2 Project Plan

2.1 Project Management/Tracking Procedures

We have been practicing Agile methodology because our project focuses on the user and industrial design process. Agile project management style provides greater flexibility and feedback from our client as this is a consistently adapting project.

To track our progress, we record and cross off general to-do items in our meeting minutes, which is in a separate section of the shared document. For immediate actions, we have a special channel in our Discord server reserved for to-do items. We will also use a Git repository (GitHub/GitLab) for software development, which includes an issues list for tasks exclusive to software.

2.2 Task Decomposition

- Discover
    - Primary Research
        - Expert Interviews: in-person and virtual
    - Secondary Research: focus on academic resources
- Define
    - Insights: track behaviors and patterns related to the topic
    - Themes: identify overarching themes
    - Opportunity Areas: where there are possibilities to fill users' needs
- Develop
    - Ideation: brainstorm solutions with a focus on quantity
    - Evaluation: select possible solutions with a focus on quality
- Implementation
    - Build, Test, Iterate

2.3 Project Proposed Milestones, Metrics, and Evaluation Criteria

- Discover (first-semester focus)
    - Complete two, four, and six total expert interviews in weekly increments, with additional ones as needed
        - Focus on artificial intelligence, brain science, and interactive echibits
    - Complete secondary research with at least two dozen academic or reliable sources
- Define (first-semester focus)

- Identify at least three themes for reverse engineering the brain
- Research six areas of opportunity within the field
- Define our problem in more detail and select a focus area of opportunity
- Develop (first- and second-semester focus)
  - Brainstorm a dozen possible 'solutions' to educating about reverse engineering the brain
  - Select an idea to implement based on at least a dozen defined criteria
- Implementation (second-semester focus)
  - Create a functional prototype and test-run with a dozen expected users
  - Make changes and repeat the above at least three times
  - In the final public display, reach a total of 100 users over the course of five days

2.4 PROJECT TIMELINE/SCHEDULE
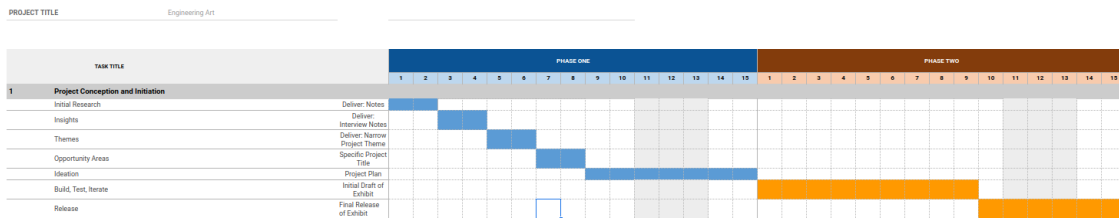
2.5 RISKS AND RISK MANAGEMENT/MITIGATION

Risks with HoloLens

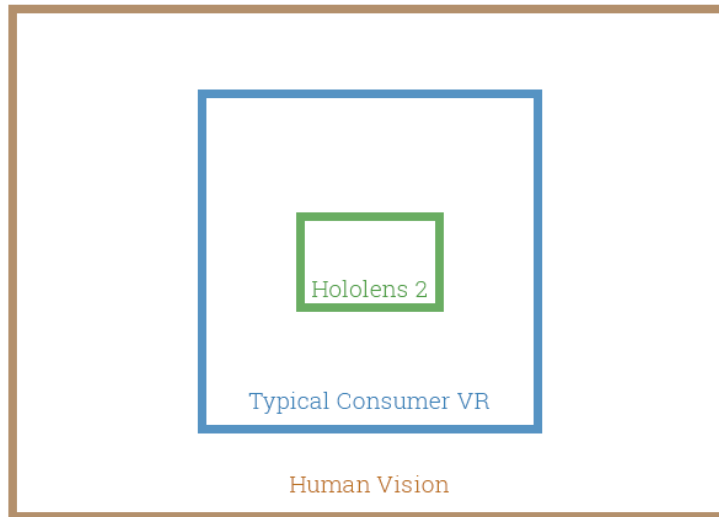| Risk	Probability (estimate)	Risk mitigation plan (if needed)
View area for HoloLens is too small for our purposes (see image 2.5.1	0.7	Develop for Oculus Quest VR instead, or scale back project so this is no longer a problem.
HoloLens battery life is too short for our purposes	0.4	Could be plugged into power between each use. If that's still not enough time, we could keep it plugged into power constantly.
HoloLens breaks	0.2	Probably cannot get another one but we can always move to a different VR/AR platform (it all uses Unity anyway)

Image 2.5.1: Rough Comparison of HoloLens 2 Field of Vision vs. Virtual Reality and Human Vision
(https://uploadvr.com/hololens-2-field-of-view/)

Security Risks with AI and Cybersecurity

Risk	Probability (estimate)	Risk mitigation plan (if needed)
AI becomes self aware and takes over the world	0.000000000001	Be nice to AI
Users could find a way to install other software (possibly malicious)	0.3	Digital signing code ensures that only Signed Firmware updates are completed, preventing activities like Debug over USB from being installed.
Users change settings and/or configurations that result in an insatiable installation	0.4	PageVisibilityList policy can be reset to restrict the pages seen within the Settings app.
Software vulnerabilities affect the HoloLens	0.6	Configure the Hololens to automatically check and apply updates.

2.6 Personnel Effort Requirements

Projected Tasks	Time Period Projection	Team Members in Charge of Tasks	# of Hours Projected to Accomplish Tasks	Projected Cost of Each Task
Secondary Research	ongoing	Team effort	N/A	no cost
Primary Research	10/31/2022	Team assigned groups	10 hours	no cost
Escape Room	11/15/2022	Whole team	2 hours max	$180 (30 per person)
Museum visits	10/04/2022-10/05/2022	2 teams	2 hours	no cost
Discover and define phase (deep dive research)	10/28/2022	Team effort	N/A	N/A
Lightning talk 1	10/20/2022	Team Effort	5 hours	N/A
Prepare for group presentation	Presentation by dead week	Team Effort	50 hours	N/A
Develop phase starts	First day of second semester	Team Effort	Be ready	N/A
Start building code for VR game	TBD	SE Team	N/A	N/A
Configure security policies	TBD	Security team	N/A	N/A
Purchase gaming PC (may not be needed)	beginning of development phase	Team effort	N/A	$500+

Final Presentation of Project	Accumulated hours until now	Team Effort	All hours until now	LOTS of Money gone

2.7 OTHER RESOURCE REQUIREMENTS

Identify the other resources aside from financial (such as parts and materials) required to complete the project.

Resources:

- Hololens (managed by ETG)
- VR headset
- Compatible controllers for an AR or VR experience
- Software to create an AR or VR interactive art installation
    - A paid Unity subscription *may* be required to export for AR/VR platforms
- Capable hardware for designing and running an AR or VR interactive art installation
- Willing participants
- Experts and their contact information for related fields
- Space for final interactive display/exhibit