Universiti Teknologi MARA

Virtual Reality Therapy Simulation for Acrophobia

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ABSTRACT

Virtual reality therapy, based on this sophisticated technology, has been recently used in the treatment of subjects diagnosed with acrophobia, a disorder that is characterized by marked anxiety upon exposure to heights and avoidance of heights. Conventional VR systems for the treatment of acrophobia have limitations, over-costly devices or somewhat unrealistic graphic scenes. The goal of this study was to develop a more realistic virtual environment in which to perform exposure therapy for acrophobia. The simulation is develops using an ADDIE model and several hardware and software. The output device which is 5DT HMD and 3D Pro Joystick is used to create an immersive type of Virtual Reality. 3D Studio Max 8.0 is used as the main developer software. Several limitations have been determined through this development and several recommendations have been defined.

TABLE CONTENTS

CONTENT		PAGE
Acknowledgement		iii
List of Tables		vii
List of Figure		viii
Abstract		ix
CHAPTER 1 : PROJECT OVERVIEW		
1.0	Background	1
1.1	Problem Statement	2
1.2	Objectives	3
1.3	Scope	4
1.4	Significance of research	4
CHAPTER 2 : LITERATURE REVIEW		
2.0	Introduction	5
2.1	Acrophobia	5
	2.1.1 Causes of acrophobia	6
	2.1.2 Symptoms of acrophobia	7
	2.1.3 Cure for overcoming acrophobia	10
	2.1.3[a] Virtual Reality	11
2.2	Virtual Reality	14
	2.2.1 The advantages and disadvantages of VR	15
	2.2.2 Types of Virtual Reality System	17
	2.2.3 Immersive Virtual Reality	19

CHAPTER 1

PROJECT OVERVIEW

1.0 Background

Virtual Reality (VR) is a technology which allows a user to interact with a computer-simulated environment, be it a real or imagined one. The primary use of VR in a therapeutic role is its application to various forms of exposure therapy, ranging from the treatment of phobias, to newer approaches to treating PTSD (Post Traumatic Stress Disorder). Much as in the treatment of phobias, exposure to the subject of the trauma or fear seems to lead to desensitization, and a significant reduction in symptoms.

The VR therapy simulation for acrophobia had been done before but not in Malaysia. In this project, the simulation will be reproduce and extend. There are several types of phobia including arachnophobia, phobia of flying, and acrophobia.

Acrophobia is an extreme or irrational fear of heights. The most widely accepted explanation is that acrophobia stems from fear- fear of falling and being injured or killed. Acrophobia usually has an early onset and is usually associated to having aversive experiences in a high place (Juan et. el, 2005).

Virtual Reality therapy places users in a computer-generated world where they "experience" the various stimuli related to their phobia (acrophobia). User will wear the special devices to receive both visual and auditory cues, in this project, HMD and 3D Pro Joystick will be used. "In order to get better, patients must confront what they fear" (Difede, 2004).