Perry Owens

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Education

University of Colorado Boulder   May 2024
Master's of Science in Creative Technology and Design
  Thesis: "*Triangulation:* Connecting scattered disciplines throughout the ATLAS Institute"

University of Colorado Boulder   May 2022
Bachelor's of Science in Creative Technology and Design
  Capstone: "*The Eye of the Beholder:* Using AR markers to facilitate tactile gameplay"
  Minor: Biomedical Engineering

Skills

Physical Fabrication
  Woodworking: Carpentry, Cabinetry, Sanding, Table Saw, Chop Saw, Band Saw, Drill Press
  Metalworking: MIG Welding, Cold Working, Dremel
  Molding/Casting: Silicone, Resin, Plaster, Alginate
  Traditional Media: Graphite, Watercolor, Acrylic, Calligraphy, Linoleum-Printmaking

Digital Fabrication
  3D-Printing: Prusa Mini/MK3/MK4, Creality Ender 3
  Laser-Cutting: Epilog Fusion M2, Universal 60W
  Electronics: Arduino UNO/MEGA/Nano, ESP32, Analog/Digital Circuits, Motors, Sensors, LEDs

Software
  Languages: Arduino IDE, p5.js, C#, HTML/CSS/JavaScript
  3D-Modeling: Rhino 7, Grasshopper, Fusion 360, Blender, Prusa Slicer, Ultimaker CURA
  Adobe Creative Suite: Photoshop, Illustrator, Acrobat, Premiere Pro, InDesign
  Game Design: Unity, PICO-8, Aseprite

Professional Experience

CU Boulder - BTU (Blow Things Up) Lab   Jan 2023 - May 2024
Lab Assistant
- Managed the ATLAS Institute Woodshop and provided safety orientations for power tool usage
- Trained ~10 students weekly to safely operate laser-cutters, soldering stations, and 3D printers
- Mentored multiple classes of students with their personal projects and school assignments

Redline Contemporary Art Center   Sep 2023 - Dec 2023
Artist Intern
- Assisted artist Autumn T. Thomas with the preparation, installation, and removal of sculptures
- Curated, sanded, and prepared The Curly Grain wooden cutting boards for oil-finishing
- Photographed and edited cutting boards to highlight their exotic wood construction

Museum of Outdoor Arts   Jun 2023 - Aug 2023
Design and Build Intern
- Conceptualized, prototyped, and fabricated sculptures that embody "Good Vibrations"
- 3D modeled, printed, polished, and prepared a statue to be cast in bronze
- Combined motors, laser-cut panels, and Neopixels with Arduino in a motion-activated diorama

CU Boulder - ACME Creativity Machine Environment Lab   Jan 2021 - April 2022
Research Assistant
- Collaborated with Dr. Peter Gyory to create affordable alternative game controllers
- Digitally designed a miniature arcade (Tinycade) that can be easily constructed from cardboard
- Created digital games that can be played using just a smartphone and Tinycade

Project Experience

Triangulation — Jan 2024 - May 2024

- Within the constraint of a $1500 budget, designed, prototyped, manufactured, and installed 15 network-connected lanterns which react to the presence of people, in a commercial space
- Designed the lanterns by 3D-modeling them in Rhino, and fabricated them with a combination of laser-cutting, 3D-printing, ESP32's, Neopixels, and Microwave Radar motion detectors
- Closely collaborated with the Office of Information Technology to ensure Wi-Fi connectivity by adding the MAC addresses for the ESP32 devices to the secure university network

The Space Between — Jan 2023 - May 2023

- Created a large-scale installation for a commercial environment by serving as primary cloud fabricator in collaboration with a team of four graduate students
- Mapped the cloud framework in Rhino before constructing them with a lightweight cardboard interior, wire-frame mesh superstructure, and cotton-padded exterior
- Responsible for the power management of lighting 1k+ Neopixels split amongst 12 clouds whilst ensuring no power loss despite their lengthy connections to one central Arduino MEGA

Chess We Can — Jan 2023 - May 2023

- Designed, prototyped, and fabricated a wooden chess board with integrated Neopixel grids and magnet sensors that track the locations of the pieces and show their available moves
- Constructed the chess board from scrap material using laser-cutting and woodshop tools with a modular design to allow for easy access to the electronics embedded underneath
- Integrated Neopixels and interpreted data from 64 Hall-Effect sensors registered through 4 multiplexers by training the Arduino IDE with the fundamental rules of chess

The Future of Problem-Solving — Aug 2021 - Feb 2022

- Sculpture featured in the Boulder Experiments in Technology (B.E.A.T.) exhibit at the Museum of Boulder from Oct 2021 - Feb 2022, and subsequently showcased in the 2022 ATLAS Expo
- Modeled and rendered a sculpture using Rhino, fabricating it with laser-cut mirror panels, plaster-casts of my hands, 3D-printed mechanical hands, and a functional Rubik's cube
- Utilized LEGO parts to allow functional posing of the mechanical hands, and 3D printed the Rubik's cube in 27 individual modules connected with dowel inserts to allow full rotation

Publications

Peter Gyory, **Perry Owens**, Matthew Bethancourt, Amy Banic, Clement Zheng, and Ellen Yi-Luen Do. 2022. Build Your Own Arcade Machine with Tinycade. In Proceedings of the 14th Conference on Creativity and Cognition (C&C '22). Association for Computing Machinery, New York, NY, USA, 312–322. https://doi.org/10.1145/3527927.3533023

Presentations

Peter Gyory, **Perry Owens**, and Dylan Turner. 2022. Build Your Own Arcade Machine with Tinycade [Conference Presentation]. ALT.CTRL.GDC Showcase in Game Developer's Conference (GDC '22). Informa PLC, London, England, SW1P-1WG. https://gdconf.com/news/here-are-amazing-games-play-2022-altctrlgdc-showcase

Relevant Coursework

Design: Aesthetics in Design, Art Design & Engineering, Design Foundations, Design Studio
Adobe Creative Suite: Image, Text, Web, Sound, Light and Perception, How Things Work
Game Creation: Game Design, Game Prototyping, Game Development, Game Production Studio
Digital Fabrication: Alternative Arcade Interfaces, Human Machine Interfaces, Digital Fabrication
Physical Fabrication: Form, Object, Materials, Advanced Fabrication, Creative Technologies
Software: Code, Creative Code, Computational Foundations II, 3D Animation