**Art Virtually Project Specifications**

**Scale:**

For modeling the gallery environment, each unit along each axis in 3D space must correspond to a real life unit of measure.

1 unit = 1 meter

Images will be diverse in size and orientation so scale feature needs to be included to allow . viewers to judge image dimensions.

**Movement:**

The user would be in a stationary position with the ability to look around using the VR headset, but not move.

**User Interface:**

Both Google Cardboard and Samsung Gear VR have enough input capabilities to share a common input element. Both can be made to simulate a single click on the screen of the display device. Using this will allow the app to have more user control than if it were based solely on gaze activation. The user interface would be designed such that anything in the scene intended to be interact-able would be highlighted by the user looking at the item in question and using the device “click” input to select it. This will prevent the common problem present in gaze activation of the user unintentionally selecting something.

**Consideration: Ease of navigation is critical since some of the target population may not be tech savvy.**

**Art Display:**

The art pieces would be divided up into groups by artist. An artist identifier needs to be included when grouped images are presented. A single group may contain any number of pieces (depending on their sizes and orientations) that fit within a defined area to be displayed to the user. Only one group may be displayed at any given time.

When viewing a group, the user may select any given piece shown by looking at it and using the aforementioned “click” input to bring up information about the piece. A subsequent “click” will remove the information and allow the user to repeat this process to view information about other pieces or move to the next (or previous) group.

When details of a piece have been presented to a user, the piece is brought in front of the user for closer inspection and all other interface elements are disabled until the subsequent “click” as mentioned occurs, at which point, the piece will be placed back with the others in its group and the user will be free to make their selection again.

Users will be able to mark favorites and return to selected pieces for further review.

An indicator providing percentage of available images viewed needs to be visible.

**Gallery Selection:**

Because only one group of art pieces will displayed at a time, the user interface should be designed such that there would be interface elements present which would allow the user to transition between groups.

A user interface will allow users to access a particular artist’s work by selecting an element to bring up a list of groups. Each group selected from this list would show information about which pieces it contains.

**Gallery Storage:**

Each gallery is intended to be a collection of art pieces put together by the gallery owner and made available for the app. On the front-end, these galleries should be handled as downloadable packages (called “asset bundles” in Unity terminology). The galleries would be made available to the user and downloaded upon launching the app. In addition to containing the individual art pieces, each package would also contain meta-data describing the properties of each piece that will be used for placing them in the virtual gallery and displaying information about them.

**App Flow:**

1. User launches the gallery app.
2. App examines which galleries are available based upon the individual code assigned as a gallery identifier.
3. Users will only see the gallery that aligns with the provided code..
4. Main menu is displayed.
   1. Options are presented to view galleries or exit the app.
5. User is loaded into selected gallery.
6. User is free to explore gallery using mechanics as described in this document.
   1. User may select an interface element to return to main menu.

App Launch Process:

1. Provide an interlude/indicator to alert user that images are being loaded.
2. Include background music during viewing process.

VR Gallery Technical Plan

Create user interface prefabs and base logic:

 Button

 Selectable list

 Text panel

 VR interface selection logic

Create main menu:

 Check server for available galleries.

 Download missing or modified galleries.

 Remove any galleries made unavailable by the gallery owners.

 Construct menu options (View Galleries, Exit).

◦ View Galleries (displays list of unlocked galleries to view).

▪ Has sub-menu option to unlock galleries.

◦ Exit (closes the app).

Create gallery environment:

 Part 1

◦ User view through VR.

◦ Load art pieces into gallery.

▪ Develop heuristics for sorting the pieces.

 Sorting by genre and artist.

▪ Split the sorted pieces into groups.

 Implement algorithm for layout of pieces within groups.

◦ Tracking for which pieces have been viewed and which are manually tracked by the user.

▪ Manual tracking is equivalent to “Favorite” pieces.

 Part 2 [

◦ Display groups.

▪ Implement group switching logic.

▪ Add user interface elements for navigation and interaction.

 Leave Gallery (returns to main menu).

 Next Group (navigates to the next group).

 Previous Group (navigates to the previous group).

 View Group List (displays the list of available groups).

◦ Display group list.

▪ Show list populated with available groups.

▪ Show user interface for displaying information about the selected group.

◦ Display individual art pieces.

▪ Implement art piece selection.

▪ Implement logic for showing the piece to the user.