Towards the Prediction of Dyslexia by a Web-based Game with Musical Elements

Motivation

• Is a specific learning disorder & people with dyslexia have difficulties spelling and reading words. Dyslexia is frequent: around 5% to 15% of the population [1].
• Prediction of dyslexia depends on a minimum knowledge of phonological awareness, grammar, and vocabulary.

➔ Late detection & then a disadvantage for children with dyslexia!

Why Musical Elements?

• Prosodic structure in language is like phonological grammar [2] of music.
• Four acoustic parameters are used to generate the different musical elements: Frequency, Length, Rise Time & Rhythm (Figure 1)

Future Work

• Experiments with 30 participants: Do musical and visual elements distinguish a person with or without dyslexia?

Contribution

• New indicators for predicting dyslexia while playing a Game called DysMusic (Figure 2).
• Improvements to the first version of the game.

References: