**User Analysis**

**Chosen user-group and their impairments**

Our selected user group is children and young teenagers with autism. We will be targeting those with autism spectrum disorder (ASD) level 1, commonly known as Asperger’s, in particular. ASD level 1 is the most common form of autism with 44% of the autistic population being within this band.

Children with autism have difficulties understanding and participating in social interactions; this makes it difficult to meet people, make friends and develop relationships. Another common trait of autism is repetitive behaviour, routines and activities, such as daily routines and repetitive body movements.

Autism can result in children having challenges with spoken language and communication such as delayed speech development, tendency to repeat words and phrases, monotonous or flat speech and communicating use single words. As well as spoken dialogue, people with autism also struggle to understand social cues and non-verbal communication such as body language; they can also lack the emotional range and empathy that others have.

A common challenge faced by children with autism is interacting with other children. Autistic children find it challenging to understand personal space and boundaries or may be sensitive to others entering their own area. Many autistic children prefer to play alone rather than with others and have limited interest in interacting with others.

**Challenges presented to our users**

For people with autism, the way they perceive, and process information can present problems in everyday activities.

Many autistic people struggle to understand expressions of speech; for example, “curiosity killed the cat” could be confusing to autistic people. Jokes and sarcasm tend to be taken literally or misinterpreted, and paralinguistic features such as intonation can prove difficult for an autistic person to fully understand. Processing both verbal and non-verbal communication can be a significant hurdle for autistic people.

Non-verbal communication such as tone of voice, gestures, facial expression and intonation are often not understood by people with autism due to their different understanding and perception of the world. Both autistic and non-autistic people can have problems with this, with non-autistic people often misinterpreting the facial expressions and gestures of an autistic person.

Another problem is that autistic people struggle to visualise abstract concepts. Autistic people are most comfortable when dealing with absolutes, such as facts and figures, for this reason, social interactions and dealing with the outside world can be a cause of stress and anxiety for autistic people. Activities often need to be fun, engaging, easy to process and have a purpose.

Sensory overload can often have an negative impact on an autistic persons life. Due to the way autistic people experience and process the world around them, many situations can leave them feeling overly stressed or anxious. Large social events, bright lights and colours, loud sounds and high or low temperatures can make an environment extremely uncomfortable for an autistic person.

**Challenges experienced during play**

People with autism prefer to play alone, an individual game such as golf would initially be more appealing to a person with autism than team sports such as football. Skills such as communication and teamwork, which are essential for many games and activities, can be compromised. Fitting into a team, or even predicting what another team member is going to do, may be challenging for someone with autism.

Problems can occur during play between autistic and non-autistic people, as autism can cause difficulties in communication and emotional understanding. An autistic person may unknowingly behave in a way which others may see as inappropriate, making it difficult to sustain social interaction. A lack of empathy for other people can affect decisions during play, having an impact on play sessions with non-autistic colleagues.

During play, autistic people can struggle to visualise imaginary or abstract things. Games that require an element of imagination can become problematic, a common challenge for children with autism.

The flow of the game can suffer due to lapses in focus and concentration, or the inability to comprehend some abstract parts of the game. Some games can cause great difficulty between autistic and non-autistic players. Autistic people perceive the world differently, and this can have a significant impact on games which rely on the player's imagination or perception of the game.

The environment in which a game or activity takes place can have an impact on how an autistic person interacts and engages. Actions involving loud noises, observers or large groups can cause distress; this can be particularly challenging for children with autism in environments such as school playgrounds in which they are likely to encounter these factors.

**Approaches to addressing these challenges**

Many methods are used to provide support for people with autism. The National Autistic Society provides a framework known as SPELL, which stands for Structure, Positive approaches and expectations, Empathy, Low arousal and Links.

Structure creates a more predictable, accessible and safer place for people with autism. Providing environments and processes which are structured can reduce a person’s dependency on others and reduce anxiety.

Positive approaches and expectations help to establish and build self-confidence and self-esteem, by allowing people to build upon their natural strengths and interests. A structured process involving positive rehearsal can reduce the level of anxiety experienced when undertaking new challenges and experiences.

Another approach is the use of social stories. Social stories are used to present information in a more literal way, helping an autistic person to improve their understanding of a previously difficult or ambiguous activity. They can also be used to create structure by providing information about a situation and guidelines for behaviour.

Visual aids provide a consistent and physical form of communication, which is advantageous to inconsistent and sometimes ambiguous spoken language. The use of visual supports can give structure and routines, encourage independence and improve a person’s understanding.

Physical play spaces are available for people with autism in which they can play in a comfortable environment. These play spaces often consist of quiet background music, soft and cushioned surfaces and toys, both individual and group games and activities as well as specialist sensory equipment. These play spaces aim to provide an environment in which a person is less likely to suffer from sensory overload.