**TITLE IN CAPITAL LETTERS, FONT SIZE 12,**

**TIMES NEWS ROMAN, CENTRED, BOLD**

**STUDENT’S NAME 1**

**STUDENT’S NAME 2**

**STUDENT’S NAME 3**

**A project report submitted in partial fulfilment of the**

**Requirements for the award of the degree of**

**Bachelor of Programme Name (BSCS/BSIT)**

**Computer Science Department**

**Bahria University, Karachi Campus**

**YEAR**

DECLARATION

I/We hereby declare that this project report is based on my/our original work except for citations and quotations which have been duly acknowledged. I/We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reg No. : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reg No. : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

APPROVAL FOR SUBMISSION

I/We certify that this project report entitled **“TITLE TO BE THE SAME AS FRONT COVER, CAPITAL LETTER, BOLD”** was prepared by **STUDENT’S NAME/S** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of **Program** **Name** at Bahria University.

Approved by,

Signature : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Supervisor : Dr/Mr/Miss/Madam XXXXXXXXX

Date : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Specially dedicated to

My beloved grandmother, mother and father

(Student Name 1)

My beloved grandmother, mother and father

(Student Name 2)

My beloved grandmother, mother and father

(Student Name 3)

(This dedication page is optional)

ACKNOWLEDGEMENT

I/We would like to thank everyone who had contributed to the successful completion of this project. I/We would like to express my gratitude to my research supervisor, Dr/Mr/Miss/Madam XXXXX for his/her invaluable advice, guidance and his/her enormous patience throughout the development of the research.

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

ABSTRACT

The objective of this project is to develop image recognition algorithms to recognize handwriting on postal letters and parcels. This report explores different techniques used for the recognition of handwriting. Different stages involving image processing like the preprocessing stage, segmentation and feature extraction will be studied and discussed. Finally the end product of the algorithms will be written in the software called Matlab.

This project uses the Artificial Neural Network technique to develop the software. The main advantage of using this technique is that it provides features extraction and detection that is suitable for character recognition. Different models of neural network are discuss and Error-back propagation algorithm was used due to its’ capability of forming internal representations of features in classification. After trials and errors, a suitable set of training parameters are define and network structure that consist of 1 input layer, 2 hidden layers and 1 output layer with 69 input neurons, 324 neurons for both hidden layers and 38 neurons for output layer is created.

The system first proceeds with the pre-process of the captured image with threshold, inverting and smoothing. Filtering, segmentation, resizing and features extraction are also performed in the process. Next, the feed forward process through the network is invoked to yield an output matrix. Based on the output matrix, the recognized character can be determined. This system is designed to customize the network for an individual user. Recommendations for future development and conclusions are also included in the report.

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LIST OF SYMBOLS / ABBREVIATIONS

*cp* specific heat capacity, J/(kg⋅K)

*h* height, m

*Kd* discharge coefficient

*M* mass flow rate, kg/s

*P* pressure, kPa

*Pb* back pressure, kPa

*R* mass flow rate ratio

*T* temperature, K

*v* specific volume, m3

*α* homogeneous void fraction

*η* pressure ratio

*ρ* density, kg/m3

*ω* compressible flow parameter

ID inner diameter, m

MAP maximum allowable pressure, kPa

MAWP maximum allowable working pressure, kPa

OD outer diameter, m

PCB printed circuit board

## INTRODUCTION

### Background

Online management system has been rapidly increased in the past few years. Online management system reduces the need of the paper based work and time.

The FYP online management is used to exchange the information of project among student, supervisors and admin. The effective online management system is needed to develop a platform to ensure the misunderstanding or lack of information or delays in the final year project activities. The online FYP management system is a best solution for the previous FYP management which is manual paper based, time consuming and not very efficient. In this project developing the web based FYP management system.

### Problem Statement

The Final Year Project management system is handle manually where project proposal submitted manually to the supervisor and project assignment also handle manually which is based on paper work and which is time consuming. The manual fyp management system has some disadvantage which are mentioned below

1. The manual fyp management system requires more man power and it is time consuming.

2. The manual system is less efficient.

3. The communication media between student and supervisor is less efficient and which cause delays in the activities of the fyp.

4. the manual system uses much more storage to store the hardcopies of the project proposal and assignment.

### Aims and Objectives

### Scope of Project

## LITERATURE REVIEW

### Subsection Title 1

Spacing between title of subsection and first line of text is 1.5 lines. The first paragraph in a subsection should align with left margin. General alignment for texts in paragraph should be “justified”.

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Spacing between title of subsection and first line of text is 1.5 lines. The first paragraph in a subsection should align with left margin. Spacing between the last line of text and table is 1.5 lines.

Table 2.1: Processing Time (in hours) of Board for Different Machines

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Board** | **Machine** | | | | |
| **1** | **2** | **3** | **4** | **5** |
| **A** | 30 | 18 | 26 | 17 | 15 |
| **B** | 23 | 22 | 32 | 25 | 30 |
| **C** | 17 | 31 | 24 | 22 | 29 |

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### Subsection Title 3

#### Sub-subsection Title 1

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### Subsection Title 4

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Table 2.2: Processing Time (in hours) of Board for Different Machines

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Board** | **Machine** | | | | |
| **1** | **2** | **3** | **4** | **5** |
| **A** | 30 | 18 | 26 | 17 | 15 |
| **B** | 23 | 22 | 32 | 25 | 30 |
| **C** | 17 | 31 | 24 | 22 | 29 |

Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device.



Figure 2.1: Computer User

## DESIGN AND METHODOLOGY

### Subsection Title 1

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### Subsection Title 2

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A new paragraph should not begin on the last line of a page. A subsection title should not begin on the last line of a page.

### Sub-subsection Title 1

#### Sub-sub-subsection Title 1

Spacing between title of subsection and first line of text is 1.5 lines. Spacing between the last line of text and table is 1.5 lines.

Table 3.1: Processing Time (in hours) of Board for Different Machines

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Board** | **Machine** | | | | |
| **1** | **2** | **3** | **4** | **5** |
| **A** | 30 | 18 | 26 | 17 | 15 |
| **B** | 23 | 22 | 32 | 25 | 30 |
| **C** | 17 | 31 | 24 | 22 | 29 |

Spacing between the table and first line of text is 3.0 lines. Spacing between the last line of text and figure is 1.5 lines.



Figure 3.1: OCR Block Diagram

Spacing between the figure and first line of text is 3.0 lines. Subsequence paragraphs should be indented 1.27 cm (0.5 inch) from the left margin.

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