Imaginum: A Living Laboratory for Artistic Research

1. Abstract

Imaginum is a research laboratory exploring how audiences interact through *artistic intelligence*. Participants are invited to express their vision of a particular issue in text form. Artificial intelligence then transforms these texts into images, shifting the focus from language to visual expression and encouraging participants to think artistically.

Beyond individual outputs, the platform also generates a *collective image* based on the most frequently used keywords, capturing the shared vision of the entire audience.

The project has two primary goals:

1. To deepen participants' artistic reflection by enabling them to perceive their own and others' imaginations visually.
2. To create a dataset of texts and images that allows researchers to study how collective understanding evolves over time.

In essence, Imaginum functions as both a cultural practice and a social science research tool.

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2. Conceptual Framework and Research Questions

Grounded in *audience science*, Imaginum positions participants as *co-researchers* in a shared cultural process. By transforming words into images, it fosters a visual dialogue mediated by artificial intelligence. This approach enables exploration of:

- How audiences develop their understanding of certain issues when expressed visually rather than verbally.
- How collective intelligence manifests in visual form through clustering and synthesis.
- How individual and collective imaginations evolve over time.

Key research questions include:

- What behavioral patterns (cooperation, competition, novelty-seeking) emerge in AI-mediated co-creation?
- How do clusters of imagination form and transform on a shared digital canvas?
- Does AI mediation lead to convergence or diversification of the collective outcome?

Imaginum is designed as an open framework: the *issue* explored can vary widely, from abstract questions such as *"What is Artistic Intelligence?"* to practical, community-oriented topics like *"How does our group envision a shared space to agree on its reconstruction plan?"* In this way, the platform enables discussion and visualization of *collective understanding* on any subject of shared interest.

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3. Main Objectives

- Develop a functional prototype of a web-based image generation platform co-controlled by audiences and AI.
- Encourage participants to transition from verbal to visual thinking, promoting *artistic* rather than discursive reflection.
- Build a dataset of text–image pairs to study the evolution of perceptions of social and cultural issues.
- Analyze audience strategies for navigating collective creativity.
- Produce an evolving artistic outcome (film, soundtrack, visual archive) derived from the collected data.

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4. Methodology: The Evolutionary Digital Canvas

Platform: A 2D digital canvas accessible online. Each submitted text generates an AI-created image placed alongside semantically related images. A *generalized image* synthesizes the community's collective input based on the most prominent keywords.

Participation cycle:

1. Submit a text prompt.
2. Observe its transformation into an AI-generated image (visual mediation).
3. View the collective synthesis (generalized image).
4. Explore clusters of related images free from textual bias.

Data collection and analysis:

- Track the evolution of visual clusters over time.
- Compare text prompts (intent) with generated images (outcome).
- Study how participants' *understanding of the particular issue* develops individually and collectively.

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5. Expected Results

Platform: An open-access prototype for artistic and research use, driven by audience participation.
Dataset: An anonymized collection of texts and images documenting the evolution of collective imagination.
Artistic outcomes: A generative film and soundtrack synthesizing the community's creative journey.
Research outcomes: Publications, datasets, and presentations on audience-guided collaborative artistic creation.

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6. Innovations and Strengths

- **From words to images:** Encourages audiences to think artistically rather than verbally.
- **Dual purpose:** Functions as both an artistic process and a research infrastructure.
- **Artistic intelligence in action:** Positions AI as a mediator of individual imagination and an interpreter of collective meaning.
- **Interdisciplinary relevance:** Bridges artistic practice, social sciences, and audience research.

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7. Conclusion

Imaginum is more than an interactive artwork; it is a *living laboratory* for artistic research. It enables audiences to experience artistic intelligence firsthand through visual creation, while simultaneously generating valuable data on the evolution of collective imagination. By merging art, research, and public engagement, Imaginum establishes a new model for understanding the cultural role of AI and the visual dynamics of collective intelligence.

Author: Kateryna Kononova
Affiliation: Kyiv National Economic University Science Park
Contact: kateryna.kononova@gmail.com