

# ÇANKAYA UNIVERSITY FACULTY OF ENGINEERING

**COMPUTER ENGINEERING DEPARTMENT**

**Test Plan, Test Design Specifications and Test Cases**

**Version 1**

**CENG 408**

Innovative System Design and Development II

**Biometric Identification based on Face and Iris Recognition**

*Tolga ÖZALP 201311042*

*Utku ÖZCAN 201311045*

*Edanaz PEKDEMİR 201311050*

Advisor: *Yrd.Doç.Dr. Gül TOKDEMİR* Co-Advisor: *Doç.Dr. Reza ZARE HASSANPOUR*

Table of Contents

[ÇANKAYA UNIVERSITY FACULTY OF ENGINEERING 1](#_Toc508747782)

[1. INTRODUCTION 3](#_Toc508747783)

[1.1 Version Control 3](#_Toc508747784)

[1.2 Overview 3](#_Toc508747785)

[1.3 Scope 3](#_Toc508747786)

[1.4 Terminology 3](#_Toc508747787)

[2. FEATURES TO BE TESTED 3](#_Toc508747788)

[2.1 Graphical User Interface (GUI) 3](#_Toc508747789)

[3. ITEM PASS/FAIL CRITERIA 3](#_Toc508747790)

[3.1 Exit Criteria 3](#_Toc508747791)

[4. REFERENCES 4](#_Toc508747792)

[5. TEST DESIGN SPECIFICATIONS 3](#_Toc508747793)

[5.1 Graphical User Interface (GUI) 3](#_Toc508747794)

[5.1.1 Subfeatures to be tested 3](#_Toc508747795)

[5.1.1.1 Main Menu 3](#_Toc508747796)

[5.1.1.1.1 Register Button 3](#_Toc508747797)

[5.1.1.1.2 Verify Button 3](#_Toc508747798)

[5.1.1.1.3 Admin Login Button 3](#_Toc508747799)

[5.1.1.2 Admin Menu 3](#_Toc508747800)

[5.1.1.2.1 Update Button 3](#_Toc508747801)

[5.1.1.2.2 Approve Button 3](#_Toc508747802)

[5.1.1.2.3 Update an Employee Button 4](#_Toc508747803)

[5.2 Pages 6](#_Toc508747804)

[5.2.1 Subfeatures to be tested 6](#_Toc508747805)

[5.2.1.1 Register Page 6](#_Toc508747806)

[5.2.1.2 Update Page 6](#_Toc508747807)

[5.2.1.3 Update an employee 6](#_Toc508747808)

[5.2.1.4 Delete an employee 6](#_Toc508747809)

[5.2.1.5 Approve Page 6](#_Toc508747810)

[P\_APP.02 7](#_Toc508747811)

[5.3 Face and Iris Recognition System 7](#_Toc508747812)

[5.3.1 Subfeatures to be tested 7](#_Toc508747813)

[5.3.1.1 Face Recognition System 7](#_Toc508747814)

[5.3.1.2 Iris Recognition System 7](#_Toc508747815)

[6. Detailed Test Cases 9](#_Toc508747816)

[6.1 MM\_REG\_BTN.01 9](#_Toc508747817)

[6.2 MM\_VER\_BTN.01 9](#_Toc508747818)

[6.3 MM\_ADLG.01 10](#_Toc508747819)

[6.4 MM\_ADLG.02 11](#_Toc508747820)

[6.5 AD\_UPD\_BTN.01 11](#_Toc508747821)

[6.6 GUI.P\_BTN.01 12](#_Toc508747822)

[6.7 GUI.CNT\_BTN.01 12](#_Toc508747823)

[6.8 GUI.CVS\_BTN.01 13](#_Toc508747824)

[6.9 GUI.DINS\_BTN.01 13](#_Toc508747825)

[6.10 GUI.SST.01 14](#_Toc508747826)

[6.11 GUI.SST.02 14](#_Toc508747827)

[6.12 GUI.DS\_PNL.01 15](#_Toc508747828)

[6.13 GUI.DS\_PNL.02 15](#_Toc508747829)

[6.14 GUI.SBS.01 16](#_Toc508747830)

[6.15 GUI.OP.01 16](#_Toc508747831)

[6.16 GUI.IP.01 17](#_Toc508747832)

[6.17 GUI.ADC\_ADDQ.01 17](#_Toc508747833)

[6.18 GUI.ADC\_ADDQ.02 18](#_Toc508747834)

[6.19 GUI.ADC\_ADDQ.03 18](#_Toc508747835)

[6.20 GUI.ADC\_DELQ.01 19](#_Toc508747836)

[6.21 GUI.ADC\_DELQ.02 19](#_Toc508747837)

[6.22 GUI.ADC\_UPDQ.01 20](#_Toc508747838)

[6.23 TM.AV.01 20](#_Toc508747839)

[6.24 TM.AV.02 21](#_Toc508747840)

[6.25 TM.TQ.01 21](#_Toc508747841)

[6.26 TM.TQ.02 22](#_Toc508747842)

[6.27 TM.TQ.03 22](#_Toc508747843)

[6.28 TM.APRAC.01 23](#_Toc508747844)

[6.29 TM.INTWS.01 23](#_Toc508747845)

[6.30 TM.INTWS.02 24](#_Toc508747846)

[6.31 BM.ES.01 24](#_Toc508747847)

[6.34 BM.ES.03 25](#_Toc508747848)

[6.36 BM.ES.05 26](#_Toc508747849)

[6.38 BM.ES.07 27](#_Toc508747850)

# INTRODUCTION

## Version Control

|  |  |  |
| --- | --- | --- |
| **Version No** | **Description of Changes** | **Date** |
| 1.0 | First Version | March 13, 2018 |

## Overview

The use case of Biometric Identification based on Face and Iris Recognition’s system employees namely workers, and also the FIRec system has a employees’ face and iris features and admin which had been determined in SRS document will be tested.

## Scope

This document encapsulates the test plan of the use cases, test design specifications and the test cases correspond to test plan.

## Terminology

|  |  |
| --- | --- |
| **Acronym** | **Definition** |
| GUI | Graphical User Interface (GUI) |
|  |  |
|  |  |

# FEATURES TO BE TESTED

This section lists and gives a brief description of all the major features to be tested. For each major feature there will be a Test Design Specification added at the end of this document.

## Graphical User Interface (GUI)

In project, graphical user interface components are used. The GUI part is divided into three parts which are Main Menu, Admin Menu. Every part of the GUI also includes smaller parts. GUI part includes testing of the functions of GUI components which are used in the project such as button, panel, text, etc.

# ITEM PASS/FAIL CRITERIA

## Exit Criteria

* + - 100% of the test cases are executed
    - 99.9% of the test cases passed
    - All High and Medium Priority test cases passed

# REFERENCES

[1] Group14\_SRS\_100, March 13, 2018

[2] Group14\_SDD\_100, March 13,2018

# TEST DESIGN SPECIFICATIONS

## Graphical User Interface (GUI)

### Subfeatures to be tested

## Main Menu

## Register Button

Participant can select the register button. If Register Button is selected, the employee will fill information about him/herself, then the camera will take a photo which includes face and iris features of the employee.

## Verify Button

Participant can select the verify button. If the face and iris data of person match is correct, it verifies.

## 5.1.1.1.3 Admin Login Button

Admin have to login to the system by entering password for being able to change question.

## Admin Menu

## 5.1.1.2.1 Update Button

Participant can continue simulation by selecting the “Continue” button.

## 5.1.1.2.2 Approve Button

Participant can change volume by selecting the “Volume Setting” button.

## 5.1.1.2.3 Update an Employee Button

Participant can gain information about how to use the simulation with selecting “Display Instruction” button. This button displays a panel which includes instructions about how to use the simulation.

**5.1.1.2.4 Delete an Employee Button**

Participant can gain information about how to use the simulation with selecting “Display Instruction” button. This button provide to remove the employee.

**5.1.1.2.5 Set Match Rate Button**

Participant can gain information about how to use the simulation with selecting “Display Instruction” button. This button displays a match rate which includes matching rate of the employee.

**5.1.2 Test Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| MM\_REG\_BTN.01 |  | L | Select “REGISTER” button. After selecting, register page will be displayed. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| MM\_VER\_BTN.01 |  | H | Select “Verify” button. After selecting, your face’s photo will be send to FIRec System then response of FIRec system will be appeared on the screen. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| MM\_ADLG.01 |  | H | Enter a valid password. |
| MM\_ADLG.02 |  | H | Enter an invalid password. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| AD\_UPD\_BTN.01 |  | M | Select “UPDATE” button. After selecting, update page will be displayed. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| AD\_APP\_BTN.01 | 3.2.1 | H | Select “APPROVE” button. After selecting information of the employees will be approved. |
| AD\_UP\_EMP\_BTN.01 | 3.2.1 | M | Select “UPDATE AN EMPLOYEE” button. After selecting, update an employee page will be display. |
| AD\_DEL\_EMP\_BTN.01 | 3.2.1 | M | Select “DELETE AN EMPLOYEE” button. After selecting, delete page will bi displayed. |
| AD\_MATCH-RATE \_BTN.01 | 3.2.1 | H | Select “SET MATCH RATE” button. After selecting, matching rate will be changed. |

## Pages

### Subfeatures to be tested

## Register Page

To register an employee.

## Update Page

Admin can update himself/herself.

## Update an employee

Admin can update an employee.

## Delete an employee

Admin can delete an employee.

## Approve Page

Admin can approve an application.

* + 1. **Test Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| P\_REG.01 |  | M | User will enter his/her information then, user will click next button then system will take photo of user’s face. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| P\_UPD.01 |  | L | Admin will re-enter his/her information, then admin will click next button then system will take photo of the admin’s face. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| P\_APP.01 |  | H | Unanswered applications will be listed on the screen. Admin will click approve button to approve an application. |
| P\_APP.02 |  | H | Unanswered applcations will be listed on the screen. Admin will click cancel button to cancel an application. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| P\_UPD\_EMP.01 |  | L | Employees will be listed, then admin will re-enter his/her information, then admin will click next button then system will take photo of the employee’s face. |
| P\_DLT.01 |  | M | Employess will be listed, then admin will choose an employee that will be deleted, then employee will be deleted. |

## Face and Iris Recognition System

### Subfeatures to be tested

## Face Recognition System

After giving image to face recognition system, it will verify or reject the image.

## Iris Recognition System

After giving image to iris recognition system, it will verify or reject the image.

**5.3.2 Test Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| F\_REC.01 |  | H | Give a valid image. |
| F\_REC.02 |  | H | Give a invalid image. |

|  |  |  |  |
| --- | --- | --- | --- |
| **TC ID** | **Requirements** | **Priority** | **Scenario Description** |
| I\_REC.01 |  | H | Give a valid image. |
| I\_REC.02 |  | H | Give a invalid image. |

# Detailed Test Cases

## MM\_REG\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | MM\_REG\_BTN.01 |
| **Purpose** | Starts register page correctly. |
| **Requirements** |  |
| **Priority** | Low |
| **Estimated Time Needed** | 30 Sec. |
| **Dependency** | The program is executed. |
| **Setup** | The program should install on the computer. |
| **Procedure** | [A01] Select “Register” button from main menu. |
| [V01] Register page will be displayed on the screen. |
| **Cleanup** | Go back to previous page. |

## MM\_VER\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | MM\_VER\_BTN.01 |
| **Purpose** | Starts verify system. |
| **Requirements** |  |
| **Priority** | High |
| **Estimated Time Needed** | 30 Sec. |
| **Dependency** | The program is executed. |
| **Setup** | The program should install on the computer. |
| **Procedure** | [A01] Select “Verify” button from the main menu. |
| [V01] Verify process will be started. |
| **Cleanup** | Go back to previous page. |

## MM\_ADLG.01

|  |  |
| --- | --- |
| **TC\_ID** | MM\_ADLG.01 |
| **Purpose** | Enter a valid password. |
| **Requirements** |  |
| **Priority** | High |
| **Estimated Time Needed** | 2 Minutes |
| **Dependency** | - |
| **Setup** | An admin user should be created. |
| **Procedure** | [A01] Go to login page. |
| [A02] Enter the valid password for the admin. |
| [A03] Click on the “Login” button. |
| [V01] Observe that the login is successful and the admin page appears. |
| **Cleanup** | Exit |

## MM\_ADLG.02

|  |  |
| --- | --- |
| **TC\_ID** | MM\_ADLG.02 |
| **Purpose** | Enter an invalid password. |
| **Requirements** |  |
| **Priority** | High |
| **Estimated Time Needed** | 2 Minutes |
| **Dependency** | - |
| **Setup** | An admin user should be created. |
| **Procedure** | [A01] Go to login page. |
| [A02] Enter the invalid password for the admin. |
| [A03] Click on the “Login” button. |
| [V01] Observe that “Password is invalid” error message is displayed. |
| **Cleanup** | Close admin page. |

## AD\_UPD\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | AD\_UPD\_BTN.01 |
| **Purpose** | Dislpay update page. |
| **Requirements** |  |
| **Priority** | Medium. |
| **Estimated Time Needed** | 1 Minutes |
| **Dependency** | Admin should login the system. |
| **Setup** | An admin user should be created. |
| **Procedure** | [A01] Select “Update” button in the admin menu. |
| [V01] Update page will be displayed. |
| **Cleanup** | - |

## AD\_APP\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | AD\_APP\_BTN.01 |
| **Purpose** | Display approve page. |
| **Requirements** |  |
| **Priority** | High |
| **Estimated Time Needed** | 2 Minutes |
| **Dependency** | Admin should login the system. |
| **Setup** | An admin and employee user should be created. |
| **Procedure** | [A01] Select “Approve” button in the admin menu. |
| [V01] Approve page will be displayed. |
|  |
| **Cleanup** | - |

## AD\_UP\_EMP\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | AD\_UP\_EMP\_BTN.01 |
| **Purpose** | Display update employee page |
| **Requirements** |  |
| **Priority** | Medium |
| **Estimated Time Needed** | 2 Minutes |
| **Dependency** | Admin should login the system. |
| **Setup** | An admin and employee user should be created. |
| **Procedure** | [A01] Select “Update an employee” button in the admin menu. |
| [V01] Update an employee page will be displayed. |
|  |
| **Cleanup** | - |

## AD\_DEL\_EMP\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | AD\_DEL\_EMP\_BTN.01 |
| **Purpose** | Display delete employee page |
| **Requirements** |  |
| **Priority** | Medium. |
| **Estimated Time Needed** | 2 Minutes |
| **Dependency** | Admin should login the system. |
| **Setup** | An admin and employee user should be created. |
| **Procedure** | [A01] Select “Delete” button in the admin menu. |
| [V01] Delete page will be displayed. |
| **Cleanup** | Close options menu. |

## GUI.DINS\_BTN.01

|  |  |
| --- | --- |
| **TC\_ID** | GUI.DINS\_BTN.01 |
| **Purpose** | Display the instruction panel. |
| **Requirements** | 3.2.2 |
| **Priority** | Low |
| **Estimated Time Needed** | 2 Minutes |
| **Dependency** | Battlefield mode should be started. |
| **Setup** | The simulation should be started and instruction panel is scripted. |
| **Procedure** | [A01] Select “Options” button. |
| [A02] Select “Display Instruction” button. |
| [V01] Instruction panel occurs in the screen. |
| **Cleanup** | Go back to previous page. |