BMAD Homework

Code has comments explaining most of its functionality. They can be found in the assets folder.

I have created a singleton to hold the data that the calculator uses called CalculatorState.cs

There is also a class called OrientationSwitcher.cs which functionality is only used to switch layouts depending on the aspect ratio. This is the quick and dirty solution to aspect switching.

The guts of the calculator's logic is in CalculatorManager.cs. As you can probably guess, it will take the inputs as directed by the UI buttons, update text accordingly, evaluate, send data to and from the singleton, update history, etc. I've created a history entry prefab in the project that is just a text object that this script will use to instantiate history listings.

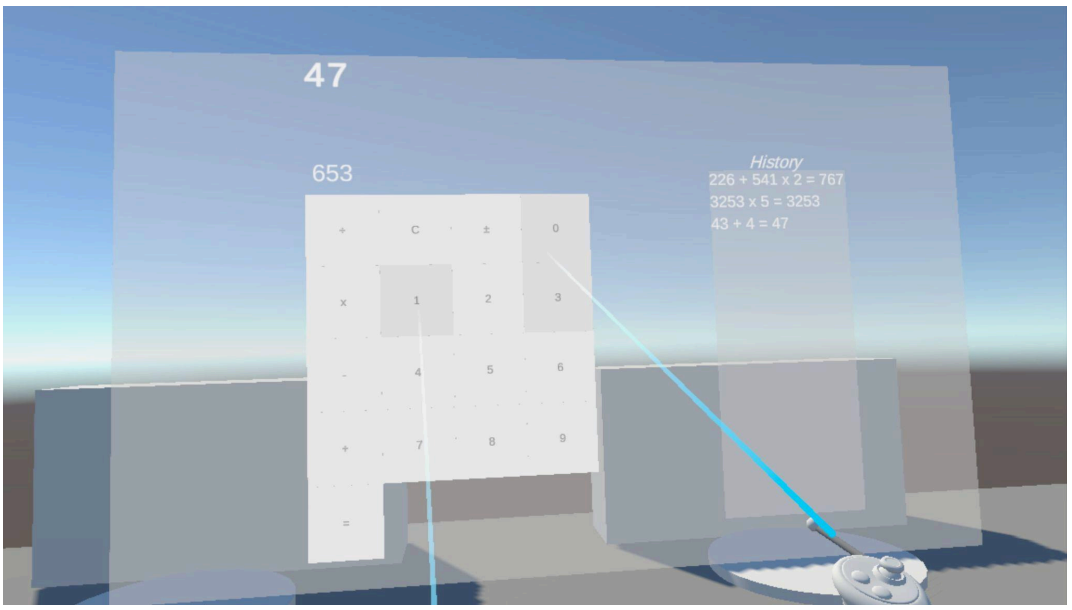
There are many parts which could be optimized further and potentially a lot of solutions that are over engineered for a simple calculator, however I wanted to show off as much as I can of Unity's UI system and connect everything up programmatically.

I am using the Unity canvas, panels, textmeshpro fields, scroll view component for history, canvas groups for orientation switching, and grid layout group for buttons.

Builds can be found alongside this file, I have created 2 builds and 2 scenes in the scenes folder under assets. AndroidPhoneScene refers to the scene in which this is intended to be built for an android phone, and QuestVR is a scene intended for the Meta Quest line of VR headsets.

For the android side, the AndroidPhoneBuild.apk build is what you will use. Sideload this on your android device however you like. You can simply drag and drop the build to your device and install from inside the files browser on your phone. Note the usability of portrait and landscape modes including their history and inputs staying consistent to each other.

For the VR side, the AndroidQuestVRBuild.apk is the build you want. You will notice that the scene may look familiar, it is based off the sample scene from the XR interaction toolkit. IE there are no third party assets used for either of these builds. The scene has everything required to move around and interact with VR controllers. The calculator is in the center of the room. You can walk around it, point your raycast and click your trigger to interact. Our functioning calculator is now working in both VR and on mobile. See screenshots:


47
653
History
226 + 541 x 2 = 767
3253 x 5 = 3253
43 + 4 = 47


111107
History
2 x 1 = 2
1 - 454 = -453
111111 - 4 x 55 = 111107


History
2 x 1 = 2
1 - 454 = -453
111111 - 4 x 55 = 111107
111107