

TABLE OF CONTENTS

CHAPTER	NAME	PAGE NO.
CHAPTER 1:	INTRODUCTION	1
	1.1 Motivation	2
	1.2 Aim of the work	3
	1.2.1 Objectives	3
	1.3 Organization of the dissertation	3
CHAPTER 2:	RELATED WORK AND BACKGROUND STUDY	4
	2.1 Related work	4
	2.2 Computer Vision	6
	2.2.1 Applications of computer vision	6
	2.3 Hand tracking	6
	2.4 Hand gesture recognition	8
	2.4.1 Applications of hand gesture recognition system	9
	2.4.2 Methodologies for hand gesture recognition	9
CHAPTER 3:	THE PROPOSED APPROACH	11
	3.1 Moments	14
	3.1.1 Geometric moments	14
	3.1.2 Hu moments	15
	3.2 k-NN classifier	17
	3.3 Image filtering	18
	3.3.1 Median filter	18
	3.4 Thesholding	19

CHAPTER 4: IMPLEMENTATION AND ANALYSIS WITH EXPERIMENTAL RESULTS	20
4.1 Implementation	20
4.1.1 Image database	20
4.1.2 Image capturing	21
4.1.3 Image preprocessing for hand tracking	21
4.1.4 Preprocessing of the tracked image	22
4.1.5 feature extraction	22
4.1.6 Acceptance checking	22
4.1.7 Recognition	22
4.1.8 Conversion of gesture into media player command	23
4.2 Condition for success of the interaction system	23
4.3 Experimental results	23
CHAPTER 5: SOFTWARE VIEW WITH SCREENSHOTS	25
CHAPTER 6: CONCLUSION AND FUTURE WORK	28
5.1 Future work	28
APPENDIX: REFERENCES	29