



Bahria University
Discovering Knowledge

FINAL YEAR PROJECT REPORT
EYE GAZE BASED INTERACTION FOR
PHYSICALLY DISABLED PATIENT

By

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| ABDUL MOEEZ KHAN | (39200) |
| MALIK MUHAMMAD USMAN | (39245) |
| MUHAMMAD UMAIR | (39263) |
| MUHAMMAD HAMMAD RASHID | (39274) |
| RAHIM AHMED | (39283) |

SUPERVISED BY
(MR AZMAT KHAN)

BAHRIA UNIVERSITY (KARACHI CAMPUS)

2018

EYE-GAZE BASED ACKNOWLEDGEMENTS SINGLE PATIENT
ABSTRACT

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, MR AZMAT for his invaluable 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.

EYE GAZE BASED INTERACTION FOR DISABLE PATIENT

ABSTRACT

In the last couple of years Human-computer interaction (HCI) is playing very important role in technology revolution. The arrival of small devices (like tablets, Ipad and android phones) that allow touch control has been warmly praised. Researchers and engineers have also determined the eye sight potential as a possible means of interaction. To help disabled patients, some different kind of commercial solutions are also available in the Tech-Mart, but they are not affordable for everyone and provide less capacity of use. Our project encourages the introduction of a real-time low-cost system for human-computer interaction based on perception. In the medical field "Eye Tracking" is an important area, especially in psychiatry to give an idea of patients with mental disorders. Today, the availability of many kinds of devices with powerful equipment's can provide a way to analyse whether the use of these machines can be traced without using any extra components. Our project will attempt to find out the possibility of "Tracking centre of the eye-pupil using computers and webcam". To complete this application, "Haar Classifiers" and "Tracking of Eye" algorithms are applied, template matching and bring out the eye using "Image gradients". Our application was also applied as an independent activity in the background to analyse the effectiveness, performance and easiness of these two methods. "Haar classifiers", "Template matching", and "Eye detection" using chromatography algorithms show favourable outcome.

| | |
|---|----|
| Binary Eye Tracking | 17 |
| Contact Lenses Used By Technicians | 17 |
| Optical techniques based on video recording | 17 |
| Algorithms of Infrared Light | 18 |
| Existing solution Review | 20 |
| Technical Work | 20 |
| System Visualization | 20 |
| Visual system Description | 20 |

TABLE OF CONTENTS

| | |
|---|-----------|
| ABSTRACT | 7 |
| Table OF CONTENTS | 8 |
| LIST OF FIGURES | 11 |
| LIST OF SYMBOLS / ABBREVIATIONS | 12 |
| Chapter 1 | |
| Chapter 2 | |
| Chapter 1 INTRODUCTION | 13 |
| Background | 13 |
| Problem statement | 13 |
| Chapter 2 LITERATURE REVIEW | 14 |
| Available Solutions in Market | 14 |
| Data Obtained Type | 14 |
| Reference Point | 15 |
| Three-dimensional direction of sight | 15 |
| Eye-Position Tracking Methods | 17 |
| Electro-Eye Tracking | 17 |
| Contact Lenses Used By Technicians. | 17 |
| Optical techniques based on video recording | 17 |
| Absence of Infrared Light | 19 |
| Existing Solution Review | 20 |
| Theoretical basics | 20 |
| System Visualization | 20 |
| Visual System Description | 20 |

| | | |
|------------------|--|-----------|
| Chapter 2 | Eye movement | 22 |
| Chapter 3 | DESIGN and METHODOLOGY | 23 |
| | Tracking Algorithms | 24 |
| | The algorithm of face and eye detection | 24 |
| | Cascade Classification Based On Haar Features | 26 |
| | Matching-Algorithm (Template) | 27 |
| | Barth's & Timm's Algo. Implementing Image-Gradients | 28 |
| | Purpose of tracking features | 30 |
| | Algorithm of traits for tracking | 31 |
| | Reference Frame's Usages | 32 |
| Chapter 4 | IMPLEMENTATION | 33 |
| | 4.1 Facial Features Recognition | 33 |
| | 4.2 Detection of Eye | 34 |
| | 4.3 Extract Out Eyes-region | 35 |
| | 4.4 Classify Eyes-wink | 35 |
| | 4.5 Application Flow Diagram | 36 |
| | The flow diagram given below defined the structure of our application | 36 |
| | 4.6 Code | 37 |
| Chapter 5 | RESULTS and DISCUSSIONS | 41 |
| Chapter 6 | CONCLUSION and RECOMMENDATIONS | 43 |