SHAPE Vision Interaction Report

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Concept And Research

In order to make interaction with the wall more natural, we wanted a way to interact with is through vision. To accomplish this, we needed a powerful and accurate eye tracker. After researching many different eye trackers. APIs,We decided on using Tobii. Tobii is a company that creates eye tracking products for games and research. After contacting the company, they recommended that we go with the Tobii EyeX eye tracker. This tracker can detect where a user's eyes are looking and also detect blinks.

Development

Development for the vision tracking is in the very early stages. We have begun laying the groundwork in the Kinect code. So far development has been moving rather quickly. When the project resumes next semester, we expect the eye tracking to be completed fairly quickly.

Current State

The app currently is only in a conceptual stage. Eye tracking is a very new technology and requires extensive research.

Future Plans

We plan for the app to be integrated with the Kinect gesture tracking. Both Kinect and Tobii support C# and WPF (Windows Presentation Framework). Since both rely on the same frameworks, we plan to combine the eye tracking with the gestures. This should allow for a more natural experience for controlling the wall through vision and gestures.

Requirements/Environment and Instructions to Run

Since the app is not yet complete, we have not finalized the requirements to run it. We expect the user to need a Kinect, Tobii EyeX, and the other basic requirements for the wall (Computer, server, and Rhino).