Holographic Augmented Reality Cube

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H.A.R.C. Holographic Augmented Reality Cube for an exploratory interactive visualization.

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A pipeline that includes 3D Modeling and Animation Software can be combined and integrated using mobile technology (iPad) and game engines to produce a variety of visual interactions that utilize virtual characters, navigation, and 3D interactive responses.

INTRODUCTION:
The process of research and implementation will take place using various sized screen displays to create reflections on plexiglass that will appear as holograms. As a second part of my project I plan to use my modeling and animation models to create a compelling, interactive game using Augmented Reality. Augmented Reality is a technology that allows for the addition of virtual content to the real world.

METHODS:
- The methodology of research is based on the availability of new emerging technology sources.
- The main outlet for research is provided by an Augmented Reality visualization interface, I will be using in this case, Vuforia. Vuforia, as a solution, is an interface provided by Qualcomm, a visualization company.
- I decided to use Vuforia because this platform will allow me to develop offline apps.
- For the Modeling and Animation I will use Autodesk Maya, Motionbuilder, and Unity 3D, for the implementation of the game engine environment.
- The models will be exported to the game engine, the game engine will produce the interactive visualization and, finally, it will be exported to XCode to build an app for iOS for the final interactive display.

RESULTS:
- The results of this project will be integral to the foundations of new standards of interactive visualization. Visual Communication and Design will benefit from this project through the attainment of new ways to communicate messages.
- Additionally, this project will revolutionize visually based educational methodologies because enhanced graphics will expand the conventional hypertext. The hypertext is now getting a new interactive visual element.
- Through augmented reality, any experience can be virtually simulated, including artistic displays and performances (as represented in this project), which will result in an immersive perception of any culture or imaginable event. Virtual immersion and experience provides the benefit of empirical acquisition of knowledge.

CONCLUSION: I will present the result of my research through an installation that will display a prototype of a board game. The game, Beach Ninja, will have a main augmented character that produces overlapped interactive responses with the game environment and the users. The viewer will witness the augmentation on a screen display in front of them. The installation, while straightforward and accessible, will be compelling proof that my research and methodologies are correct, well conceived, and a promising leap in cutting-edge visual technology.

Kevin Sanders, Modeling and Animation