Bahria University
Discovering Knowledge

FINAL YEAR PROJECT REPORT

SOLUTION FROM IMAGE OF MATHEMATICAL PROBLEM (PHOTOMATH)

By

SHARJEEL AHMED	(39134)
SYED ARHAM HUSSAIN	(39137)
SYED OMER MOHIUDDIN	(39140)
MUHAMMAD ZARYAB	(39126)
WAJAHAT RAHIM	(39139)

SUPERVISED BY

(MISS TOOBA MEHTAB)

BAHRIA UNIVERSITY (KARACHI CAMPUS)

2018

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, Miss Tooba Mehtab for her invaluable advice, guidance and her 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.

SOLUTION FROM IMAGE OF MATHEMATICAL PROBLEM (PHOTOMATH)

ABSTRACT

The objective of this project is to develop an application for recognizing a handwritten mathematical expression and provide its solution. The android application is used to capture an image which is then recognized by using algorithms and solve the desired expression.

A front end is designed for the application which captures an image and coverts it to a different format which is then routed to a local host server which request the API where it is recognized and converted into another format. It is then solved and the solution of the expression is provided

TABLE OF CONTENTS

DECLARATION		**ii**
APPROVAL FOR SUBMISSION		**iv**
ACKNOWLEDGEMENTS		**vii**
ABSTRACT		**viii**
TABLE OF CONTENTS		**ix**
LIST OF FIGURES		**xi**

CHAPTER

1	**INTRODUCTION**		**1**
	1.1	Background	1
	1.2	Problem Statements	1
	1.3	Aims and Objectives	2
	1.4	Scope of Project	2
2	**LITERATURE REVIEW**		**3**
	2.1	Similar Application	3
	2.2	Solution from image of mathematical problem (Implement) **Error! Bookmark not defined.**	
	2.3	Beneficial outcomes of Implemented Systems.	**4**
	2.4	Reference	**4**

3 **DESIGN AND METHODOLOGY** 5
3.1 Process Model 5
3.2 System Architecture 5
3.3 System Workflow 6

4 IMPLMENTATION **7**
4.1 Planning Initiation **7**
4.2 Implementation 7
4.2.1 Android Studio 7
4.2.2 Mathpix 11
4.2.3 Python
13

5 RESULTS AND DISCUSSIONS **14**
5.1 Result
14
5.2 Discussion
14

6 CONCLUSION AND RECOMMENDATIONS **15**
6.1 Conclusion 16

REFERENCES **17**