

BRUSH TEETH WITH MUSIC FOR TREATMENT OF AUTISM CHILDREN

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DECLARATION

I hereby declare that this project report entitled
BRUSH TEETH WITH MUSIC FOR TREATMENT OF AUTISM CHILDREN

is written by me and is own my own effort and that no part has been plagiarized without citations.

STUDENT : _____ DATE: _____
(FARAH NAZMIN BINTI KAMARUDIN)

SUPERVISOR : _____ DATE: _____
(PN. ANIZA BINTI OTHMAN)

DEDICATION

To kids that have the autism....

To the teachers that teach the autism kids...

To the parents that have the autism children.....

ACKNOWLEDGEMENT

I would like to thank Pn. Aniza for giving assistant to complete this project successfully. I also want to thank to my parent and friends for giving the support to finish this project.

ABSTRACT

This project which called “Brush Teeth with music for treatment of autism children” is animation learning specially designed for autism people, which can help them brush teeth independently. The autism people are difficult to remember what the teacher or parent teaches. The music is use for help the autism people to remember the step technique of brush teeth. There for, hopefully this animation can be evaluated, improve and also can be use in the outside.

ABSTRAK

Projek ini yang bertajuk “Brush Teeth with music for treatment of autism children” adalah satu animasi dalam bentuk pembelajaran yang direka khas untuk autism. Orang yang mengalami autism ini memang sukar untuk mengingati apa yang diajar oleh guru atau ibu bapa. Muzik digunakan untuk membantu orang-orang autisem ini mengingati cara-cara memberus gigi dengan betul. Oleh itu, diharapkan agar animasi ini dapat dibangunkan, diperbaharui, dan boleh digunakan di luar.

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LIST OF ABBREVIATIONS

SDLC	-	systems development life cycle
RAD	-	rapid application development
JAD	-	joint application development
CD ROM Read-Only Memory	-	Compact Disc
PSM	-	Projek Sarjana Muda
UTeM	-	Universiti Teknikal Malaysia Melaka
PDDNOS		Pervasive Developmental Disorder-Not Otherwise Specified
SAD	-	Autism Spectrum Disorders

CHAPTER 1

INTRODUCTION

1.1 Project Background

Autism is a brain disorder that often makes it hard to communicate with and relate to others. With autism, the different areas of the brain fail to work together.

Most people with autism will always have some trouble relating to others. In other meaning they have their own world. They cannot communicate, speaking, thinking and do like the normal people. But early diagnosis and treatment have helped more and more people with autism to reach their full potential. There are more activity such as teaching how to manage them, academic and much more. Manage them self are much important because they must manage their life alone when they grow up and continue their lives more complete and effective.

Before this, all the autism people manually taught by parent or teachers. For example, to teach them how to brush their teeth using the teeth set and the big tooth brush. Not that all, every day the teacher must show them how to brush.

There for this project can help them to continue their lives more complete and effective. Beside, this project also can able to manage them properly and discipline. The music is using for help them to remember the step. Music cans simulation the brain that regulates automatic processes, and cognitive elective. Application shows the success of music therapy on several behavioral problems involving autism and neurology. Music can calm situation and entertaining children's autism. Music has a usual attraction for them.

1.2 Problem statements

Before this, all the autism people manually taught by parent or teachers. For example, to teach them how to brush their teeth using the teeth set and the big tooth brush. Not that all, every day the teacher must show them how to brush because they cannot remember the step.

All the autism people have different of characteristics compared with children autism pure where they have all those features. One of the characteristic is nature of a strange game where they close the ears to hear a sound or cannot to communicate.

1.3 Objective

There have are the objective of build this project. There are:

a) To use 3D animation

3D animation is use to make the cartoon real. The children with autism like to see the real things or shapes. The 3D animation good to make a animation.

b) To use a music as a therapy.

Children with autism have problem in memorize. So, the teacher or the parents always taught them manually. Music therapy is both an allied profession and a field of scientific research which studies correlations between the process of clinical therapy and biomusicology, musical acoustics, music theory, psychoacoustics and comparative musicology. It is an interpersonal process in which a trained music therapist uses music and all of its facets-physical, emotional, mental, social, aesthetic, and spiritual-to help clients to improve or maintain their health.

1.4 Scope

The scopes are to guide the developer to manage their project properly. The scopes of this project are:

a) Focus on autism in Melaka.

The targets are in primary school at Sekolah Kebangsaan Ujong Pasir and NASOM.

b) To help understanding simulate remembrance the step to brush the teeth.

The step brush tooth is combine the tone of the music can help the autism children remember the step to brush the teeth.

c) Develop the 3D animation.

The technique in the 3d animation is use to make the animation become real.

1.5 Project significance

This project is focus for the autism children where they can:

- a) Teaching self-control skills, where children are taught self-control and self-reliance.
- b) Teaching skills of brush teeth properly.
- c) Music therapy is use to make them remember the technique skills of brush teeth properly.

1.6 Conclusion

There for this chapter is the overall of the introduction of the project. It can help the autism children to continue their lives more complete and effective. Beside, this project also can able to manage them properly and discipline. The next chapter is the literature review and the project methodology that use in this project.

CHAPTER II

LITERATURE REVIEW & PROJECT METHODOLOGY

2.1 Introduction

This chapter will discuss in detail about the literature review and project methodology of the 3D animation. This work is a part of ongoing project that focuses on help the children with autism in arranges their life properly.

Literature review is the phase where all the processes happen such as searching, collecting and analyzing what have been published by researchers. All the processes can be completed through relevant sources such as books, journals, technical reports, proceeding conferences, web pages and others. The purpose of the literature review is to convey readers what knowledge and ideas have been established on a topic and to know what are the weaknesses and strengths.

Therefore, in this chapter, it will be described on how to develop and integrate the researchers found to build the project for the autism children. Identify the domain related with this project. Discuss past research, reference, case study and other finding that relate to this project title.

Autism is a developmental disability of the brain, much like dyslexia, mental retardation, or attention deficit disorder. Autism is not a form of mental retardation, and though many autistic people appear to function as retarded, they are frequently quite intelligent. According to the Autism Society of America, "*autism...occur[s] in approximately 15 of every 10,000 individuals...[and]...nearly 400,000 people in the U.S. today have some form of autism.*"

The word autism may actually refer to several similar disabilities, including *Autistic Disorder*, *Aspergers Syndrome*, and "*Atypical*" *Autism* (a type of *Pervasive Developmental Disorder, not otherwise specified*). Though there are some differences between these conditions, they are quite similar, and those who have them experience many of the same difficulties in life.

There are 5 different type of autism. There are definitions and characteristics of the five different autism disorders. First is Classic Autism. Autism is the second leading childhood developmental disorder and is considered the most severe of the different types of Autism disorders. People with Classic Autism develop language late, or not at all. People affected with Classic Autism have difficulties talking with other people or a profound lack of affection or emotional contact with others, an intense wish for sameness in routines, muteness or abnormality of speech, high levels of Visio-spatial skills, but major learning difficulties in other areas. Symptoms of autism usually appear during the first three years of childhood and continue throughout life. Autism is a spectrum disorder because the severity of impairment in each of these areas differs in each individual.

Second is Aspergers Syndrome. A Person with Aspergers Syndrome can exhibit a variety of characteristics and the disorder can range from mild to severe. Children show deficiencies in social skill and have difficulties with transitions or changes. They compulsively cling to rituals and any changes in their routine can upset them. They have a great difficulty reading body language and determining proper body space. Some children with Aspergers Syndrome have reduced sensitivity to pain and an increased sensitivity to bright lights and loud noises. With this type of Autism disorders they also have average or above-average intelligence.

Third is Childhood Disintegrative Disorder. Childhood Disintegrative Disorder includes severe regression in communication skills, social behavior, and all developmental motor skills. At the beginning these children seem perfectly normal. They start to regress at between ages 2-4 years. At that time these children stop socializing, lose potty-training skills, stop playing, lose motor skills and stop making friends.

Fourth is Rett Syndrome. Rett syndrome is a neurological and developmental disorder that mostly occurs in females and is marked by poor head growth. Loss of muscle tone is usually the first symptom. Other early symptoms may include problems crawling or walking and diminished eye contact. They stop using their hands to do things and often develop stereotyped hand movements, such as wringing, clapping, or patting their hands. The inability to perform motor functions is perhaps the most severely disabling feature of Rett syndrome, interfering with every body movement, including eye gaze and speech. Infants with Rett syndrome seem to grow and develop normally at first, but then stop developing and even lose skills and abilities.

The last is Pervasive Developmental Disorder-Not Otherwise Specified. This tends to describe people who have many or all of the different types of Autism disorders. Children with PDDNOS either do not fully meet the criteria of symptoms used to diagnose any of the four specific types above, and/or do not have the degree of impairment described in any of the above four specific types.

There this project is focus on the Pervasive Developmental Disorder-Not (Otherwise Specified type which is all criteria of the autism or not fully.

Autism is a severe developmental disorder that begins at birth or within the first two-and-a-half years of life. Most autistic children are perfectly normal in appearance, but spend their time engaged in puzzling and disturbing behaviors which are markedly different from those of typical children.

Autism affects information in the brain by altering how nerve cells and their synapere connect and organize; how this occurs is not well understood. Levy SE, Mandell DS, Schultz RT. Autism (2009) state that the tow other autism spectrum disorders (ASD) are Asperger syndrome, which lacks delays in cognitive development and language, and PDD-NOS, diagnosed when full criteria for the other two disorders are not met. (Johnson CP, Myers SM, Conuncil, 2007).

Autism has a strong genetic basis, although the genetics of autism are complex and it's unclear whether ASD is explained more by rare mutations, or by rare combinations of common genetic variants. Abrahams BS, Geschwind DH (2008) state that in rare cases, autism is strongly associated with agents that cause birth defects. Controversies surround other proposed environmental causes, such as heavy metals, pesticides or childhood vaccines; Rutter M (2005) state that the vaccine hypotheses are biologically implausible and lack convincing scientific evidence. Doja A, Roberts W (2005) state that the prevalence of autism is about 1-2 per 1,000 people; the prevalence of ASD is about 6 per 1,000, with about four times as many males as females.

The number of people diagnosed with autism has increased dramatically since the 1980s, partly due to changes in diagnostic practice; the question of whether actual prevalence has increased is unresolved. (Newschaffer CJ, Croen LA, Daniels J, 2005).

In the learning and teaching, all the teacher that teach the autism children have a syllabus or book to teach this autism children. In that book, it has many part of teaching these children. One of the parts is hygiene and health. The objective of this syllabus is enable student to name and label personal care tool and functionality of personal care. They are a lot of activity. One of them is name the tooth brush and tooth pest. The teacher explains to student the importance of rental hygiene. Than the teacher demo how to use and brush the teeth.

There are a lot of studies that suggest different treatments for child autism. Here are some of the treatments for child autism and some information about them. The first treatment is ABA treatment. This is the first scientifically validated treatment for child autism. It normally involves intervention at a very young age. The autistic child is paired with a therapist that uses the following procedure. The procedures are the therapist requests or direct the autistic child for an action. Second the child responds to the antecedent by a behavior that may be classified as a success, a noncompliance or no response. The third is the therapist reacts with a consequence that ranges from strong positive reinforcement to strong negative response.

Second is Computer Use. The use of computers as treatment for a child with autism has actually been found to be more than beneficial. Such an interaction with a computer may help a child with autism develop his interaction skills. This is because of the fact that they are actually in direct control of the computer. Such an interaction with the computer may not be as intimidating as a child with autism fear in face-to-face interaction with another person.

Third is Snoezelen. This popular treatment of child autism involves the use of different multisensory stimulants that help calm down an autistic child. This includes the use of different colored lights, sounds and scents in a controlled environment in order to provoke a positive response from the child with autism.

Fourth is Neurofeedback. This involves attaching electrodes to the scalp and teaching an autistic child to control his or her brainwaves. This treatment for child autism shows promising results, based on a pilot study with eight children.

Fifth is Drug therapy. Highly opposed by parents of autistic children, this treatment for child autism is seen as a highly controversial subject. While use of anti-seizure medication is effective for those children who suffer from seizures, parents point out that most of the drugs used in this treatment aren't really appropriate for use on autistic children. Many autistic people themselves actively oppose the prescription of drugs to control the behavior of autistic children.

Sixth and last is Occupational, visual and auditory therapies. This treatment for child autism involves trying to filter out the different sensory stimuli experienced by an autistic child in order for him or her to process the information better. This involves the use of different devices to help a child with autism focus one or more senses.

Music therapy is both an allied profession and a field of scientific research which studies correlations between the process of clinical therapy and biomusicology, musical acoustics, music theory, psychoacoustics and comparative musicology. It is an interpersonal process in which a trained music therapist uses music and all of its facets-physical, emotional, mental, social, aesthetic, and spiritual-to help clients to improve or maintain their health. Music therapists primarily help clients improve their observable level of functioning and self-reported quality of life in various domains (e.g cognitive functioning, motor skills, emotional and effective development, behavior and social skills) by using music experiences (e.g singing, songwriting, listening and discussing music, moving to music) to achieve measurable treatment goals and objectives. Referrals to music therapy services may be made by a treating physician or an interdisciplinary team consisting of clinicians such as physicians, psychologists, physical therapists and occupational therapists.

1.2 Domain

At the early of animation, it was done by hand and the entire frame in animation has to be drawn on a piece of paper. A tremendous amount of work is essential even to develop shortest animated films. There are couple of different techniques were developed for creating by hand such as Cell animation, key frames and Rot scoping technique.

However, the development of computer technology has driven the new era in animation in which where it is today. Since the invention of software which enable an animator to developed 2D animation to the invention of software which enable an animator to develop 3D animation, there area of animation have been developed and it is used in many area of industry today.

Taking about 3D animation, people will imagine the movement to realistic character which as same as in the real life. The development of 3D is used for the purpose of advertisement on television, film production, video clip production and also games industry. The most popular one of usage of 3D is in the film production.

Nowadays, a 3D character is used to performed action in many films which cannot be reached or done by human character. This is especially for the animal character, fictions science character and many more. We have seen much 3D animation films in the market today. There are kinds of 3D film, the first one is cartoon character and the second one is in real character. For example King Kong, Upin & Ipin, Golden Compass and many more.

2.3 Existing System

The existing system before are teach the student how to remember the family and remember the things in the bedroom. The two systems are cost ware learning system. In the other country, there have a lot of courseware, application and much more.

2.4 Project Methodology

The systems development life cycle (SDLC) is a conceptual model used in project management that describes the stages involved in an information system development project, from an initial feasibility study through maintenance of the completed application. Various SDLC methodologies have been developed to guide the processes involved, including the waterfall model (which was the original SDLC method); rapid application development (RAD); joint application development (JAD); the fountain model; the spiral model; build and fix; and synchronize-and-stabilize.

Often, several models are combined into some sort of hybrid methodology. Documentation is crucial regardless of the type of model chosen or devised for any application, and is usually done in parallel with the development process. Some methods work better for specific types of projects, but in the final analysis, the most important factor for the success of a project may be how closely the particular plan was followed.