Interactive Virtual Environments (2IV55)
"MatchBlox"

Group 7
Dennis Peeten (0571361)
Oliver Schinagl (0580852)
Maik Teurlings (0591600)
Wilrik De Loose (0601583)

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1 Introduction

For the master course Interactive Virtual Environments (2IV55), group 7 chose to create an experiment using the Nintendo Wii remote. This short proposal will give an overview of the project and its organization.

1.1 Problem

The sense of depth when using an input device with 3D mouse functionality like the Wii remote, feels sometimes awkward and unnatural. To overcome this handicap, group 7 defined an experiment. The results should give an insight in the usability of such an 3D input device.

1.2 Approach

The users participating in the experiment will do a number of simple tests. The goal is to put a set of 10 basic shapes as quickly as possible in the corresponding holes. A Wii remote is used to locate a block above a hole and then put it into the box.

For this experiment, a second Wii remote is going to keep track of the user's eyes. This makes it possible to track the head movement and thus create the illusion of a virtual 3D environment.

A number of factors will play a role in the experiment:

- Head tracking (with/without)
- Stereo glasses red/blue (with/without)
- Depth of the field
- Shadow projection

1.3 Evaluation

Each user will do the test a number of times. Each test can vary in the given factors. When all of the data is gathered, one may be able to see a relation between 3D navigation with and without head tracking, stereo vision and with different application settings.