Artist Statement

Genki Hagata

As I continue to explore mediums, I find myself embracing the title of *Interdisciplinary Artist* more and more. Within the last year, my artwork has taken a turn from being tradition focused and technically *tight* to an exploration in new media. I am fascinated with how rapidly technology is changing, but at the same time, I have a growing desire to revert back to nature and the natural. Finding a balance between the environment and technology is an ever-emerging undertone to my art and my life as a whole.

My current body of work, *Physical Presence in Digital Nature,* is an exploration of the physical world, and how we interact with it with and without a digital world. To be more direct, the work comments on what we choose to pay attention to, the digital or the physical. At the same time, I want my audience to not feel conflicted or challenged by questions that my pieces ask, but to be engaged in the experience. With this series, I want to create environments that can share my experiences to others, experiences that may not ever be experienced other than through what I can share.

Experiences that can communicate stories, or even generate stories in the audience are what I am after and what I find extremely inspiring. Most artists wouldn't look into video games as inspiration for their fine art, myself included. However, the more I investigate games as art, I see them as interactive art pieces. I'm inspired by the engagement that games create and the time that their audience is willing to dedicate to exploring what the artists have put into the game. If I can create a similarly engaging piece, once that can captures a person and can communicate a narrative or experience, I will have created a successful piece.

Fireflies

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I was struggling with the content of another project, before drafting the plans for this project, *Fireflies* and going through the idea iterations got me thinking enough to generate the content for both projects as well as the diagrams for this one. The content that I am trying to embody within *Fireflies* is the ever-growing separation and combination of digital and physical environments. I am quite fascinated with how quickly 3d rendering technology has progressed in my lifetime and I can only see it getting better from here.

This project combines a physical interface, in the form of a glass jar with a crank handle and a digital environment. Inside of the glass jar are 21 small, yellow LED lights to represent fireflies. As the user cranks the handle on the top of the jar, the LED lights inside of the jar will react to the interaction. Simultaneously, the digital environment shown on a screen has digital fireflies being generated within the environment; also as a reaction to turning the crank. Depending on the number of times as user turns the crank, the more fireflies will appear on the screen, and the longer the LED's within the jar with *dance.*

The body of work that this project has kicked off is currently titled *Physical Presence in Digital Nature. Fireflies* fits in as an anchoring piece that explores the disengagement of the physical realm with the presence of a digital environment. I am exploring the separation between the two domains by creating two focal points and challenging the users to consciously, or sub-consciously choose which environment to pay attention to.

Rarely, do I finish all conceptual *and* physical iterations on paper. Typically I will narrow down the best ideas and start prototyping, but in this case, the final build is a direct replica of what I had initially envisioned—being able to look back at my sketchbook and see what

I ended up with is quite rewarding. I did spend a good amount of time sketching and conceptualizing the content for *Fireflies* and I'm glad I did. The end result performed as I intend and the feedback I received during its first presentation was in-line which my own personal, conceptual goals—as outlined earlier.

The driving force to this project, and now the body of work as a whole, has really been the desire to explore a new realm of technology that I hadn't tapped into before. I set out with the goal of being able to "do something with a crank sensor." I also wanted to make use of the Intel Galileo, MAX, and communicate across all of the devices & programs. I knew the cross communication would be extremely useful and the tools I decided to use were what I wanted to be using in the future.

There were only two issues I encountered that took me off of my initial timeline. The first issue was since the Galileo was a new device; there is a limited amount of knowledge on it. While it is essentially an Arduino, there are a couple very minor differences that until noticed, had me confused for a couple of days. Next, the crank sensor or rather Hall effect sensor I chose was not the most practical for this build. A lot had to do with my fabrication of the crank and the position I had the sensor in, but I found it to only be moderately reliable and a few times the sensor failed, causing a need for taking the jar apart and doing some maintenance.

I was quite pleased with my "ready-made" style construction. The aesthetic pieces of the jar were all off the shelf items that I was able to combine and achieve the authentic *rustic* look I was aiming for. The jar is a pickle jar that I already had in my fridge. The handle is made from a paint roller that I bent into shape and cut down. I was able to mount the roller part of the paint roller to the lid of the pickle jar to create the crank handle I wanted. The rest of the project was a combination of found parts and even a 3D-Printed mount for a magnet (for the hall effect sensor).

I forced myself into a challenging position that required learning as quickly as possible; I'm happy I did. I was able to pick up a lot of programing knowledge in MAX, Processing, Arduino, & Galileo throughout the 4 weeks or so that I was immersed in this project. Along with the programming for the micro controllers, I was really tested in the physical computing aspect of this project.

My knowledge of micro controllers was extremely limited and my knowledge on the Intel Galileo was absolutely zero when I began. I do my best work when I have the challenge of learning something new, and *Fireflies* really pushed this. Unlike other art projects, projects like this that require so much programing and accuracy become extremely difficult when they also demand no sleep. It was also a bonus to brush up on my fabrication skills and build a final product that I was happy with.

The main benefit of forcing myself to learn something (or like in this case, more that one thing) new is that I come out of the project with useable knowledge. I know how useable knowledge of multiple programing languages, micro-controllers and sensors. All of the programing and electronics that I worked on with *Fireflies,* I will be using in upcoming art this year.

I kind of had an idea that I would be using some combination of the sensors and languages later, which is why I chose them specifically for this project. Picking technologies that I plan to use in future projects is something that I have gotten in the habit of and it has always been rewarding after the initial time investment.

What had started off as initially being a prototype for something bigger and an excuse to learn some new things has really evolved into a fully fleshed out piece of its own. I'm

currently working on making the piece a bit more interactive and making it both structurally more stable and more visually appealing. With a limited amount of time, the piece can only go so far, but at the same time, the timeframe is a natural editor, in that it will cause me to distill the piece down to its best qualities.