Plant Seed

Seeds are the first step for a SciArt artwork. Science and art have always gone hand in hand. Would you like to see an artwork inspired by your research? Plant your seed providing as much information as possible by filling this form. Thank you!

1. ESSENTIAL DIMENSION

Scientific field (general) *

Artificial Intelligence

Scientific subfield (specific) *

Child-Computer-Interaction, child development and music

Keywords (comma-separated) *

Scientific topics. Add any that you feel are representative of this seed.

Conversational Agents, Robots, Children, Music, Creative thinking

Seed name

You can make up a name for your seed to held identify it and look it up. In the definitive version of this platform, the name will be generated based on keywords.

Intelligent machines that support children's musical creativity

Summary *

Summarize the seed's idea and concepts in one paragraph.

We propose the use of Artificial Intelligence, in particular Conversational Agents, in order to support the development of children's imagination through music. With this project we suggest the collaboration of our team which consists of scientists on conversational agents, child-robot interaction, child development and trustworthy AI, with artists of your institution, to design and develop dialogues and behaviours for an artificial agent that would support children's creativity and, as a follow up, the evaluation of such a system. We propose to use science and art to design futuristic scenarios in which children take the advantage of artificial intelligence for the improvement of their well-being.

Resources (Files)

Files that contain some aspect or are products of this research, They could be images, audio, pdf, datasets, etc.

Ѵ Resources - Mari…

Resources (Links)

Links to videos, websites or other external sources.

Pepper:
https://www.youtube.com/watch?v=oDeQCIkrLvc
Amazon Alexa:
https://www.youtube.com/watch?v=ufs_aDDIgIY
https://www.youtube.com/watch?v=UOEIH2l9z7c
Singing voice analysis synthesis:
https://essentia.upf.edu/

Email

Optional. Will be used exclusively for this project and for connecting the SciArt community.

marescplajob@gmail.com

2. ADDITIONAL DIMENSIONS

These questions are designed to enrich the knowledge of a certain scientific topic, providing an inspiring starting point for artists. They will develop creative proposals (closed flowers), which in turn will become artworks (open flowers). This is all part of the SciArt cocreation ecosystem.

2.1 Synesthesic Dimension

This dimension is designed to associate certain sensory characteristics to this seed, which can be based on any association (direct or subjective) of the seed with any of the following questions.

¿Which colors are suggested by this seed?

¿Which sounds or music is evoked by this seed?

New sounds. They can be made through the collaboration of the AI system together with the children. This seed promotes music creation by children with the support of a robot or a conversational agent.

¿What flavors would you associate to this seed?

What scents would you relate to this seed?

Metaphor

Is there any metaphor which helps explain this seed intuitively? An imaginative text can inspire as much as poetry.

"AI-seeds to flourish children's creativity"

2.2 Emotional Dimension

This dimension explores the personal meaning of the seed.

What was your motivation to research this particular topic? Which personal reasons influenced you to suggest this seed?

At HUMAINT we aim to ensure the ethical use of AI. We have already developed an expertise on how to design robot behaviours for the support of children's problem-solving process in close-ended and controlled tasks such as the Tower of Hanoi. However, now we would like to use an artistic approach and imagination for a scenario that supports children's creative thinking. Also, in our team we have the expertise of music information retrieval which might support artists of your team to co-create AI tools for music-making.
Most importantly, the development of children's creativity is of paramount importance for their development in a world where everything can be printed on a screen. (https://www.inc.com/jessica-stillman/creativity-crisis-torrance-test.html). We propose to take action to have Social well-being AI, encouraging children to develop their creativity in a healthy way inspired by Science and Art.

What methaphysical thoughts are awakened by this seed?

social well-being, creativity development, imagination, playful development

What ethical challenges would you associate to this seed?

social well-being, social inclusion, non-discrimination

2.3 Procedural Dimension
This dimension explores the scientific processes which are usually followed when researching this topic.

Description

Could you describe the usual process when researching this topic? Keep in mind the process can be as inpiring as the topic itself.

When we research the impact of AI systems on children's development we adopt a variety of scientific methods depending on the context, the goals and the scope of the research.
For example, in the past we have used participatory design methods with children of various age-groups and ethnography to understand children's needs and to design corresponding robot behaviours. We have used experimental methods with children and social robots in schools where we manipulate the robot behaviour and with observations we analyse the behaviour of the children before and after their interaction with the robot. In addition, we have performed post-intervention surveys and interviews to understand children's perceptions. In terms of open-ended tasks, we have used the methodological approach of micro-genetic analysis in unstructured play environments with children.
For this research we would like to base our methods in the existing scientific work but also to explore additional novel methods that might be inspired by the artistic approaches of the artists of your team.

Chart

Would you kindly provide an explanatory chart for the process? It could be drawn on a piece of paper, a flowchart, a video presentation (in which case use the following field), etc.

> ⋁ Project timeline -…
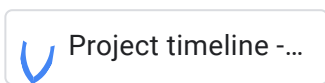
Link to video presentation

Which tools are commonly used in this research topic?

Be it instruments, technologies, hardware or software.

Social robots/conversational agents. Music. Music-information retrieval system and possibly music synthesis systems.

ASTER: Promoting Art-Science-Technology-Engineering Research by using collaborative methodologies and tools

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