



FINAL YEAR PROJECT REPORT

3D HOLOGRAPHIC DISPLAY WITH GESTURE CONTROL

**In fulfillment of the requirement
For degree of
BEE (Electrical Engineering)**

By

**SAIMA BIBI
AYESHA IMRAN
SAFWAN SAUD**

**57100 BEE (ELECTRONICS)
57101 BEE (ELECTRONICS)
51128 BEE (ELECTRONICS)**

SUPERVISED

BY

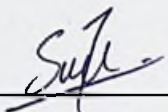
DR. MUKESH KUMAR MEHESHWARI

BAHRIA UNIVERSITY (KARACHI CAMPUS)

2018-2022

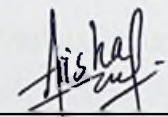
DECLARATION

We acknowledge that this project report is based on our original work without the properly approved quotations and quotations. We also announce that you have never been awarded before and at the same time for any other degree or award at Bahria University or other institutions.

Signature : 

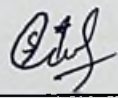
Name : Saima Bibi

Reg No. : 57100

Signature : 

Name : Ayesha Imran

Reg No. : 57101

Signature : 

Name : Safwan Saud

Reg No. : 51128

Date : 10-07-2022

The copyright of this report belongs to the author under the terms of the copyright Ordinance 1962 as qualified by Intellectual Property Policy of Bahria University. Due acknowledgement shall always be made of the use of any material contained in, or derived from, this report.

© 2022 Saima Bibi, Ayesha Imran, Safwan Saud. All right reserved.

ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, Dr.Mukesh Kumar Maheshwari for his valuable advice, guidance and his enormous patience throughout the development of the research.

In addition, we would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

3D HOLOGRAPHIC DISPLAY WITH GESTURE CONTROL

ABSTRACT

The aim of this project is to introduce the holographic 3D technology with gesture control without using the 3D glasses or any reference of light beam. The 3D holographic display with the glasses is expensive and we need to have the right setup to use them. Although the virtual three dimensional display technology is used in all over the World, for the first time in Pakistan, a holographic display has been used by food panda mart for advertising in twin cities. Here we try to scale up the use of low cost 3D hologram display in Pakistan. In this project we use 360-degree hologram display in which recorded video display and it enables the viewer to play the video, pause, forward, backward and control the video volume in real time with pinching, swiping and any other gestures of fingers. In this project we have developed the 3D hologram display with gesture control for educational and medical fields as well as in business for the purpose of live presentation or meeting, component display and commercial in cheap price and good quality. Try to get accurate results of hologram vision 80%, Detection of hand 80% and hand tracking 60%. Furthermore 3D new possibilities for use of live presentation, entertainment and holographic gaming in Pakistan in the future.

TABLE OF CONTENTS

DECLARATION	iii
APPROVAL FOR SUBMISSION	iv
ACKNOWLEDGEMENTS	vii
ABSTRACT	viii
LIST OF FIGURES	xii
LIST OF SYMBOLS / ABBREVIATIONS	xiii

CHAPTERS

1	INTRODUCTION	14
	1.1 Background	14
	1.2 Problem Statements	15
	1.3 Objectives	15
	1.4 Scope of Project	16
	1.5 Sustainable Development Goals of Project	16
	1.5.1 Introduction	16
	1.5.2 Justification	17
	1.5.3 Mapping of Sustainable Development Goals	17
	1.6 Environmental Aspects of Project	18
	1.6.1 Introduction	18
	1.6.2 Environmental Impact Assessment (EIA)	18
	1.6.3 Environment Impact Statement (EIS)	18
2	LITERATURE REVIEW	19
	2.1 3D Hologram Technology	19
	2.2 Gesture Recognition	21
3	DESIGN & IMPLMENTATION	24
	3.1 Algorithm & Flow of Process:	24
	3.2 Methodology	25
	3.2.1 Controlling	26

		x
	3.2.2 Live Recording& display	27
	3.2.3 Hardware	29
4	RESULTS AND DISCUSSIONS	34
	4.1 Code Results	34
	4.2 Display Results	37
	4.3 Limitations	39
5	CONCLUSIONS AND FUTURE IMPELEMENTATION	40
	5.1 Conclusions	40
	5.2 Future Implementation	41
	REFERENCES	42
	APPENDICES	44