

# Test Plan for Paternity testing using genetics

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Table 1: Document version history

Version	Date	Reason for Change
1.4	25-Jan-2022	Test Plan First version is defined.
1.5	2-Feb-2022	Test Scenario Y is Added.

**GitHub:** <https://github.com/YoussifAssem/Genetics>

# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Purpose . . . . .	3
<b>2</b>	<b>Test Scenario for registration</b>	<b>3</b>
2.1	Test Cases . . . . .	3
<b>3</b>	<b>Test Scenario for login</b>	<b>4</b>
3.1	Test Cases . . . . .	4
<b>4</b>	<b>Test Scenario for user actions</b>	<b>5</b>
4.1	Test Cases . . . . .	5
<b>5</b>	<b>Test Scenario F</b>	<b>6</b>
5.1	Test Cases . . . . .	6
<b>6</b>	<b>Test Scenario G</b>	<b>7</b>
6.1	Test Cases . . . . .	7
<b>7</b>	<b>Test Scenario the Government client (admin) side</b>	<b>8</b>
7.1	Test Cases . . . . .	8

# 1 Introduction

## 1.1 Purpose

Paternity testing using Genetics test plan's main goal is to create documentation that explains how the tester will verify that the system operates as expected. What needs to be tested, how it will be tested, and who is accountable for testing should all be described in the document.

## 2 Test Scenario for registration

### 2.1 Test Cases

Test Cases for the scenario mention in section 2 shown in Table 2

Table 2: Test Cases for Scenario registration

Test Case ID	Test Case Desc	Functional Req Code	Test Data	Expected Result
TC00	hashing algorithm encryption	FR10	users's data	all data are encrypted
TC01	when in registration check that all fields are required to be written	FR11	Input the user's credentials in the fields	Alert message pop up with field required if the user missed a field to write
TC02	check if the email already exists	FR12	email already registered	Alert message pop up explaining that they can't use this email
TC03	strong password check	FR13	password that is upmost 6 characters	Alert message will pop to the user explaining that password is too weak
TC04	check if the email doesn't have an @ symbol and if there is a missing (dot)	FR14	enter an invalid email without @ or (dot)	Alert message will pop up explaining to the user that they entered an invalid email

## 3 Test Scenario for login

### 3.1 Test Cases

Test Cases for the scenario mention in section 3 shown in Table 3

Table 3: Test Cases for Scenario login

Test Case ID	Test Case Desc	Functional Req Code	Test Data	Expected Result
TC06	Check if the credentials entered by the user (admin , normal user) are invalid or doesn't exist in the database	FR21	enter false credentials when logging into the system after registering	Alert message will pop up to the user explaining that data entered doesn't exist
TC07	Logging in as a normal user	FR22	enter their credentials (email, password) that they registered with into the system	Redirect the user to the home page if data exists
TC08	Logging in as an admin	FR22	enter their credentials (email, password) that they registered with into the system	Redirect the admin to the home page if data exists

## 4 Test Scenario for user actions

### 4.1 Test Cases

Test Cases for the scenario mention in section 7 shown in Table 4

Table 4: Test Cases for user actions

Test Case ID	Test Case Desc	Functional Req Code	Test Data	Expected Result
TC09	check if the national ID has 14 numbers when prompt for the user to enter it as an input in a text field	FR12	enter a number that is more or less than 14 numbers	Alert message will pop up explaining to the user that the national ID is invalid
TC10	enter national number ID in order to review result	FR32	personal information(user's national no.) and review button	redirect to result page if data existed and return error message if data is not existed
TC11	edit profile for the user page	FR33	press edit button	redirect to the edit profile page for the user to enter their updated info
TC12	view profile for the user page	FR34	press view button	redirect to user's profile containing their info
TC13	logout for user when in active session in the system	FR35	press logout button	redirect to login page

## 5 Test Scenario F

- Describing system's Important functionalities for paternity test class

### 5.1 Test Cases

Test Cases for the scenario mention in section 7 shown in Table 3

Table 5: Test Cases for Scenario F

Test Case ID	Test Case Desc	Functional Req Code	Test Data	Expected Result
TC14	calculateProbability()	FR41	rsnumbers of father and child that fit the rule of Mendelian's law	determine the probability of paternity test between father and the child
TC15	PT()	FR42	Apply rules of Mendelian's law to check if the child is related to this father or not	Return report contain lists of items that fit and doesn't fit the rules of Mendelian's law.

## 6 Test Scenario G

- Describing system's Important functionalities for User class

### 6.1 Test Cases

Test Cases for the scenario mention in section 7 shown in Table 3

Table 6: Test Cases for Scenario G

Test Case ID	Test Case Desc	Functional Req Code	Test Data	Expected Result
TC16	Registration()	FR11	User's information	account created, user's info uploaded to database and redirected to login page
TC17	checkResults()	FR52	user's personal information: case number and national ID	view results of paternity test
TC18	saveResults()	FR53	user's result	user's results are downloaded and saved
TC19	login()	FR12	user's personal information(test username and password)	redirect to user page if data exists and return error message if data are not exists

## **7 Test Scenario the Government client (admin) side**

### **7.1 Test Cases**

Test Cases for the scenario mention in section 7 shown in Table 3



Table 7: Test Cases for Scenario for the cases in the admin side

Test Case ID	Test Case Desc	Functional Req Code	Test Data	Expected Result
TC20	add case	FR61	case number	case number added and pushed to database
TC21	Delete case	FR62	Case number	case no. is deleted and removed from database
TC22	upload file	FR63	file that contains allele and genome of child,mother,father	file uploaded and added to database
TC23	view profile for the user page	FR64	press view button	redirect to Admin's profile containing their info
TC24	Logout	FR64	press logout button	redirect to Homepage
TC25	edit case	FR65	Case no.	case number updated
TC26	view results	FR67	view button	redirected to results page