



Aaron Oldenburg

aoldenburg@ubalt.edu

University of Baltimore,  
Baltimore, USA



## Desert Mothers

Keywords: Meditation, Anchorite, Concious Environment, Artificial Intelligence, Psychedelics

This is an exhibition of the work, *Desert Mothers*, a meditative, multiplayer networked experience. The rationale and iterative process for creating this project are discussed in the article, and the software is made available online for attendees to play during the conference. In this game, players begin in the same procedurally-generated environment. This begins to diverge for each player as their personal environment, composed of individualized weather and hallucinations, responds emotionally to the player's actions. The constraints within which the players interact are discovered during play, and revolve around the body, breath, drawing in the air, and out-of-body exploration of flora, fauna, and abandoned human habitations. The game has its inspiration in group psychedelic and meditative experiences, such as Ayahuasca ceremonies. There is a slippery relationship between the player and their body as separate from elements in the environment, as they explore the landscape from the perspectives of other flora and fauna. This can be downloaded and experienced synchronously between remote participants, either using a virtual reality device or a flat screen with a game controller.

## Description

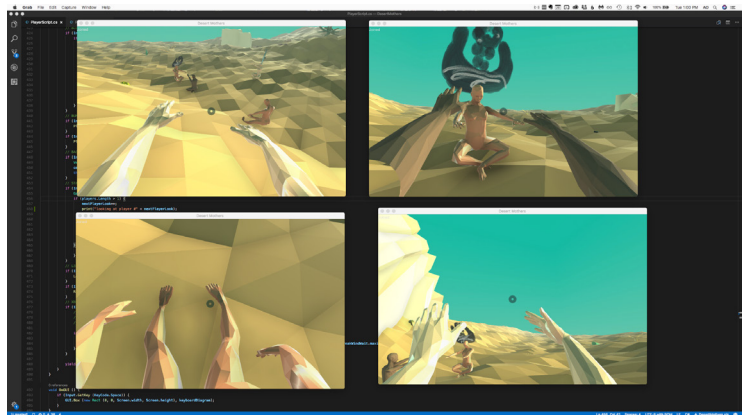
The game *Desert Mothers* takes as its experiential reference points group meditation, as well as psychedelic spaces such as those of Ayahuasca ceremonies. Gameplay takes place in a procedurally-generated, three-dimensional desert environment. Players are connected over a network and begin in the same space, all seated cross-legged in near proximity, facing the center (Fig. 1). Each player's actions are observed by a game object whose script analyzes their actions and initiates changes to the environment based on its analysis.

I frame this within the code as an environmental entity with “moods” that respond to each individual player. These states of mind for the environmental entity use terms such as “transcendent,” “rapt,” “delighted” and “overstimulated.”

The entity conveys these moods with weather and other environmental events, including changes in animations for all the flora and fauna, as well as animated, hand-drawn visions presented to the player. The visions are often circular and jagged (Fig. 2).

In addition to these weather and time changes, the player modifies their landscape directly. With their in and out breaths, they can focus on objects in the landscape and bring the object toward and away from them. These changes are not passed over the network, so each player's individual environment begins to diverge from that which is experienced by the other players.

**Fig. 1.** Multiple screenshots of instances of an early version of *Desert Mothers* running, demonstrating multiplayer functionality.



**Fig. 2.** 2D animation instantiated in the game world as part of the environmental response (from early work-in-progress).



Each player views the world from either a flat computer screen, an Oculus Rift virtual reality (VR) headset, or an Oculus Quest 1 mobile VR device. Input varies depending on the system. Non-VR players use an Xbox-style gamepad controller. The interface corresponds to bodily actions: moving the hands through space, turning the whole body, breathing, squeezing fists, stretching their legs, and clapping. The Oculus Rift and Quest, through their Touch controllers, function similarly, with the additional embodied interactions of the hands moving through three dimensions based on the player's hand location and turning one's full body rather than hitting controller buttons. When fists are squeezed, the player can create drawings in the air, which other players can see. The environment evaluates the way the player has drawn: hesitantly, quickly, with large gestures, and so forth, and changes its mood based on this evaluation.

The title references early Christian women who lived an ascetic life in the desert (King 1983). Although the hermeticism of the reference would appear to contradict the multiplayer gameplay, there is a certain isolation that happens in the game with the increasingly differentiated experience each player has of their own personal landscape. They are together in the same space, but there is little interaction.

The choice of a desert environment was informed by its implication in the forming of major religious traditions and spiritual encounters. Roslynn D. Haynes, author of *Desert*, credits the landscape of the desert in the birth of monotheism, as:

a desert landscape under a vast, monochromatic sky may suggest a unified world, the work of one creator, whereas a scene in which the eye is continually diverted by trees, rivers or mountains encourages either an animistic view that individual objects have an independent existence created by separate spirit beings, or a rationalist paradigm of the world as a collection of material objects under our control (Chapter 5, Paragraph 3, Haynes 2013).

The desert is an apt environment for a game that simulates an autonomous, ever-present entity, with its own hidden logic communicated through a “language” of weather and time.

Attention to environment references an important step in the preparation for a psychedelic (as well as meditational) experience, that of “set and setting.” This is a term that, though coined by psychedelic advocate Timothy Leary in 1961, is based on a concept that dates to early pioneer in psychedelic therapy Al Hubbard. Hubbard is thought to be the first proponent of the idea that one's environment and initial state of mind has a powerful effect on one's experience of LSD (Hartogsohn 2017). The desert, which historically functions as “a place of spiritual purification and enlightenment,” through its “physical harshness” and “lack of material and sensory distractions from spiritual contemplation” (Chapter 5, Paragraph 4, Haynes 2013), seems an ideal setting for provoking a meaningful psychedelic experience.

### **Iterative Development**

Feedback was collected through in-person playtesting where written, oral and observational reactions were collected. It was collected from a varied group of playtesters, including college students and faculty in University of Baltimore's Simulation and Game Design program, attendees at Baltimore's ArtScape festival, participants in a local game developer meetup, and an open critique at a local arts non-profit.

Some players were frustrated by perceived limitations. My initial goal had been to find a mapping for every button on the Xbox controller and allow its affordances to create the boundaries within which players could experiment to figure out what they could do. The player's avatar is locked into a seated position that resembles meditation. Players felt limited by the restriction, a restriction which I felt was more in line with a meditative experience. A major point of feedback was that players wanted to be able to move throughout the environment. One playtester said, when informed of my reasoning

for the seated avatars, that her preferred method of meditation was a walking meditation.

**Fig. 3.** Out-of-body exploration.



This led to my implementation of my out-of-body mechanic. Initially, players only had the ability to see themselves from the distorted point of view of individual plants and uninhabited buildings in the environment. Due to the aforementioned feedback, I gave players the ability to enter abandoned structures as a disembodied camera, a sort of mental excavation of an archaeological site (Fig. 3). Although exteriors of the buildings are often the same for each player, upon entering, participants view interiors that diverge from those of other players.

## References

**Hartogsohn, Ido.**

2017. "Constructing Drug Effects: A History of Set and Setting." *Drug Science, Policy and Law* 3 (January). <https://doi.org/10.1177/2050324516683325>.

**Haynes, Roslynn D.**

2013. *Desert: Nature and Culture*. [Ebook]. Chicago: Reaktion Books.

**King, Margot.**

1983. "The Desert Mothers: A Survey of the Feminine Anchoretic Tradition in Western Europe." *Fourth21eenth Century Mystics Newsletter*, 1983. <http://hermitary.com/articles/mothers.html>.