

HIVE Earthzine Transcript

****OPENING TITLE: Animation of DEVELOP introduction and HIVE opening****

****SCENE 1: Time-lapse of HIVE team setting up HIVE and HIVE-ORBIT****

Narrator: The Highly-portable Immersive Virtual Environment, commonly known throughout the DEVELOP Program as the HIVE, is a three-walled structure used to project three-dimensional data and environments for easier understanding to community partners and policy makers. Built entirely by students here at DEVELOP in the Summer of 2009, it is both inexpensive and portable compared to other visualization systems. Many of the materials needed for construction, such as the PVC piping, projection screens, and short-throw rear projector can be bought off-the-shelf at a variety of local and online retail stores. The HIVE can be assembled in about 30 minutes with at least two team members.

Narrator: The Ocular Radiant Blackout Inclusive Tent, otherwise known as the ORBIT, is an expansion of the HIVE to surround the three projectors around black-out fabric to increase the brightness of the visualizations on the HIVE. In order to construct the ORBIT, additional PVC pipes and black-out fabric was necessary. The ORBIT only marginally increases the size and set-up time of the HIVE, and it allows the HIVE to be taken to any venue despite lighting restrictions.

****END OF SCENE 2: Pan across completed set-up of HIVE and ORBIT****

****SCENE 2: NASA Administrator Charles Bolden speaking to HIVE team members at DEVELOP Headquarters Close-out. Fades to Administrator Bolden using the HIVE and Microsoft Kinect****

Narrator: The HIVE has been presented to various top policy-makers and NASA officials such as Dr. Shawana Johnson and NASA Administrator Charles Bolden Jr. One key element of the HIVE is the integration of the Microsoft Kinect. The team has been developing an application using the Microsoft Kinect Software Development Kit in order to gain access to the raw data streams of the Kinect and apply it to our visuals on the HIVE. By using the Kinect, we are able to manipulate any displayed visual using motion gestures and voice commands. The Kinect SDK has recently become compatible with multiple languages, such as Spanish, French, Italian, and Japanese. The HIVE currently incorporates English and Spanish into its Kinect application, and other languages will be added in the near-future.

****SCENE 3: Animation of Alaska Disaster Visual****

Narrator: Each term, the HIVE team works closely with at least one other team to create visualizations that can be used either on the HIVE, or for other types of presentations. This Summer, the team worked with the Alaska Disasters team to visualize ice jams occurring in the town of Eagle, Alaska and the affects that it had on its community. Models of the houses and ice glaciers were created using Autodesk 3ds Max, while the visualization itself was built using the Unity3D game engine. Though the animation is not able to run on the HIVE, future terms will work towards stabilizing Unity executable visualizations to properly display on the HIVE.

****SCENE 4: Animation of Satellites Visual and images of non-rendered satellites in Autodesk Inventor****

Narrator: We also try to create new visuals to demonstrating our modeling capabilities. This animation shown is of the CALIPSO, NPP, and Aquarius satellites orbiting around the Earth. Each of the satellite models were made using Autodesk Inventor, and were later imported into Autodesk 3ds Max for textures and final animation renders. In future terms, the HIVE team will continue modeling NASA EOS satellites to incorporate into this visual. We will also work with other teams who would like visualizations using any of these satellite models.

****SCENE 5: Conclusion slides****

Narrator: Despite the increasing number of visualization systems, the future of the HIVE is bright. The team hopes to continue increasing the HIVE's user-friendly experience and make improvements to the structure and computers to be competitive against other systems. Our goals for future terms is to incorporate more languages to the HIVE's Kinect Application, integrate an Android application for manipulating visuals and downloading information on said visuals, and even a complete renovation of the HIVE structure itself. No matter which road the HIVE takes, it will always be the leading innovation force of the DEVELOP program.