

Applications of Optical Illusions in Computer Graphics

Goal Summary:

By the end of my course of research, I intend to prove or disprove that the use of standard, non-stereoscopic, two dimensional optical illusions based in cognitive befuddling can enhance a graphical presentation and/or interactive environment.

Expected Tests:

Because the basis of optical illusion lie in the faulty perception of humans, testing is necessarily difficult. I will have three presentations: one without effects, one with effects rendered with traditional means, and one with effects rendered through illusion. The effect-less presentation will provide a control for the overall effectiveness of the illusion effect. The traditionally rendered effect-full presentation will provide a control for processor load. Multiple users will view/interact with the presentations and provide an evaluation through a provided feedback form.

Evaluation Criteria:

Graphical usage of illusion
Summary of cognitive basis for illusion
Description of component elements of illusion

Grading System:

A

Effectively demonstrates the suitability or lack thereof of illusion in computer graphics using an original graphics presentation in a world-like context.
Clearly and concisely summarizes the cognitive basis of illusion.
Definitively demonstrates the componentized elements of each illusion utilized, and how they can be manipulated to manipulate the overall illusion.

B

Demonstrates use of dynamic optical illusion in a graphical presentation.
Briefly summarizes the cognitive basis of illusion
Demonstrates that manipulation of some aspects can yield varying results.

C

Displays unoriginal static illusions.
Provides no cognitive explanation for optical illusion
Shows no understanding of the elements of an illusion.