**AUTOMATED SICKLE CELL ANAEMIA DETECTOR**

Submitted in partial fulfillment of the requirements

of the degree of

**B. E. Computer Engineering**

By

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**CERTIFICATE**

This is to certify that the project entitled **“Automated Sickle Cell Anaemia Detector”** is a bonafide work of **Linus Castelino (112011)** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of B.E. in Computer Engineering.

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**Project Report Approval for B.E.**

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1.---------------------------------------------

2.---------------------------------------------

Date:

Place:

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

----------------------------------------- Linus Castelino (112011)

Date:

**Abstract**

‘Sickle Cell Anaemia’ is a widely prevalent inherited blood disorder wherein the red blood cells present in the blood-vessels assume a ‘sickle shaped’ or ‘cresentic’ form. This affects the oxygen carrying capacity of the blood, resulting in anaemia and various other life-threatening complications. There’s no standard cure for the disease but early detection can prevent fatal complications that may arise in later stages. Our project, therefore, involves developing software termed – **Automated Sickle Cell Anaemia Detector** (A.S.C.A.D). It is based on image processing as it takes as input microscopic image of the blood smear and detects the presence of abnormally shaped red blood cells and thereby diagnoses sickle cell anaemia in patients. By cutting down the time exhausted in manual laboratorial blood examinations and accidental human errors, we attempt to expedite the process of differential diagnosis.

**Contents**

|  |  |  |
| --- | --- | --- |
| **Chapter** | **Contents** | **Page No.** |
| 1 | INTRODUCTION | 1 |
| 1.1 Description | 1 |
| 1.2 Problem Formulation | 2 |
| 1.3 Motivation | 2 |
| 1.4 Proposed Solution | 3 |
| 1.5 Scope of the project | 4 |
| 2 | REVIEW OF LITERATURE | 5 |
| 3 | SYSTEM ANALYSIS | 7 |
| 3.1 Functional Requirements | 7 |
| 3.2 Non Functional Requirements | 7 |
| 3.3 System Requirements | 9 |
| 3.4 Use-Case Diagrams and description | 10 |
| 4 | ANALYSIS MODELING | 12 |
| 4.1 Activity Diagram | 12 |
| 4.2 Functional Modeling | 13 |
| 4.3 TimeLine Chart | 14 |
| 5 | DESIGN | 16 |
| 5.1 Architectural Design | 16 |
| 5.2 User Interface Design | 18 |
| 6 | IMPLEMENTATION | 19 |
| 6.1 Algorithm | 19 |
| 6.2 Working of the project | 20 |
| 7 | Testing | 27 |
|  | 7.1 Test cases | 27 |
|  | 7.2 Type of Testing used | 28 |
| 8 | RESULTS AND DISCUSSIONS | 31 |
| 9 | CONCLUSIONS & FUTURE SCOPE | 34 |
| - | Literature Cited | - |
| - | Acknowledgements | - |

**List of Figures**

|  |  |  |
| --- | --- | --- |
| **Fig. No.** | **Figure Caption** | **Page No.** |
| 1.4.1 | Proposed solution block diagram | 3 |
| 3.4.1.1 | Use case diagram | 10 |
| 4.1.1 | Activity diagram | 12 |
| 4.2.1 | Data flow diagram (level 0) | 13 |
| 4.2.2 | Data flow diagram (level 1) | 13 |
| 4.3.1 | Timeline chart | 14 |
| 4.3.2 | Gantt chart | 14 |
| 5.1 | Architectural design | 16 |
| 5.2.1 | User interface | 18 |
| 6.2.1 | GUI layout | 20 |
| 7.2.1 | Testing : Blank patient name | 28 |
| 7.2.2 | Testing : Blank patient age | 28 |
| 7.2.3 | Testing : Invalid patient age | 29 |
| 7.2.4 | Testing : Blank doctor name | 29 |
| 7.2.5 | Testing : Blank image path | 30 |
| 7.2.6 | Testing : Trying to enter an invalid image path | 30 |
| 8.1 | Result of histogram stretching | 31 |
| 8.2 | Resulting image after imfill operator | 31 |
| 8.3 | Result of filtering the image | 32 |
| 8.4 | Result of erosion and clearing the border objects | 32 |

**List of Tables**

|  |  |  |
| --- | --- | --- |
| **Table No.** | **Table Caption** | **Page No.** |
| 3.4.2.1 | Use case description | 10 |
| 7.1.1 | Test case table | 27 |
| 8.1 | Result analysis | 33 |