

Developing a Visual Aided Early Intervention on iPad for Children with Autism Spectrum Disorder

Introduction

The prevalence of ASD in the UK is increasing, due to improved diagnostic tools and a greater understanding of the neurological challenges of the children [1]. The aim of this project is to develop an application to be used by children with ASD as a Visual Aided Early Intervention. The game will be specifically developed to work on iPad, as this is a commonly used and effective educational tool in schools for children with ASD [2]. It will focus on developing the child's responsivity to cues, which is a difficulty faced by children with ASD [3].

Method

A Visual Aid is a tool that gives information to a child, such as a tablet or a schedule on the wall. In this case, the iPad will be used as the Visual Aid for the children.

An Early Intervention is an evidence-based intervention, most effective in children under 5 years old [4]. Early Interventions target certain behaviours in the child, such as improving communication skills for some, or reducing unwanted behaviour (e.g. tantrums) in others. This Intervention focuses on Visual Cue development, with games testing the child's understanding and targeting its improvement.

Game Development

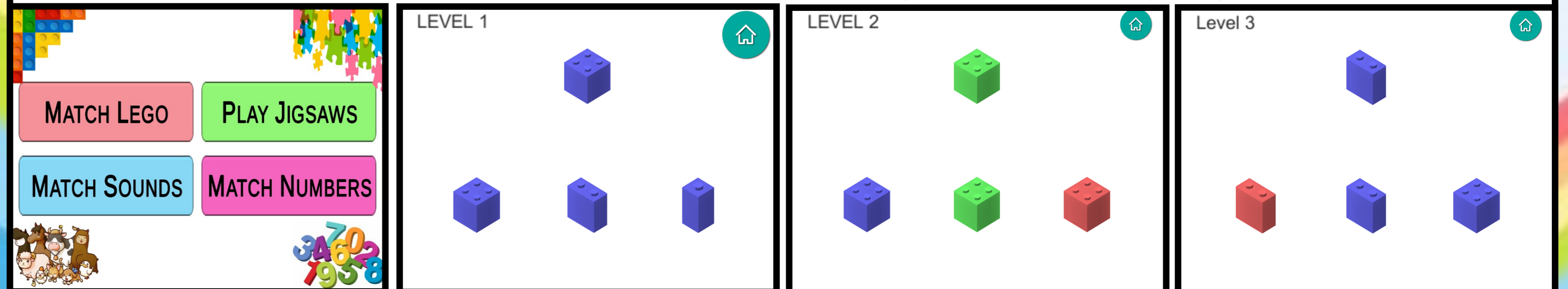
The game will be developed using Unity and Visual Studio, for use on iPad. Figure 1 shows the main menu of the game, along with the Match Lego mini-game. This mini-game works well, as it focuses on developing the child's cue responsivity. All of the mini-games will increase in difficulty as the user progresses, ensuring that they are learning and are being properly tested. The expectation is that a consistent use of this Early Intervention would improve a child with ASD's responsivity to cues, as the game targets the vital areas within the Triad of Impairment.

Future Work

A progress tracker is needed; this would allow parents or supervisors to monitor the child's improvements over time.

More mini-games would be beneficial; games focusing on letters of the alphabet, household objects or animals will further improve a child's understanding of cues. Mini-games could also focus on the child's speech and communication skills, developing their long term skills in another valuable area.

Figure 1: Main Menu Screen and the Match Lego Mini-game. User must match the correct Lego piece from the selection of 3 to the one on top, with levels increasing in difficulty as they progress



References

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