



(An Autonomous Institute affiliated to Savitribai Phule Pune University)

Academy of
Engineering

SOFTWARE PROTOTYPE REPORT
ON
ALL IN ONE COVID -19 HEALTH CARE & SURVEILLANCE
SYSTEM

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SCHOOL OF MECHANICAL AND CIVIL ENGINEERING

MIT ACADEMY OF ENGINEERING

ALANDI (D), PUNE

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CERTIFICATE

This is to certify that the software prototype project entitled “**All in one COVID 19 Healthcare and Surveillance System App**” has been carried out by Mr/Miss. Name of the Student, under the guidance in partial fulfillment of Second Year School of Computer Engineering and Technology of Savitribai Phule Pune University, Pune during the academic year 2018-2019.

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ABSTRACT

The project is aimed to developing an online platform And treatment For COVID-19 , where patient can consult directly from doctors and get help for their problem and also they can do booking here for ventilators, beds in any hospital, Emergency Ambulance ,also they are able to do Registration for Vaccination program and RTPCR testing etc. As due to increasing cases and strict rules in some area it difficult for many to go out again and again so they can just take help of this application.

The application is designed considering all the aspects of different areas and situations. The standards of security and data protective management have been taken care. This application is completely secured, trustworthy and easy to handle. This application takes complete care of each module.

So this application can be very helpful for doctors, patients, hospital management. And it is designed as such so the patient himself or herself can update the information about them being positive to virus and even can update it as soon as they get well. As well as hospital management can also update about COVID patients.

So using this prototype we are trying to ease work of doctors and hospital management and help peoples in this COVID – 19 Crisis.

1. INTRODUCTION

This is an online application in which considering recent condition process of treatment is eased for doctors and patients. Not only because of Covid-19 pandemic also there are many conditions why some patients are not able to get proper treatment due non-availability of doctors in there are (in villages there are not much qualified doctors), so they can look for treatment here.

These people can even book beds and look for important things like Emergency Ambulance Service etc. Here you can search for nearest hospitals/ COVID center.

1,1 Problem Statement

COVID-19 pandemic

Way to avail treatment to patient who finds it difficult to get treatment they deserve. Making easy for doctors and patient to interact, so that doctors can provide treatment to they all need without risking their life.

1.2 Background and motivation

There are many things going around us that need to be resolved, so here is our small step to make process easy for both doctors as well as patients. As it is important for us to look for solutions for things even in such situation and there are many alternatives to it but there many complications as well. We have got so many things to do but find out the simplest way that is possible for us as well as users to operate.

Everyone have android or if not they can get access to this application by there name with someone's help. So we have planned to make application which will deal with the problem patients suffering from COVID 19 or any other disease. For patients other that COVID, they have a big fear that if they go for treatment than there may be a risk of virus. So this can help a little for them, and even ease the work of doctors.

Motivation behind this is the increasing cases of COVID 19 and peoples who could not get proper treatment. Another thing is doctor in way to treat patient are themselves infecting and this is huge thing that they are risking their lives. Also patients other than COVID 19 infected find it difficult to go for their treatment.

1.3 AIEOU Framework

AEIOU is a method that provides ethnographic researchers with a framework for recording and classifying observations and information about their subject's Activities, Environments, Interactions, Objects, and Users.

Activities are the actions people take towards a goal, the paths they follow, and the modes they work in.



Environments are the spaces where the activities take place. Look for what the atmosphere and context are like. How about the spaces? Are they shared or individual? How have the people adapted the environment for their own use, etc.

Interactions are between a person and someone else or thing. Interactions are the building blocks of activities. Look out for people's routines, special interactions between individuals, groups, objects in the environment and across distance and time.



Objects are the building blocks of the environment. Look out for how objects are put to use and how they can take on unexpected uses depending on the context and actions.

Users are the people whose behaviours, preferences, and needs are being observed. Look out for their values, biases, roles, relationships, etc.



ACTIVITY SHEET

AEIOU FRAMEWORK	GROUP ID	SHEET NO : 01
Activity Sheet	GROUP NAME : Creators	
General Impressions / Observations : <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <ol style="list-style-type: none"> 1.Unaware of crowd places , so infection of various possibilities increases. 2.In case of Emergency , availability of Ambulance is the major objective for every patient to reach the hospital. 3.Registration for patient becomes tedious job in hospital. 4. People not following the basic guidelines circulated from government. </div>	Sketch / Photo Summary Activity <div style="text-align: center;">  </div>	
Elements , Features and Special Notes : <ol style="list-style-type: none"> 1.Crowded Area 2.People not using masks 3.People not maintaining social distance 4.Crowded public transports 	<div style="text-align: center;">  </div>	



ENVIRONMENTAL SHEET

AEIOU FRAMEWORK	GROUP ID	SHEET NO : 04
Environment Sheet	GROUP NAME : Creators PROJECT TITLE :	
<p>General Impressions / Observations :</p> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <ol style="list-style-type: none"> 1.Hospitals 2.Covid Testing Labs 3.Pathalogy 4.Crowded Areas 5.Vaccination Centres </div>	 <p style="font-size: small; color: gray;">Sketch / Photo / Summary Activity</p>	
<p>Elements , Features and Special Notes :</p> <ol style="list-style-type: none"> 1.General Safety 2.Infection Control 3.Bed Management in Hospitals 4.Availability of Ambulance at time of Emergency 5.Easy and proper vaccination 		



INTERACTION SHEET

AEIOU FRAMEWORK	GROUP ID : Group 1	SHEET NO : 04
Interaction Sheet	GROUP NAME : Creators	
	PROJECT TITLE :	
<p>General Impressions / Observations :</p> <ol style="list-style-type: none"> 1. Doctors 2. Health-Care Workers 3. Frontline Warriors 4. Crowded area people walking in 	 <p>Sketch / Photo Summary Activity</p>	
<p>Elements , Features and Special Notes :</p> <p>Affected people were facing problems for the following purpose:</p> <ol style="list-style-type: none"> 1. Use of ambulance in emergency purpose 2. Vaccine registration 3. Management of hospital 		

OBJECT SHEET

AEIOU FRAMEWORK	GROUP ID : Group 1	SHEET NO : 04
Object Sheet	GROUP NAME : Creators	
	PROJECT TITLE :	
<p>General Impressions / Observations :</p> <ol style="list-style-type: none"> 1.Hospital 2. Vaccination Centers 3. Available Beds for covid 4.Vaccination Registration 	 <p style="text-align: center;">Sketch / Photo Summary Activity</p>	
<p>Elements , Features and Special Notes :</p> <ol style="list-style-type: none"> 1.Crowded Area 2.People not using masks 3.People not maintaining social distance 4.Crowded public transports 		

USER SHEET

AEIOU FRAMEWORK	GROUP ID : Group 1	SHEET NO : 04
User Sheet	GROUP NAME : Creators	
	PROJECT TITLE :	
<p>General Impressions / Observations :</p> <ol style="list-style-type: none"> 1.Covid 19 patients 2.General people 3.Family of infected patient 4.Common people 		
<p>Elements , Features and Special Notes :</p> <ol style="list-style-type: none"> 1.Easy , Simple and Fast registration 2.24/7 registration of beds in covid hospital 3. Availability of Ambulance 24/7. 4. If home quarantine then contact with Doctors anytime. 		

2 REQUIREMENT ANALYSIS

1.1 CUSTOMER NEEDS:

- Registration Homepage
- Login, so the module is accessible to user
- Confirm Personal Details
- Change Password
- About Corona Virus
- Hospital's Contact Information
- Vaccination Registration
- Covid Test Registration

1.2 FUNCTIONAL REQUIREMENTS:

Functions required by User:

- | | |
|-------------|--|
| 1. Name | Registration |
| Purpose | To become a user to access web |
| Input Data | Full name, Personal details, Set operator |
| Output Data | Registration complete |
| 2. Name | Login |
| Purpose | Request to access/use the server |
| Input Data | Username and Password |
| Output Data | Access to the server |
| 3. Name | Confirm Personal Information |
| Purpose | To provide doctor and hospital with the users complete details |
| Input Data | Personal Information of user or patient |
| Output Data | Details saved successfully |
| 4. Name | Change Password |
| Purpose | If user forgets his/her password or want to change it |
| Input Data | Username and Email id |
| Output Data | Password Updated |
| 5. Name | About Corona Virus |
| Purpose | Availing information on corona to user |
| Input Data | Search required data by user |
| Output Data | Server displays result based on search |
| 6. Name | Contact Hospital |

Purpose	Book bed in hospital or check-up of health
Input Data	Search hospital based on location or recommended
Output Data	Hospitals Contact details displayed on page

7.	Name	Consult doctor online
	Purpose	User can follow precautions at home for corona and health update
	Input Data	Search doctors and take appointment for online consultancy
	Output Data	Talk to doctor live through camera and take suggestions

Function of the Hospitals:

1.	Name	Submit Hospital information
	Purpose	Provide Hospital information to required users
	Input Data	Input Hospital Data(Name, address, specialty)
	Output Data	Accessible to registered user.
2.	Name	Update number of Bed
	Purpose	Available beds in hospital for user/patient
	Input Data	Number of beds in information
	Output Data	Available beds in hospital
3.	Name	Contact Information
	Purpose	Avail number and timings of hospital premises to users
	Input Data	Add/Update number
	Output Data	Contact Information of Hospital
4.	Name	User/Patient information
	Purpose	Keeping record of patients those booked bed or medical Supplies.
	Input Data	Add User/patient information and requirements to records
	Output Data	Save the record

Function of Doctors:

1.	Name	Personal Details
	Purpose	Available to user for consultancy
	Input Data	Enter details
	Output Data	Details display on homepage
2.	Name	Contact details
	Purpose	For user to book an online appointment for consultancy
	Input Data	Enter contact number, timings and fees
	Output Data	Contact details displayed in the doctor's profile

NON-FUNCTIONAL REQUIREMENTS:

- User's history will be saved and updated with every step for later requirements.
- User friendly environment
- Constant updates notified on user's device

- Easy for user to search/contact any required content

2.5.1 Limitations

Availability:

- App/Site will be available for everyone.
- Aadhar Verification required

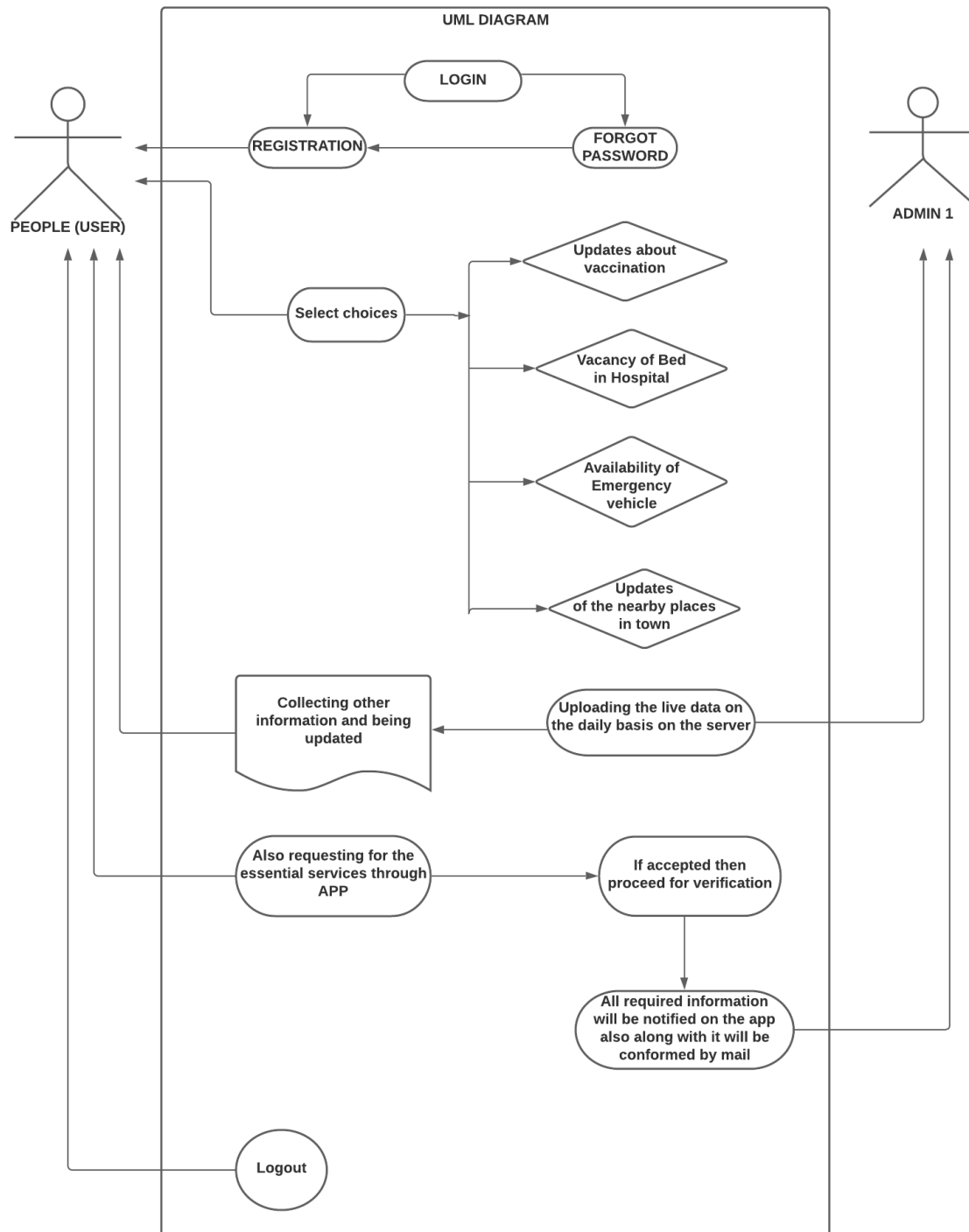
Maintainability:

- Daily maintenance required for healthy use of app/Site.
- Updation of details on daily basis

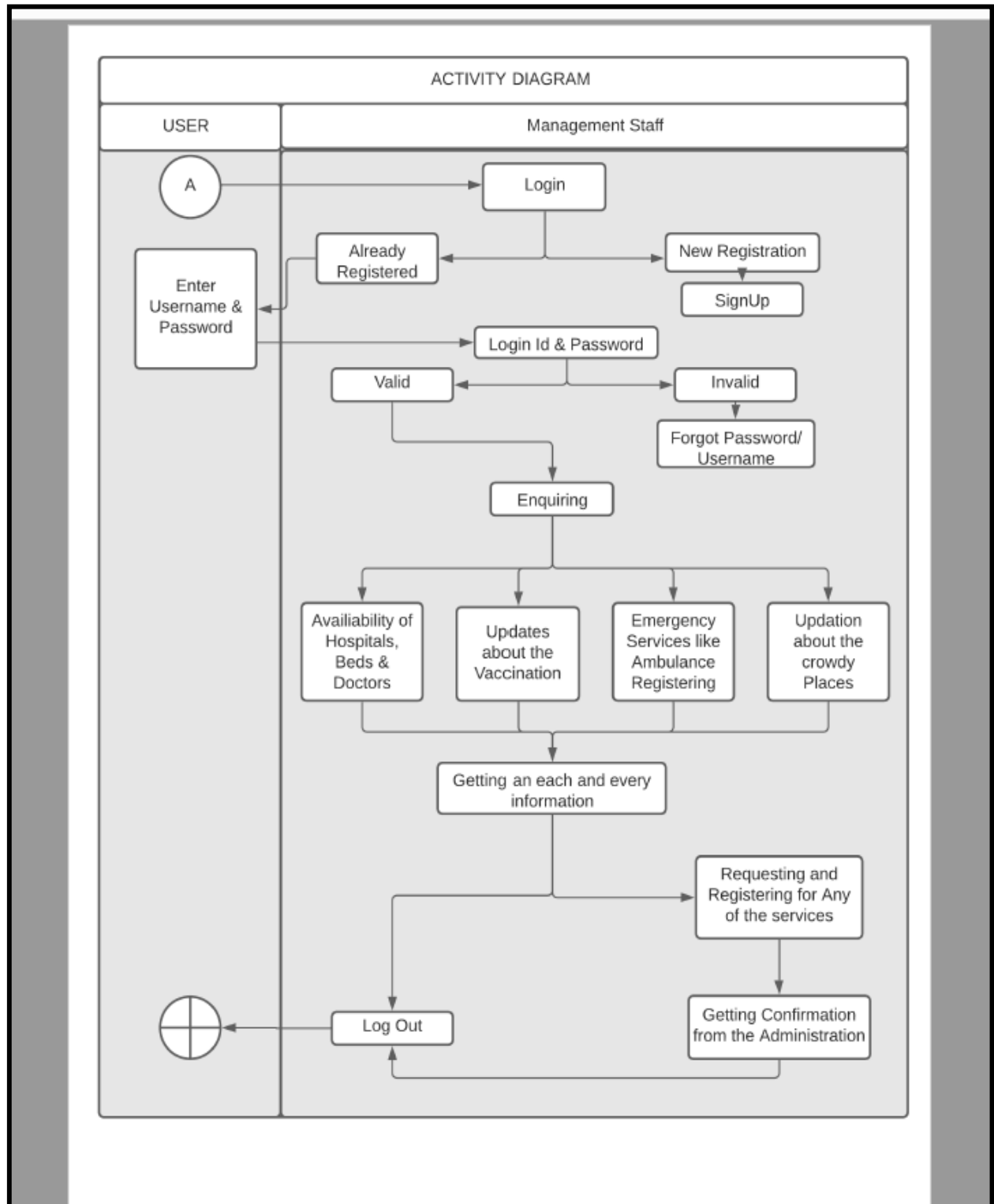
2.6 Analysis

Nowadays people who are not able to get proper time to look after their health can just go through online consultancy from anywhere. Actual figure of COVID 19 patient provided by government is different so here you yourself can update about it. It is easier way to get to know about treatment rather than risking your life while going out.

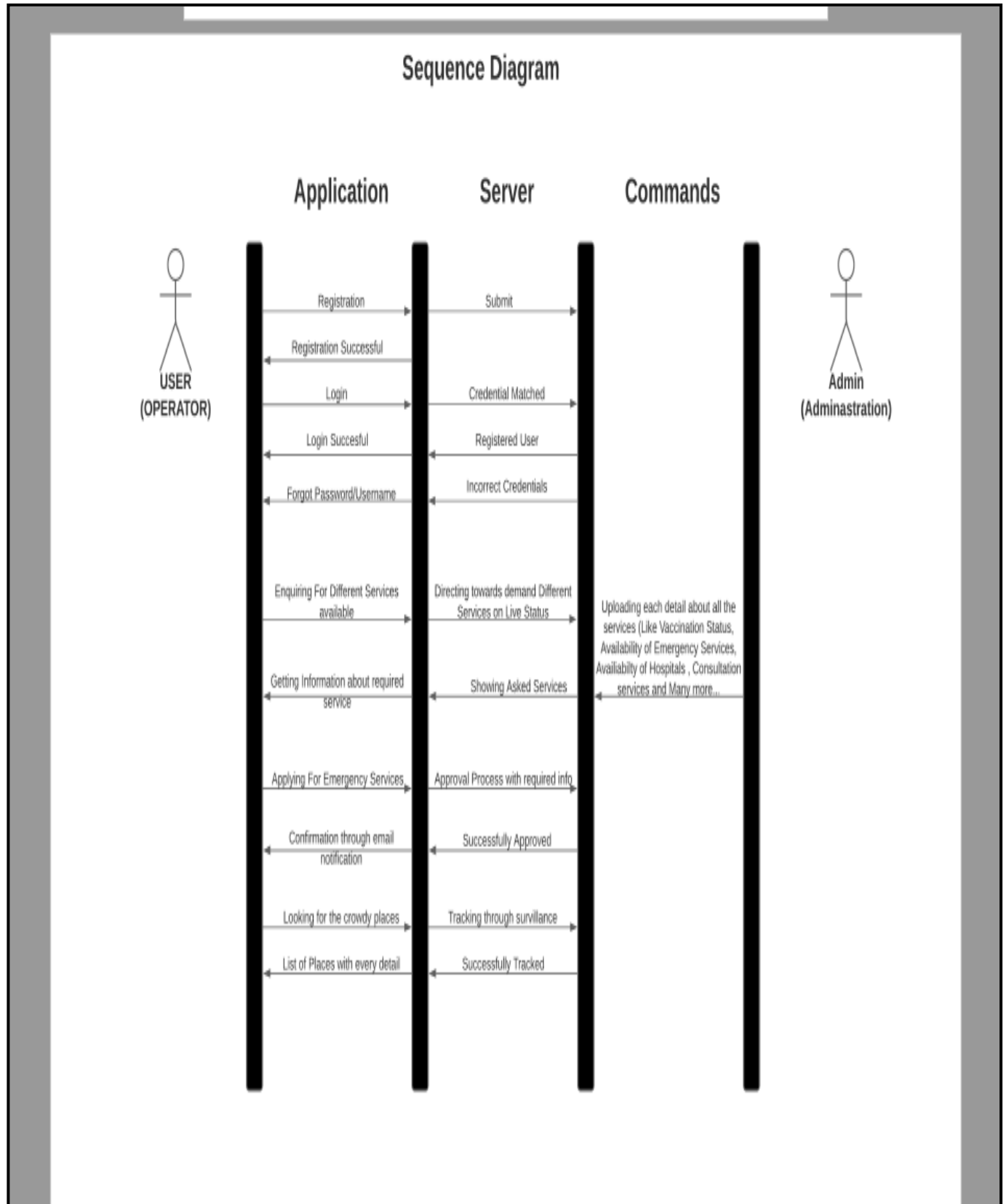
USE CASE DIAGRAM COVID 19 TREAT APP

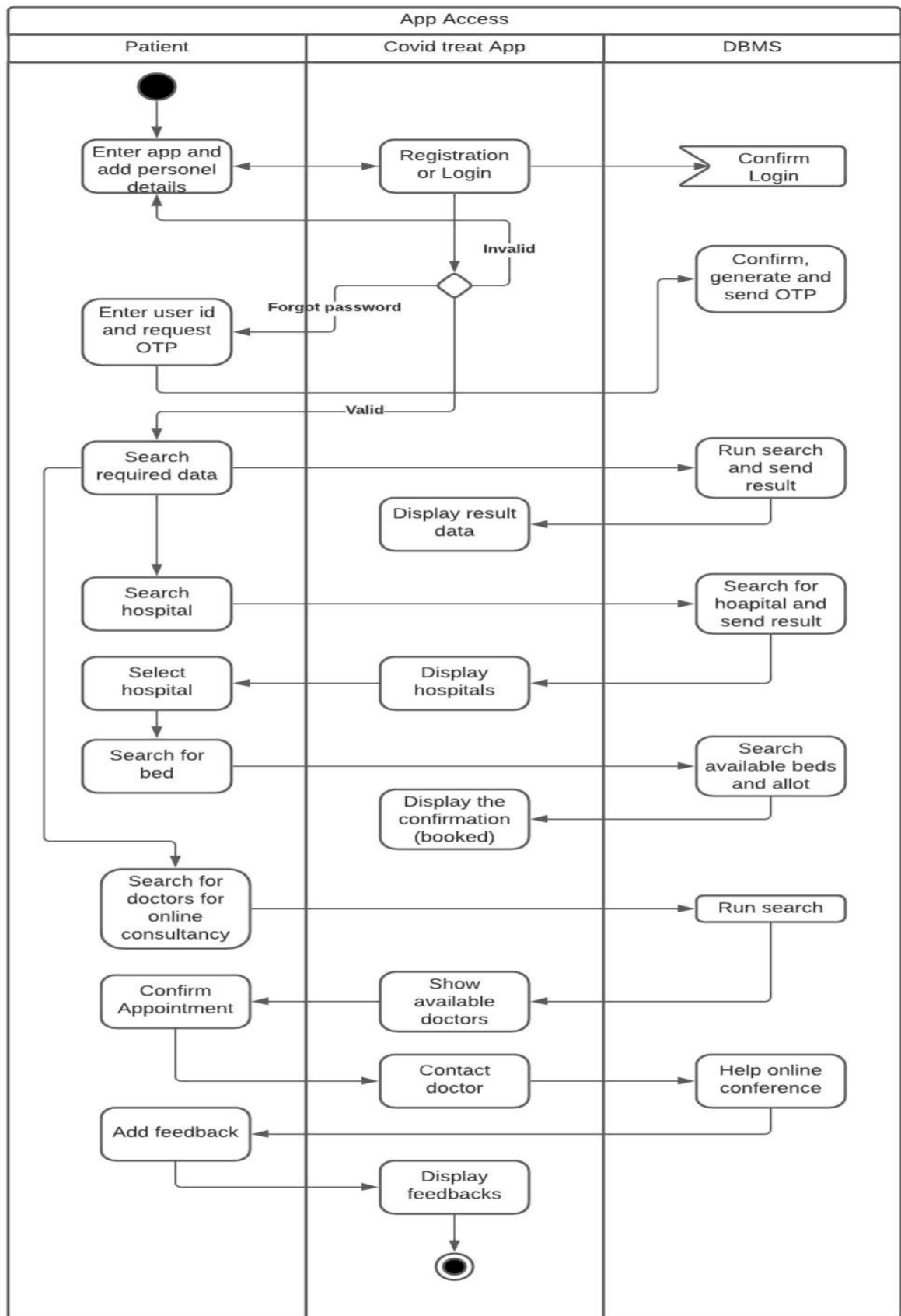


ACTIVITY DIAGRAM(ADMIN)

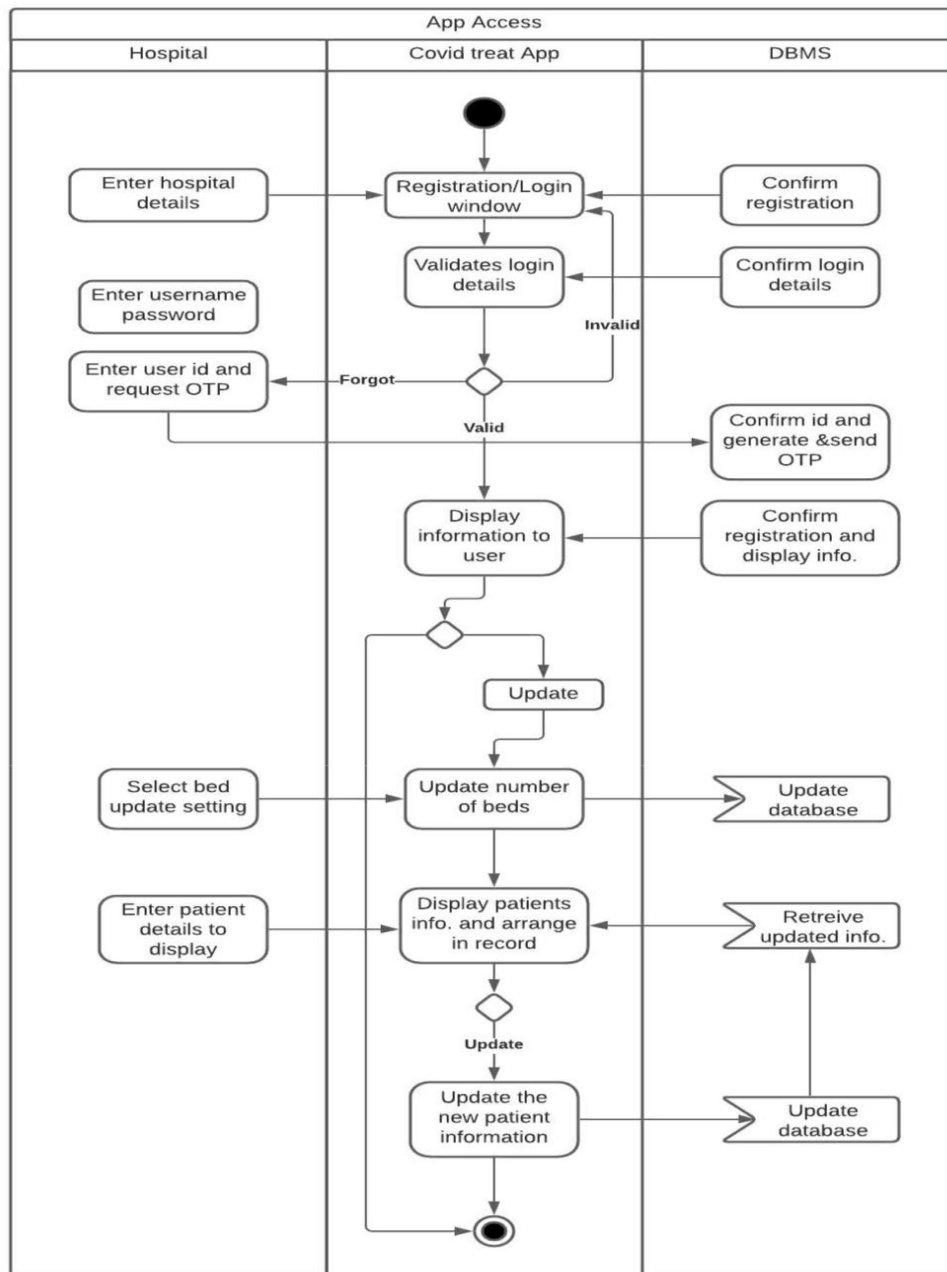


Sequence Diagram

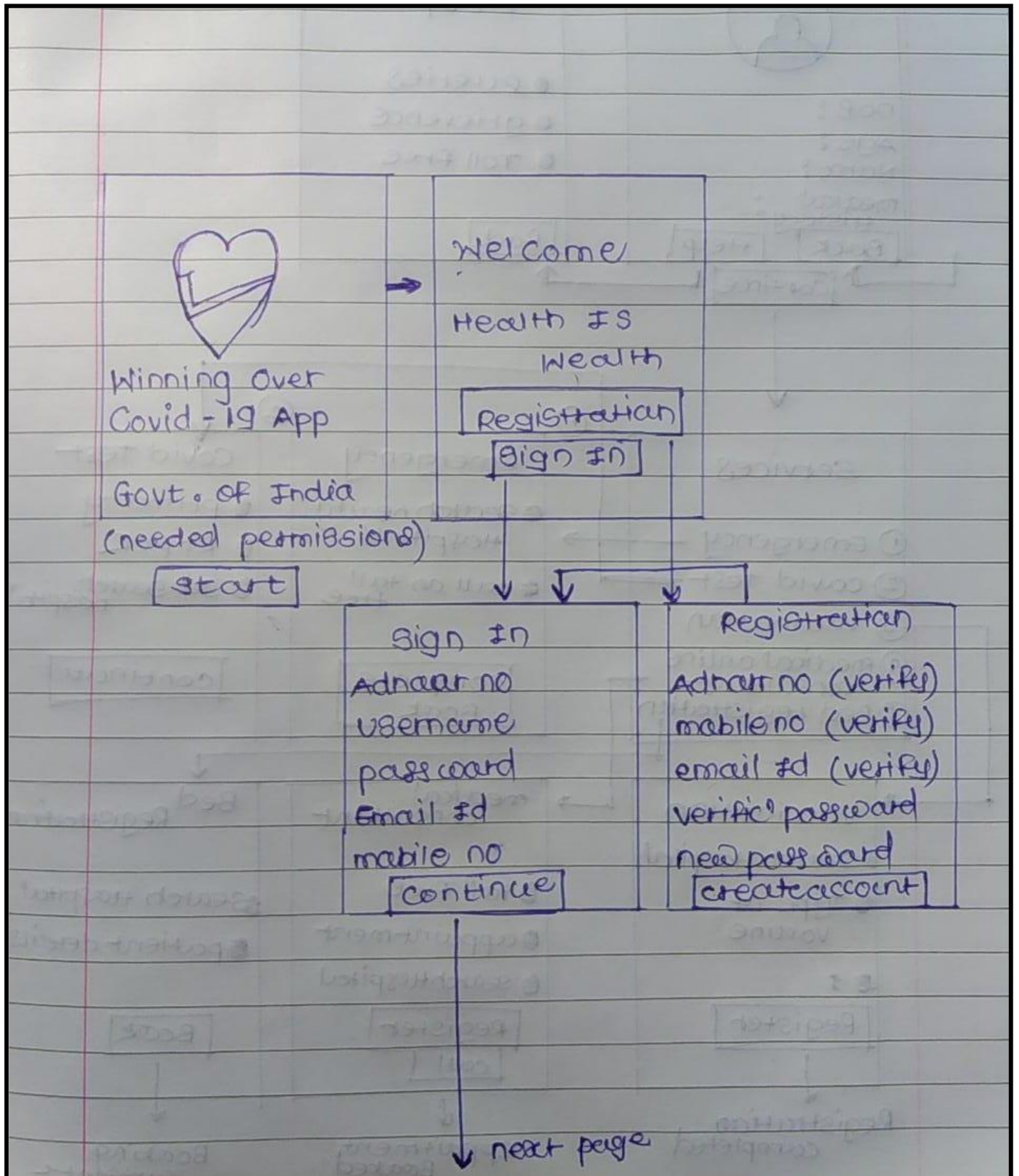




ACTIVITY DIAGRAM (HOSPITAL)

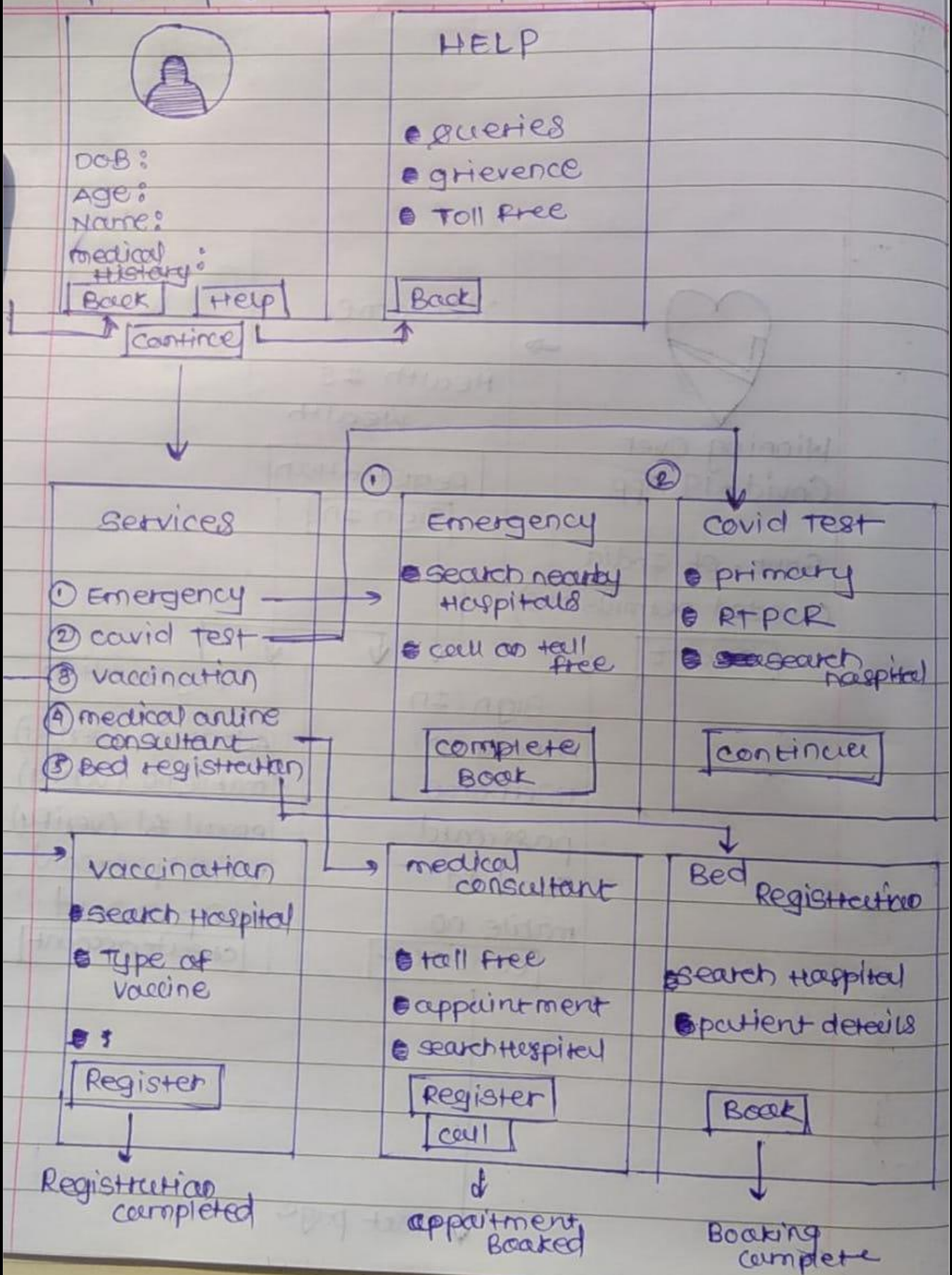


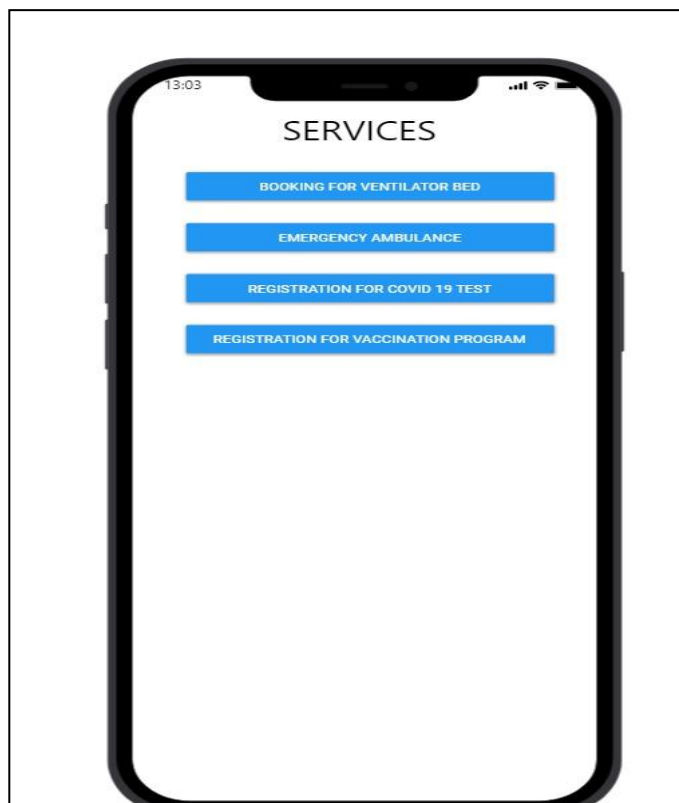
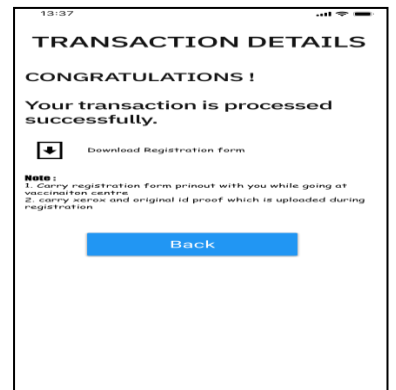
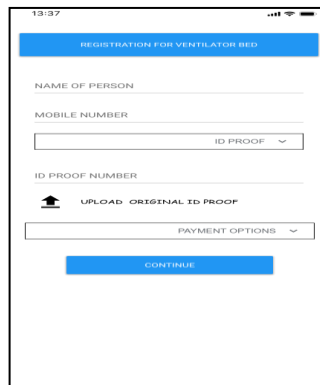
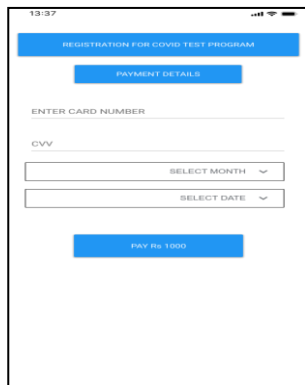
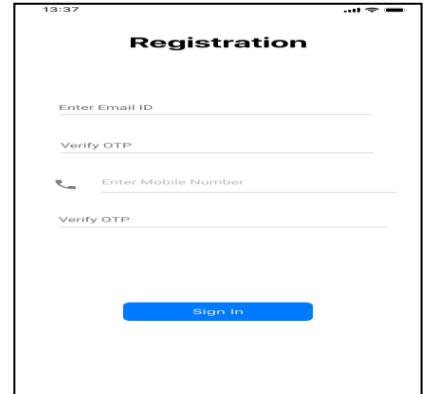
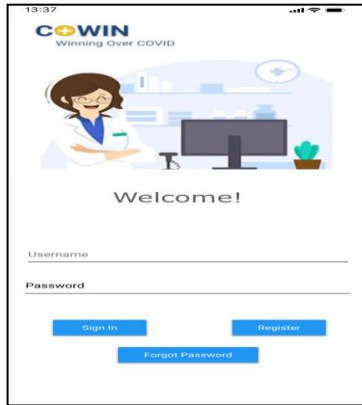
HIGH FIDELITY DIAGRAM



profile page

Help page





CONCLUSION

1. With this application it get easier for patients who do not get time to look properly to their health.
2. **It has user friendly service.**
3. **Easy to handle.**

REFERENCE

<https://economictimes.indiatimes.com/tech/software/soon-an-app-to-help-you-trace-your-exposure-to-covid-19/track-trace-treat/slideshow/74824317.cms>