Status Report

Representing Public Art Using AR

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Proposal

Motivation

Public art has a long and storied history in urban development and revitalisation projects. However, creating the art is costly and takes time. With the growing acceptance of everyday AR through projects like the Meta Orion can people get the same feelings from digital public art as they do from physical public art but without the costly construction?

Aims

This project will evaluate how people view and feel about digital public art by creating an AR experience in multiple different locations with different art pieces. This will be used to gather data about how people feel about this potential next step forward for public art and how it can be made better.

Progress

- Development environment chosen: The project will be developed for the Meta Quest 3 using Unity with the Meta SDK
- Basic design decided: 3D models will be shown in different locations using AR
- Background research done on the following topics: XR design Principles, Art in AR, Public art and how to evaluate it, Public spaces.
- Initial Survey done to gather data on where people might place certain types of public art. This is to reduce any issues you might get from putting the wrong art in the wrong places.
- Investigated different approaches to locating the 3D objects in real world space. Meta SDK Spatial anchors will be used with a backup of manual placing.
- Basic implementation of project which allows for placing spatial anchors in places that persists across loading the app.

Problems and risks

Problems

- Meta SDK has recently had a fairly large change to how it is structured meaning that a lot of resources for it are outdated and not helpful.
- Using Git as a version control for Unity has lead to many issues in the merging or rolling back of changes. Unfortunately, the free version of the Unity version control is not good enough to warrant changing.
- Developing in Unity is complicated and has a lot of its functionality obfuscated especially when using packages like the Meta SDK. This makes it difficult to know the particulars of the implementation which has led to time wasted developing impossible solutions.

Risks

- Spatial anchors have a degree of error which needs to be accounted for. To mitigate this I will also include a manual placement option for robustness.
- Using the Meta Quest 3 headset outside could cause damage to it either through rain damage or sunlight damaging lenses etc. I will mitigate this by limiting the amount of time the headset is worn outside and ensuring I don't test it in adverse weather conditions.
- Care needs to be taken when undergoing the evaluations as while wearing the Meta Quest 3 Headset the user is not as aware of their surrounding. This could lead to potential harm to the participants. To mitigate this I will ensure that I will keep them aware of their surroundings while performing the evaluation.

Plan

- *Week 1-4*: Finishing Implementation
  - **Deliverable**: The working code and app for evaluation
- *Week 5-7*: Running Experiments:
  - **Deliverable**: Raw data which will be Analysed.
- *Week 7*: Data Analysis.
  - **Deliverable**: Analysed data shown to supervisor to discuss what this data shows.
- *Week 8-10*: Write up.
  - **Deliverable**: First draft of Essay will be shown to supervisor for discussion.