

Lucid Loop

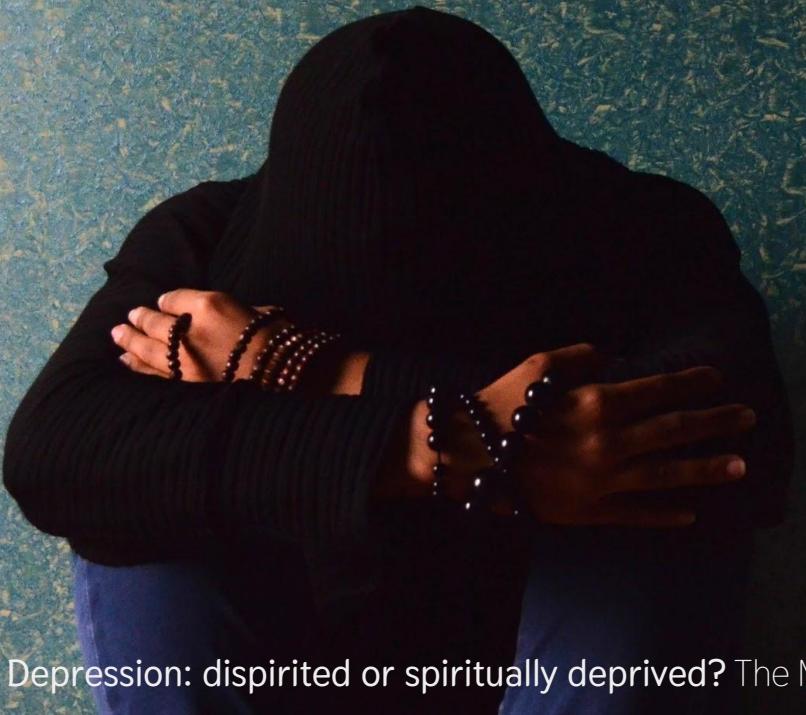
A Virtual Reality Bioresponsive System using
Creative Artificial Intelligence for
Lucid Dreaming Practices

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Spiritual Deprivation

disconnected
searching for meaning
lacking fulfilment



Transformative Experiences

positive emotions

increased connectedness

increased wellbeing

Gaggioli, A. (2016). **Transformative experience design**. Human Computer Confluence. Transforming Human Experience Through Symbiotic Technologies, 96–121.

Yaden, D. B., Haidt, J., Hood Jr, R. W., Vago, D. R., & Newberg, A. B. (2017). **The varieties of self-transcendent experience**. Review of General Psychology, 21(2), 143.

Lucid Dreaming



experience
anything

emotional &
epistemic
affordances

levels of
awareness

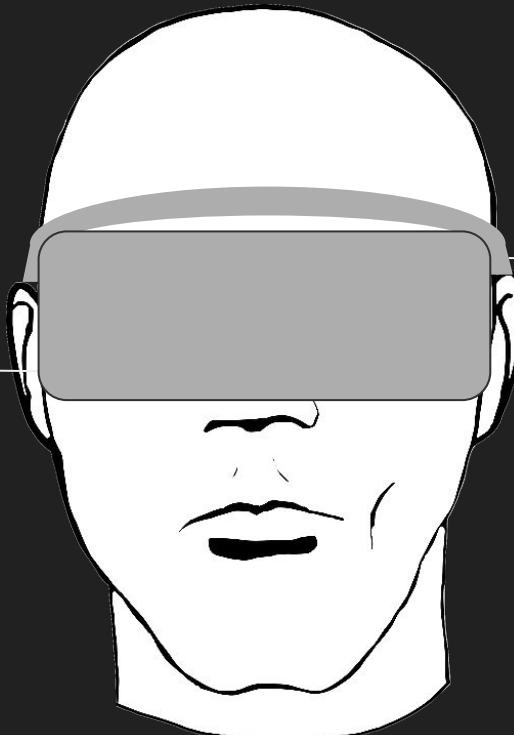
Virtual Reality



Lucid Loop

VR Headset

Untethered
Lightweight
Comfortable
6 DoF



Muse 2

EEG-brain waves
PPG-heart rate
PPG+Gyro-respiration

Biofeedback Mapping

Explorative

Playful

Empowering

Creative



Gamma γ 30-50Hz hyperactive
Beta β 13-30Hz alertness
Alpha α 8-13Hz relaxation

Theta θ 4-8Hz meditative
Delta δ 0.5-4Hz deep sleep

Kitson, A., Prpa, M., & Riecke, B. E. (2018). **Immersive Interactive Technologies for Positive Change: A Scoping Review and Design Considerations**. *Frontiers in Psychology*, 9, 1354.

Potter, R. F. & Bolls, P. (2012). **Psychophysiological measurement and meaning: Cognitive and emotional processing of media**. Routledge

Visual Design

Nature

Abstract

Foggy → clear

Open environment



Kitson, A., Schiphorst, T., & Riecke, B. E. (2018, April). **Are You Dreaming?: A Phenomenological Study on Understanding Lucid Dreams as a Tool for Introspection in Virtual Reality.** In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (p. 343). ACM.

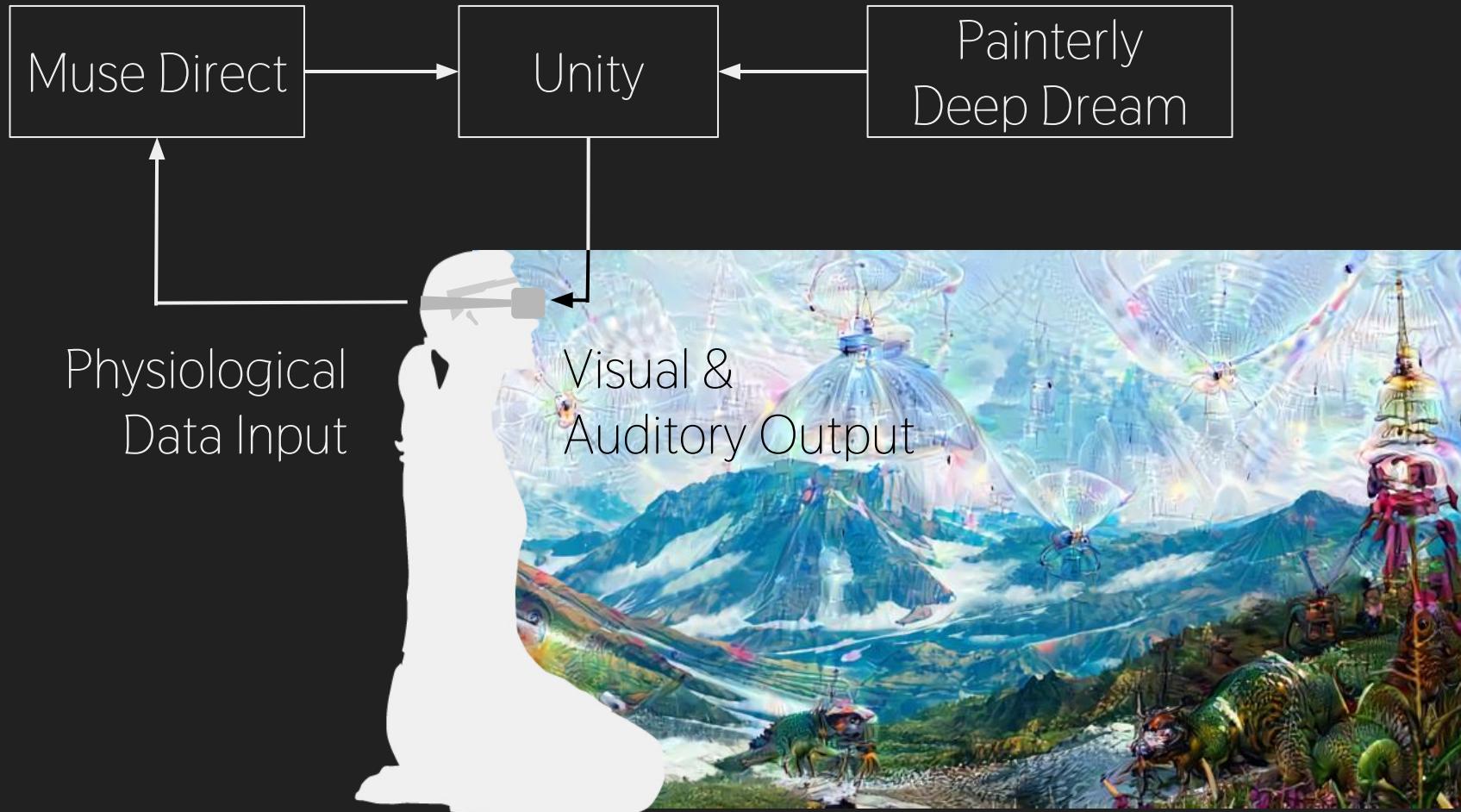


original image



Mordvintsev, A., Olah, C., & Tyka, M. (2015). Inceptionism: Going deeper into neural networks.

DiPaola, S., & McCaig, G. (2016). **Using Artificial Intelligence Techniques to Emulate the Creativity of a Portrait Painter.** In EVA.



Future Directions

Test and validate components

System evaluation

Applications

Self-regulation of one's state

More frequent or sustained lucid dreams

Lucid Loop

demo & chat @ 16:30

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