SJSU SAN JOSÉ STATE UNIVERSITY

Data+AI+Design

2020-2021

data-ai.design

Data+AI+Design

Spring 2021

2021

02.19
2PM–6PM
Lecture + Workshop

Intro To Exquisite 3D Printing
Camella Dahn Gim (UCLA)

03.04
6PM–7PM
Lecture

Creative AI: From Expressive Mimicry To Critical Inquiry
Angus Forbes (UC Santa Cruz)

04.30
10AM–12PM
Workshop

Exploring Machine Learning Applications For Art and Design
Angus Forbes (UC Santa Cruz)

03.12
10AM–11AM
Lecture

Artificial Natures // Games Of Life

12PM–3PM
Workshop

[Autonomous Complexity in Life & Machines: Cellular Automata]
Haru Ji (OCAD University) & Graham Wakefield (York University)

Fall 2020

2020

11.05
3PM–5PM

Future Artifact Design

Final Online Presentation From BFA Graphic Design Students, In collaboration with the Chemical and Engineering Department

12.11
12PM–2PM

Mobile App Design

Final Online Presentation From BFA Graphic Design Students; Mentors: Bloomberg NYC Interaction Designers

04.07
6PM–7PM
Lecture

I Learn Humanities By Making Art With AI
Eunsu Kang (Carnegie Mellon University)

04.09
11AM–2PM
Workshop

Co-Creating Art With AI Using Machine Learning
Eunsu Kang (Carnegie Mellon University)

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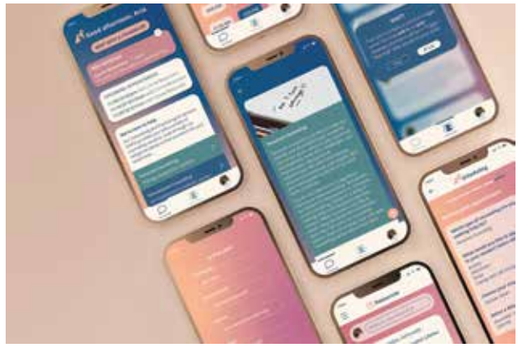
About the program

Series of Six Events

Sponsored by Artistic Excellence Programming Grant 2020-2021
from College of Humanities and the Arts, San José State University

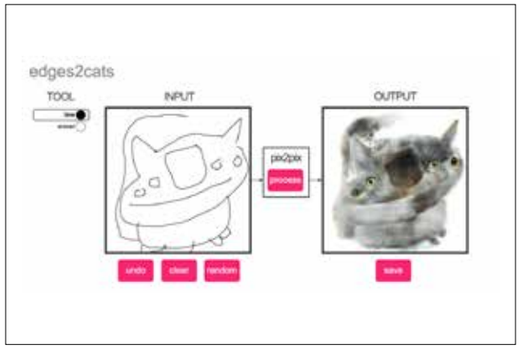
Data + AI + Design is a series of workshops and accompanying lectures with support from many guest speakers in various disciplines, the chemical and materials engineering, and Bloomberg NYC. This program examines the use of artificial intelligence (AI), interactive media technology, interaction design, and data analysis in the intersection between design and engineering. SJSU students, faculty and guest speakers had chances to exchange ideas, discussed various topics about data and AI and explored various methodologies to create interactive design prototypes. The discussion on both workshops and lectures also shed light on the ways in which artists/designers are incorporating AI in their practices to explore post-information age themes such as the ethical issues of artificial intelligence, data-driven design, new user experience design in the development of AI, and possible solutions for environmental/social issues with support of AI. There were a total of six events throughout the 2020-2021 academic year. The guest speakers include Haru Ji, Graham Wakefield, Dahn Gim, Angus Forbes and Eunsu Kang. Three interaction designers, Anthony Viviano, Linda Le and Lucy Chen from Bloomberg NYC were mentors for the mobile app design project. Prof. Ozgur Keles at the chemical and materials engineering department was a faculty advisor for the futuer artifact design project.

01 Future Artifact Design
Sep 22-Nov 5, 2020
In collaboration with chemical and materials engineering department and Prof. Ozgur Keles



02 Mobile App
Oct 29-Dec 11, 2020
Mentors: Anthony Viviano, Linda Le, Lucy Chen (interaction designers at Bloomberg HQ)

03 Intro to Exquisite 3D Printing
Feb 19, 2021
Guest speaker: Dahn Gim



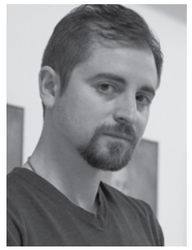
04 Creative AI
Mar 4 and Apr 30, 2021
Guest speaker: Angus Forbes

05 Artificial Natures // Games of Life
Mar 12 2021
Guest speaker: Haru Ji and Graham Wakefield

06 I Learn Humanities by Making Art with AI
Apr 7-9, 2021
Guest speaker: Eunsu Kang

01

Future Artifact Design
With 3D Printing Technology




FACULTY ADVISORS

Prof. Ozgur Keles (left)
Chemical and Materials Engineering, San Jose State University
Prof. Yoon Chung Han (right)
Design, San Jose State University

PARTICIPANTS

BFA Graphic Design students in DSGD 186
Engineering students in MatE 115

PROJECT DURATION

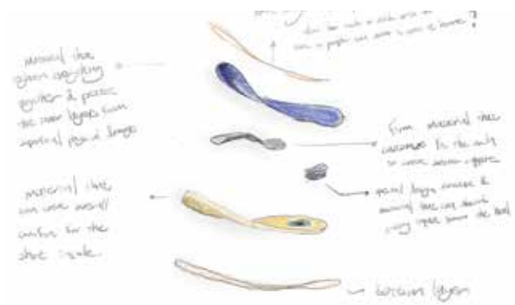
4 Weeks project in Fall 2020 semester

PROJECT DESCRIPTION

Working in a group of 4-5 (2-3 engineering students and 2-3 design students), concept, plan, design, and propose an additive manufacturing technique, a small scrolling website, and mobile app design for an artifact from the future. This can be a digital device, product, additive manufacturing (3D printing) service technology, etc. that can help our lives, nature, and environments. Design or the proposed technology should be described from the manufacturing and materials point of view; such as processing, structure, property, and performance relationships. Furthermore, create user experience design and user interface design along with the device or product design.

The future artifacts can be on any topic. Consider making an artifact to solve an important social/environmental issue, thus your artifact can help people and/or nature. Your artifact should be invented with future technology such as artificial intelligence, machine learning, augmented/virtual/mixed reality, robotics, haptic technology, future materials, smart display, bioengineering, biometrics, 3d printing, etc.

Once you choose an artifact, write up the concepts and features of the artifact, and design the artifacts with images. Brainstorm ideas, design, functions of the artifact with your collaborators.



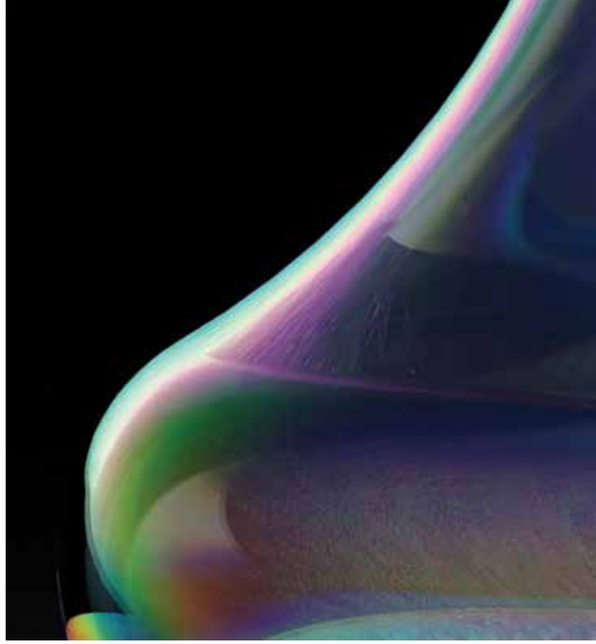
Neo Glass

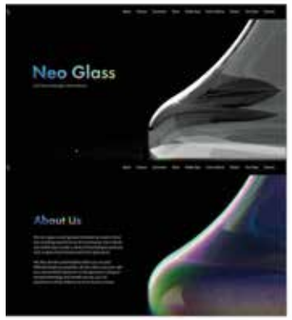
Designers: Lydia Lim, Junhan Wang and Tianting Sun
Engineers: Nicholas Schultz, Saket Metrani and Pouya Bayzaie

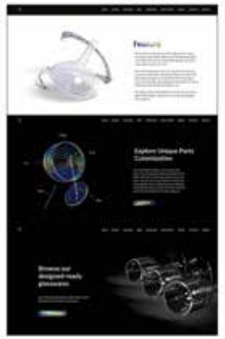
Nowadays, we put the glass and plastic containers into the trash bin without a second thought. Inevitably, it will have a negative impact to our environment as well as the economy. What if we can use those wasted glass bottles to make new containers, not only it will be recycled, but it also reduces/replaces the use of the plastic products?

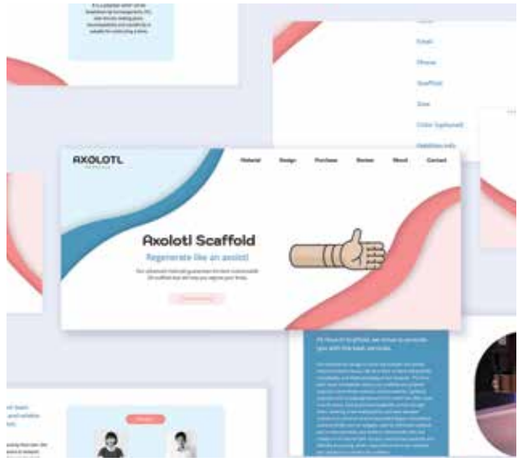
The purpose of our project is to solve this problem by recycling the glass resources to create an ecofriendly and sustainable product. We will focus on the additive printing method to reform glass products using our new 3D glass printer. The glass will be melted into 3D glass filament and then our machine will build it to the desire form. Therefore, we can turn the wasted glass into a new product that's useful and also aesthetically appealing!

Our mobile app will provide a series of printed glass products for the customers to choose, such as cup, bowl, wine glass, and decanter. They can also be customized, in which people can choose their owe favorite color, shapes, and personalized signatures or images. Through our new technology, we can make the recycling process more fun and appealing. Also, our products and service will remind people the importance of recycling and saving sources.









Axolotl Scaffold

Designers: En Yu Ma and Phi Ho
Engineers: Jazmeen Ravendran Pillay, Lianne Posadas and Manpreet Dhariwal

Although the technology of bio-print is developed, bio-print needs bio-ink, which is not easy to obtain. In our artifact, we upgrade the materials of the bio-ink. We focus on different materials such as PCL, collagen, chitosan and so on. The three basic kinds of materials used in tissue regeneration are synthetic polymers, extracellular matrices, and bioceramics. Synthetic polymers such as polycaprolactone (PCL) which can be used in bone tissue, have good biocompatibility, tensile strength ratios and have excellent resistance to corrosion and its associated fatigue. In the graphic design part, we aim for stressing materials of our product in the website and mobile app, so customers can rely on our service. We create a friendly interface with a simple, clear and straightforward layout for people to know what the 3D scaffold is, how it functions, how they can purchase it and how the materials can assist them. Users can customize their own scaffold both in our website or mobile app; also, they can track their scaffold printing progress anytime.

Ecohut

Designers: Miguel Morejon and Thanhthao Van
Engineers: Kyna Chen, Dan-Il Yoon and Dan Pham

Our project seeks to address the polyethylene terephthalate (PET) plastic waste problem experienced globally by trying to convert them into recycled PET (rPET) and virgin PET (vPET) which then can be used to make a portable and collapsible dome-like shelter. Dubbed “ecoHUT”, our product can be used in natural disaster situations as temporary emergency housings run by the government. EcoHUT also tries to address the issue of homelessness. EcoHut can be used to provide a more hospitable, portable and durable housing option to the homeless. The product is a origami-like, elliptical-shaped dome consisting of two 3D-printed parts – a collapsible frame with locking mechanisms to hold the extended poles in place and a weather-proof PET-based membrane. This combination using PET allows for ecoHUT to be collapsed into a small, lightweight size, making it very portable while also making it very resistant to weather and normal wear-and-tear – all thanks to the strong, lightweight properties of PET. This is an important factor as homeless people tend to move around a lot and guarantees them a solid choice for shelter.

Vottle

Designers: Diego Arreola and Maria Nieves Ortiz Coll
Engineers: Treven Hunter and Safiah O’Neill

Soda and water is sold in disposable plastic bottles which are most commonly made of polyethylene terephthalate (PET). Only a third of these bottles are recycled each year and much of that material is not utilized. To contribute to waste reduction, we propose a kiosk which recycles disposable bottles, creates filament, and 3D prints a vacuum insulated reusable bottle.

The kiosk will have four main components: a recycling unit which will wash and break down the PET bottles and process them into filament, a 3D printing unit which prints in a vacuum chamber, a heating and cooling chamber to smooth and sanitize the bottle’s surfaces, and an interactive user interface which will allow the consumer to customize their product.

Our design will have a simple interior and wide mouth to allow for easy cleaning, and heating and cooling the 3D printed product will smooth its inner surfaces considerably, making it harder for bacteria to adhere to the surface.

BeestoBee

Designers: Linh Hoang, F Lee, and Brandon Huynh
Engineers: David Canoy, Jia Pelpa and Sharmaine Piros

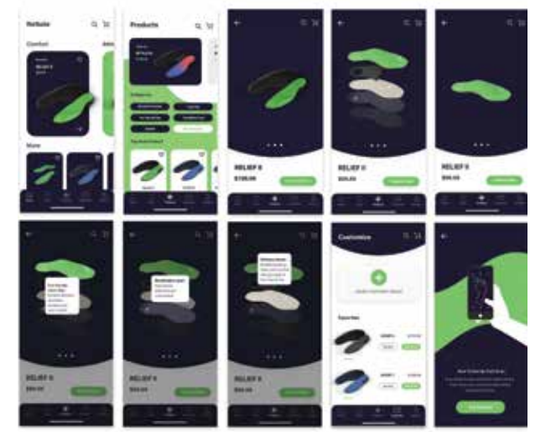
Honey bees contribute to about $15 billion dollars into our agriculture economy. They pollinate more than 80% of all cultivated crops, for human and animal consumption. However, the Varroa mite parasite, with possibly the most pronounced economic impact on the beekeeping industry, has been attaching themselves to the bodies of bees, weakening their immune systems and causing genetic defects to their wings. It has been discovered that the mushroom mycelium extract can reduce viruses among bees by 75%. Mycelium has shown potential in saving our honey bee population as there has been research conducted that shows bees eating and self medicating on the fungal by-product when infected by certain viral strands spread through varroa destructors.

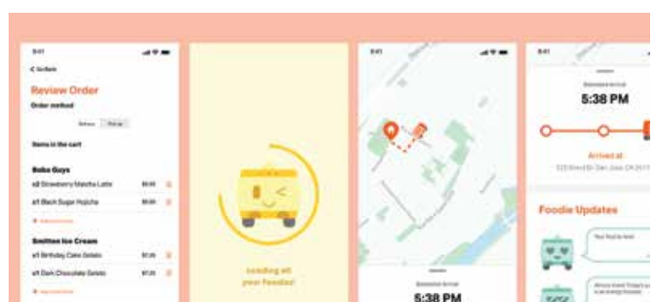
Considering the potential use of mycelium extract, our goal is to investigate how incorporating a mycelium-based 3D printed honeycomb infrastructure into beehives and beekeeping frames, would help protect bees and prolong their well-being, thus in turn maintaining our agricultural economy. To execute the project, we will use additive manufacturing a optimal solution which allows for the incorporation of mycelium and biodegradable materials.

Resole

Designers: Hung Tsai, Lily Su, and Ryan Parajas
Engineers: Sukhjiwan Singh, Jocelyn Orta and Suzanne Estella

We intend to make a user-friendly experienced to make custom 3D printed shoe insoles using recycled material. Before the printing process starts, we propose to make an app in which the user can conveniently provide measurements of their feet using a built-in scanner in the app. This will allow the company to receive precise measurements that allows them to print a custom insole. The 3D printed insoles will not only provide a cushion for the feet but also help correct the foot alignment and relieve pressure from pressure prone points. Current insoles are poron urethanes, Gels, or ethylene propylene diene monomer. This material all have specific application and in our project, we intended to make personalized shoe insoles for specific applications. The working design concept as of now is to use recycled plastics and coil them into circular sphere formation. The sphere formation will allow the plastic insoles to not deform as the intertwined plastic inside the sphere will be strong to withhold pressure. On top of the sphere, we can line it with recycled foam to provide a soft cushion for the user. For the user, the experience will be a convenient and environmentally friendly alternative, because they would simply use the app to scan and provide measurements, and a custom insole, will be printed using recycled material, and shipped to your door.



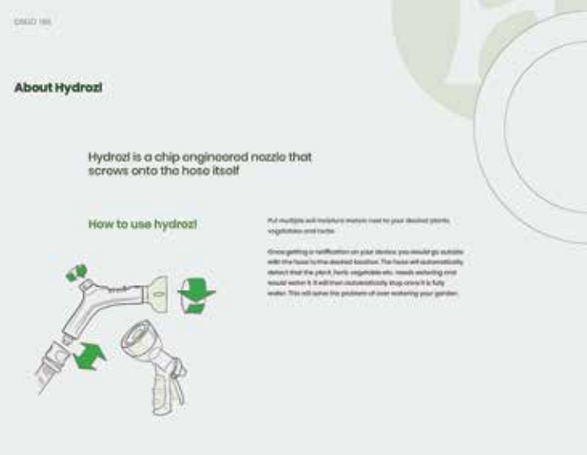


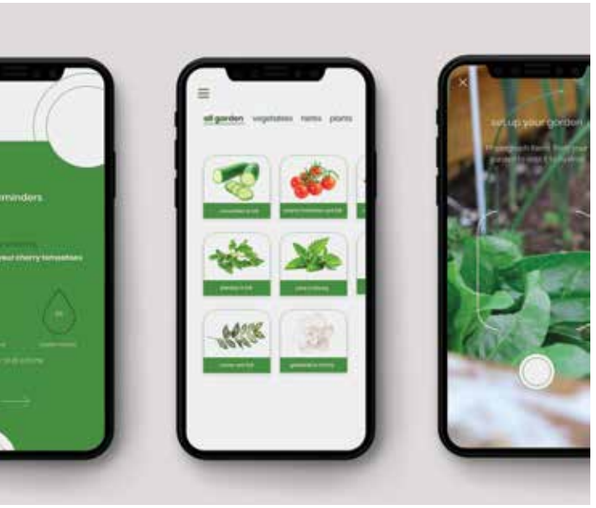
Foodie

Designers: Mary Guiterrez, Anela Oliveros, and Chako Shinmoto
Engineers: Angela Trans, Thomas Bi and Jericho

Foodie is a delivery rover that brings food and drinks from restaurants to customers. Practicing social distancing, it provides contactless service in a city neighborhood on demand. Temperature is important to Foodie, who keeps its edible cargo precisely how hot or cold it should be with its Advanced TemperatUre Monitoring System (ATUMS). Conveniently available, the Foodie Food app and website can be used to place an order at a restaurant or local grocery store. The app will notify the Foodie rover to pick up the order when it is available. Using its AI technology and cameras, it deduces the best route to both pickup and deliver the items in the shortest possible time without fail.

All Foodie rovers are maintained 24/7 by the Foodie experts located in the nearby facilities. Any issues including vandalisms, road closures, and reported problems will be directed to them. Reported problems are archived and monitored through the advanced 360 camera and sensors to detect any unusual contacts. These technologies are the same ones used today in self-driving cars. Alarms will go off if Foodie gets lifted, stopped, or any unusual contacts. Uplifting the community is also part of Foodie's job. When it's on duty, it provides emotional support through its digital facial expressions and joyous tunes. Foodie isn't just another delivery rover, it's a valued member of the community.





Hydrozl

Designers: Karla Peralta and Dana Nissan
Engineers: Yuritzi Barranc, Dana Morrar and James Shiroishi

The materials we will be using in this project will be eco-friendly, the product will be assembled with recycled plastics or biodegradable materials. Bioplastics are biodegradable or compostable plastics made from natural substances instead of petroleum. The idea is that we eliminate the use of plastic completely in this project. When considering these materials we will need to inspect: lifetime, yield strength, tension, stress and strain, elastic deformation, thermal properties, and etc. Each different part of the project will be composed of a different material because they will all have different purposes such as one will be submerged in the ground, another will be scanning; therefore, each part will be modified based on their application.

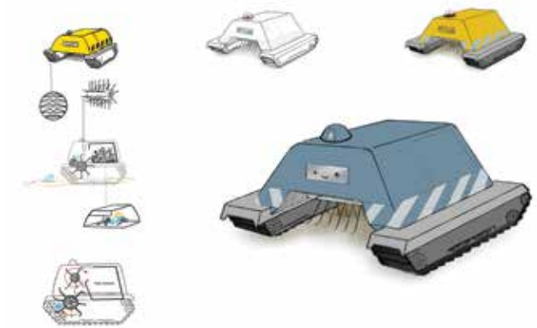
This product will be able to recognize how much water is needed depending on the soil moisture. This sensor would send out notifications to the customer, through an app, when they need to water their soil. The app will give information to the user regarding thirst of plant, vegetable and herbs as well as the most updated moisture levels.

Proteus

Designers: Tanya Shrivastava, Brandon Vargas, and Sarah Sauerzopf
Engineers: Tiago Costa, Samantha Salomon and Wilson Yang

Large amounts of inorganic waste end up on beaches, resulting in a polluted ecosystem that can negatively affect wildlife and plantlife. To help combat this problem, we have proposed an autonomous beach cleaning robot that will collect the trash and sort out harmful plastics that can later be repurposed. The robot will do this with a "raking" device attached near the front that rotates and combs through the sand to pick the trash out.

Essentially, our robot will be using different methods of 3D printing in order to print multiple pieces that allow for our robot to be structurally strong as well as lightweight and nimble. Our most prominent piece that will be 3D printed is the frame of the bot, which will be modeled after a "space frame".



Mycodrain

Designers: Emily Chan and Rachel Lee
Engineers: Eric Comstock, Andy Lam, and Cameron

Water is essential to life, but water pollution is one of the most serious ecological issues we face today. When domestic and industrial wastes are discharged into water reserves, wetlands, and other sensitive bodies of water, it can be harmful to humans and animals. One solution to help mitigate the amount of pollutants in our water is to effectively filter them out. To help combat this problem, our group proposes the use of both natural fungal roots and industrial byproducts to develop ecologically sustainable ltration systems.

We plan to use mycelium, the root system of fungi that grows as laments and naturally recycles nutrients. Research has shown that mycelium can lter out harmful bacteria such as E.coli through the mycoltration process. Our product will be a 3D-printed drain lter lled with a mixture of mycelium and wood chips, an industrial byproduct that can be repurposed, making it low-cost and easy to install. These ecological ltration systems can be used in both industrial and household applications. Because the product is made of low-cost materials, it can be accessible to poor countries and other places that are in dire need of clean water sources. We will also design a mobile application that will allow the user to monitor the smart lter's life and notify the user when it is time for it to be replaced.

02

Mobile App Design



Mentors (Bloomberg NYC)

Anthony Viviano, Senior Interaction Designer (left)
Linda Le, Senior Interaction Designer (middle)
Lucy Chen, UX Designer (right)

PARTICIPANTS

BFA Graphic Design students in DSGD 186

PROJECT DURATION

4 Weeks project in Fall 2020 semester

PROJECT DESCRIPTION

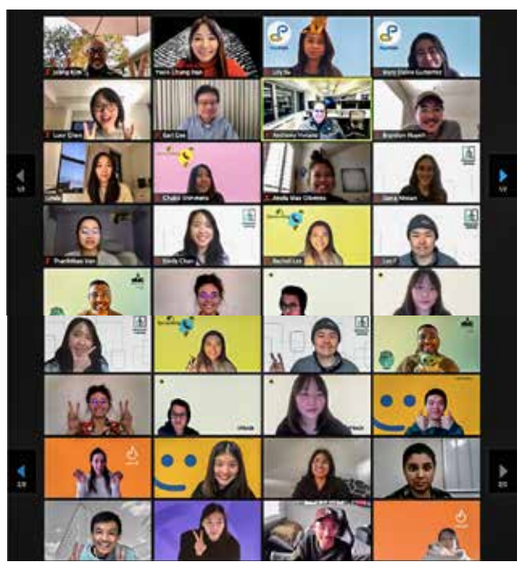
Mobile apps are mainstream now – a popular way of delivering content and services. Today, mobile users expect a lot from the app – fast loading time, ease of use, anddelight during the interaction. It also creates new cultures and habits. Adapting to the context of use, while keeping the interaction levels as low as possible (limit the numberof actions required to complete a task) is quickly becoming a standard for many apps. So what exactly can be considered as a "good experience"?

Furthermore, we are in the covid-19 pandemic. Current concerns of power relations,climate and environment, pandemic, and machine influence have impacted our lives,societies, cultures, and communities. We can ask these questions: what new apps and new approaches would address the concerns through the small hand-held screens? How can you help others with your design?

Where does the intersection of design andtechnology lie? How will a new design approach incorporate the tension between theattention economy and the need to inform precisely and prompt action? What if the aim is not to precisely inform but to mirror an emotional state about the issue, data, and information? How can we measure success in the new design approach? Try to research topics and address problems and solutions. Select one of the following topics from the list below for your project.

Topic 1. Social, Cultural, or Environmental Issue
Topic 2. Open topic based on your Interest

You should justify the choice of topic. Why is it important? How can it help others?How can it contribute to the related fields?



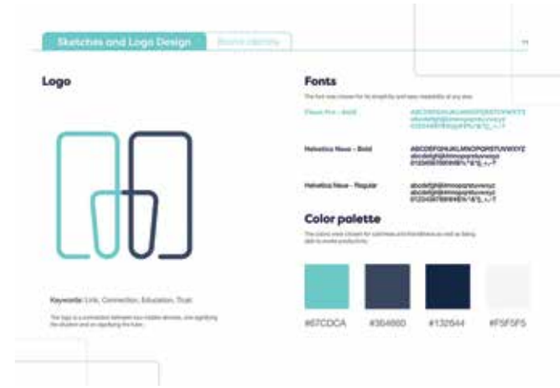
Connected Learning

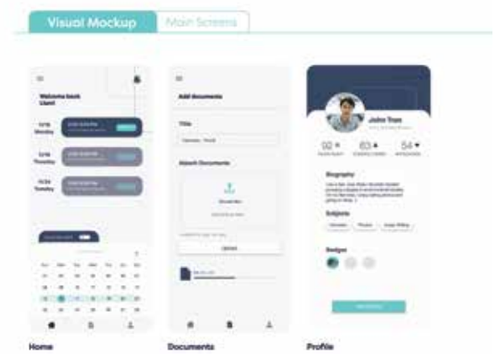
Designers: Dana Nissan, Flynn Lee and Emily Chen

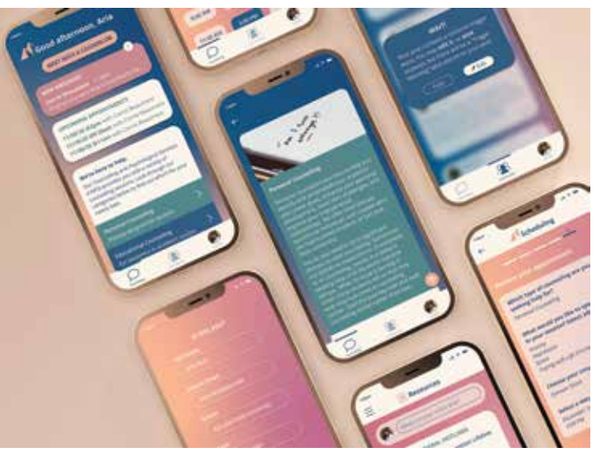
Online learning is now the norm with the pandemic. However, younger students have difficulty staying engaged in current online classes and some students may not always have a reliable internet connection to regularly attend class, which will negatively impact their grades. Additionally, afterschool homework assistance has not been seamlessly translated to the remote format. Students who relied on these programs for tutoring are currently facing difficulties in finding the help that they need. For these demographics, especially those from low-resource communities, it is now more difficult than ever to find personalized homework help.

Our solution is to create an app for the My Covid Response, a free program that matches volunteer tutors with students. Both sides will take an individual survey and the system matches them based on the tutor's expertise, personalities, and learning styles. Learning disabilities are also considered in the survey. There will be two user interfaces to the app: the tutor-side and the student side.

The purpose of our app is to create a friendly all-in-one platform to connect lowresource communities affected by COVID-19 to volunteers who are able to give additional educational assistance outside of school.







Altitude

Designers: Anela Mae Oliveros and Thanhthao Van

Mental health support and services have gradually increased within the past decade--the methods in which people can get help have branched out beyond the traditional office to technology we hold in our hands. In recent years, smartphone applications have been developed to encourage self-help through cognitive behavioral therapy (CBT), acceptance commitment therapy (ACT), and meditation. Many mental health applications provide useful tools such as depression/ anxiety screenings, coping methods, and journaling.

The issue our app, Altitude, is attempting to address is providing another method of communication with college students through the school's mental health services while developing a positive mental health campus community. Currently, students are able to make an appointment with counselors through Zoom meetings because of COVID-19 limitations, but many students do not utilize the resource. In a survey we conducted at San José State University, a majority of students knew about services on campus, but never went to get help, which is concerning because 62.5% of students reported having mental health issues. Before COVID-19, student experience with office visits varied. Some were pleased, while some were anxious waiting with other people and wished the process was anonymous. Providing a messaging resource for students is convenient, and more welcoming for first-time therapy.

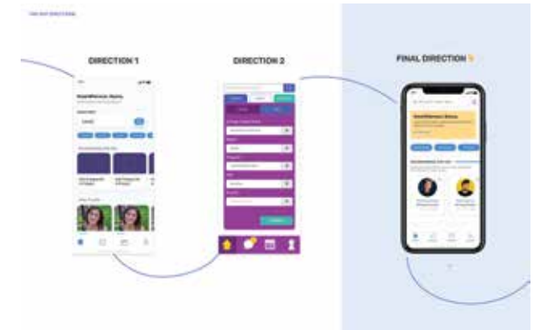
PeerPath

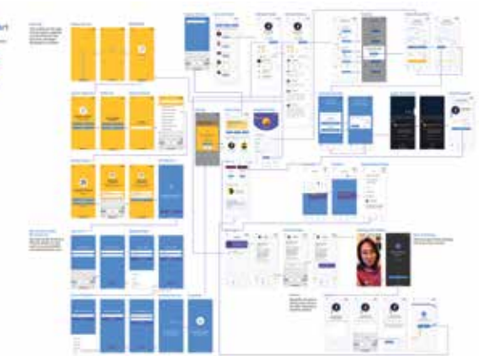
Designers: Lily Su and Mary Gutierrez

PeerPath solves the problem of local college graduate and undergraduate instability. On theside of the graduate, this concerns post-graduation financial instability. On the side of theundergraduate, this concerns overall navigation of the entire college experience. PeerPathsolves this problem by making an entire willing body of local alumni available to students at thepress of a few buttons, providing an unprecedented and invaluable college resource, as therelationships formed will be more personal and unique than similar existing long-distancelearning and mentorship apps.

The purpose of PeerPath is to strengthen local college communities through one-on-onelessons and/or mentorships between graduates and current college students. PeerPath provides the freedom of choice on both the side of the mentor and the student. Thementor lists their own rates, while the student is unburdened of having to calculate hourly ratesor subscription fees on their own. In addition, mentor rates get cut off at the local minimumwage, so the app will be not only accessible, but also affordable. In addition, there will also be arating system so that the best mentors can be found faster.

Our target audience will be local college community art majors, specifically graduates and alumni—who will serve as the mentors—and current college students. Our app will especially benefit fresh college graduates who are still looking for jobs, or simply want to make extra money.



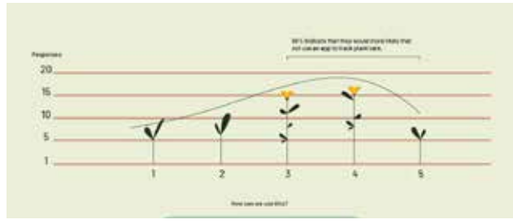


BreedBuddy

Designers: Brandon Huynh and Brandon Vargas

Our goal is to make the process of dog breeding safer, easier and more enjoyable, in order to open up the breeding community to people who are interested in being a part of it. We want to combine certain aspects of dating apps with stud finder websites in order to make a unique "dating" app for dogs. With this platform, we want to allow more accessiblity for those who are having a hard time being seen.

We want our design to be friendly, approachable, and trusthwory so that dog owners can feel safe and secure regarding their transactions and more importantly, the safety of their dogs. It will be easy to set preferences such as distance, gender, breed, in order to find a perfect breeding match for your dog through a cleaner, clearer, and friendlier user interface. Transactions would take place solely and securley through the app, garuanteeing buyer and seller protection. 'BreedBuddy' will be free compared to similar existing apps currently on the market and will require kennel certification that is needed in order to confirm that all dogs on this platform are healthy.

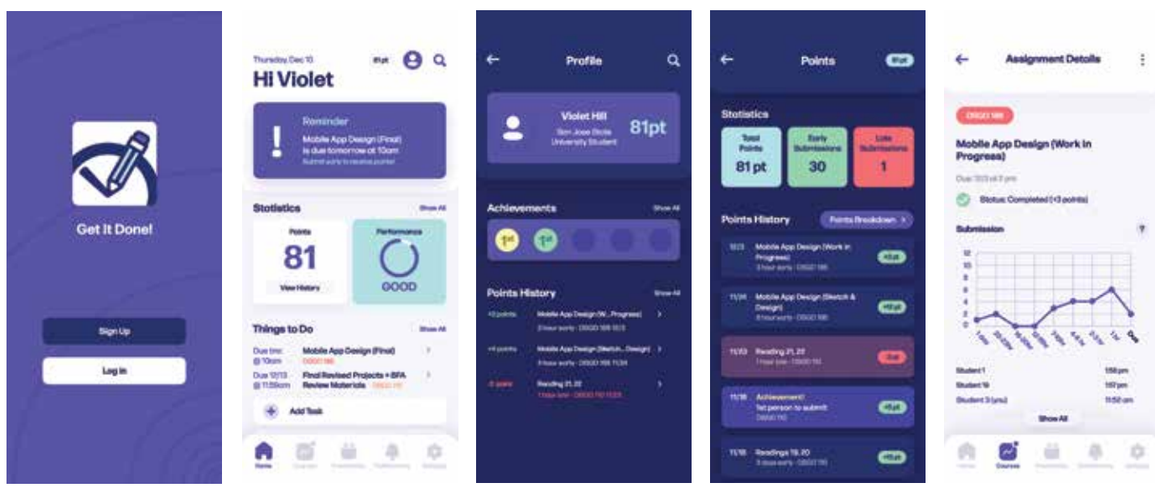


Green Thumb

Designers: Miguel Morejon and Sarah Sauerzopf

Maintaining plants is often viewed as a chore and novice plant keepers often kill their plants because of a lack of engagement or neglect about its care. Existing applications (apps) offer a wide range of solutions to maintain a variety of plants. The apps include helpful features like the ability to take a picture of a plant to identify it and gather useful information on its background and care. Some go further and offer a social forum for its users where the app encourages them to "like" or comment on other users' posts.

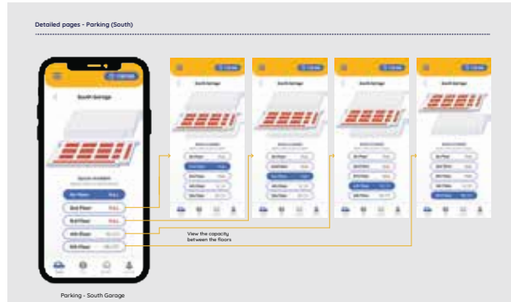
In contrast, our app will build a sense of community around plant care without the need to subscribe to a service or membership. It will provide information centered around the plant's care and best practices for its prosperity. It will also include relevant information like the plant's history, background, and origin. Our users will be more inclined to engage with other users by sharing images of the plant's growth and the user's successes. The app will also include an interactive avatar that thrives or dies based on the care that is being given to the corresponding plant. Although the app will not be actively monitoring the plant, it will provide important reminders to water or feed the plant as needed. These reminders, whether or not they are completed, will have a direct impact on its avatar. Users will have the ability to monitor their growing avatars while earning badges for special achievements.



Park Buddy

Designers: Tina Sun, Karla Peralta Ortiz and Phi Ho

The ParkBuddy App aims to provide students a stress-free parking experience by providing students with access to a real-time parking map, an occupancy percentage, messaging feature, and many more. With the messaging feature, students, staff, and faculty can communicate if they wish to reserve a particular parking space. ParkBuddy aims to decrease commuting stress; therefore, the app's design will be minimalistic and simple to help alleviate a potentially anxious commuter's stress. Contrary to other apps currently used by SJSU students, the ParkBuddy App aims to be much more than just a paying app. With features such as real-time parking map, occupancy percentage, and messaging, the ParkBuddy app is equipped to ensure students can find parking in a stress-free manner. Parkstash provides live parking occupancy and parking reservation for the users. However, according to our research, students can only check the occupancy percentage. The reservation feature is there, however, parking spots are private spaces in surrounding areas off campus. Additonally, this app does not have a paying function. Students have to jump to another app Parkmobile in order to pay.



Get It Done!

Designers: Lydia Lim and Ryan Parajas

College students have to deal with not only homework and classes but also have to deal with personal life and to some, work. It can be challenging to balance all of these since all of these are equally as important as each other. Students are met with my types of deadlines, whether it is for school or in their personal life, and managing time efficiently can be really difficult. When doing these assignments, they may get discouraged to work hard on their assignments or poorly manage their time because they feel like they don't get a reward from doing it. People have a motivation to go out and work because the reward out of it is money. But with doing school work, they feel like they don't get that kind of reward. We needed to find a way to motivate them to complete their assignments early in order to improve their time management skills.

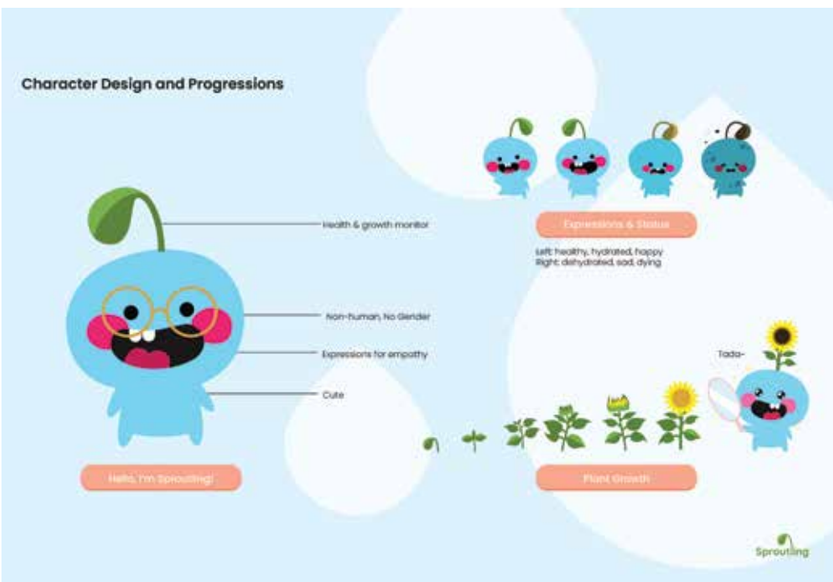
Get It Done! is a productivity app that targets college students. The purpose of our app is to help college students manage their school work and improve their time management skills is a fun way by receiving points every time they submit their assignment to Canvas. The earlier the students submit their work, the more award points they will earn. Our app is trying to motivate students to get used to doing things in advance.

Sproutling

Designers: Rachel Lee and Chako Shinmoto

Sproutling provides students with game-like graphics and customized plans to get a solid grasp on your personal water consumption. SJSU students are stuck at home during the quarantine and it's difficult for them to live a healthy life. Students are walking less, moving less, and communicating less. They want to stay connected with one another and stay healthy even at home. Our survey shows that over 84% of the students agree that they should drink more water on a daily basis. They also agree that drinking water is a healthy habit. The survey also revealed that although students acknowledge that they should be drinking more water on a daily basis, they still don't drink enough.

Sproutling is a health app that encourages students to drink water regularly and feel rewarded from completion. Sproutling is a health app for students to record their daily fluid intake. Users will receive notifications and reminders to drink water and to record their water reminder completions. In contrast to our competitors, Sproutling is built upon a reward system that keeps users motivated in regulating their daily water intake. The "Sproutlings" are cute avatars with plants growing out of their heads and the user must water the sproutlings for their sprouts to grow. When the users complete challenges they receive coins. These coins

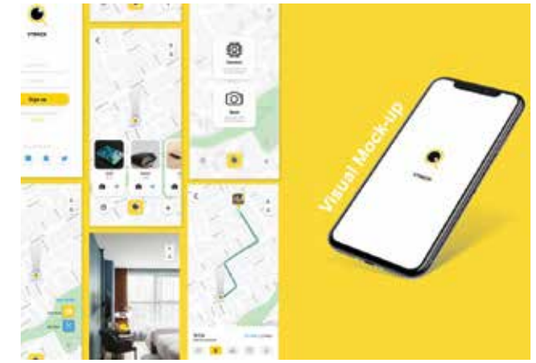


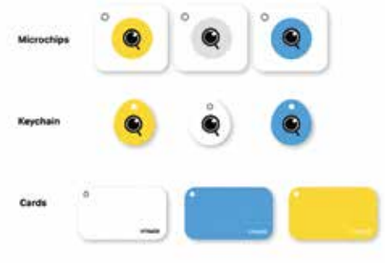
VTrack

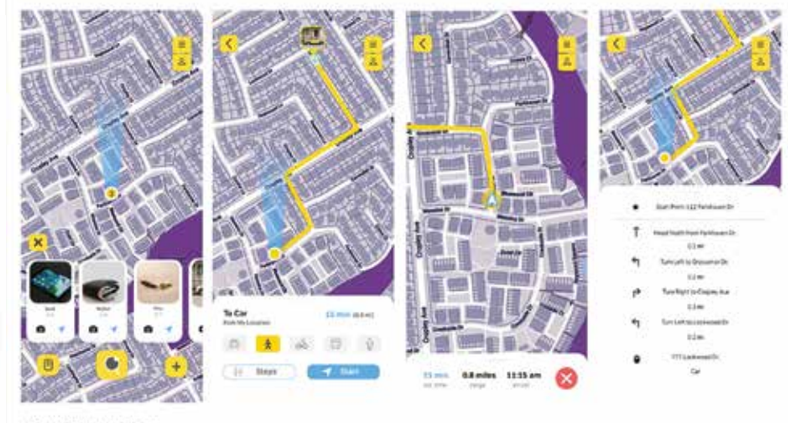
Designers: Effy Wang and Hung Tsai

When someone takes the wallet and places it in one of the many pants' or clothes' pockets, and then forget to take it out, the next time they might not be able to memorize the location of the wallet. After days, the wallet will be lost, then IDs, Credit cards and important items will be replaced, which is time-costing. Through the many Finder Apps available on the market, allows users to locate the items by a beeping and tracking microchip, however, one main problem is the volume. Hypothetically, if the smaller items are hidden under a pile of clothes, then the depth of obstacles will decrease the chips' volume, and make it subtle for human ears, not to mention hearing-impaired users.

The main purpose of VTrack is to help users find lost objects through their hearing, sights and touch. People often have small possessions such as keys,passports, eyeglasses, wallets, and so on. When those items are lost, finding them can be extremely challenging, especially inside the interi-or spaces. Our methodology is through AR and machine learning with the vibration of the phone and aids of sound, light, and GPS signals from the chips, assisting users to locate scanned items that they lost via different ways.Our functions focus to be used on interior spaces, enabling users to speed up the belonging-finding process.







Quicker

Designers: Maria Nieves Ortiz Coll, En Yu Ma and Linh Hoang

The wildfires have caused devastating damage in California. With no clear way to alert and keep the residents informed our team came up with QUICKER.

Its purpose is to help California residents navigate easily and fast through valuable wildfire information. The user will be able to navigate through active fire maps and maps with vital information as shelter, fire stations and evacuations routes

Our aim is to integrate all these helpful features into one app to prevent California residents from having to switch back and forth through different apps and devices to get fire information.

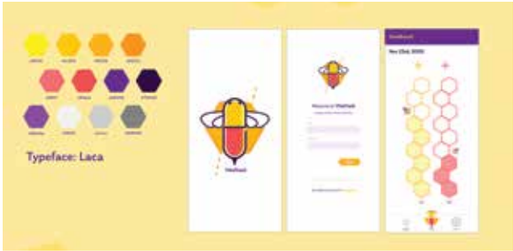
We strive for change. Our focus will be to create first; a centralized app with wildfire information and safety needs set by a zip code location. Second, an easy way to navigate the app with few clicks to reach information. To make sure the user gets what they need, we have done a survey that gathered over seventy answers which we will use as guidelines.

VitaTrack

Designers: Tanya Shrivastava

Sometimes we forget to take our vitamins because we loose track of time. Or we forget to take pills that we are not used to taking. Some simply want to learn, more about vitamins. Most apps that exist to solve these problems are expensive, limited, or constantly glitch. Hence why I decided to work on app that would make tracking pills and vitamins easy, and organize helpful general infomation regarding vitamins.

Vitatrack is an app that aims to make tracking vitamin and medication intake simple. With a friendly bee and hive theme to make taking vitamins and medication more engaging and fun. Furthermore, VitaTrack aims categorically organized information on each vitamin and what vitamins and minerals people should focus on based on age and sex.



Penzen

Designers: Diego Arreola

When we're bored, the brain's "Fight or Flight" mechanism starts to lose control, doing everything in its power to distract us. Doodling counteracts these distractions, giving the brain something easy to occupy itself on while still allowing one to pay attention to their surroundings. The purpose of this app will be to provide users with various doodling exercises to help them with a number of different tasks: Keeping them focused in a meeting/in class, keeping them relaxed during stressful moments, or helping keep them entertained. This app will be a combination of a coloring book and a sketchpad, allowing users to swipe from left to right to fill in shapes.

Doodling is a tool that has been proven to help people focus and feel better, and it is something many of us already do subconsciously when we have a pen and paper on hand. This app will be as approachable as possible to creative and noncreative minds alike, providing users with a customized experience depending on their preferences. To promote focus, this app will limit users as much as possible with the tools, colors, and designs they can interact with. It's not meant to distract them, it's meant to help them perform a simple activity while focusing, thinking, or unwinding mentally.

03

Intro to Exquisite 3D Printing

Workshop Lead

Dahn Gim

Event Date and Time

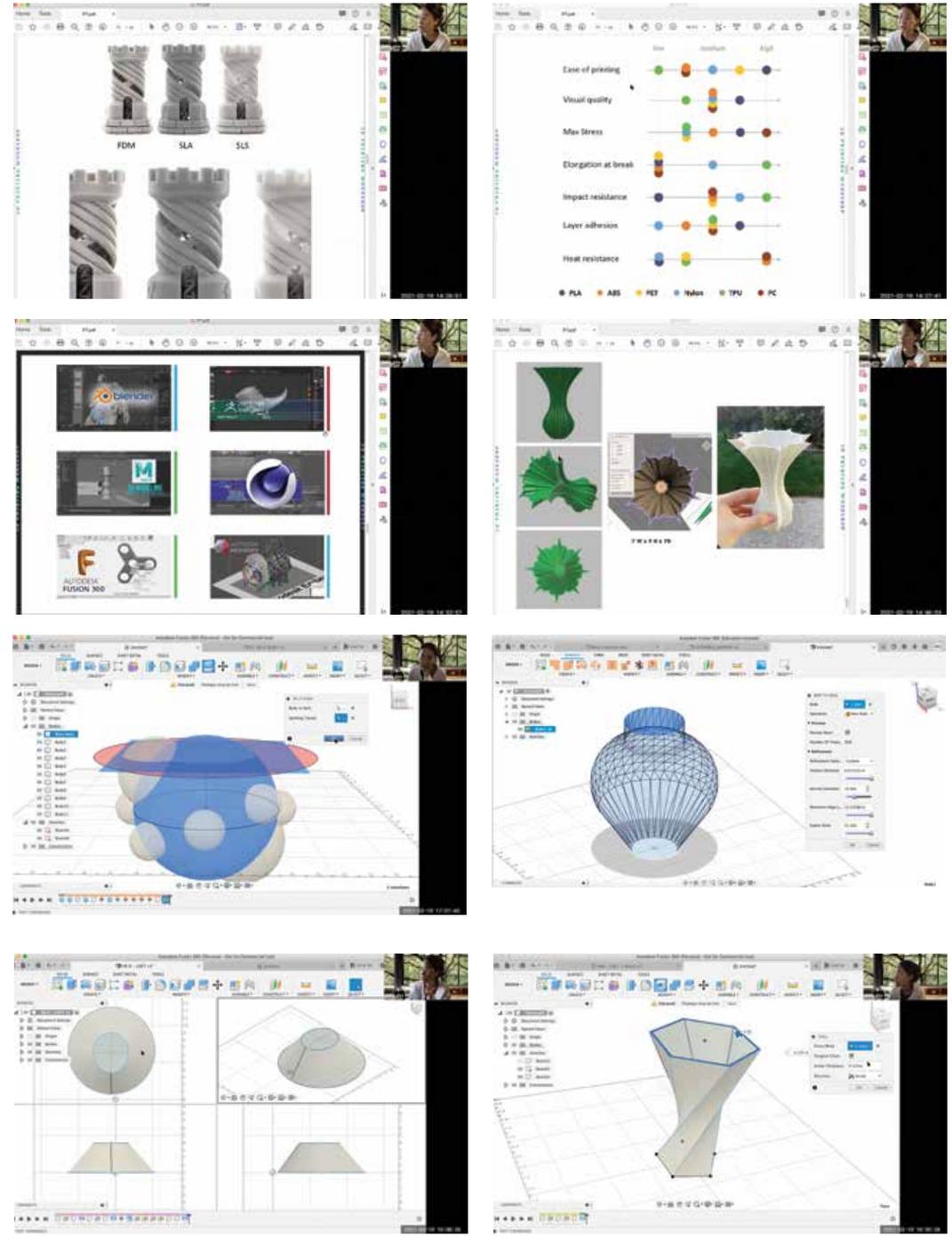
Friday, February 19, 2021 2pm-6pm

Bio

Dahn Gim is a visual artist based in LA/Seoul who explores hybridity both in concept and materials. Since completing her M.F.A. from UCLA in Media Art in 2015, Gim has been exhibiting at international venues such as BASIS in Frankfurt; GAS Gallery, Steve Turner, Brand Library & Art Center, AA|LA, LAMAG, Human Resources in Los Angeles; Somerset House in London; and Post Territory Ujoengguk in Seoul. Gim is also a founder of online art platform, makingout.city (www.makingout.la), an independent curator and an artistic director of Media Art Festival based in LA, FEMMEBIT.

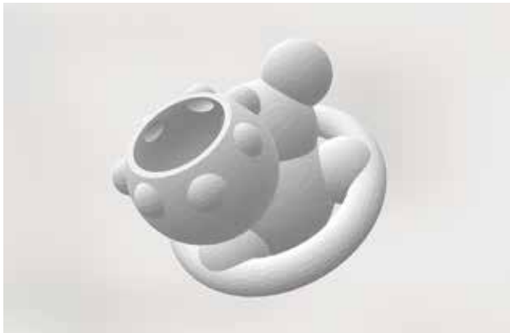
About the Workshop

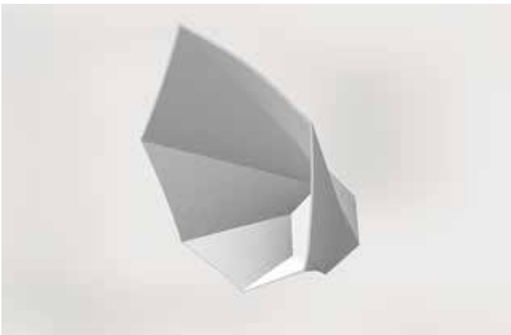
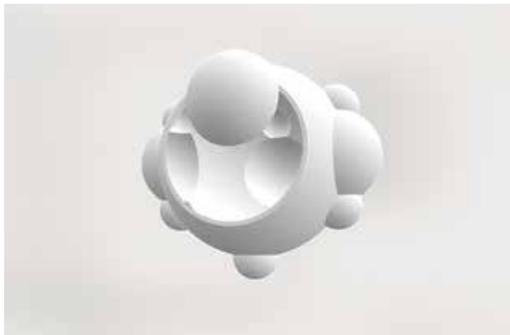
This workshop is for anyone who has never used this 3D modeling platform before. Considerate it as a basic introduction to CAD (Computer Aided Design) using Fusion 360 and 3D printing. During the 3.5 hour-long workshop, students are introduced to types of 3D Printer and Softwares, the process and the CAD-to-Printer workflow of designing a 2D sketch and transforming into a physical 3D object from scratch using Fusion 360's platform. Students will be guided through the basics steps to using the software and building an object. Second half of the workshop will be working independently to co-create a collective object as a class. Models created in this workshop will be printed, documented and given to the students. This workshop will be led by Dahn Gim, a visual artist/educator who has several years of applied 3D printing and fabrication experience from Southern California Institute of Architecture (SCI_Arc)'s Digital Fabrication Lab. This virtual live workshop will allow students to ask questions and get feedback as they go.



References and Demos from the Workshop



Student Works



04

Creative AI: From Expressive Mimicry to Critical Inquiry

Guest Speaker and Workshop Lead

Angus Forbes

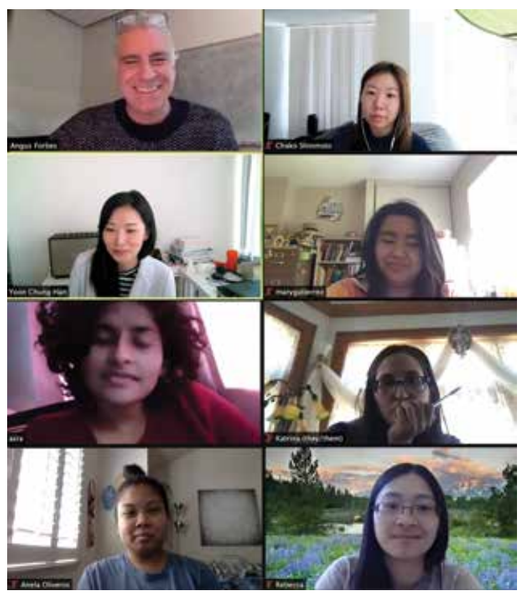
Event Date and Time

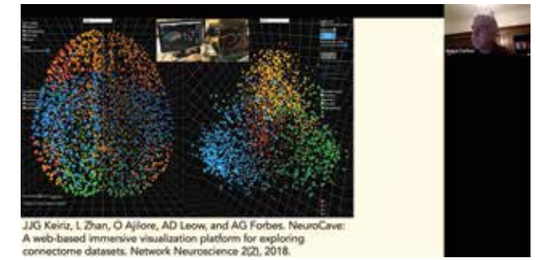
Lecture: Thursday, March 4, 2021 6pm-7pm

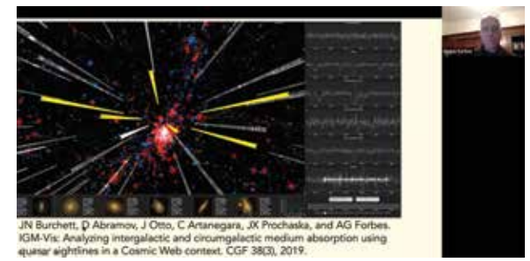
Workshop: Friday, April 30, 2021 10am-12pm

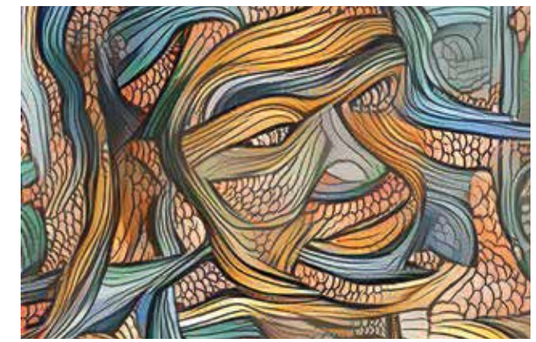
Bio

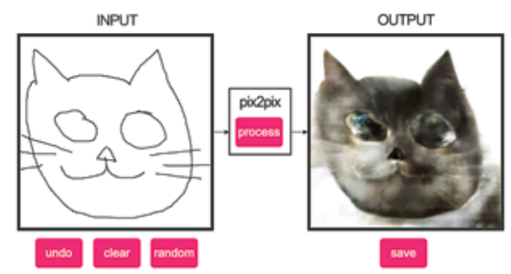
Angus Forbes is an Associate Professor in the Computational Media Department at University of California, Santa Cruz, where I direct the UCSC Creative Coding Lab. His research investigates novel techniques for visualizing and interacting with complex scientific information; his interactive artwork has been featured at museums, galleries, and festivals throughout the world. From 2013 through 2017, he chaired the IEEE VIS Arts Program, a forum that promotes dialogue about the relation of aesthetics and design to visualization research. He currently serves as the Art Gallery chair for SIGGRAPH 2021. More information about the Creative Coding Lab can be found at https://creativecoding.soe.ucsc.edu.











References from the Lecture and Student Works from the Workshop

05

Artificial Natures // Games of Life


Guest Speakers and Workshop Leads

Haru Ji and Graham Wakefield

Event Date and Time

Lecture: Friday, March 12, 2021 10am-11am

Workshop: Friday, March 12, 2021 12pm-3pm

Bio

Haru Ji is a media artist and co-creator of the research project "Artificial Nature", exploring the subject of life in art through artificial life worldmaking: a form of computational generative art creating and evolving virtual ecosystems as immersive environments. She holds a Ph.D. in Media Arts and Technology from the University of California Santa Barbara, an MFA and BFA from Seoul National University, and studied image engineering, computer graphics and 3D animation at Chung-Ang University, both in Seoul, Korea. She is an Assistant Professor in the Digital Futures and Digital Painting & Expanded Animation programs at OCAD University in Toronto, Canada, and was previously Assistant Professor of Art & Technology in the School of Consilience at Sogang University in Seoul, Korea.

Graham Wakefield's research has evolved from computer music composition to the generation of open-ended environments for exploratory experience, emphasizing continuation over closure. This work is expressed through software design for creative coding, and immersive artworks of artificial ecosystems (both leveraging live system evolution through dynamic compilation). He is Associate Professor in the School of Arts, Media, Performance and Design and Canada Research Chair of Computational Worldmaking at York University, Toronto, where he runs the Alice Lab. He holds a BA in Philosophy from the University of Warwick UK, a Master in Composition from Goldsmiths College University of London, UK and a Ph.D in Media Arts and Technology from the University of California Santa Barbara, USA. Graham played a central role in the development of software systems and authoring content for the AlloSphere: a three storey spherical multi-user immersive instrument in the California Nano-Systems Institute. Graham is also a software developer for Cycling '74, co-authoring the Gen extension for the widely-used media arts environment Max/MSP/Jitter. His works and publications have been performed, exhibited and presented at international events including SIGGRAPH, ICMC, NIME, EvoWorkshops and ISEA.

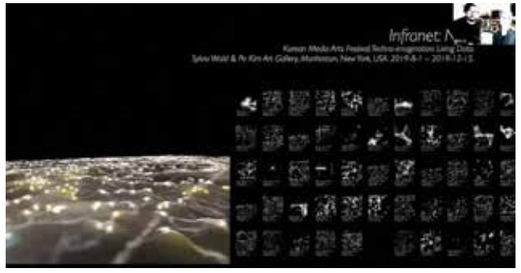
About the Lecture and the Workshop

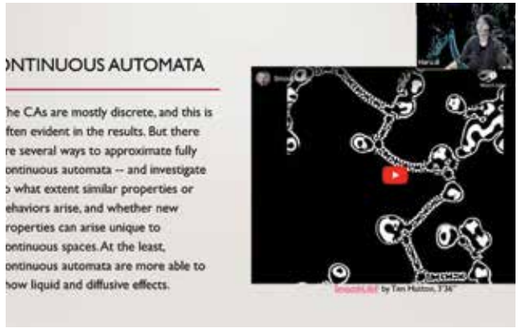
Humans have always looked to nature for inspiration. As artists, we have done so in creating a family of "artificial natures": interactive art installations surrounding humans with biologically-inspired complex systems experienced in immersive mixed reality. The invitation is to become part of an alien ecosystem rich in networks of complex feedback, but not as its central subject. Although artificial natures are computational, we draw our inspiration from the sense of open-ended continuation and the aesthetic integration of playful wonder with the tension of the unfamiliar recalled from childhood explorations in nature.

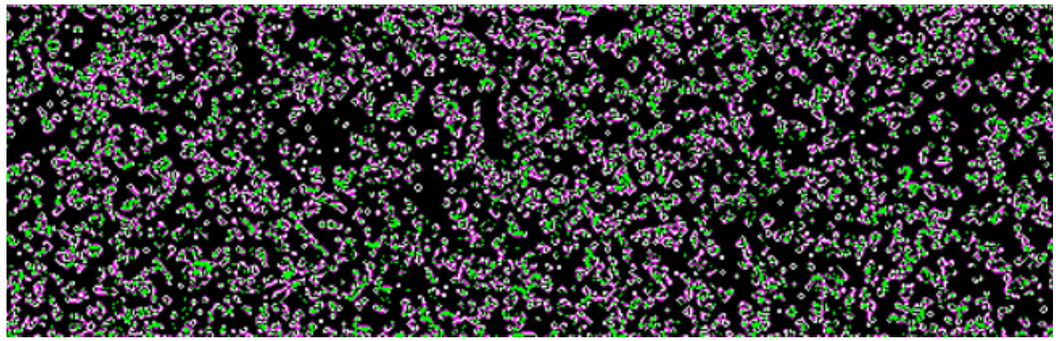
In our contemporary culture, with new media, the clear line between life and non-life became blurred. The more microscopically we could see life, the more it seemed that the difference from non-life was not the materials, but how they are organized. Cellular Automata (CA) demonstrated clear examples of how non-living machines can give rise to these kinds of emergent behaviors seen in life. A CA is a grid of cells, each of which can be in one or another state, and which follows a very simple set of rules to change its state according to the states of other cells nearby. The CA model is a foundation of fields of Artificial Life, AI, Complexity, as well as the development of modern computers, but also to interdisciplinary and generative art and design practices.

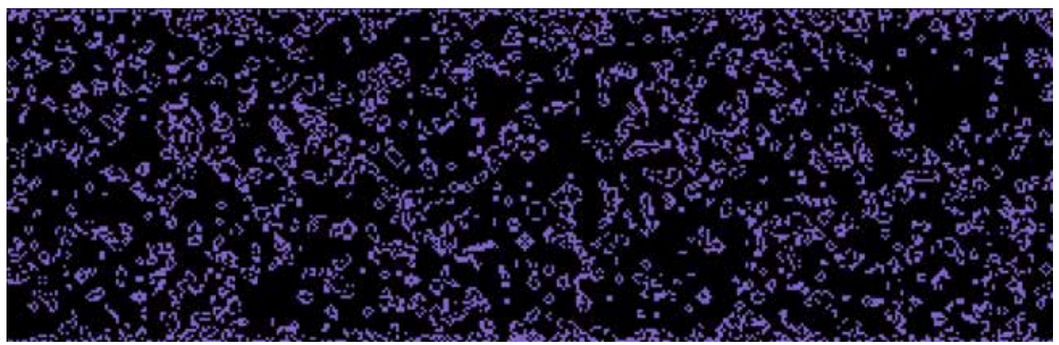
In this workshop we will examine the nature of CAs, their history and how they work. The best way to really understand CAs is by making them. We will build two of the most fascinating examples of emergent cellular automata: John Conway's Game of Life and Christopher Langton's Ants. By doing so we will explore its essential components and how they can lead to precarious, emergent, and resilient systems.

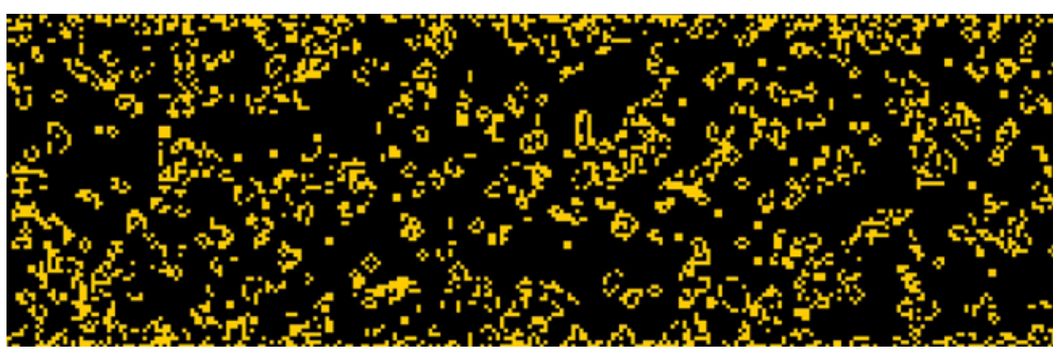
We will use web-based Javascript editors to make these short lines of scripts together. This code should be intuitive to read and parse, and we will examine how we can alternate it to fit to your design and art expressions. A computer with internet connection is required however, coding experience is not.

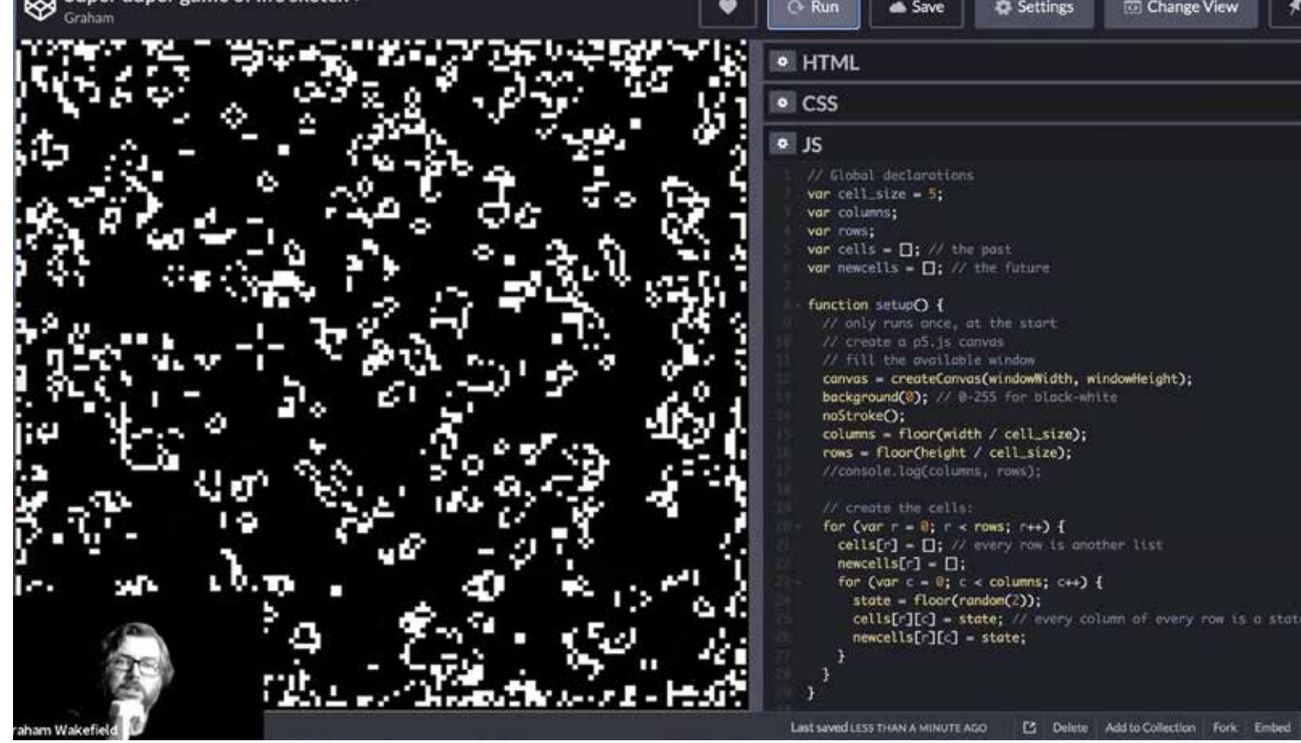



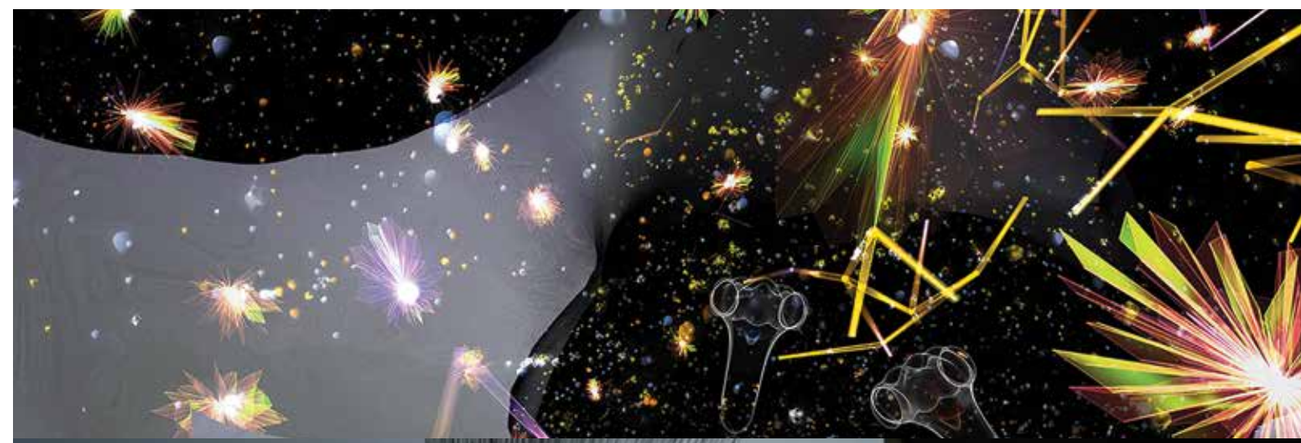












Student Works (left) and Works of the Guest Speakers (right)

06

I Learn Humanities by Making Art with AI

Guest Speaker and Workshop Lead

Eunsu Kang

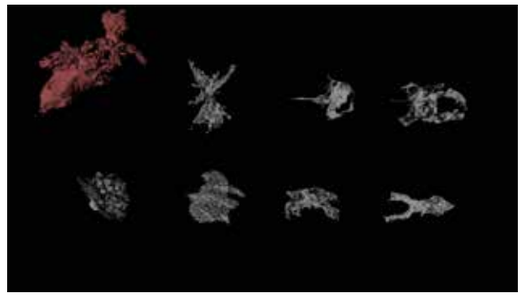
Event Date and Time

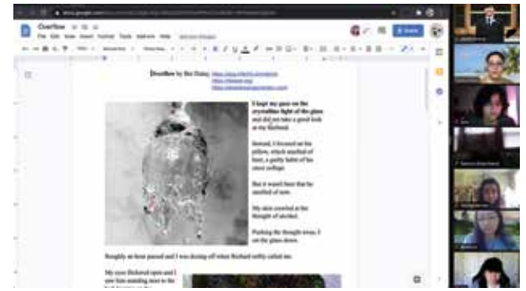
Lecture: Wednesday, April 7, 2021 6pm-7pm

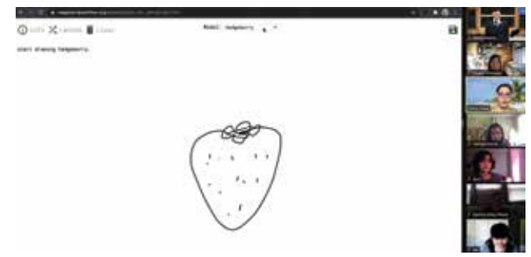
Workshop: Friday, April 9, 2021 11am-2pm

Bio

Eunsu Kang is an artist, a researcher, and an educator who explores the intersection of art and machine learning as well as the possibility of creative AI. She started her artist career with video installations and single channel videos. After more than 100 art exhibitions around the world. Her works have transformed into interactive and interdisciplinary art projects, which currently focuses on the nascent area of AI art. All ten of her past solo shows, consisting of individual or collaborative projects, were invited or awarded. She has won the Korean National Grant for Arts three times. Her works have been presented at conferences including ACM, ICMC, ISEA, SIGGRAPH Asia, and NeurIPS. Kang earned her Ph.D. from DXARTS at the University of Washington, an MA from MAT at UCSB, and an MFA from Ewha Womans University. She left her tenured art professor position to design and teach new courses (Art and Machine Learning, Creative AI) at the Machine Learning Department of Carnegie Mellon University. Recently she co-founded the Women+ Art AI collective. Kangeunsu.com

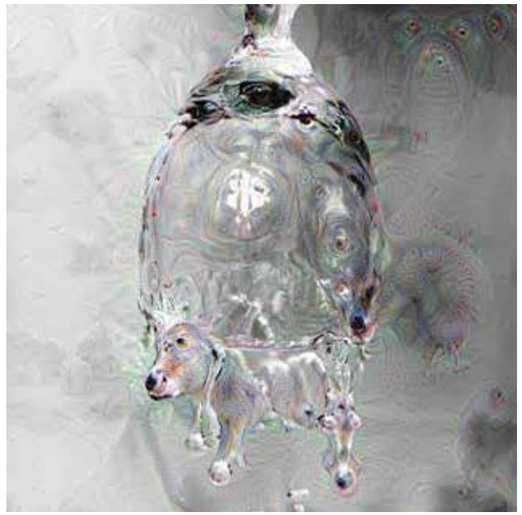
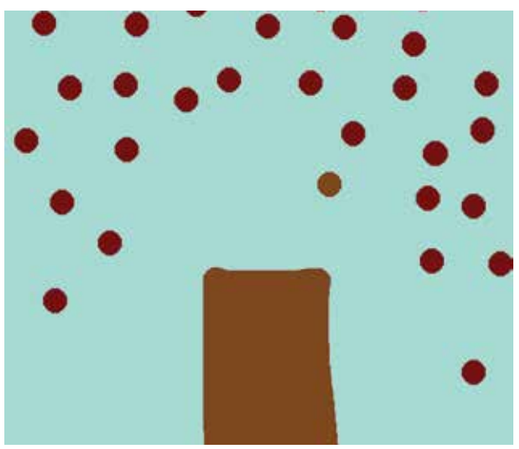






References from the Lecture and the Workshop




Student Works

Created by Asra

the rat face (better than the invisible nose)

1 by ss (for those who're wondering, the edge pixels are simply randomly shuffled from the remaining 5 levels. A randomly-generated texture is used for the outline on the eyeballs)

onks (for those who're wondering, the edge pixels are simply randomly shuffled from the remaining 5 levels. A randomly-generated texture is used for the outline on the eyeballs)

thomas the goblin (this was for the map running at a 6x speed)

joy (for the tiny snowman)

different

There's not much to say about this map, because basically everything was done by several people. Some work went into it, some was not done at all, the players defined the rules and I wrote some scripts to execute the first one.

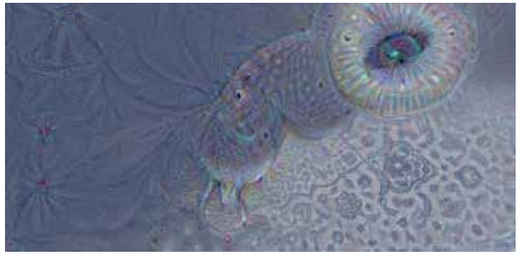
strange

KwaZulu-Natal

I used Tommaso's base:

This map was sort of designed by Duncan as well:

red dot : map



Created by Chako

"Just keep swimming" is a good battle cry.

I bet if you said "just keep swimming" to Arceus when he tried to eat you, he wouldn't have been able to because he's a god and can do anything.

Just imagine trying to swim in a toilet made of gold, silver, platinum, diamonds, wood, crystal, cherries, sausage, peas, honey, and anything else you can think of.

You can swim in a toilet made of any of those things, right?
Oh, we haven't quite got to the best bit yet.

If you try to swim with a toilet made of any of those things the only things you'll swim in is a turd soup!

The thing about turd soup is that you don't notice it's even there, because it smells so nice, like a cold Sunday afternoon.

After a while though, you notice that your teeth are chattering, and you have a nasty cold.
"Oh no!" you say to yourself, "I am going to die a horrible death from the stupid, disgusting turd soup!"

You almost forgot to put on deodorant!

Happy Students!

Acknowledgements & Organizers

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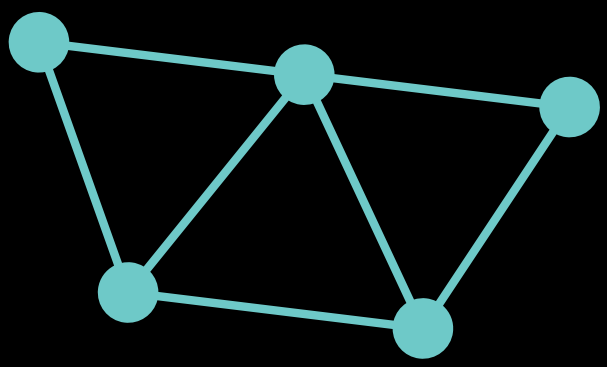

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