An investigation on how virtual reality can influence perceptions of reality.

Introduction

What

Virtual reality provides visual experiences via optical immersion. The key goal of VR is to emulate presence. When executing trivial activities in both real and virtual domains, similarities in user performance (Heydariana, 2015) is one factor which suggests presence in VR. If a user believes they are within their virtual domain, the domain itself could be altered to enhance their experience, without reducing immersion. For this reason, the focus of this project it is to discover how virtual reality can influence perceptions of reality.

Essentially, this project has a single goal; to make a participant believe they’re doing something they’re not. This dissertation will promise of two separate experiments. Both will display scenarios where virtual reality can influence perception of reality to make a user unknowingly perform a given act.

How

Both experiments will exhibit a scenario in both a real and virtual environment. The virtual domain however will dynamically alter in order to divide real and virtual world perception. From this, differences in participant actions between a real and virtual domain will be evaluated.

Both environments will be created using the Unity 5 Game engine.

Why

Confusing the senses, altering a user’s perception of reality.

Through analysis of participant estimation both within a real and virtual environment, I intend to discover the extent to which a users perception of motion can be deceived within virtual reality.

VR is cool new tech. People are going to use it

We need more detail, its needs to say what I am going to do and why. We need to talk about the applications. VR has matured to such a point where it makes a user feel like they are doing something when they are not.

How VR can influence perceptions of reality.

For the future, it has a copious range of potential applications within education, gaming and medical industries etc

Evidently monetary barriers to virtual reality depreciate as cost of its hardware decreases, this suggests an increase in potential consumers. Yet, the emancipatory confounds of VR restrict exploration and varied motion, which in turn breaks the illusion of walking around a real domain. This problem has been addressed with add-on hardware such as the Virtuix Omni. However two key obstacles face a 3rd party hardware solution (such as the Omni). Metaphorically its integration with developed software and literally its potential size. This indicates the need for a different solution. Researching a user’s perception of motion may address the issue of navigation within a virtual space.

As a result, this project will focus on a developing system, which manipulates the perception of an unknowing participant within a given virtual environment. As said prior, data will be collected on how much the participant’s perception is deceived. However first, one has to understand how perception can influence a human’s motion, this will prove the crucial step when designing a deceptive scenario for a participant.

Break up development into more steps, i.e. scene creation.

which if achieved opens its potential scope to applications within education, medical and gaming industries etc.