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Projects

DrawTalking: Building Interactive Worlds by Sketching and Speaking (Thesis Project)
- Prototyped an approach to building interactive worlds by sketching and speaking.
enables programming-like capability without needing code.
- Sole programmer, built project from the ground-up. Led ideation, design, and team direction.
- Designed and ran user studies (qualitative feedback, interviews, artifact-generation)
  - **- Demo: https://drive.google.com/file/d/1JJpK5O3qpu8I7VDIPDH0beQv6se-H0xk**
  - **- Paper: https://arxiv.org/abs/2401.05631 (CHI '24 LBW, Under Review for UIST '24)**
- Code to-be-released since under review for conference publication.

Note: the following projects have more information (images, videos) on their GitHub pages:

XR MetaRoom: Multi-user WebXR Engine with Built-in Live Coding
- A team WebVR / WebXR project for multi-user VR, built basically from the ground-up and used for my advisor's VR class's assignments and final projects. I was the main architect / engineer for this project.
- I emphasized live reloading of scripts and shaders for fun rapid prototyping and improvised world-building and storytelling. A desktop user could edit code and simultaneously, VR users could experience the changes interactively.
- **Page:** https://github.com/KTRosenberg/XR-MetaRoom

MagicWhiteboards / Multiuser Workstation VR
- Multiuser VR sketching with dynamically-customizable sketching surfaces and user-positioning (for CHI LBW research I collaborated on)
- **Page** https://github.com/KTRosenberg/Exploring-Configuration-of-Mixed-Reality-Spaces-for-Communication

ProjectionDraw VR
- My first VR project, focused on making 3D sketching interaction easier by enabling drawing on geometry and surfaces
- **Page:** https://github.com/KTRosenberg/ProjectionDraw

Custom 2D Game Rendering Engine and Editor Prototypes
- First experiments for a C++ and OpenGL mini game with sloped platformer physics, parallax scrolling, live reloading of C++ code, and custom music with toggle-able instrument tracks
- **Page:** https://github.com/KTRosenberg/Game-and-Graphics-SDL-openGL

Unfolding Object Web Art Restoration Project
- Team collaboration with the John F. Simon Guggenheim Time-Based Media Lab to bring a web artwork to new audiences (recreating a digital artwork faithfully from scratch with custom rendering)
- **Official Release Blog Post:** https://www.guggenheim.org/articles/checklist/the-guggenheim-restores-john-f-simon-jr-early-web-artwork-unfolding-object

Music
- https://soundcloud.com/synchronizerman