GazePlay: Creation of a community to help the development of a Free and Open-source plateform to make eye-tracker Video Games accessible to everyone

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1   Objective

Develop a community composed of parents and professionnals in order to democratize free, open-source eye-tracker based video games. We would like to share our tools and experience in order to get feedback to improve them. The team leader, father of a girl with Rett syndrome, is associate professor specialised in human-computer interactions via language.

2   Methods

In order to develop and enhance existing augmentative and alternative communication (AAC), gaze is often considered as being one of the most natural methods to support individuals struck by the Rett syndrome to interact with their environment. It is generally believed that video games are a good way to improve basic requirements as gaze fixation and gaze pursuit as well as conventions like rewards and circular progress bars.

3   Results

Video games for eye-tracking and compatible eye-trackers are expensive. They both cost about several hundreds euros. To overcome this problem we have developed free software usable, on all major platforms (Windows, Mac, Linux), and compatible with existing eye-trackers able to control the mouse as well as low-cost eye trackers (100€). Being also a github project, GazePlay allows everyone to contribute be it with ideas or code.

4   Conclusion

This software is the first deliverable of a project aiming at the creation of a set of tools easily extendable and usable by individuals with disabilities, professionals and family alike. To achieve this goal, we adopt a cross-disciplinary approach including professionals from informatics, linguistics, psycholinguistics, cognitive science, speech language pathology.