

A Mini Project Report

on

“Famical”

(Track your Family Health Data)

Submitted by

33255 Shreyas Kalrao

33256 Someshwar Gaikwad

33257 Sushant Sontakke

33262 Yash Rathi



Department Of Information Technology

Pune Institute of Computer Technology College of Engineering
Sr. No 27, Pune-Satara Road, Dhankawadi, Pune - 411 043.

A.Y. 2020-2021

Sr. No	Contents	Page No
1	Abstract	1
2	List of Tables and Figures	1
3	Introduction	2
4	General Description	3
5	Specific Requirements	4
6	System Design	4
7	System Implementation	

Abstract

Tracking diseases and conditions suffered by blood relatives can help you reveal any risk factors you may have. This type of information tracks your genetic makeup, and may be helpful for diagnosing problems, and may help you prevent the development of such problems by knowing what habit changes may be needed now.

Our project aims at storing the data of your as well as your family member's health data at one place. A family member will be able to see the diseases that are affecting his/her family members and plan for the future accordingly.

List of Tables and Figures

No	Title
Fig.1.	ER diagram
Table.1.	Database Tables
Fig.2.	System Flow
Fig.3.x	User Interface Design

Introduction

1. Purpose:

Tracking diseases and conditions suffered by blood relatives can help you reveal any risk factors you may have. This type of information tracks your genetic makeup, and may be helpful for diagnosing problems, and may help you prevent the development of such problems by knowing what habit changes may be needed now.

2. Scope:

Our project aims at storing the data of your as well as your family member's health data at one place. A family member will be able to see the diseases that are affecting his/her family members and plan for the future accordingly.

The scope of this project is limited to storing the data of an individual in the database of choice. We are not applying any data science/machine learning algorithms on the data. But as a future scope, one can apply data mining techniques on the data stored in database to correctly assess the risks and take necessary precautions.

3. References:

- <https://www.verywellhealth.com/recording-family-medical-history-2615513>
- <https://www.quora.com/Is-there-any-app-in-India-which-provides-proper-management-of-health-records>
- <https://ieeexplore.ieee.org/document/4682851>
- <https://ieeexplore.ieee.org/document/6779357>

General Description

1. Product Function and Perspective:

There are 3 basic functionality:

- a. See your own Health Records every time you consult a doctor.
- b. See your Family Member's Health Record.
- c. Book appointment with a Doctor.

Any type of user, who has been registered in the database can perform these 3 tasks using our project.

2. User Characteristics:

- a. Users can be a Patient or a Doctor.
- b. Doctor should have a valid licence.
- c. Doctors can also be patients.
- d. Doctors can consult only on the day of appointment.

3. General Constraints:

- a. Medical History can only be appended. It cannot be edited.
- b. Basic Physical Details of a Patient can be updated by the patient.
- c. Qualifications are appended.
- d. Unique userid and doctor licence.
- e. Unique phone Number and Email Id.
- f. Booking with existing doctors.
- g. userid of a Family Member is required to add him/her as family member.

4. Assumptions and Dependencies:

- a. Personal Details entered is valid.
- b. Professional Details added is valid.
- c. Doctor does not make mistake while typing.

- d. Doctor only consults while he is attending the patient.
- e. Family Members know each others userid.

Specific Requirements

1. Inputs and Outputs:

Inputs: The registered personal data through the registration form.

Outputs: The registered data in a tabular format. Added functionality to change the registered values.

2. Functional Requirements:

- a. Book Appointment: Appointment can only be booked with doctors who registered.
- b. Family Members: Family Members can only be added when they are registered into the database.
- c. Userid: Userids of a Family Member is required to add him/her as family member.

System Design

1. Entity-Relationship Diagram:

- A user can be uniquely identified by userid and he also has a password.
- A user can be a doctor and a patient or both.
- A doctor is uniquely identified by his medical licence store as docid.
- A user has personal details like name, email, phone number and address.
- A user has family members having members and a type of the relation
- A patient has basic attributes like weight, height, blood group, blood pressure, allergies, etc..

- A doctor works in a hospital in a particular department.
- A patient consults a doctor and records the consultation.

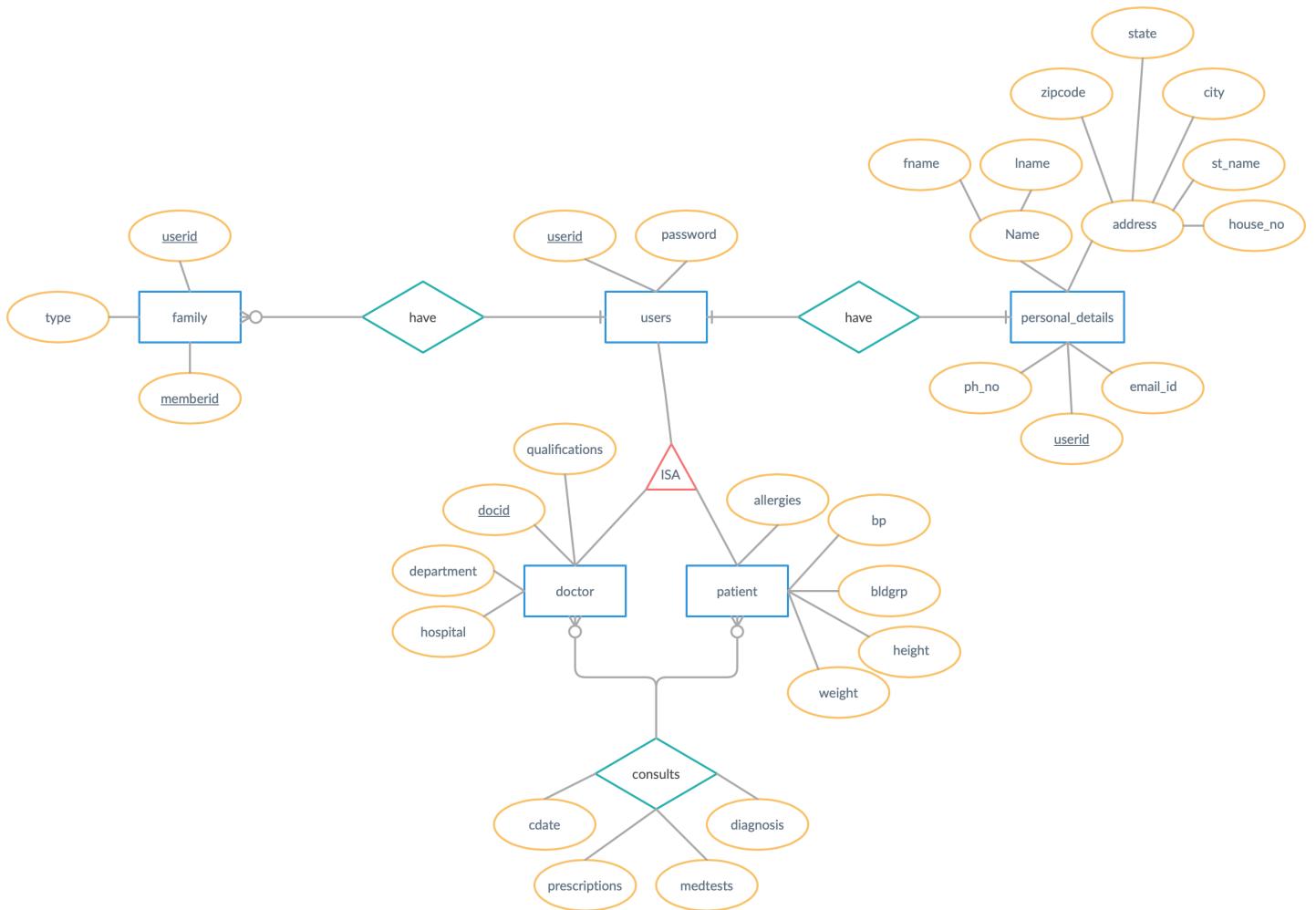


Fig.1. ER-Diagram

2. Tables Description:

Table.1. Database Tables

```
mysql> show tables;
+-----+
| Tables_in_famical |
+-----+
| consults          |
| doctor            |
| family            |
| patient           |
| personal_details  |
| users             |
+-----+
```

```
+-----+
6 rows in set (0.01 sec)
```

```
mysql> desc users;
```

Field	Type	Null	Key	Default	Extra
userid	varchar(25)	NO	PRI	NULL	
password	varchar(65)	YES		NULL	

```
2 rows in set (0.01 sec)
```

```
mysql> desc personal_details;
```

Field	Type	Null	Key	Default	Extra
userid	varchar(25)	NO	PRI	NULL	
fname	varchar(30)	NO		NULL	
lname	varchar(30)	NO		NULL	
phno	bigint	NO	UNI	NULL	
email	varchar(50)	NO	UNI	NULL	
dob	datetime	YES		NULL	
stno	varchar(10)	YES		NULL	
stname	varchar(20)	YES		NULL	
city	varchar(30)	YES		NULL	
state	varchar(50)	YES		NULL	
zipcode	int	NO		NULL	
gender	varchar(15)	YES		NULL	

```
12 rows in set (0.00 sec)
```

```
mysql> desc family;
```

Field	Type	Null	Key	Default	Extra
userid	varchar(25)	NO	PRI	NULL	
memberid	varchar(25)	NO	PRI	NULL	
type	varchar(15)	YES		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> desc patient;
```

Field	Type	Null	Key	Default	Extra
userid	varchar(25)	NO	PRI	NULL	
weight	float	YES		NULL	
height	float	YES		NULL	
bp	float	YES		NULL	
bldgrp	varchar(5)	YES		NULL	
allergies	varchar(100)	YES		NULL	

```
6 rows in set (0.00 sec)
```

```
mysql> desc doctor;
```

Field	Type	Null	Key	Default	Extra
userid	varchar(25)	NO	MUL	NULL	
docid	varchar(10)	NO	PRI	NULL	
qualification	varchar(100)	NO		NULL	
hospital	varchar(50)	YES		NULL	
department	varchar(30)	YES		NULL	

```
5 rows in set (0.00 sec)
```

```
mysql> desc consults;
```

Field	Type	Null	Key	Default	Extra
pid	varchar(25)	NO	PRI	NULL	
docid	varchar(10)	NO	PRI	NULL	
cdate	date	NO	PRI	NULL	
prescriptions	varchar(100)	YES		NULL	
medtests	varchar(100)	YES		NULL	
diagnosis	varchar(200)	YES		NULL	

```
6 rows in set (0.00 sec)
```

3. System Flow:

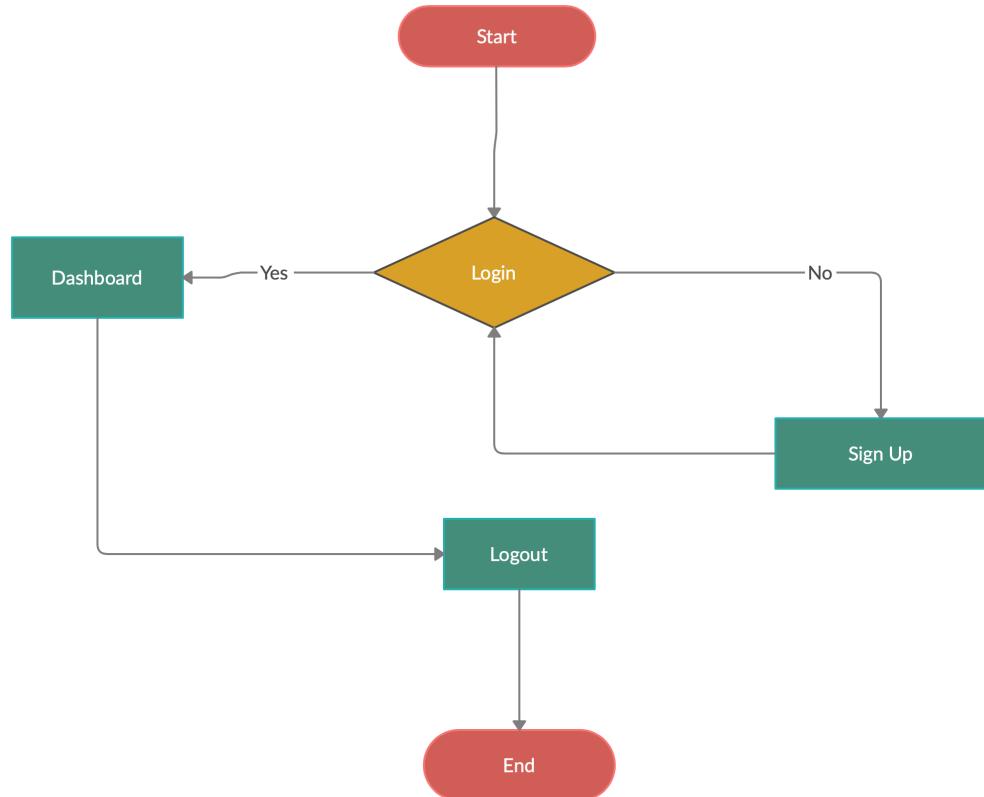


Fig.2.System Flow

4. User Interface Design:

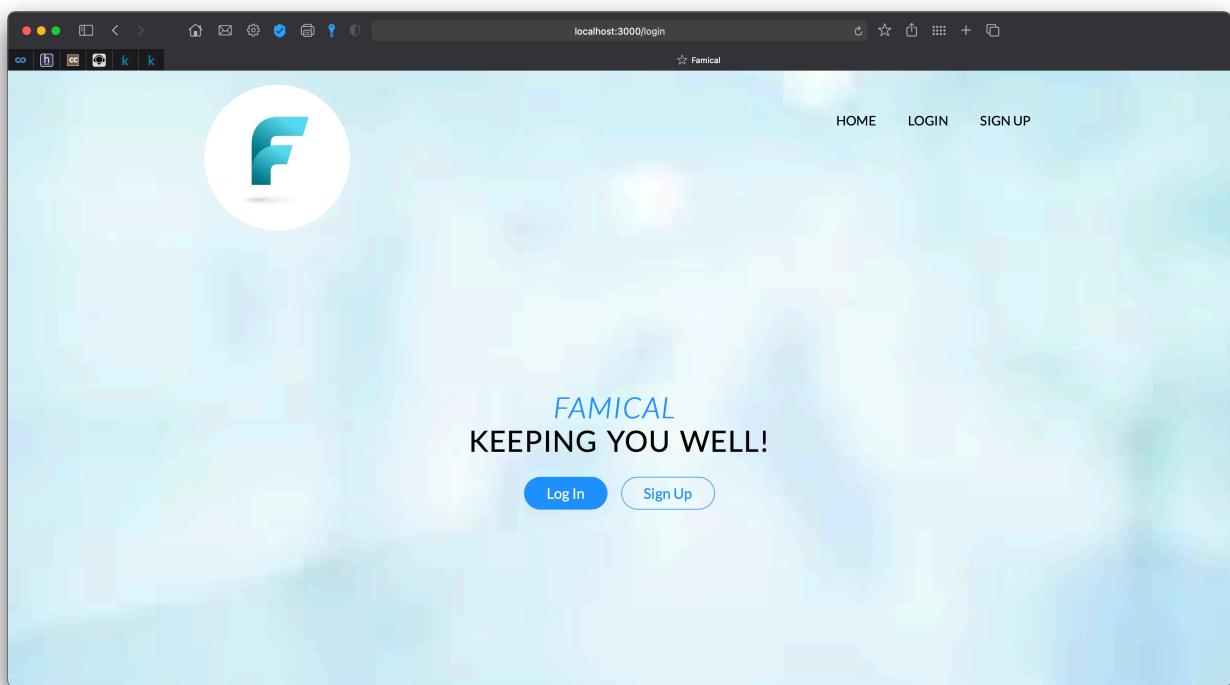


Fig.3.1.Home Page

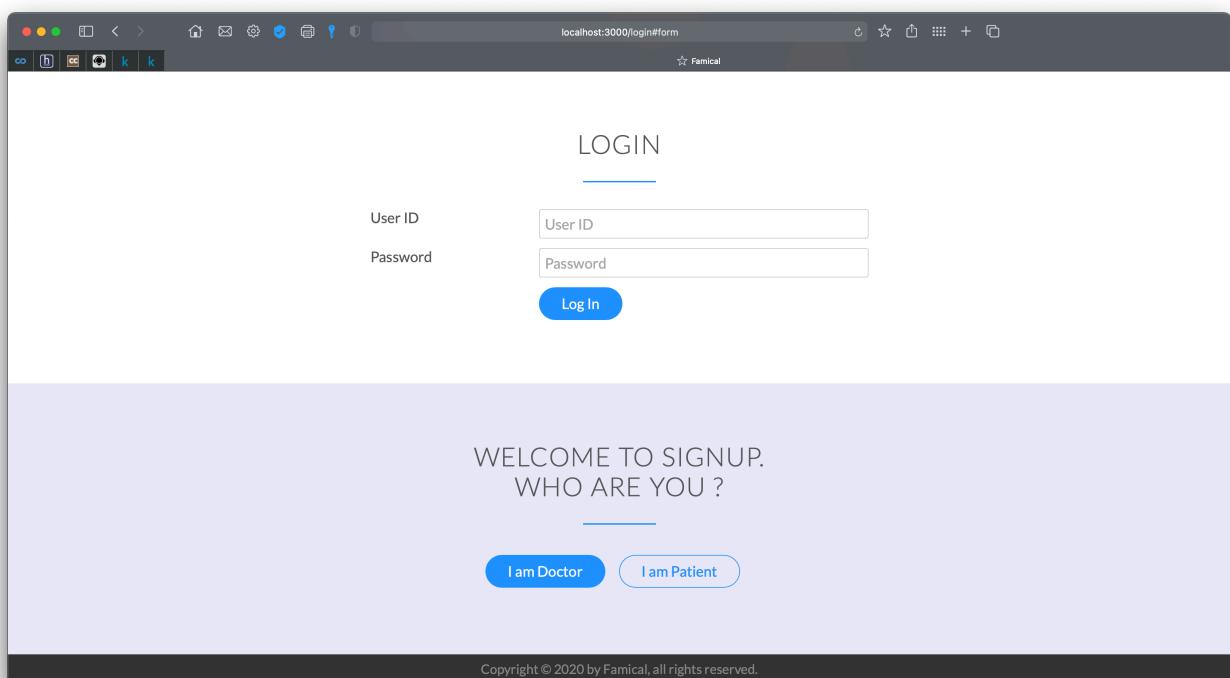


Fig.3.2.Login Page

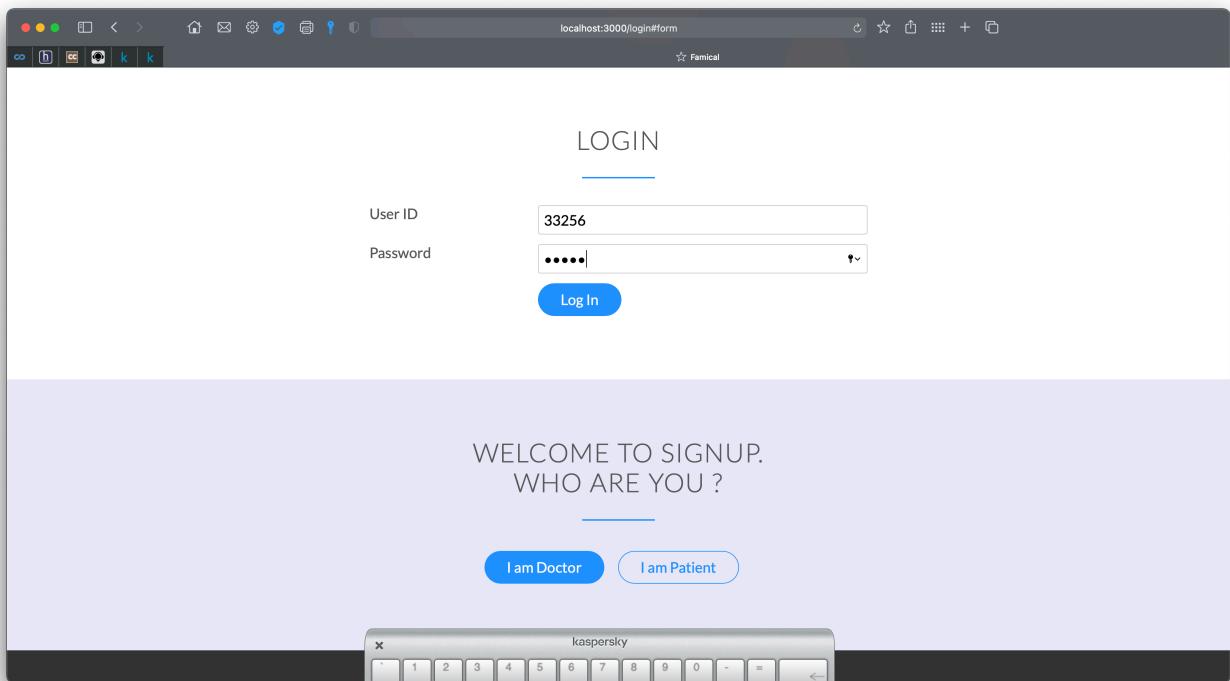


Fig.3.3.Enter Login Credentials

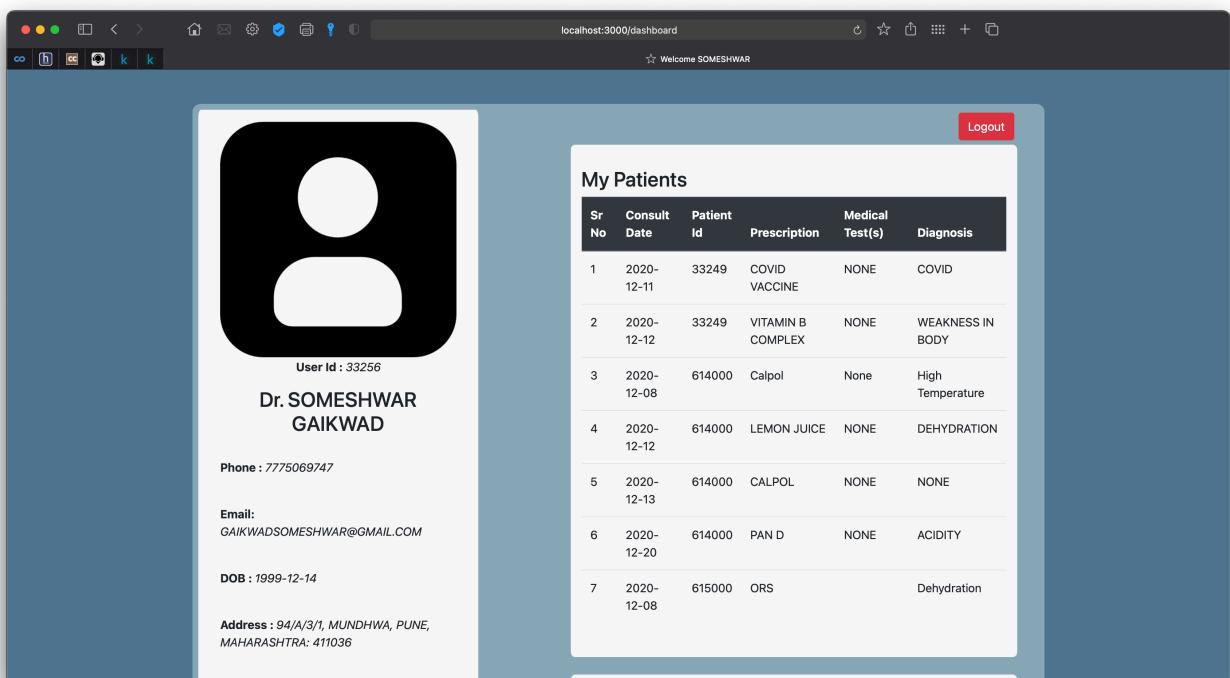
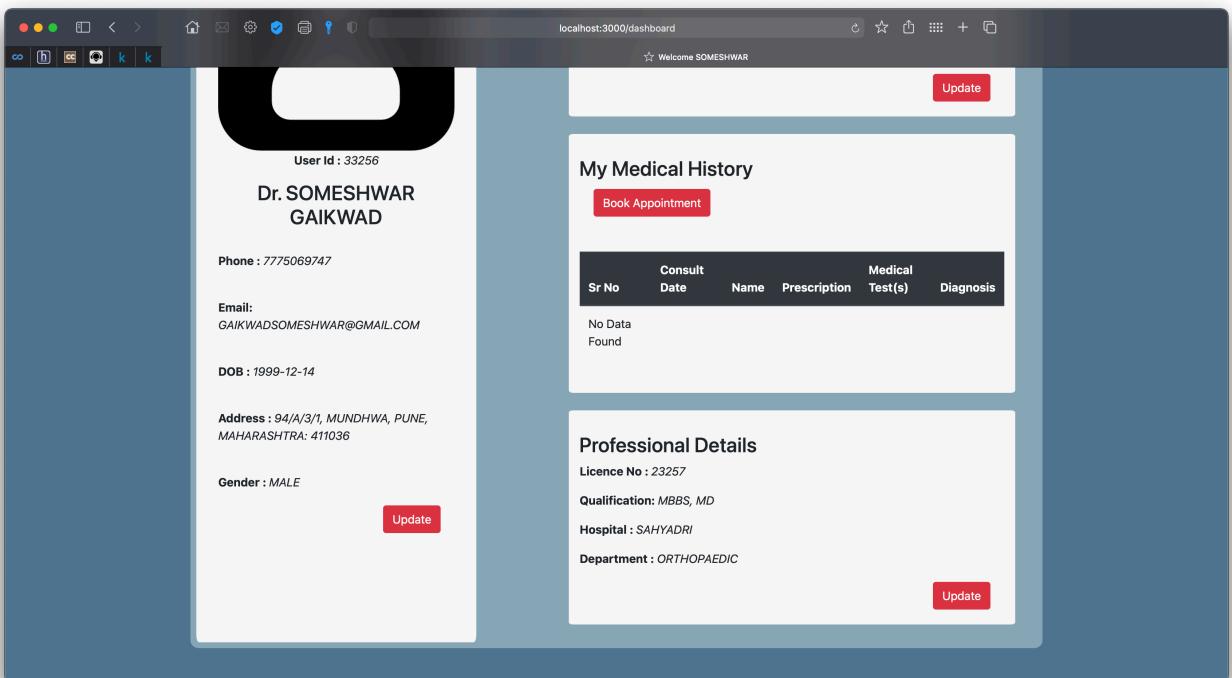
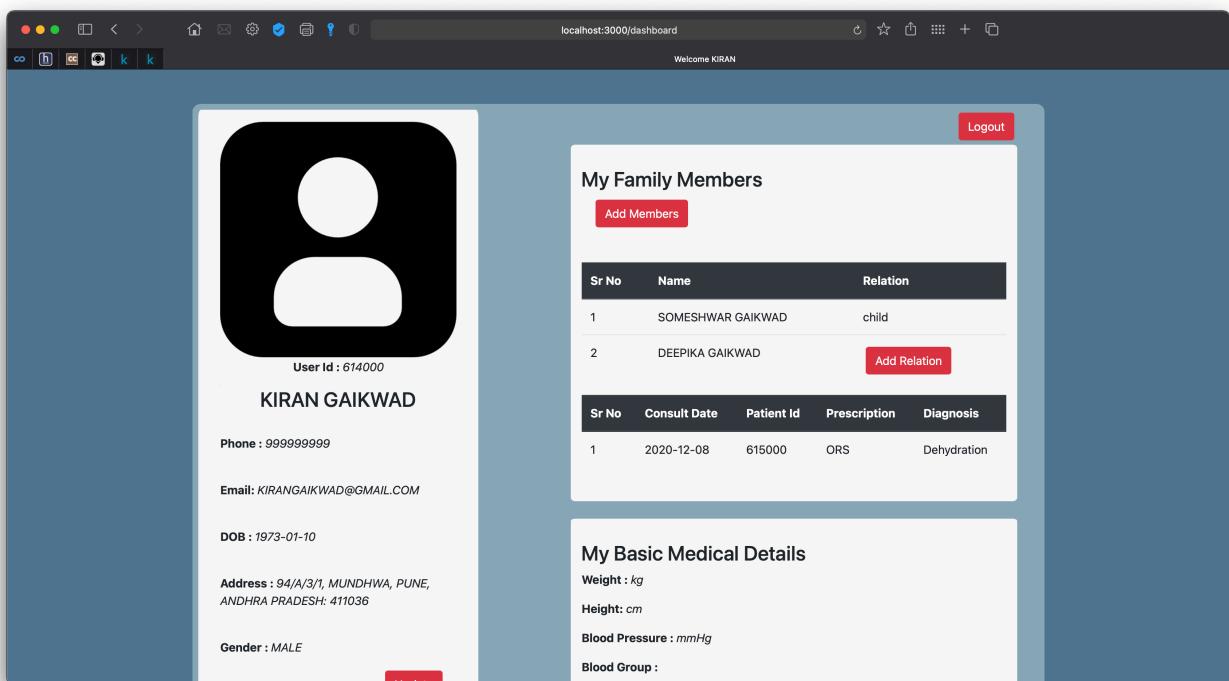


Fig.3.4.Doctor Dash 1



This screenshot shows the Doctor Dashboard interface. At the top right, it says "Welcome SOMESHWAR". On the left, there's a profile placeholder with "User Id : 33256" and "Dr. SOMESHWAR GAIKWAD". Below that are details: "Phone : 7775069747", "Email: GAIKWDOSOMESHWAR@GMAIL.COM", "DOB : 1999-12-14", "Address : 94/A/3/1, MUNDHWA, PUNE, MAHARASHTRA: 411036", and "Gender : MALE". A red "Update" button is at the bottom. In the center, a "My Medical History" section has a "Book Appointment" button. A table below it shows no data found. To the right, a "Professional Details" section lists "Licence No : 23257", "Qualification: MBBS, MD", "Hospital : SAHYADRI", and "Department : ORTHOPAEDIC". A red "Update" button is at the bottom.

Fig.3.5.Doctor Dash 2



This screenshot shows the Patient Dashboard interface. At the top right, it says "Welcome KIRAN". On the left, there's a profile placeholder with "User Id : 614000" and "KIRAN GAIKWAD". Below that are details: "Phone : 9999999999", "Email: KIRANGAIKWAD@GMAIL.COM", "DOB : 1973-01-10", "Address : 94/A/3/1, MUNDHWA, PUNE, ANDHRA PRADESH: 411036", and "Gender : MALE". A red "Update" button is at the bottom. In the center, a "My Family Members" section has an "Add Members" button. It lists two family members: "SOMESHWAR GAIKWAD" (child) and "DEEPIKA GAIKWAD". A "Logout" button is at the top right. Below that, a table shows a medical record: "Sr No" 1, "Consult Date" 2020-12-08, "Patient Id" 615000, "Prescription" ORS, and "Diagnosis" Dehydration. To the right, a "My Basic Medical Details" section includes fields for "Weight : kg", "Height: cm", "Blood Pressure : mmHg", and "Blood Group :".

Fig.3.6.Patient Dash 1

Screenshot of a Patient Dashboard (localhost:3000/dashboard) for user KIRAN GAIKWAD. The dashboard includes a profile section with User ID 614000, Name KIRAN GAIKWAD, Phone 9999999999, Email KIRANGAIKWAD@GMAIL.COM, DOB 1973-01-10, Address 94/A/3/1, MUNDHWA, PUNE, ANDHRA PRADESH 411036, and Gender MALE. A red 'Update' button is present. To the right is a 'My Medical History' section with a table of consults:

Sr No	Consult Date	Name	Prescription	Medical Test(s)	Diagnosis
1	2020-12-08	Dr. SOMESHWAR GAIKWAD	Calpol	None	High Temperature
2	2020-12-12	Dr. SOMESHWAR GAIKWAD	LEMON JUICE	NONE	DEHYDRATION
3	2020-12-13	Dr. SOMESHWAR GAIKWAD	CALPOL	NONE	NONE
4	2020-12-20	Dr. SOMESHWAR GAIKWAD	PAN D	NONE	ACIDITY

Fig.3.7.Patient Dash 2

Screenshot of a Doctor Registration Form (localhost:3000/register_doctor). The page title is "PLEASE FILL THE FOLLOWING INFORMATION!". It features a "Sign up" header and links to Home and Login. The form is divided into sections: "Create User Details" (UserID, Create Password, Confirm Password), "Personal Details" (First name, Last name, Phone Number, Email address), and "Address Details". A note states "We will never share your email with anyone else." and includes gender and blood group selection fields.

Sign up

Home Login

PLEASE FILL THE FOLLOWING INFORMATION!

Create User Details

User ID

Create Password

Confirm Password

Personal Details

First name

Last name

Phone Number

Email address

We will never share your email with anyone else.

Gender: Male Female Other

Date of Birth

YYYY-MM-DD

Blood Group

A+

Address Details

Fig.3.8.Registration 1

The screenshot shows a registration form for a doctor on a web browser. The URL is `localhost:3000/register_doctor`. The form includes fields for gender (Male, Female, Other), date of birth (YYYY-MM-DD), blood group (A+), address details (St. No., St. Name, City, State dropdown set to Andhra Pradesh), professional details (License No., Qualification, Hospital, Department), and a sign-up button. A note at the bottom states: "By clicking the 'Sign Up' button, you confirm that you accept our Terms of use and Privacy Policy." Below the form is a link to log in if the user already has an account.

Fig.3.9.Registration 2

System Implementation

1. Hardware and Software Platform Description:

Software: MySQL Server, Terminal, Browser with javascript enabled
Hardware: Hardware that supports the above mentioned softwares.

2. Tools Used:

Languages: HTML, CSS, Javascript, MySQL

Frameworks: Bootstrap, jQuery, Nodejs, Express JS

Packages: npm package manager, "alert": "^5.0.6", "bcrypt": "^5.0.0", "bcryptjs": "^2.4.3", "body-parser": "^1.19.0", "cookie-parser": "^1.4.5", "cors": "^2.8.5", "dotenv": "^8.2.0", "ejs": "^3.1.5", "express": "^4.17.1", "express-session": "^1.17.1", "jsonfile": "^6.1.0", "jsonwebtoken": "^8.5.1", "morgan": "^1.10.0", "mysql": "^2.18.1"

3. System Verification and Testing:

4. Future Scope:

The data from project can be used for disease prediction and the diseases that might run in the family can be tracked. Different data mining and machine learning techniques can be applied to make the data more useful in terms of visualisation and data analytics.

5. Conclusion:

We were able to make a system which was able to store the health data of a patient and his/her family member(s). We also provided functionality to book an appointment with a doctor. Though the scope was limited to storing the data. The stored data can be more useful in data analysis for future studies.

References

- <https://www.verywellhealth.com/recording-family-medical-history-2615513>
- <https://www.quora.com/Is-there-any-app-in-India-which-provides-proper-management-of-health-records>
- <https://ieeexplore.ieee.org/document/4682851>
- <https://ieeexplore.ieee.org/document/6779357>
- <https://www.w3schools.com>
- <https://www.udemy.com/course/the-complete-web-development-bootcamp/>
- <https://getbootstrap.com/docs/5.0/getting-started/introduction/>
- <https://ejs.co>
- <https://nodejs.org/en/>