

Dance with flARmingos

A Project of Kristin Lucas
dancewithflarmingos.net

Concept

“Dance with flARmingos” is a Mixed Reality experience that features a multispecies dance between humans and flamingos, and pays homage to the flamingo—a consummate showman and embattled victim of environmental neglect—by staging kinship from an ethical distance. To me, this is an exercise in going beyond a human-centered worldview into a more fluid ecological discourse, through the use of technological embodiment and sensory play.

Humans love flamingos, and flamingos have persevered remarkably despite their hyperreal status. Representations of flamingos in fashion, tourism and lawn ornamentation far outnumber their physical presence in the wild. The ethereal and intangible qualities of a flamingo hologram are ironically heightened by the fact that wild flamingo populations are diminishing worldwide due to the spread of human activity into wetland areas and climate change. I want to subvert the trend of flamingos adapting to humans, by inviting humans to adapt to flamingos in ways that can be social and fun. I play a careful dance in this project, staging a relationship between humans and flamingos that is close up and distant, fantastical and factual.

It is not very plausible or practical to dance with a flamingo IRL. In my practice, I use digital technologies as a means to reimagine, simulate and stage new possibilities. Mixed Reality has poetic and humorous potential which makes it the perfect medium to explore Mixed Feelings.

Conservation Research Partnership

“Dance with flARmingos” project exists in partnership with Tour du Valat, a Mediterranean wetlands conservation and research center in France through which I sponsor twenty wild flamingos through an adoption program. In exchange for my contribution, I am provided access to an online collaborative research platform where I can look up each of my adopted flamingo’s biographical and migration data based on their unique id band number. Each of my adopted flamingos is represented in this project by a virtual flamingo recognizable by a unique id band on its leg. The reason behind adopting *twenty* flamingos is because I read that twenty is the smallest flamingo colony size known to breed successfully.

Research Partners: Tour du Valat has been sharing their published research with me, such as a paper authored by scientists that describes flamingo postures related to their mating dance. I am also consulting with Wetlands International Flamingo Specialist Group. As I build these relationships, my research deepens and I seek experiential ways to integrate this research into my work. I want to cultivate a deeper connection with the flamingo species than is possible through popular culture references, contemplate human-flamingo relationships with my audience, and increase visibility and understanding of wetlands conservation practices.

Structure of Experience

“Dance with flARmingos” is structured around three storytelling strategies: traditional, interactive and immersive. These strategies play out over three stages of experience that are designed to bring participants closer and closer to flamingos. Each stage can accommodate three participants at a time. All three stages can be experienced in a total of ten minutes.

The project utilizes fragrance design, Augmented Reality (ARkit) and Mixed Reality (HoloLens) technologies.

Stage 1: Custom-blended Flamingo Wetlands Habitat Scent

The experience begins with an olfactory experience designed to shift the ground of participants, transporting them to a flamingo habitat. An assistant shares information about flamingos and the specificity of their habitats, threats to habitats, why flamingos are increasingly taking residence in manmade infrastructures like salt factory pools, and wetland conservation practices; while participants inhale a wetlands scent blended out of fragrances, such as: dirt, earthworm, salt air, and ocean.

Stage 2: Populate (Augmented Reality + Information Graphics)

Participants reimagine their environment populated with life-size flamingos using prepared iPad Pro tablets that run a custom-designed ARkit Augmented Reality app. To add a flamingo to the environment, tap on the screen. Virtual flamingos appear in the camera’s view, standing on the plane of the floor, and begin to perform postures performed by flamingos during their annual mating dance, documented by Tour du Valat scientists. Participants can view the virtual flamingos in the round by walking around with untethered tablets.

Participants can also see a flock of flamingos marching around with id bands on their legs. Ringing, also referred to as banding, is a conservation method used for tagging and researching birds in the wild. When a participant sees a flamingo with an id band, they can touch the flamingo on the device’s screen to pull up an information graphic and view the flamingo’s unique biographical and migration data.

Stage 3: Dance (HoloLens Mixed Reality)

Multiple participants wearing HoloLens computers see themselves as having flamingo heads and can join a dance led by twenty life-size holographic flamingos that march together in a synchronized flock.

As the flock marches around, an original song composed for the experience travels with the flock, spatially. The volume of the song rises when the flamingos are near you and lowers when the flamingos pass you by. The idea is that the flamingos lead the dance encouraging you to join the flock.

Stages 2 & 3: Shared Unified Spatial Reality

The worlds of Augmented and Mixed Reality are aligned and calibrated to create a shared unified spatial reality across 6 devices. Participants see the same world, though each device type (iPad Pro or HoloLens). The two stages present the participants with different points of view.

The Augmented Reality stage puts the participant at an observational distance while the Mixed Reality stage is immersive. The idea was to create a porous world across devices and operating systems.

Flamingo Vocalizations

Flamingos in the wild communicate to one another through vocalizations which helps them synchronize as a flock. Electronically-processed flamingo vocalizations are assigned to each flamingo instance. Participants with iPad Pros and HoloLens computers will hear the flamingos they are closest to.

Flamingo Animation

The flamingo dance performed by the flock of twenty flamingos is informed by flamingo behavior and movement observed online and in the field, and through a research paper authored by Tour du Valat scientists. It is more of an interpretive dance than a precise representation of flamingo behavior and movement. I perform the dance myself and record it wearing a motion capture suit. The flamingos that can be added through the iPad Pros are animated by a combination of my motion capture and an AI flocking algorithm.

I have found that animating another species through human motion capture also “captures” a complex and potentially harmful compassion for another species. In truth, my flamingo model barely resembles a flamingo and the joints of its legs bend entirely the wrong direction! Mine is more of a hybrid human than a flamingo at all, but maybe a “hybrid human” mindset is what we are in need of today to grow beyond humanism. I decided to embrace this kind of error, seeing it as a way to bring comic relief to how our best loving intentions can really mess things up, but to nonetheless try for something better.

Project Background

“Dance with flARmingos” is an umbrella title for a few projects I have produced over the past two years. These iterations vary conceptually and technically from my proposed project. The first project was designed as an Augmented Reality sculpture park to be viewed on smartphones (no dancing flamingos); the second was designed for interaction with a Kinect depth sensor in front of a projection.

Statement of Support

This year, I have received pivotal production support for “Dance with flARmingos” through five residency programs, including: AR/VR Artist Research Residency at Oregon Story Board, Portland; BAU Institute Arts Residency at the Camargo Foundation, Cassis; Harvestworks Digital Media Arts Center Artist-in-Residence Program, New York; Pioneer Works Technology Residency, Brooklyn; and Yafo Creative/Print Screen Festival Digital Arts Residency, Jaffa.

I received major funding through an Engadget Alternate Realities Grant this summer and will premiere this iteration of the work on November 14, 2017 at Ace Theater in Los Angeles.

Spatial Requirement

Ideally, I need a minimum HoloLens area of 16 x 16 ft but is adaptable to other spatial configurations. This can be a room or a built structure. I also need a separate 8 x 16 ft space for the fragrance and Augmented Reality stages. At Engadget Experience I am installing in a large space and using stackable cardboard modules to create a HoloLens area.

In-kind equipment

6 HoloLens computers (9 are required per day due to battery life and charging time)

3 iPad Pros (6 are required per day due to battery life and charging time)

PC Laptop

Role in Production

Kristin Lucas: Artistic Concept, Director, Experience Design, 3d Modeling, Dance Choreography, Motion Capture Animation, Producer

Regine Basha: Project Consultant, Residency Director at Pioneer Works

Tommy Martinez: Technical Support, Pioneer Works Virtual Environments Lab

Conrad Beilharz: Production Manager for Install and Event Day

Ben Purdy: Software Developer

Adriano Clemente: Sound Composer

Ziv Schneider: 2d Graphics

Thomas Wester: Technical Director

Felicity Arengo: Consultant, Chair of Flamingo Specialist Group

Arnaud Beché: Consultant, Researcher at Tour du Valat, Arles

Noam Weiss: Consultant, Director of The International Birding and Research Center, Eilat