

„my brain code 2.0“

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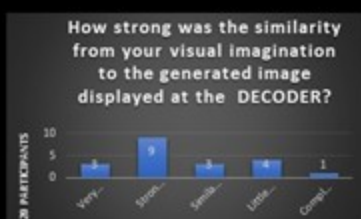
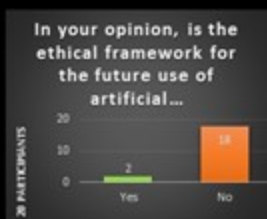
Introduction

The artistic-scientific research project “my brain code” employs Brain Computer Interfaces (BCI) for the online evaluation and processing of neurophysiological interaction data on the affective mental states of art recipients. [2] The project “my brain code” gives people the possibility to experience BCI, their mental states, and AI-based technologies. While performing tasks in different settings, the participants’ brain oscillations are displayed to an audience. The interactive installation BRAIN READER encourages visitors to engage with their inner bodily processes through mental challenges in a state of silence. “my brain code” also provides a sustained occupation with oscillations via the resulting printout codes. [1] The three parts of the art scenario address topics such as unconscious correlations of everyday tasks with changes in states of mind, future neurotechnological developments, the creation and authorship of intrinsic visual images, and the role artistic staging can play in scientific processes.

Results

Questionnaire analysis
(25 questions in total)

Due to Covid, further research has been postponed to summer 2021



Hardware used:

BEST EEG DATA QUALITY

- Top-quality EEG data acquisition and processing
- High signal-to-noise ratio with 20/20 and 20/20
- 400 Hz sampling rate to increase signal-to-noise ratio
- Hybrid electrode for dry or wet recordings
- Custom program of EEG electrodes for real-time monitoring
- Customizable and programmable software tools

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24 bit
250 Hz



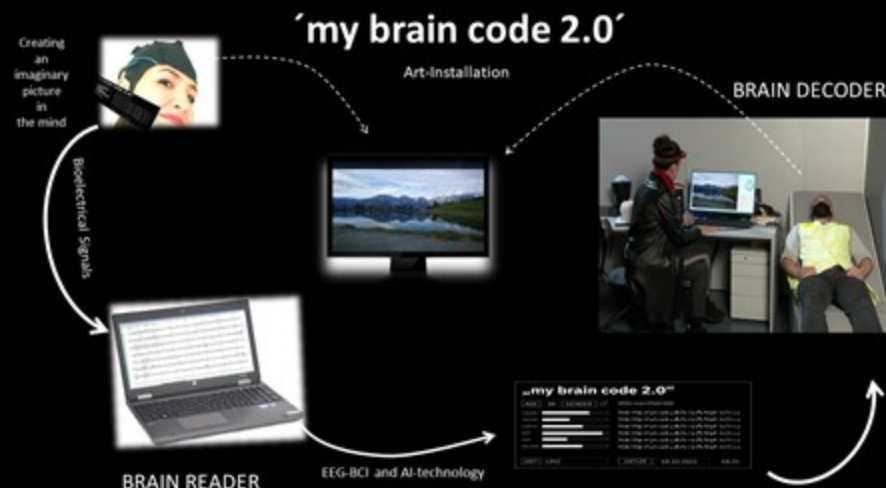
Some examples of “brain code” prints



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Methods

PROCEDURE



Method: Research through design (RtD) within four phases at art exhibitions. The three parts BRAIN ACTIVATOR, BRAIN READER and BRAIN DECODER, lead to a journey to oneself, to the internal realities, reciprocally related to the external environment and circumstances.

Discussion

The “my brain code” artistic-scientific research project reflects on digital developments and technological and scientific achievements in correlation with our own body and brain functions. With reference to the ‘digital noise’ of the digital media influences that surround us, the setting directs our attention back inside our bodies—into the space of our visual imagination. The BRAIN DECODER, for instance, gives rise to questions such as is my inner creative freedom already restricted by the flood of digital multimedia influences, as well as questions about the ownership of one’s intrinsic visual images. The experimental design of this art scenario allows participants to listen to the rhythms of their body, to learn about brain oscillations and the use of new technologies, which, based on the participants’ feedback, made a significant impact on them. “...the artist... (participant) ...is in a sense, a neuroscientist, exploring the potentials and capacities of the brain, though with different tools...” (Shimamura and Palmer, 2012). The visualization of bioelectric signals, especially in art, and the comparison of specific sources that influence physical processes in human organs serve as key factors in creating general self-awareness.

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