What the System will do

We will be producing an AR assistive technology game application aimed at late (8-11) primary school children with Autism, to help improve their social skills. Our end goal is a fun, helpful and educational app which will greatly benefit young people with autism.

Using an emerging and growing technology like Augmented Reality, will provide a fun-filled educational experience, AR is greatly familiar with the youth with popular apps like Pokemon Go, Nintendo 3D’s AR Games and even Snapchat’s filters are of a form of AR.

The app will be developed with the Unity 3D game engine, with help from AR libraries such as the open source ARToolKit which offers a free plugin for Unity, Vuforia Augmented Reality SDK, and documentation and libraries from Google’s Android ARCore.

Each type of ‘social skill’ is split in its own level and section. We’re taking inspiration from many popular wellbeing and brain training applications. Which helps improve things like ‘memory’ by such challenging the player to memorise a certain pattern, which will disappear after a certain time, and will ask player to input the previous pattern, challenging the player’s memory, and attention. Our application will take great inspiration and do things like this.

For example, we can test the player’s eye contact by using the player’s phone camera, detecting the facial movement, and make them look at an AR avatar for a certain period, and we could mark them down if they look away for too long, or even stare at the avatar too long. Furthermore we can make it more intensive and expand on the game, by adding distractions, noise, time limits, ratings to add more replay value, fun and challenge to provide that fun and educational experience we are aiming for. We can greatly build upon and produce fun educational for all types of social scenarios.

Since we are aiming the system at a young audience, we will take extra care to make sure the language, UI and game mechanics are easy, intuitive and simple to understand and use. It will guide them on how to use the AR system, and encourage them not to spend excessive time on the app and phone too long with occasional remainders on to exercise and get off the phone to do something else.

We can also add parental controls as an extra feature, with time limits and play hours as a feature. In addition, if we are going to use player data for the use of research or for the use of teachers, we will make sure this is turned off by default or at least make sure a parent or someone of age can accept the Terms of Service/conditions and privacy policy.

We can also delve further, using the player data by generating statistics from it and feeding this information back to the teacher which could help greatly in social development of the player, and even gather more research into Autism.

We are developing an AR educational game for young people with autism that helps develop their social skills in a fun and even challenging way.