Project Statement
Augmentative and Alternative Communication
Team # 3
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Project for Ohio University AAC Laboratory

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Statement of Need

In the United States alone there are several million people who suffer from communication impairments so severe that they are not able to adequately communicate with others. Many of these individuals make good use of augmentative and alternative communication (AAC) which ranges from a voice output aid to a computer device used to type documents. Communication disorders encompass a wide variety of problems in language, speech, and hearing. Speech and language impairments include articulation problems, voice disorders, fluency problems, aphasia, and delays in speech and/or language. A child with speech or language delays may present a variety of characteristics including the inability to follow directions, slow and incomprehensible speech, and pronounced difficulties in syntax and articulation. Issues arise with many who use AAC because most also suffer from physical disabilities that cripple their ability to interact with the devices. The individuals generally have one effective movement that they are capable of making, using that to interact with an external device to communicate.

Of particular interest are children who have a difficult time learning to interact with a device that works off of one specific movement to operate. It has been seen that children understand and adapt to an interface that places items into context with imagery. A process known as scanning would be involved where a cursor moves in a specific order, highlighting an item at each step that can be selected. As an example, an image of a bedroom could be used and various objects around the room would be highlighted in a specific order. To use this method a child must have a basic knowledge of a cursor and how it operates. Suggestions (Light and Lindsay 1991) have been made to make an animated character that a child could relate to that would move around the environment presented and picking up items along the way. The idea is that a scene with an animated character will aid the child in learning through visual recognition.

Basic Preliminary Requirements

• Children learn better through relation of an environment with the use of animated characters

• Program must be designed with children in mind

• Program must be built using FLASH and user friendly

• Program must operate through a simple external input device due to physical limitations of the child

• Program must cater to children who have difficulty communicating through speech

Basic Limitations

• The children suffering from AAC cannot communicate effectively because their natural speech is inadequate

• Current communication aid devices require certain level of knowledge

• Devices limited to those with full physical capabilities
• Many individuals with AAC also have concomitant physical disabilities

• The current system of “scanning” is not ideal for children

• Due to concomitant physical disabilities many individuals with AAC can’t interact with a computer based system with their hands

• Scanning, one of the current methods of helping people with AAC, is particularly difficult for children to learn to use, to access devices

**Other Data**

The program to be written is going to include an intelligent agent, such as an animated character. The character will be presented inside of a virtual environment where the child with AAC will be able to recognize and relate to the information presented. The program intends to improve current scanning methods by having this intelligent agent pick up and present the items in the room to the individual with AAC. The program will be written using the programming language FLASH.

**Questions**

• What kind of flash software are we using?

• What is the particular user interface for the program?

• Will we require the need of test subjects to test our interface?

• What are the physical limitations of the users?

• Where will the program be used to suit the needs of the individual?

• What is the appropriate age group we should target?

• What kind of friendly character should we develop?

• What should be the number of activities the program be designed for?

• What is the budget of the project?