

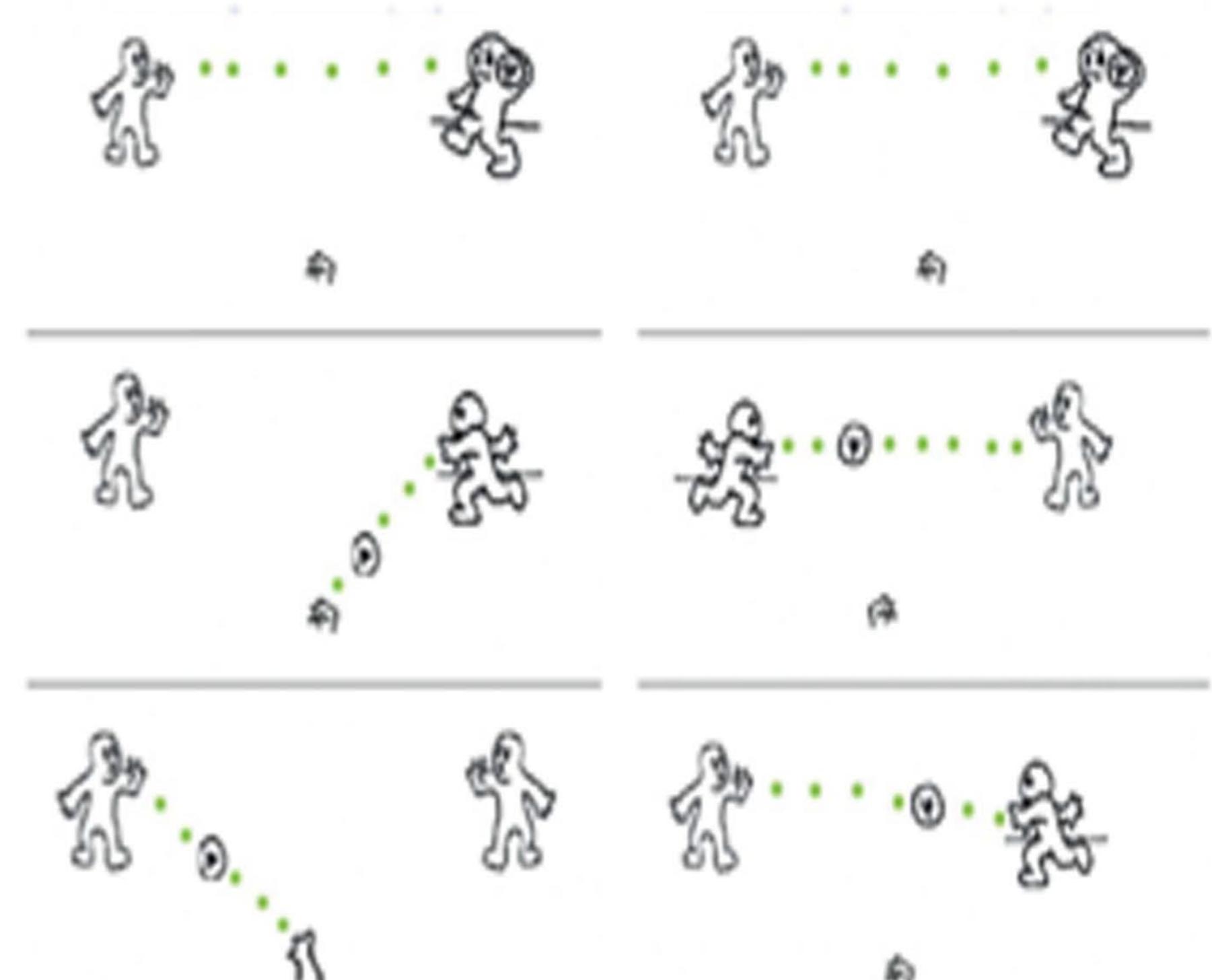


The Impact of Video Game Play on Cognitive and Emotional Functions in Children

Background

Over the past 15 years, research in different Universities has documented specific changes in visual attention and cognition as a result of playing action-based video games (Green and Bavelier, 2003). These games usually require the player to respond to fast moving targets.

Cyberball is a virtual ball-toss game used for research on social exclusion and ostracism. Cyberball was originally developed by Christopher Cheung and Wilma Choi as part of their thesis



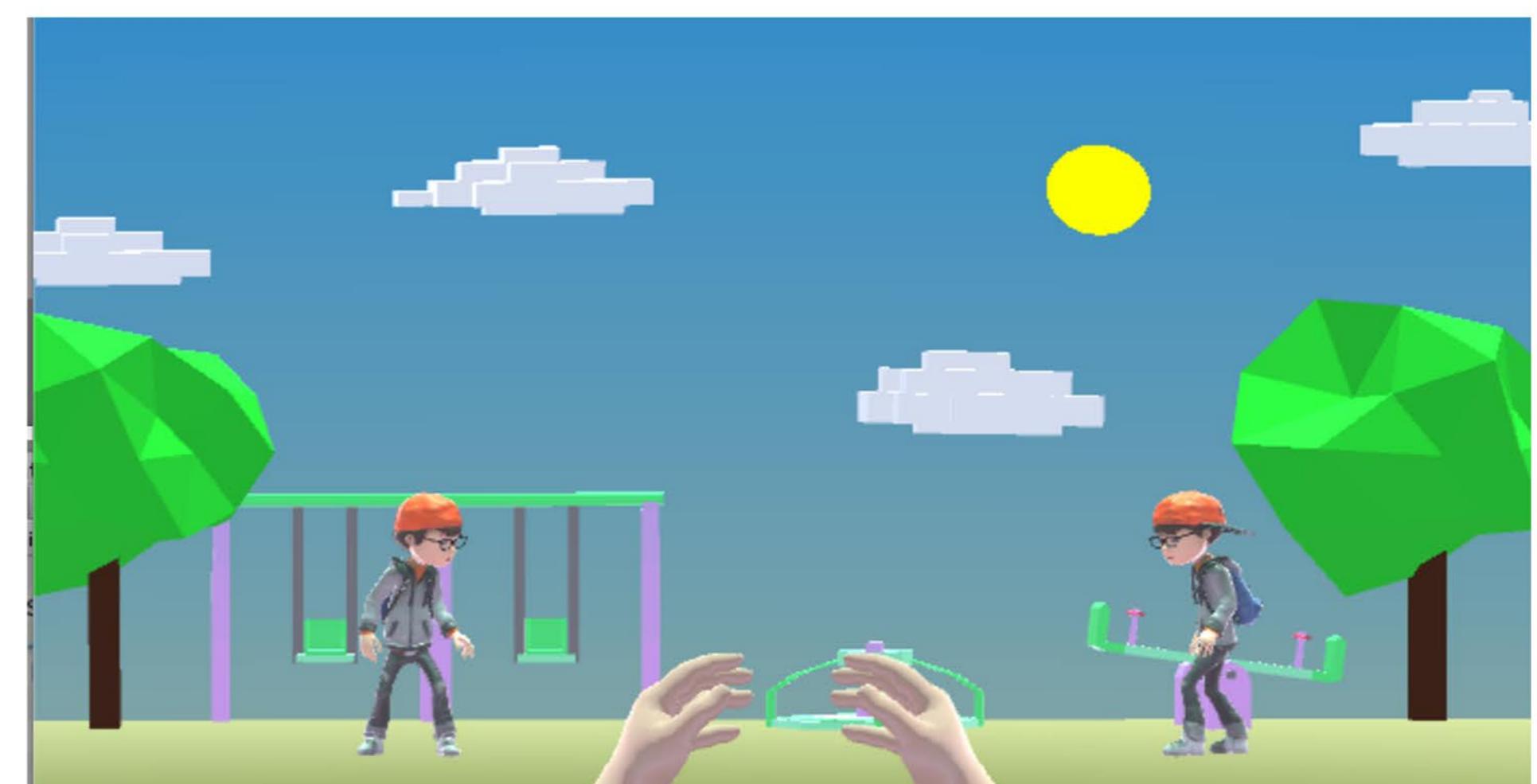
Implementation

The original game had no background and the characters were plain. This design was determined to be too plain for children to be fully immersed when playing.

A new background was created in Unity, low-poly models were used to ensure children stayed focused during the testing.

Character models with a similar design were used to represent the players. The first person view is used to increase the participant engagement.

Simple animations were used for the models to suit the simple design of the scene. Separate scripting had to be written for Exclusive and Inclusive behaviours which cause the AI to behave differently.



Functionality

There are two types of behaviours the AI can exhibit, Inclusion and Exclusion, which can be chosen on the settings page.

Inclusive behaviour includes the participant during the game, throwing the ball to the participant often; while exclusive behaviour excludes the participant slowly by limiting how often the ball is thrown to them.

As the behaviour is chosen before the participants are present and can be set to randomly alternate behaviours between participants; it supports double-blind studies, which increases the reliability and accuracy of the results.