

By Ciera Jones

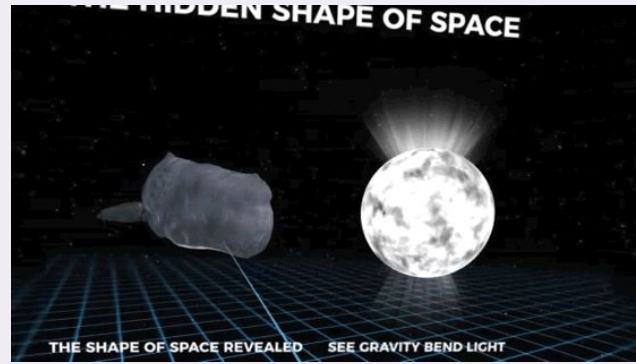
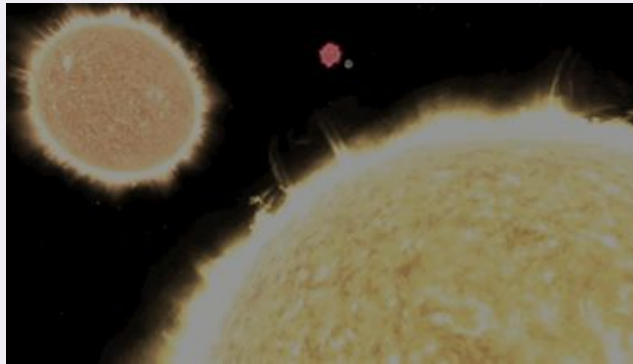
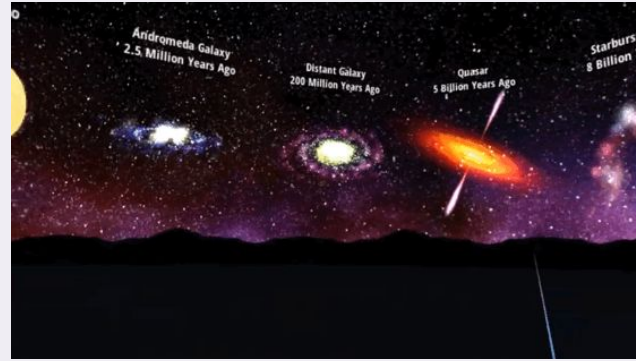


# Prototyping for Oculus Go and 3dof Controllers



# About Me

- Unity Developer
- Previous: Lead developer for PBS Space Time
- Current: VR/AR Developer at Viacom
- Other: Oculus Launch Pad 2018



# PBS Space Time

<https://www.oculus.com/experiences/gear-vr/1499563420081410/>

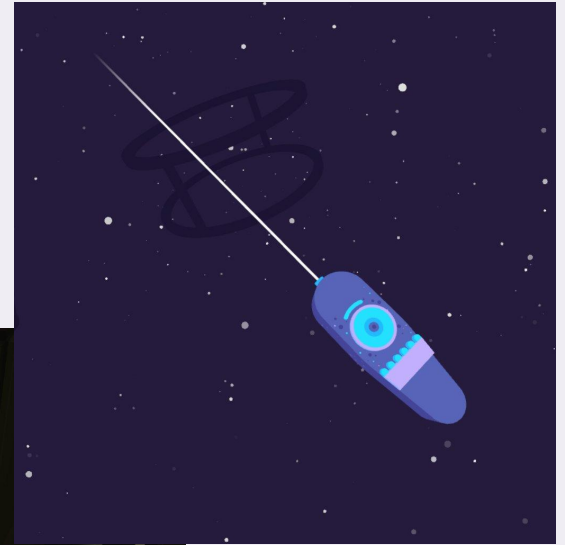
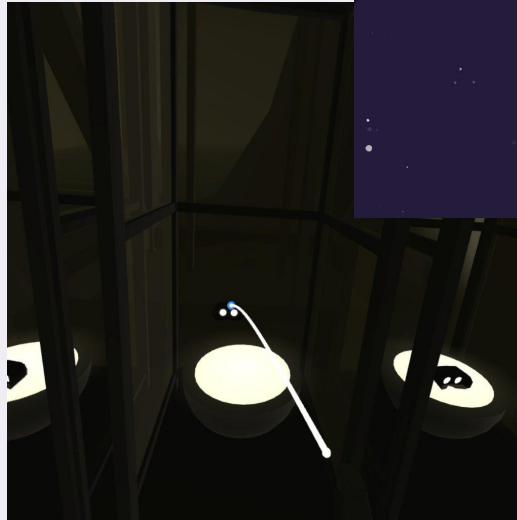
# **Pet Peeves in Mobile VR**

# 1. Inaccessible

- User had to turn all the way around repeatedly
  - Often done as a “Wow VR! Trick” or from navigation.
  - There’s no way to rotate the camera
- Confusing onboarding process with complicated controls
- Not optimized with frame rate continually dropping

## 2. Boring Remote

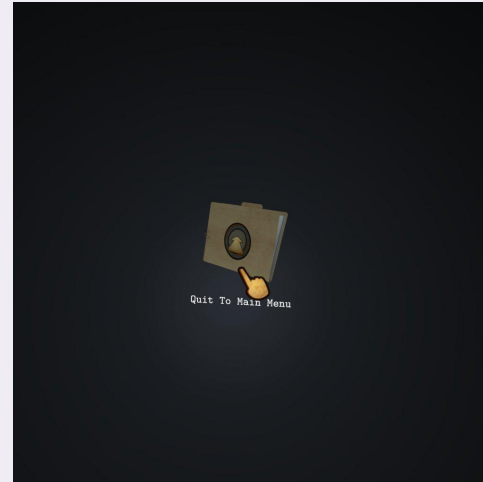
- No more Gear/Go controller with a laser pointer!



# 3. Back Button

- Back button is seems to be an afterthought to comply with Oculus rules.
- Users can't see in VR, back button can easily be pressed.
- Use it as an opportunity for reorienting users in the experience.

# 3. Back Button - Examples





# 4. Not Taking Advantage Of the Display

- Tiered foveated rendering should be used.
  - Gives a wider FOV and looks a lot nicer!
  - Avoid when using thin lines.

# 5. Terrible Textures

- How to fix aliasing:
  - To fixed this I make it a smaller texture and turn on mip maps in the texture setting with bilinear/trilinear filtering with an appropriate aniso level
  - Harsh lines make it worse, so add a slight blur filter to the texture

# Overall Trend

- These are the things that are overlooked and can be done at a later time
- However, I feel that these are the things that should not wait
- Intention and care means a polished product

# Prototyping Tool Kit

- 3 dof simulator
- Event based scripting
- Generic reusable code

# Links!

- Simulating a 3dof in Unity with a Rift
  - <https://developer.oculus.com/blog/simulating-a-gear-vr-controller-with-touch>
- Visual Remote Controller Input
  - <https://developer.oculus.com/documentation/unity/latest/concepts/unity-ovrinput>
- Unity Events
  - Unity Events efficiency: <https://jacksondunstan.com/articles/3335>
  - [https://www.reddit.com/r/Unity3D/comments/35oekm/delegate\\_events\\_vs\\_unityevent\\_which\\_one\\_is/](https://www.reddit.com/r/Unity3D/comments/35oekm/delegate_events_vs_unityevent_which_one_is/)
- FB 360 Videos
  - <https://github.com/facebook/360-Capture-SDK>
- Optimization for VR
  - <https://unity3d.com/learn/tutorials/topics/virtual-reality/optimisation-vr-unity>

# Thanks!

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