Molecules VR

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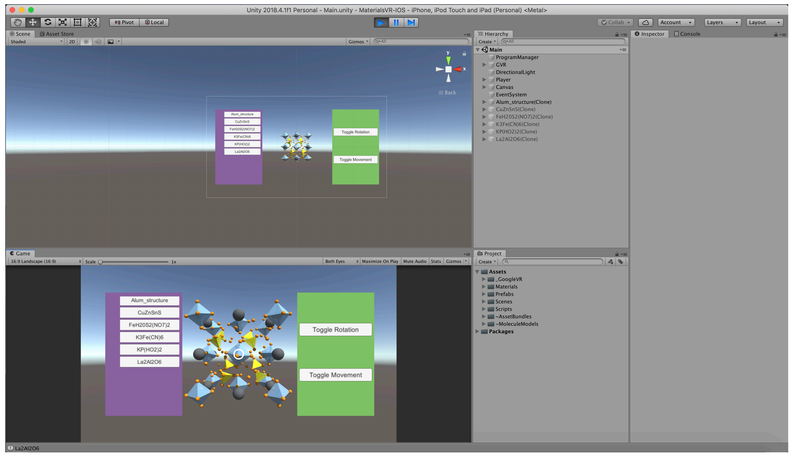
Introduction

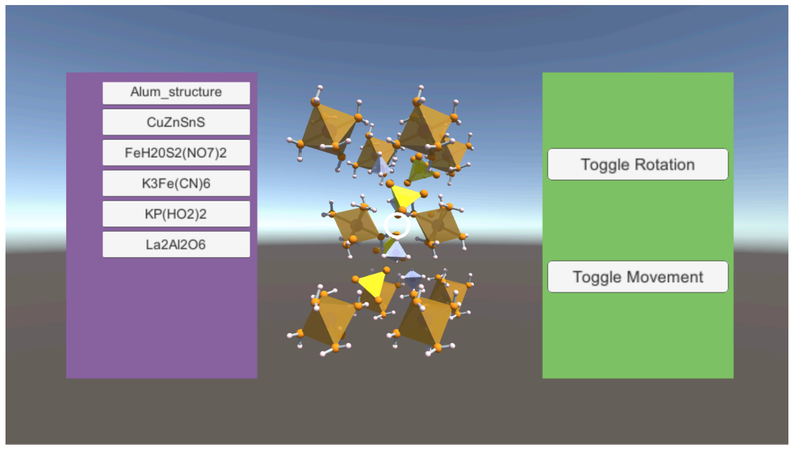
The purpose of this project is to create an application that utilizes virtual reality to help students visualize molecular structures by moving and rotating them. I am using Google Cardboard and iOS to make it:

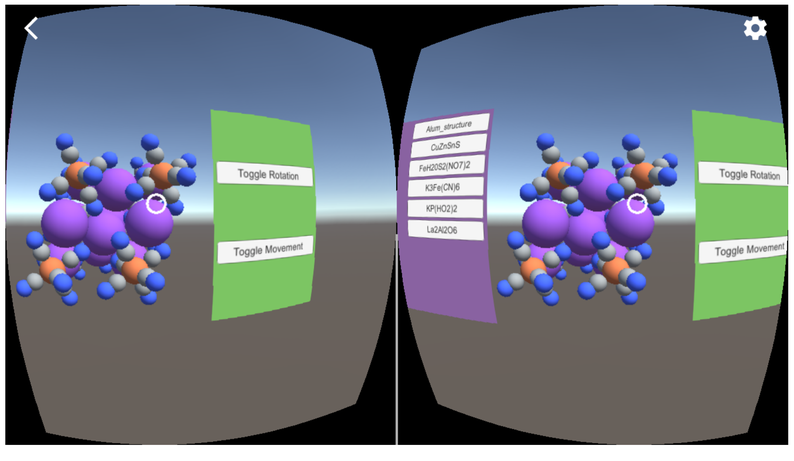
- Accessible
- Cheaper
- Portable

Results

- App that works on iOS – user only needs an iPhone
- Google Cardboard compatibility – device is only $15 and small
- Gaze input – staring at objects activates them, helping people who are unable to use the physical button
- AssetBundles – smaller application size, faster downloads, & less space







Methods

To create the application, we are using the Unity game engine as well as the Visual Studio IDE to edit the code. We use VESTA, Blender, and Avogadro to make the molecule models.

The models are imported into the app from a webserver. This method uses Unity Web Request AssetBundles created by two short C# scripts.

Outlook

In the future, we hope to add:

- Support for more platforms and devices
- More molecules
- More molecule properties