



Faculty of computer  
And Artificial intelligence



# KOVID-19

Under the supervision of :

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## **Problem definition**

The main problem that prompted us to implement this idea is the lack of a suitable platform through which the user can perform various operations related to the emerging corona virus pandemic, and if it is found in it, it is not available to all people , health institutions and other parties concerned with dealing with the crisis, and an example of this is the lack of availability These services are in isolated rural areas or small villages, this was a strong motive for us to do this project and implement that idea to save the user the trouble of switching between different platforms to do a particular operation.

## **Project objectives**

- Managing users accounts
- Schedule test reservations
- Schedule doses reservations
- Updating or editing reservation details
- Issuing reports about different operations performed
- Keep track of all transactions performed on the system

# Project modules

- Patient module
  - Create user account
  - New test reservation
  - View list of reservation
  - Update reservation details
  - Vaccine dose reservation
  - Contact with system admin
  - Contact with doctor
- Admin module
  - Issue reports doctors
  - Issue reports about doctors and patient communications
  - Issue reports about tests reservations
  - Issue reports about dose reservations

# System Software specifications

## ➤ Website

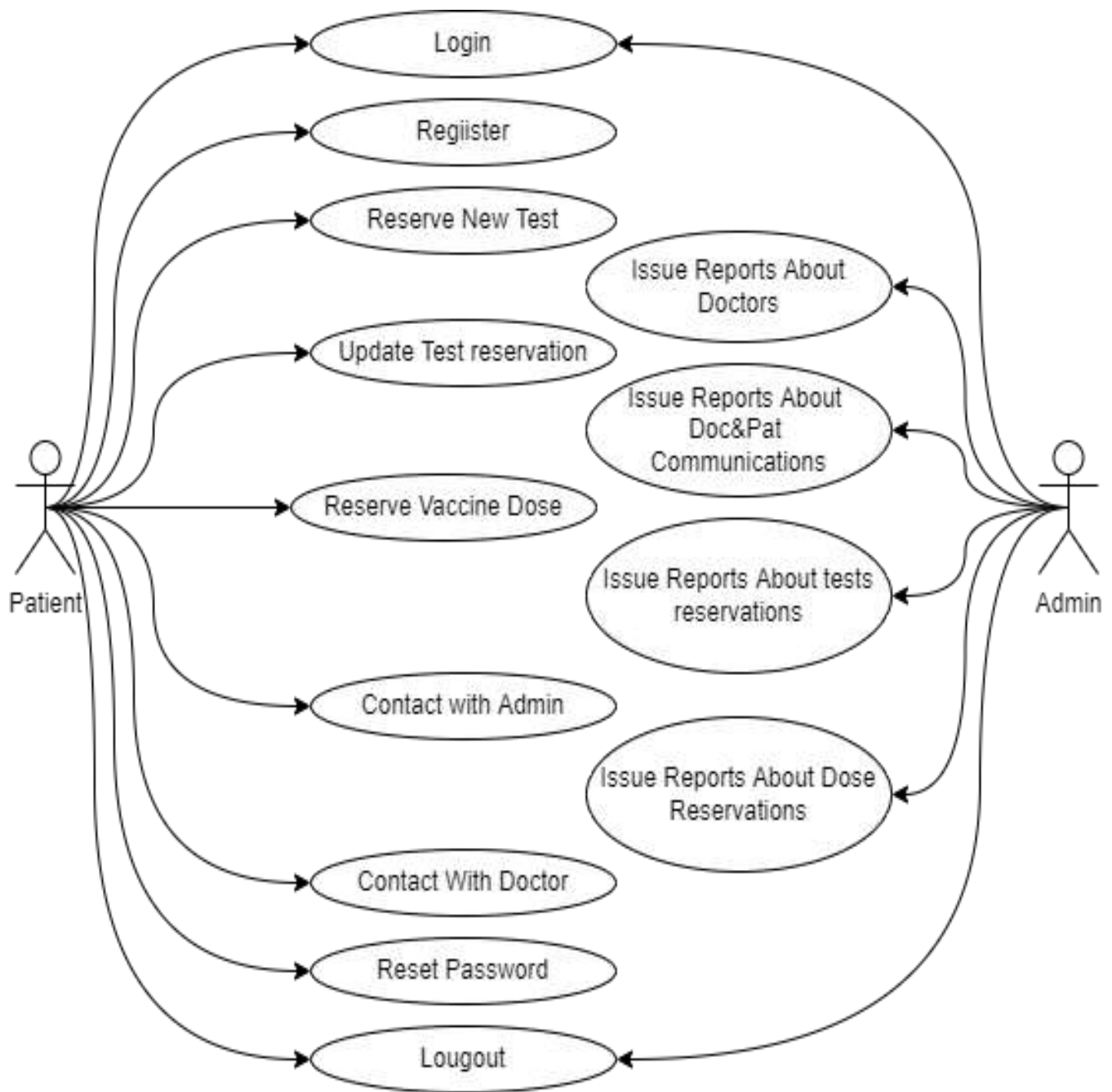
- Front-End
  - HTML is the standard markup language used to create web pages
  - CSS the styling language used for customizing the look and formatting of web pages
- Back-End
  - Laravel PHP web framework
- Database
  - SQLite ( SQL database engine )

## ➤ Mobile app

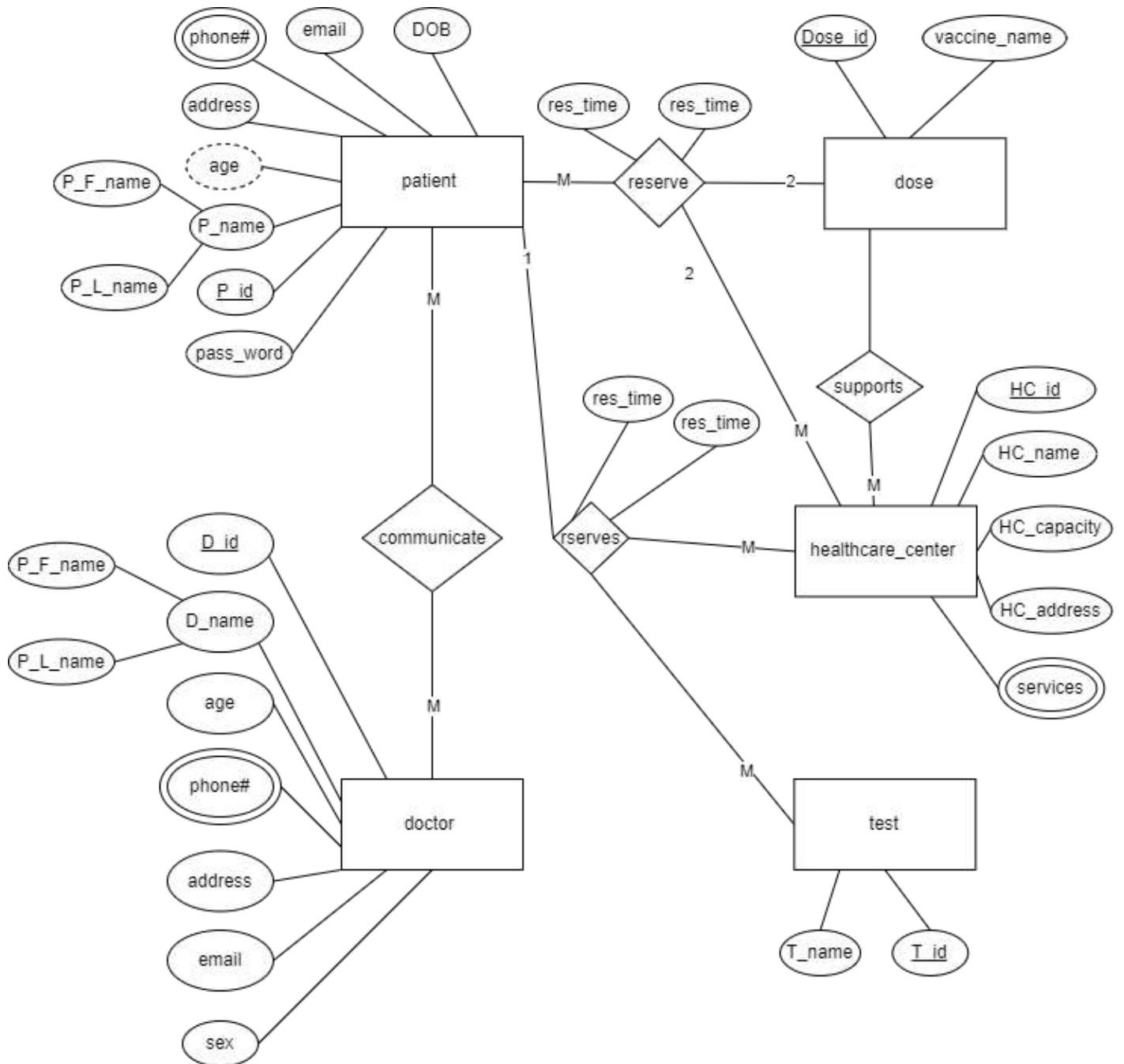
- Kotlin
  - Flutter
- Database
  - SQLite ( SQL database engine )
- API testing
  - Postman ( json format)

# Diagrams

## 1. Use case diagram

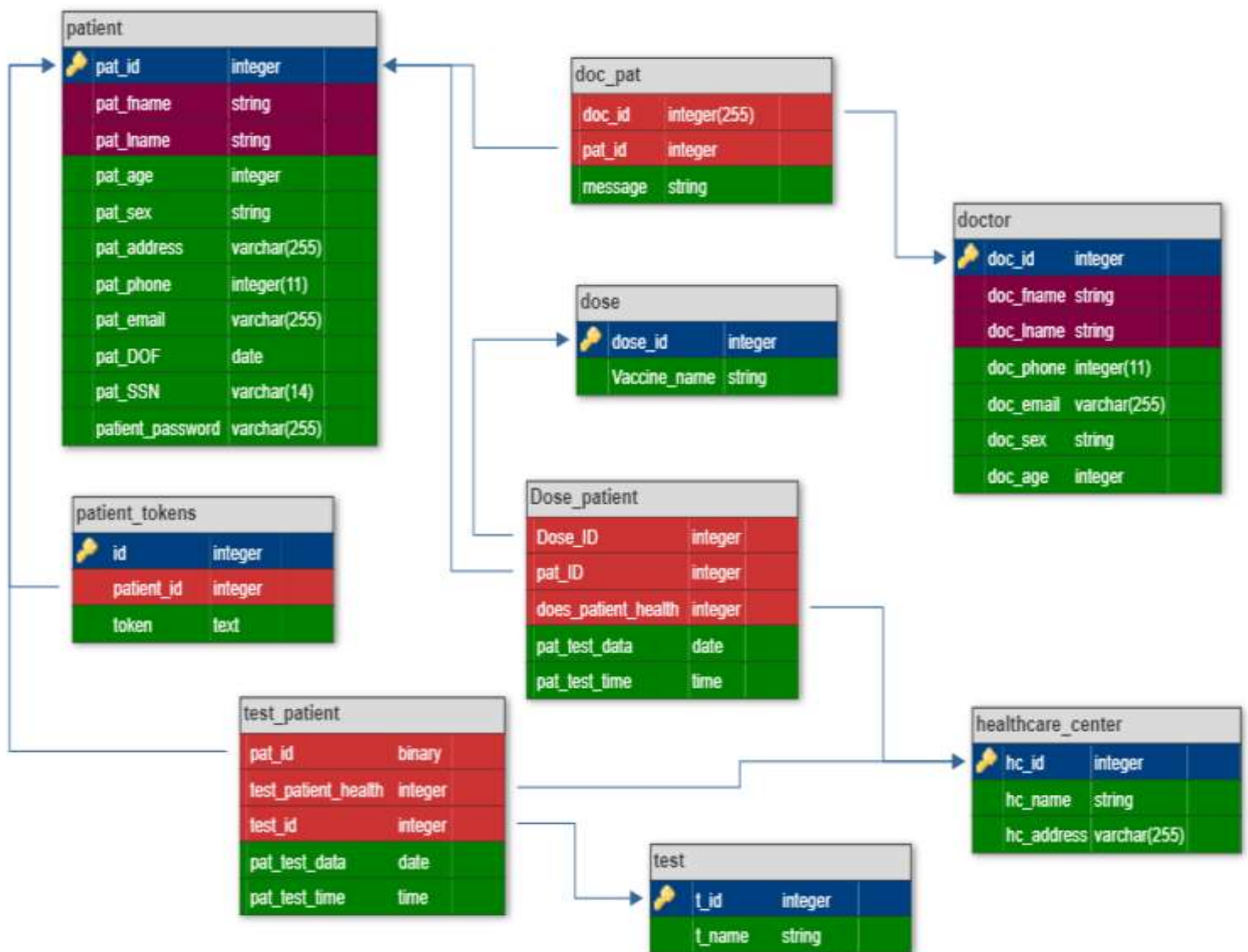


## 2. Entity Relationship Diagram ( ERD )

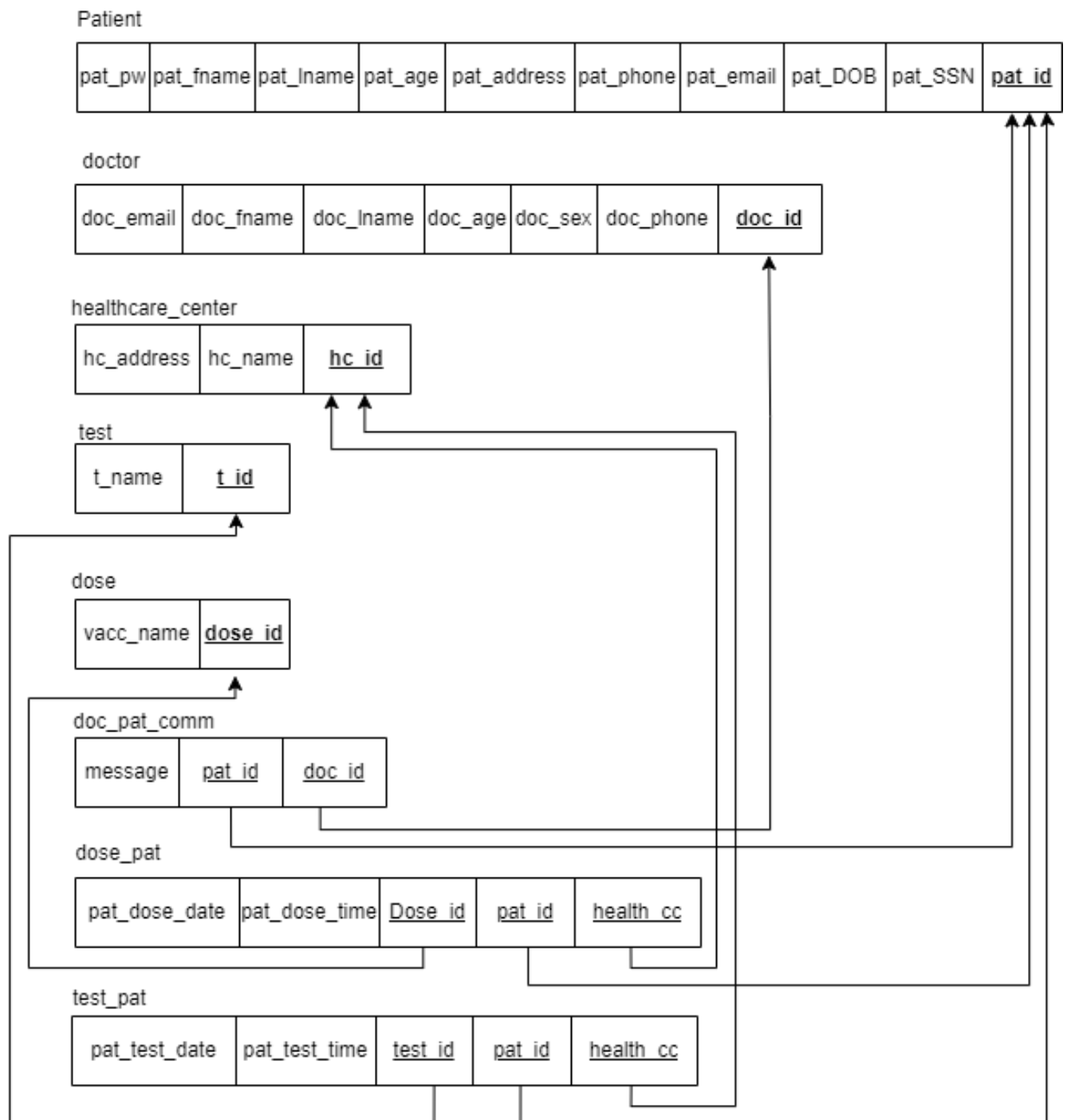




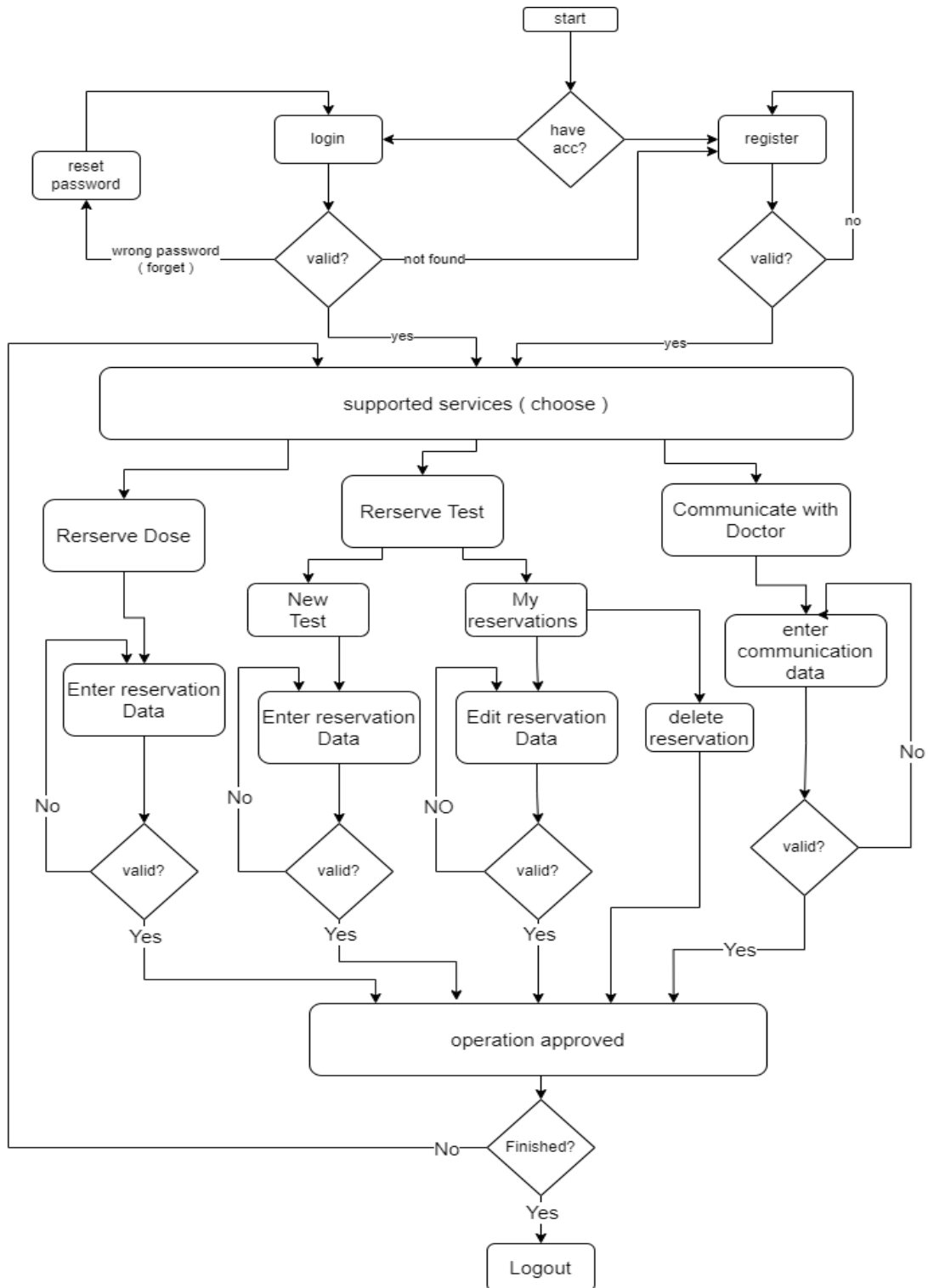
### 3. Schema



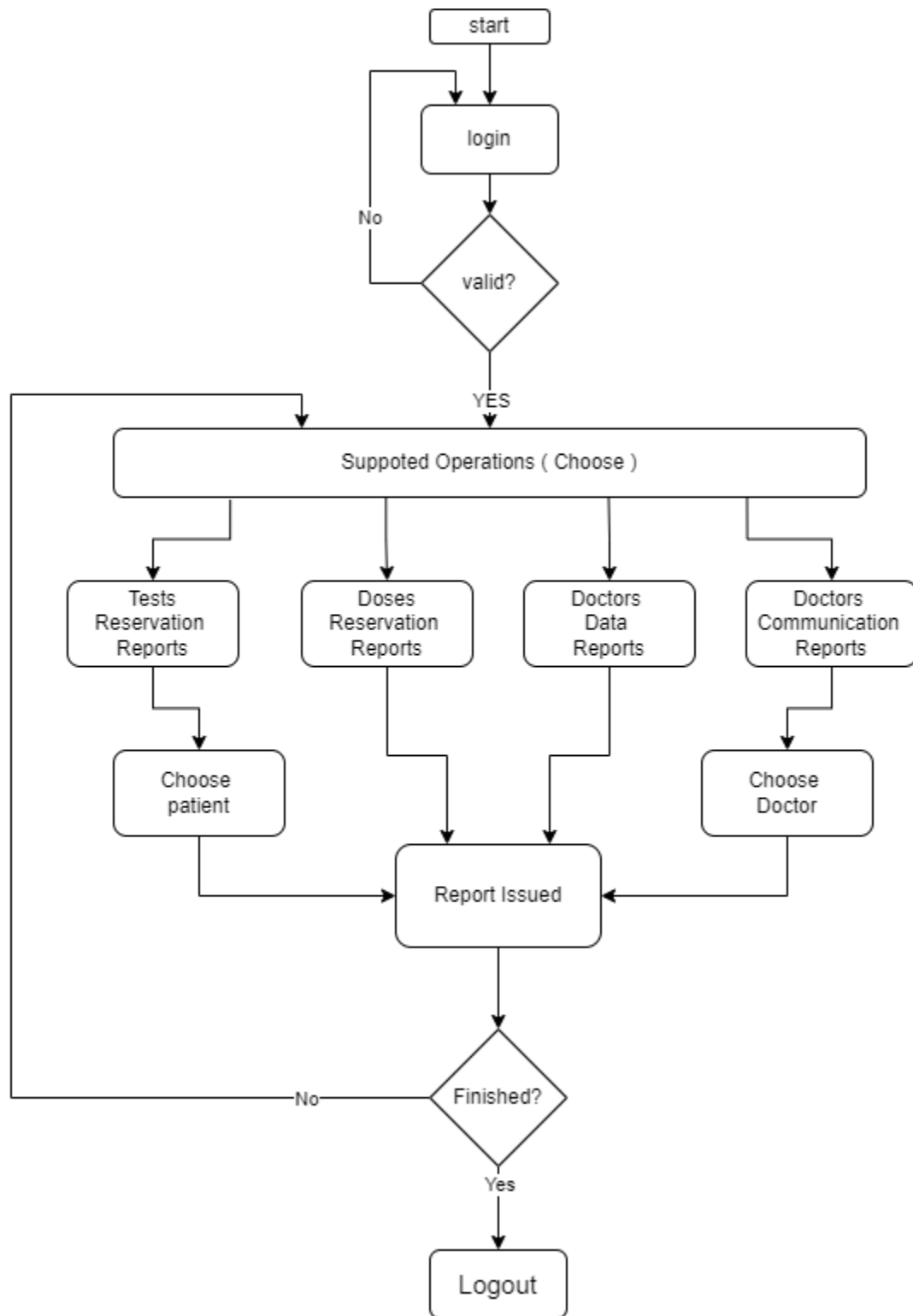
## 4. Data base map Schema



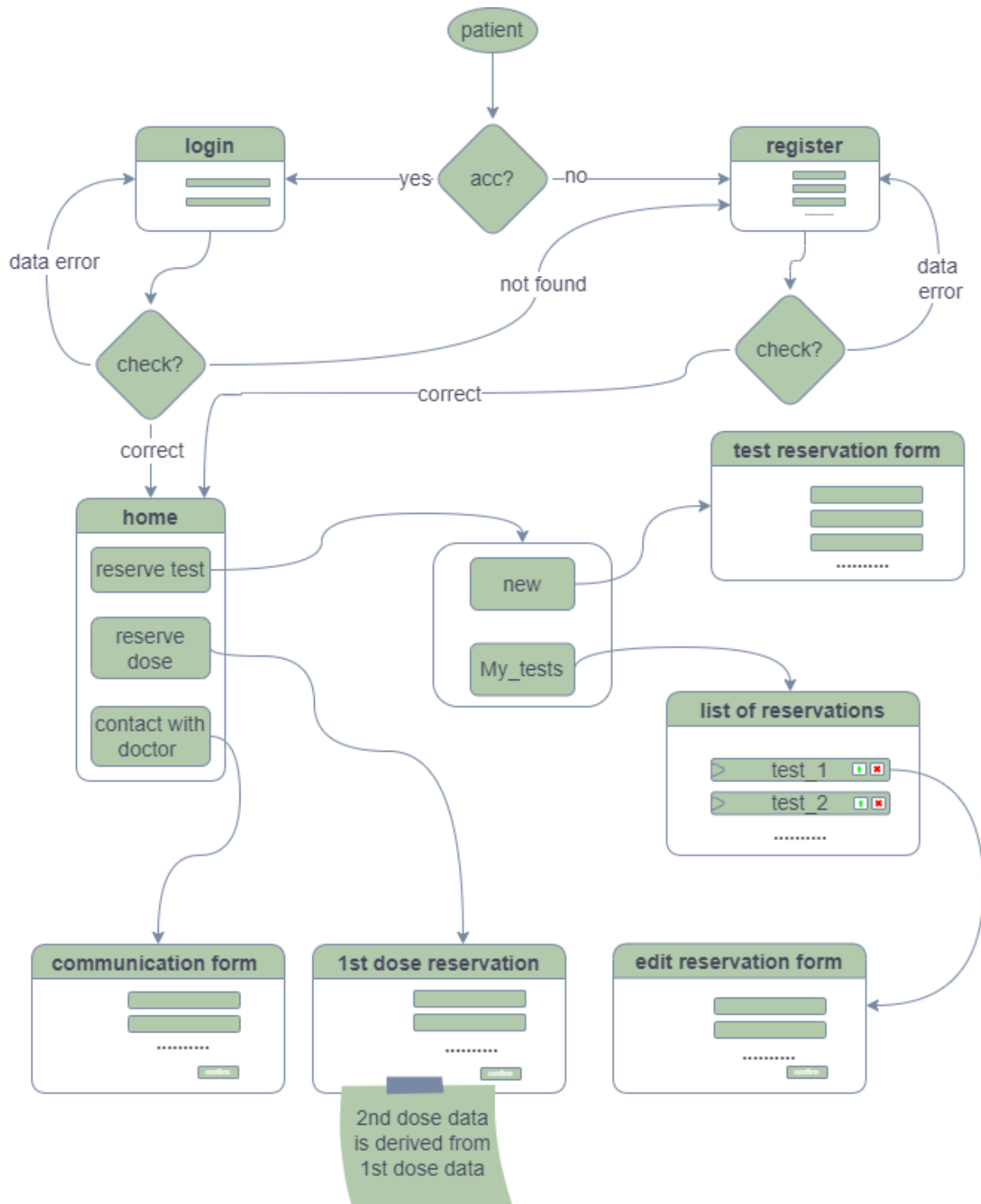
## 5. System operation Flow ( patient )



## 6.System operation Flow ( Admin )



## 7.Logical Flow of Events

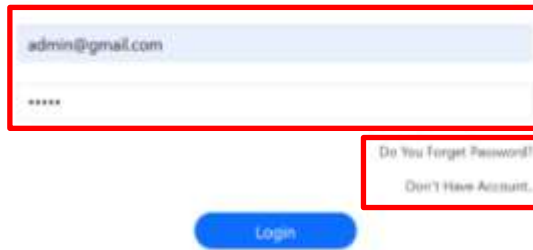


## Forms & Reports

Kovid-19 is designed to perform multiple tasks and operations, so in order to achieve that we designed a number of forms and reports, each of which is designed to perform a specific task.

On the following pages we will discuss these forms and reports and there functionality and limitations.

## ➤ Log In



admin@gmail.com

xxxx

[Do You Forget Password?](#)

[Don't Have Account](#)

Login

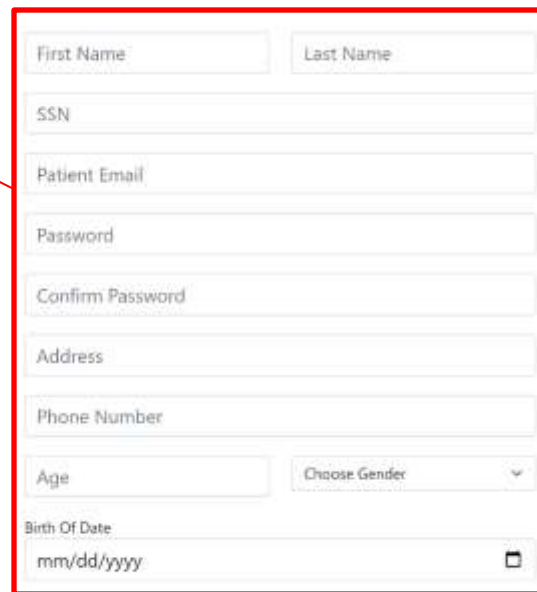
First of all the user should log in to the system with a valid email and password

Log in data is validated with the accounts data on the database

Also the user could reset password or create account if he don't have

If the user do not have an account he could easily create one

The a new user account is added to the system data base



First Name

Last Name

SSN

Patient Email

Password

Confirm Password

Address

Phone Number

Age

Choose Gender

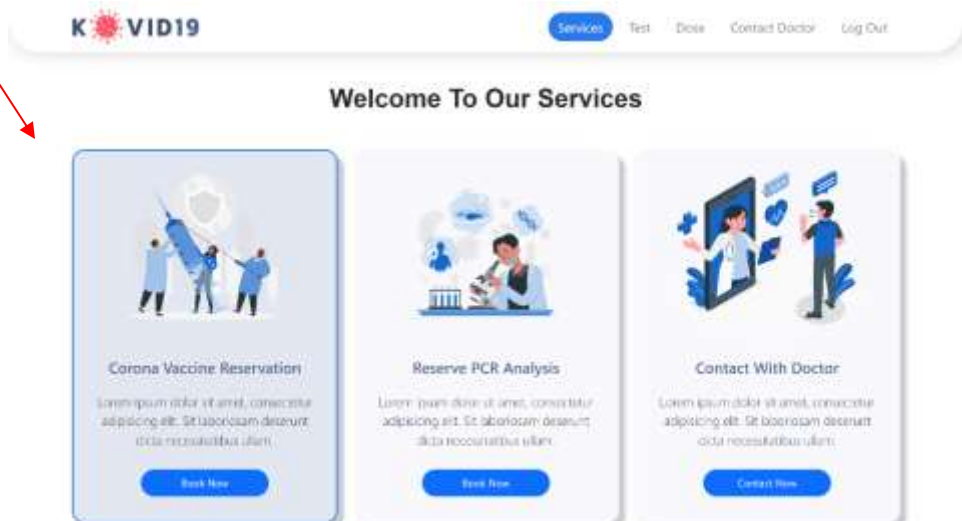
Birth Of Date

mm/dd/yyyy

[already have an account ?](#)

Register


After a successful login or registration process the use could enjoy all the services supported by



**K VID19**

[Services](#) [Test](#) [Dose](#) [Contact Doctor](#) [Log Out](#)


### Welcome To Our Services



**Corona Vaccine Reservation**

lorem ipsum dolor sit amet, consectetur adipiscing elit. Sit laborum deserunt dicta necessitatibus ullam.


[Book Now](#)



**Reserve PCR Analysis**

lorem ipsum dolor sit amet, consectetur adipiscing elit. Sit laborum deserunt dicta necessitatibus ullam.

[Book Now](#)



**Contact With Doctor**

lorem ipsum dolor sit amet, consectetur adipiscing elit. Sit laborum deserunt dicta necessitatibus ullam.

[Contact Now](#)

## ➤ Reserve vaccine dose

The system user could reserve ( schedule )  
a reservation appointment for a specific  
vaccine dose  
simply enter the reservation details  
only one click is required to approve the  
reservation

1 You are now on the right path to prevent corona virus

2 You will experience some side effects as a result of the vaccine

3 Please click to the time you choose

CCC

cairo hcc ( cairo hcc )

05/24/2022 08:02 PM

Book Now

After a successfull reservation process the  
reservation data is saved in the data base

	dose_id	pat_id	pat_dose_date	pat_dose_time	dose_patient_health ▲1
	Filter	Filter	Filter	Filter	Filter
1	4	8	2022-05-24	21:46	4
2	3	16	2022-05-24	20:02	4

The the dose reservation data is viewed  
from the database to the user on his  
account dose view

Second dose data is derived from first dose  
data

First Dose

Vaccine Name : CCC

Healthcare Center : cairo hcc

City : cairo hcc

Date : 2022-05-24

Time : 20:02

Second Dose

Vaccine Name : CCC

Healthcare Center : cairo hcc

City : cairo hcc

Date : 2022-06-07

Time : 20:02



## ➤ Tests

Here the user have two options to perform he could generate ( reserve ) a new reservation or browse his list of reservations

To Perform a New Reservation

New Test

To Edit an Existing Reservation

My Tests

Choose test

CBC

Choose Health Care Center

giza

Date

05/12/2022

Time

09:05 PM

reset confirm

To reserve a test, all the user needs to do is to choose test name, health care center, data and time

After the reservation is approved the reservation data is saved to the data base

	pat_id	test_id	pat_test_date	pat_test_time	test_patient_health	res_id
	Filter	Filter	Filter	Filter	Filter	Filter
1	1	123	2022-05-24	21:46	4	9
2	1	126	2022-05-12	09:05	4	10

The user could browse his list of reservations by navigating to "My tests" page

You have successfully reserved a CBC test on 2022-05-12 at 21:05

Your reservation list

Test name	Date	Time	Address	Action
CBC	2022-05-12	21:05	giza	<a href="#">Edit</a> <a href="#">Remove</a>

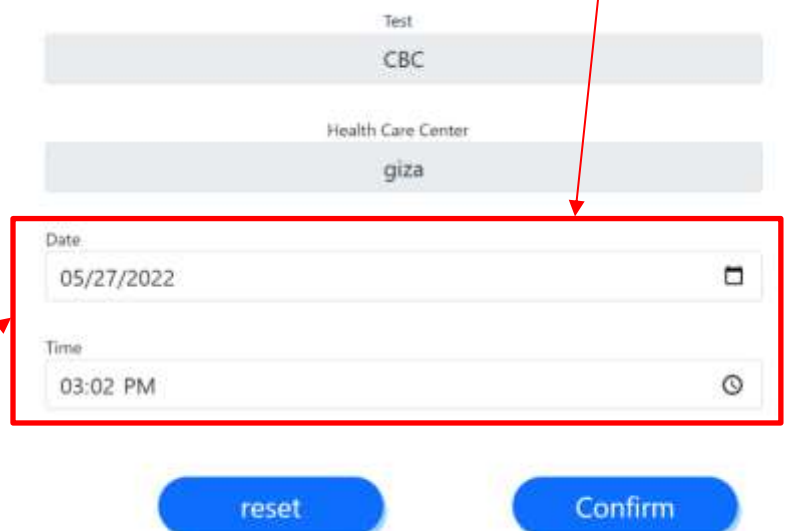
## ➤ Edit and Delete reservation data

From the reservation list the user could edit reservation details or completely delete this reservation



Test name	Date	Time	Address	Action
RT-PCR	2022-05-17	17:43	benha	<a href="#">Edit</a> <a href="#">Remove</a>
CBC	2022-05-04	22:36	giza	<a href="#">Edit</a> <a href="#">Remove</a>

When the user click remove this reservation is completely deleted from system database



Test  
CBC

Health Care Center  
giza

Date  
05/27/2022

Time  
03:02 PM

[reset](#) [Confirm](#)

When the user clicks Edit an editing form appeared to the user with the current reservation data, this form allow the user reservation details ( time and date )

After editing the hits confirmation button and it is done, data is updated

## ➤ Contact with doctor

Here the user could communicate with doctor Medical consultation, the should choose the doctor to communicate with the purpose for communication a short description for the reason he contacted for.

You Can Contact With Doctor Now!

Abdelrahman Ahmed

I am tired

Please Can you help me , i have a headache

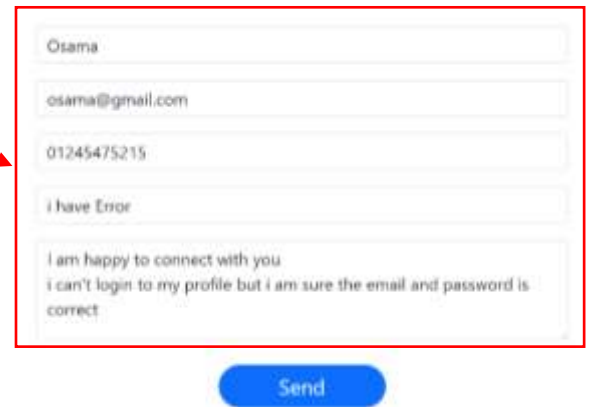
Send

When the user clicks Send, the message is sent to the doctor via mail and so on



## ➤ System support

This choice enables the user to report a system issue it may be technical problems or some complains about system and any thing like that  
so the user enters some information like his name, email and phone number  
also the user enters some details about the issue he is reporting



Osama

osama@gmail.com

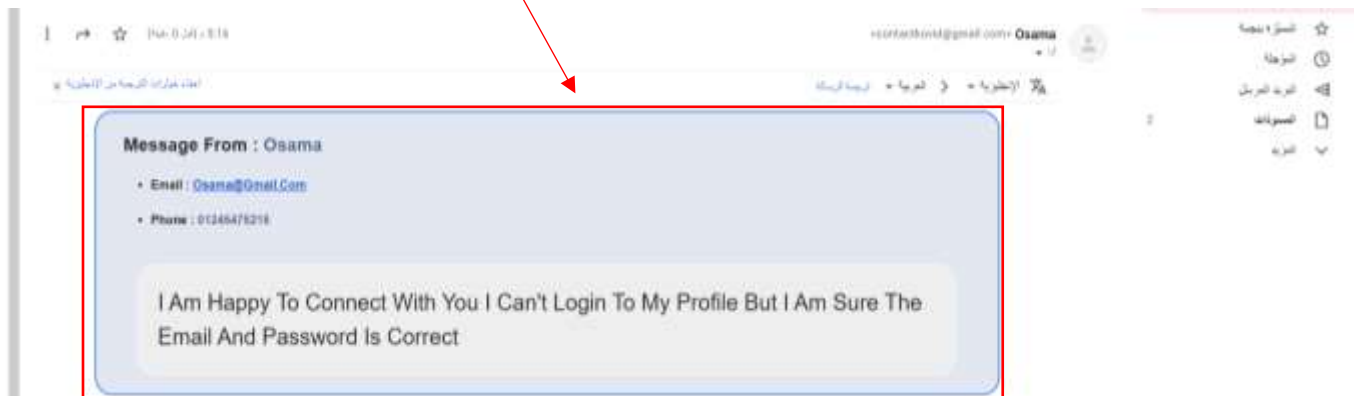
01245475215

i have Error

I am happy to connect with you  
i can't login to my profile but i am sure the email and password is correct

Send

By clicking send an email is send to one of the system support team



## ➤ Password reset

In case that the user forget his password he could reset his account password

admin@gmail.com

.....

Do You Forget Password?

Don't Have Account..

Login

When the user clicks “Do You Forget Password” at the login screen, the user is asked to enter the email associated with his account and the click send



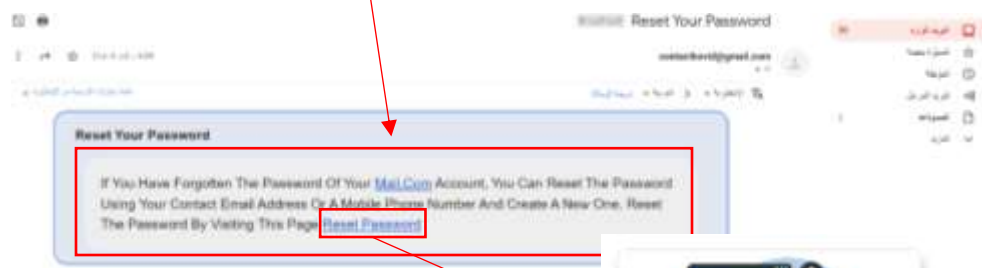
An email with password reset link is send to the user and now he could reset his account password

Forgot Password?

Enter Your Email Address Associated With Your Account.

Enter Email

Send →



In the resetting screen the user enters the new password and then save changes

Reset Password

admin@gmail.com

.....

Confirm Password


Change Password

## ➤ Some rules and guidelines followed while designing forms

- Simple design approach with maximum 9 elements on the form to make the user focus while using system
- Labeled input fields to guide the user what to do with each field
- Using suitable margins to locate form items at the best place at user screen
- After each operation a success or Error message is shown to inform the user about the result of the operation he performs



You have successfully reserved a RT-PCR test on 2022-05-17 at 05:44



Invalid Email or Password

- Using suitable colors ( blue & White ) that are comfortable for the eyes
- Using navigation bar to make it easier for the user to navigate across all system parts



- Responsive buttons and menus make the that guides the user while using the system
- Adding some techniques and methods to help user recover from errors such as reservation errors or password forget



Do You Forget Password?

Don't Have Account.

# Reports ( Admin )

Admins could issue various types of reports

- reports about doctors data

The screenshot shows the Admin Dashboard with a dark header containing 'Dashboard', 'Admin', and 'Log Out'. Below the header is a row of four buttons: 'Doctor Data' (red), 'Doctor Message' (blue), 'Dose Data' (blue), and 'Test Data' (blue). A light blue message bar says 'Hello From Admin Page , You Can Get Reports About Data You Want Here.' Below this is a blue button 'Get Doctor Data Now' with a downward arrow. The main content area is titled 'Data About 2 doctors in Our System :'. It shows a timestamp 'Time : 27-05-22 03:17:44' and a table with two columns of doctor data.

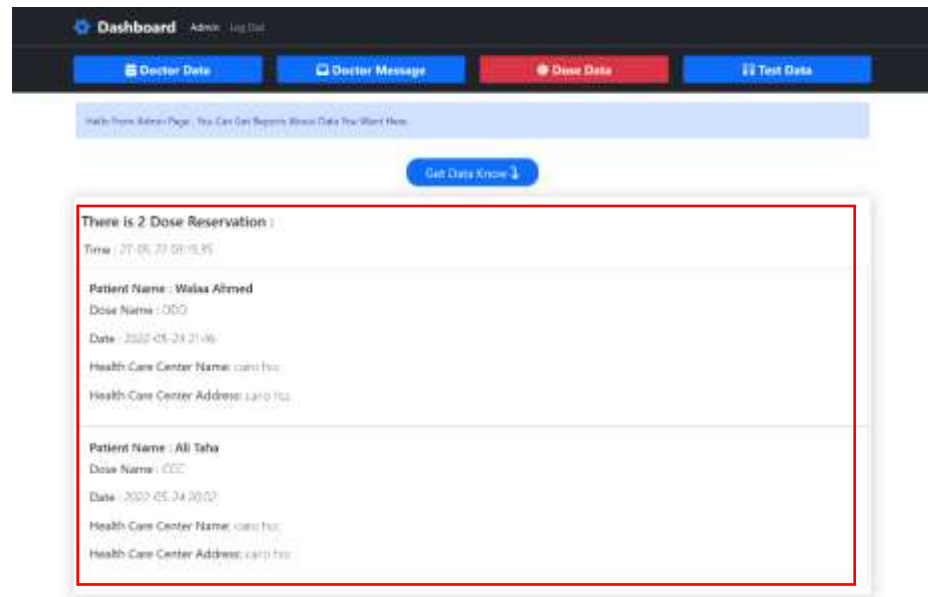
Doctor Name : Aya Osama	Doctor Name : Abdelrahman Ahmed
Age : 21	Age : 30
Phone Number : 12928768	Phone Number : 12827641
E-mail : <a href="mailto:aya55osama3001@gmail.com">aya55osama3001@gmail.com</a>	E-mail : <a href="mailto:abdelrahmanahmed241@gmail.com">abdelrahmanahmed241@gmail.com</a>

- reports about communications between doctors and patients

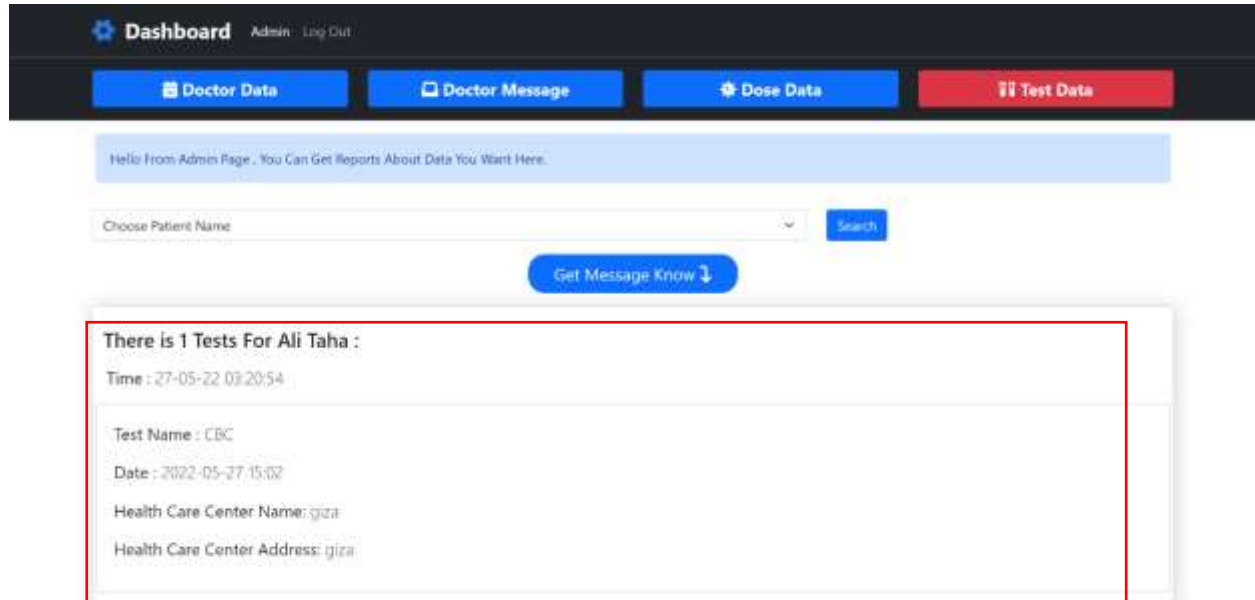
The screenshot shows the Admin Dashboard with the same header and button row as the previous image. The 'Doctor Message' button is now highlighted in red. The light blue message bar remains. Below it is a blue button 'Get Message Know' with a downward arrow. The main content area is titled 'There is 1 Message For Doctor Abdelrahman Ahmed :'. It shows a timestamp 'Time : 27-05-22 03:19:14' and a table with one column of patient data.

Patient Name : Ali Taha
Please Can you help me , i have a headache:

- reports about doses reservations



- reports about test reservations data





## ➤ Some rules and guidelines followed while designing Reports

- Information provided by the report are easy to understand and to deal with

The screenshot displays a report titled "There is 2 Dose Reservation :". It lists two reservations. The first reservation is for Patient Name: Walaa Ahmed, Dose Name: DDD, Date: 2022-05-24 21:46, Health Care Center Name: cairo hcc, and Health Care Center Address: cairo hcc. The second reservation is for Patient Name: Ali Taha, Dose Name: CCC, Date: 2022-05-24 20:02, Health Care Center Name: cairo hcc, and Health Care Center Address: cairo hcc.

<b>There is 2 Dose Reservation :</b>	
Time : 27-05-22 03:19:35	
Patient Name :	Walaa Ahmed
Dose Name :	DDD
Date :	2022-05-24 21:46
Health Care Center Name:	cairo hcc
Health Care Center Address:	cairo hcc
<hr/>	
Patient Name :	Ali Taha
Dose Name :	CCC
Date :	2022-05-24 20:02
Health Care Center Name:	cairo hcc
Health Care Center Address:	cairo hcc

- Will defined labels used to describe each field content
- Viewing only informations targeted by the report avoiding any additional informations or side details

The screenshot displays a report titled "There is 1 Tests For Ali Taha :". It lists one test. The test details are: Test Name: CBC, Date: 2022-05-27 15:02, Health Care Center Name: giza, and Health Care Center Address: giza. The time field "Time : 27-05-22 03:20:54" is highlighted with a red box, and the test details are highlighted with a red box.

<b>There is 1 Tests For Ali Taha :</b>	
Time : 27-05-22 03:20:54	
<hr/>	
Test Name :	CBC
Date :	2022-05-27 15:02
Health Care Center Name:	giza
Health Care Center Address:	giza

## ➤ System testing

### ➤ Unit Testing

<i>Item under test</i>	<i>Input</i>	<i>Action</i>	<i>Result</i>	<i>Explanation</i>
<i>Login form</i>	Login data E-mail : t@gmail.com Password : 1234	Click login	Logged in	Correct login data
<i>Register form</i>	Register data Email : t@gmail.com	Click register	Not registered	E-mail is already user
<i>Reserve test</i>	Reservation details Name : CBC Date : 29-05-2022 Time : 02:45 HCC: benha	Click reserve	Reservation approved	Entered data is suitable
<i>Reserve test</i>	Reservation details : ( same as above )	Click reserve	Reservation denied	There is a reservation with the same details
<i>Reserve dose</i>	Reservation details : Name : CCC Date : 12-06-2022 Time : 05:20	Click reserve	Reservation approved	Correct reservation data

➤ Integration testing

<i>Item under test</i>	<i>App</i>	<i>Database</i>	<i>Website</i>	<i>Result</i>
<i>Reserve test from app</i>	Approved	Updated	data synchronized	Success
<i>Register form app and login with same data but from website</i>	Registered	Updated	Logged in	Success
<i>Using website to cancel reservation and then open app</i>	data synchronized	Updated	Approved	Success

<i>Item under test</i>	<i>Input</i>	<i>Database</i>	<i>Website</i>	<i>Result</i>
<i>Reserve new test</i>	Reservation data name and address Date & time	Updated	Reservation is added to reservation list	Success
<i>Reserve test with the same data from previous reservation</i>	Reservation data	No changes	Reservation is not added to reservation list	Failed to add because the user already have a reservation with the same data