# **Table of Contents**

[Abstract](#_Toc140547152) i

[Acknowledgement](#_Toc140547153) ii

[List of Figures](#_Toc140547154) iii

[Abbreviations](#_Toc140547155) iv

[Chapter 1: Introduction](#_Toc140547156) 1

[1.1 Problem Statement](#_Toc140547157) 1

[1.2 Objective](#_Toc140547158) 1

[1.3 Aim](#_Toc140547159) 2

[1.4 Motivation](#_Toc140547160) 3

[1.5 Scope](#_Toc140547161) 3

[1.6 Application](#_Toc140547162) 4

[Chapter 2: Literature Review](#_Toc140547163) 6

[Chapter 3: System Design](#_Toc140547164) 8

[3.1 Methods](#_Toc140547165) 8

[3.1.1 Tools and Techniques Used](#_Toc140547166) 8

[3.1.2 Method Selection](#_Toc140547167) 10

[3.1.3 Take Attendance of Employee](#_Toc140547168) 11

[3.2. Requirement Analysis](#_Toc140547169) 11

[3.2.1 Functional Requirements](#_Toc140547170) 11

[3.2.2 Non-Functional Requirements](#_Toc140547171) 11

[3.3 Modules](#_Toc140547172) 11

[3.3.1 User Module](#_Toc140547173) 11

[3.3.2 Face Detection and Recognition module](#_Toc140547174) 11

[3.3.3 Attendance Module](#_Toc140547175) 12

[3.4 Use Case Diagram](#_Toc140547176) 13

[3.5 Class Diagram](#_Toc140547177) 15

[3.6 Flow Diagram](#_Toc140547178) 15

[3.7 System Architectural Diagram](#_Toc140547179) 17

[3.8 Software Requirements](#_Toc140547180) 18

[3.8.1 Django](#_Toc140547181) 19

[3.8.2 OpenCV](#_Toc140547182) 19

[3.8.3 PostgreSQL](#_Toc140547183) 19

[Chapter 4: Implementation and Discussion](#_Toc140547184) 20

[4.1 Tasks Implemented](#_Toc140547185) 20

[4.2 Output Obtained](#_Toc140547186) 20

[4.3 Discussion](#_Toc140547187) 20

[4.4 Testing](#_Toc140547188) 21

[4.4.1 Black Box Testing](#_Toc140547189) 21

[4.4.2 White Box Testing](#_Toc140547190) 24

[4.5 Gantt Chart](#_Toc140547191) 25

[Chapter 5: Analysis and Evaluation](#_Toc140547192) 26

[5.1. Analysis of Output Obtained](#_Toc140547193) 26

[Chapter 6: Conclusion](#_Toc140547194) 27

[6.1 Limitations](#_Toc140547195) 27

[6.2 Future Enhancement](#_Toc140547196) 28

[References](#_Toc140547197) 29

[Appendix](#_Toc140547198) 30