tool that combines LLM-based conversation and geospatial data. Its purpose is to give spatially contextualise answers, based on EU geospatial data. JackDaw was developed through the PoliRuralPlus Horizon Europe project, Through the AURA open-call project, our team introduced usability evaluation into a development process that lacked embedded human-centred design and recurring user evaluation.

81 PARTICIPANTS / 3 PHASES:

9 **Usability testing + SUS**
Think-aloud tasks + SUS

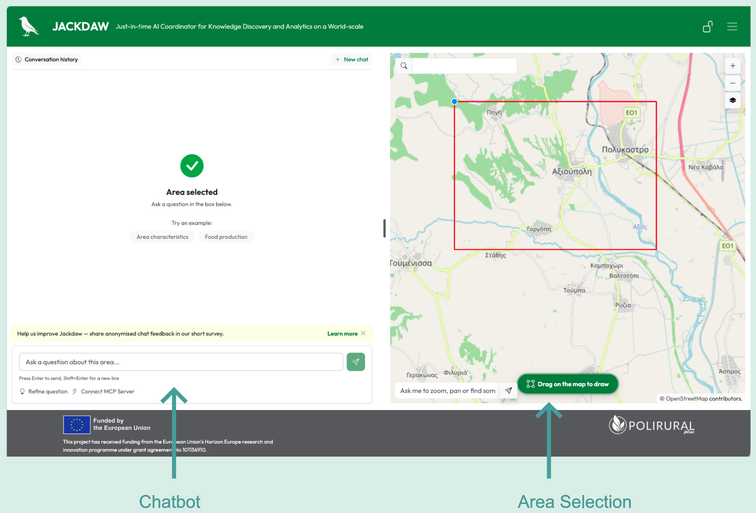
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3 **Stakeholder workshops, total 12 participants**
Co-discovery + TAM2

→

60 **Community-wide usability testing**
Observed tasks + TAM2

JACKDAW'S INTERFACE



JackDaw, 23 September 2026. Interface illustration after changes

EVALUATION FINDINGS — PHASE 1

9/9 Phase 1 participants struggled to discover the area-selection control.

6/9 Confused zooming with area selection.

58.9 Mean SUS / 100 (Phase 1, n = 9).

AFTER INTERFACE CHANGES — MID PHASE 3

212 s → 168 s Mean time to select an area

1.70 → 2.06 Mean task-completion score (0–3)

0: Not completed
1: Partially completed
2: Completed with difficulty
3: Completed independently

Answer accuracy remained almost flat (1.59 → 1.58).
Researchers rated accuracy through apparent factual errors:
0: clear error; 1: uncertain inconsistency; 2: no obvious error.

Sharing early findings during an unplanned consortium presentation prompted developers to start interface changes.

HCI KNOWLEDGE MEETS PRACTICE

NATURAL LANGUAGE ALONE IS NOT ENOUGH [1]

Human brain is tuned to enhance understanding through visual cues. A chatbot needs a GUI to empower the user's perception and interaction.

The graphical interface was JackDaw's main selling point, intended to contextualise user queries and frame them in a selected area on the map.

USABILITY PROBLEMS CAN DRIVE USERS AWAY [2]

As with all user interfaces, users abandon chatbots when interaction breaks down. Repeated attempts without progress can turn frustration into disengagement.

In JackDaw, the main burden of selecting the area was a determinant factor for the plethora of our users who stated that they want to stop using the tool.

AI IS NO EXCEPTION TO HUMAN-CENTRED DESIGN [3]

Human-centred design involves users throughout development and uses evaluation to refine designs iteratively. AI tools need the same commitment.

Sharing early usability findings, in our case, prompted interface changes that improved task performance, highlighting the importance of user evaluation as an integral part of the development.

CONCLUSION ⟶ MAKE USER EVALUATION AN INTEGRAL PART OF DEVELOPMENT

Human-centred AI requires iterative design with repeated user evaluations.

A conversational interface still depends on discoverable controls, clear feedback and understandable cues. Evaluation must iteratively shape design decisions throughout an AI tool's development.

OUR PROPOSITION

1 **DISCOVER EARLY – CHANGE EARLY**
Find usability problems early, when changes are easier and less costly.

2 **BASE DESIGN DECISIONS ON EVIDENCE**
Use testing to gather evidence and make informed decisions.

3 **PLAN FOR REPEATED EVALUATION**
Plan for small usability studies (3 – 5 users) throughout development.

[1] Xiao Ma, Swaroop Mishra, Ariel Liu, Sophie Ying Su, Jilin Chen, Chinmay Kulkarni, Heng-Tze Cheng, Quoc Le, and Ed Chi. 2024. Beyond ChatBots: ExploreLLM for Structured Thoughts and Personalized Model Responses. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24). ACM, USA

[2] Asbjørn Følstad and Petter Bae Brandtzaeg. 2020. Users' experiences with chatbots: findings from a questionnaire study. Quality and User Experience 5, Article 3. https://doi.org/10.1007/s41233-020-00033-2

[3] Qiaosi Wang, Michael Madaio, Shaun Kane, Shivani Kapania, Michael Terry, and Lauren Wilcox. 2023. Designing Responsible AI: Adaptations of UX Practice to Meet Responsible AI Challenges. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). ACM. https://doi.org/10.1145/3544548.3581278

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Iterative design; Conversational interfaces; GeoAI