

TO HELP THOSE SUFFERING AND THOSE AFFECTED BY AUTISM SPECTRUM DISORDERS

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ABSTRACT

Autism is a lifelong developmental disability that affects different ways. The people also have learning disabilities, mental health issues or other conditions, meaning people need different levels of support. All people on the autism spectrum learn and develop. Autistic people see, hear and feel the world differently to other people. If you are autistic, you are autistic for life; autism is not an illness or disease and cannot be 'cured'. This site is meant to help those suffering and those affected by Autism spectrum disorders. The site contains information such as advice for parents, support for Parents, Educational material for Children, understanding the Autism spectrum disorders, and also includes some therapeutic techniques. This project provides a clear picture for why video modeling is important for autistic children. To make the learning experience comfortable and exciting. A sphere is a website built on HTML5 and CSS3. This project was developed to improve information processing in autistic patients. The patients can enjoy having a profound learning experience.

KEYWORDS: Autism, Autistic Children, Autism Spectrum Disorders, HTML5 And CSS3, Therapeutic Technique.

INTRODUCTION

Autistic people have difficulties with interpreting both verbal and non-verbal language like gestures or tone of voice. Many have a very literal understanding of language, and think people always mean exactly what they say. They may find it difficult to use or understand:

- Facial expressions
- Tone of voice
- Jokes and sarcasm.

This project was designed to meet the needs of people affected by Autism spectrum disorders.

In our country, Zambia, research shows not many are well educated on the subject and even if they were, not much information is provided on how to care for the child. This project educates, motivates and supports those affected by Autism. It features, music, images for both the caretaker and also learning experiences for the Autistic child. It can be a difficult thing looking after an Autistic child; this can cause stress, and depression. But once you realize that you are not alone, it gets easier, that's what the support system part of this project is built for.

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WHAT IS AUTISM?

Autism is a neuron developmental disorder characterized by impaired social interactions, verbal and nonverbal communications, and restricted and repetitive behavior. Parents usually notice signs in the first two years of their child's life. These signs often develop gradually, though some children with autism reach their developmental milestones at a normal pace and then regress. The diagnostic criteria require that symptoms become apparent in early childhood, typically before age three. Repetitive stacking or lining up of objects is associated with autism.

Autistic people often have difficulty 'reading' other people-recognizing or understanding other's feelings and intentions - and expressing their own emotions. This can make it very hard for them to navigate the social world. They may:

- Appear to be insensitive
- Seek out time alone when overloaded by other people
- Not Seek comfort from other people
- Appear to behave 'strangely' or in a way thought to be socially inappropriate.

Autism is caused by a combination of genetic and environmental factors. Some cases are strongly associated with infections during pregnancy including rubella and use of alcohol or cocaine. Controversies surround other proposed environmental causes; for example, vaccine hypotheses, which have since been disproven. Autism affects information processing in the brain by altering how nerve cells and their synapses connect and organize how this occurs is not well understood.

Video modeling is the technique used for this project. The project features, images, actions, videos and some therapeutic information. Video modeling makes it easier for us to learn

and remember what we learn. Its stress frees learning. Likewise, the other Autistic child benefits a great deal from video modeling. In this project, feel free to take a look at the syllabus for Autistic children between the ages 3-5.

ADVANTAGES OF VIDEO MODELING

- Learning without anxiety
- Fun way to teach and learn
- Promotes learning in children
- Makes it difficult to forget what was learnt

PROBLEM DEFINATION:

Information processing is one of the most common or major problem in autistic patients. Autistic patients require a certain level of interaction and of patience. These patients should not be forced into doing things they do not want to do. Autistic patients may portray some of the following characters;

- Anxiety
- Fear
- Unaware of surroundings
- Anti social

SYSTEM OBJECTIVE

This project has been designed to provide quick information processing for autistic patients. This project is also aimed at improving the lives of autistic patients. It has been proven that autistic patients respond better to art (music, painting, sculpting and graphics). So this project takes advantage of this and creates a conducive learning environment for the patients.

SOFTWARE SPECIFICATIONS

Software Environment is a technical specification of requirements of software products. This specifies the environment for

the development, operation and maintenance of the product.

BLENDER 2.74

Blender is animation software. It allows you to create a vast range of animations. Such as;

- Cars
- Characters of different forms
- Waterfalls
- Rooms (kitchen, bedrooms).

A blender may take too much time and is a lot involving. It requires precision and accuracy. The software needs a great deal of patience and has the following interface.

BLENDER BASICS: The software has a properties panel on the right and a work screen in the center. This screen enables you to do your work properly. When using a blender, make sure you have the following;

- A number pad on your keyboard or you can use the number pad on your blender interface.
- A mouse, because you can't use blender with a track pad.
- And most importantly the blender software, make sure you have the latest version or one of the newer versions of blender, these will have the cycles render option which makes animations more lively and fun.

ADOBE AFTER EFFECT CC

Adobe after effect cc is application software that is used for video editing. This software can be used to create animations also. The adobe after effect cc application software is especially used in the filming industry. This software was used to create movies such as

- Iron man

THE STEPS FOLLOWED IN CREATING AN ANIMATION IN BLENDER

The following is a list of basic steps followed in the creation of an animation:

- Once your blender file is open, depending on what kind of animation it is, you are able to create an animation.
- Copy the sketch file to your blender window.
- Now mirror the image, this will allow you to make changes to the one side of your character and have the same changes reflect on the opposite side so that you don't have to do the same twice.
- Now, we need to rig the image. Rigging is a term used in blender meaning adding bones. Making the character more human like. This will enable movements of the animation.
- After that, you need to make sure each part of the character has been properly rigged and include the inverse kinematics.
- Now that we have a properly moving character, let us texture it.
- The next step will be Texturing the character. This means adding skin and hair and other elements to it and makes it look real.
- After this, render your character.
- This means, making sure your character does what it is suppose to do and also that it looks the way you want it to look.
- Rendering may take long depending on the time and also the specifications made as to how real you want your character to look.
- It may take about 30 minutes to an hour or more.



ANIMATION CONSTRUCTION

Animation Construction is a process for converting content and design into an Animation, usually in Blender or adobe after Effect cc, There are a series of guidelines that you need to follow to make sure your animation conforms to best practice. These guidelines encompass.

- Character rigging
- Screen resolution.
- Animation rendering

CHARACTER RIGGING

Character rigging is a term used in character creation which refers to the process of achieving motion. This can be done in many ways that one. You can insert a skeleton like structure to your character or you can insert the bones one by one. The bones should be properly placed and fixed in the right position to facilitate proper movements. Once you've inserted your bones, only then can you attempt to create motion into the character, this may take some time to do. Note that, this can only

be done with an already existing model. Meaning, you should have already molded your character before rigging. Character creation takes a lot of time and should be done properly.

SCREEN RESOLUTION

Screen resolution defines the number of pixels that can be displayed on a computer monitor. This number is increasing all the time. However, adoption rates vary, which means that you cannot create your Animation for the smallest possible size. If you do, many people will not be able to watch your animation properly. Instead, you need to create your Animation so that it can be optimally displayed on the largest number of screens, e.g. 99% of all viewers. The current accepted standard for doing so is 1024 pixels wide by 768pixels high.

ANIMATION RENDERING

Rendering is the process by winch the final result of your animation is being processed. Rendering may take a lot of time depending on the sampling rate. The higher the sampling rate, the longer it is to render, but it is also

important to know that the higher the sampling rate, the better your animation will look. Rendering set at 100. The result will be great, but it takes too much time to render.

CONCLUSION

This project was built using the following software's, Adobe after effects cc, Blender 2.74, HTML5, and CSS3. These software's, provide a platform for animation, video editing and also proper targeting of project cause. This Project was created to help improve the lives of autistic patients. The animations for this project target all areas of autism in relation to information processing. The autistic patient needs to be handled with patience. These people need special attention and should not be pushed. Some videos in this project only include an audio strip and an animated picture of the particular reminder. One of which includes the shoe and the labeled body parts of the human body. The characters were created in blender and the entire editing strip was done and completed in blender also. Blender provides an excellent animation development platform and user friendly interface. Adobe after effects cc also provides an excellent video editing platform.

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