Project Idea

Azure Developer
League Hackathon

HACK TO EMPOWER INDIA

Team Name:

SocioMinds

Project Name:

Alive

Team Members:

Ananya Ghosh

Muskan Samantaray

ABSTRACT

Our Project aims to solve the current huge problem of **Oxygen and Vaccination due to COVID-19 pandemic**. We address this issue and try to give a solution through building a **platform for proper criteria wise data collection**, **storing of data** in an organized way, **processing the data** to represent it **graphically and in tabular** format on our **website for all** to have a clear picture, and **predicting the future movement of the graphs and values** for further **preparation** and **assessing present condition** to address it better. We **target all stakeholders** of the **oxygen and vaccine production and supply chain**. We **bring up the efforts** of those **local small organizations** as well who are working hard to supply needy people with oxygen and vaccine.

FEATURES

WEBSITE	DATA FILLING BY USERS AND COLLECTION. DATA CAN BE GRAPHICALLY AND TABULARLY VISUALISED ON OUR WEBSITE ANYONE CAN SEE HOW MANY PEOPLE NEED OXYGEN< ARE VACCINATED OR ARE LEFT TO GET VACCINE, ETC.
DATABASE	THE DATA COLLECTED IS STORED AND PROCESSED TO GIVE OUT GRAPHS, FEEDED TO MACHINE LEARNING AND DEEP LEARNING ALGORITHMS TO PREDICT FUTURE AND PRESENT CONDITION.
GRAPHICAL VISUALISATION	DATA TO GRAPHS AND PIECHARTS AND TABLES
ML and DL	DATA FEEDED TO MACHINE LEARNING AND DEEP LEARNING ALGORITHMS TO PREDICT FUTURE AND PRESENT CONDITION.

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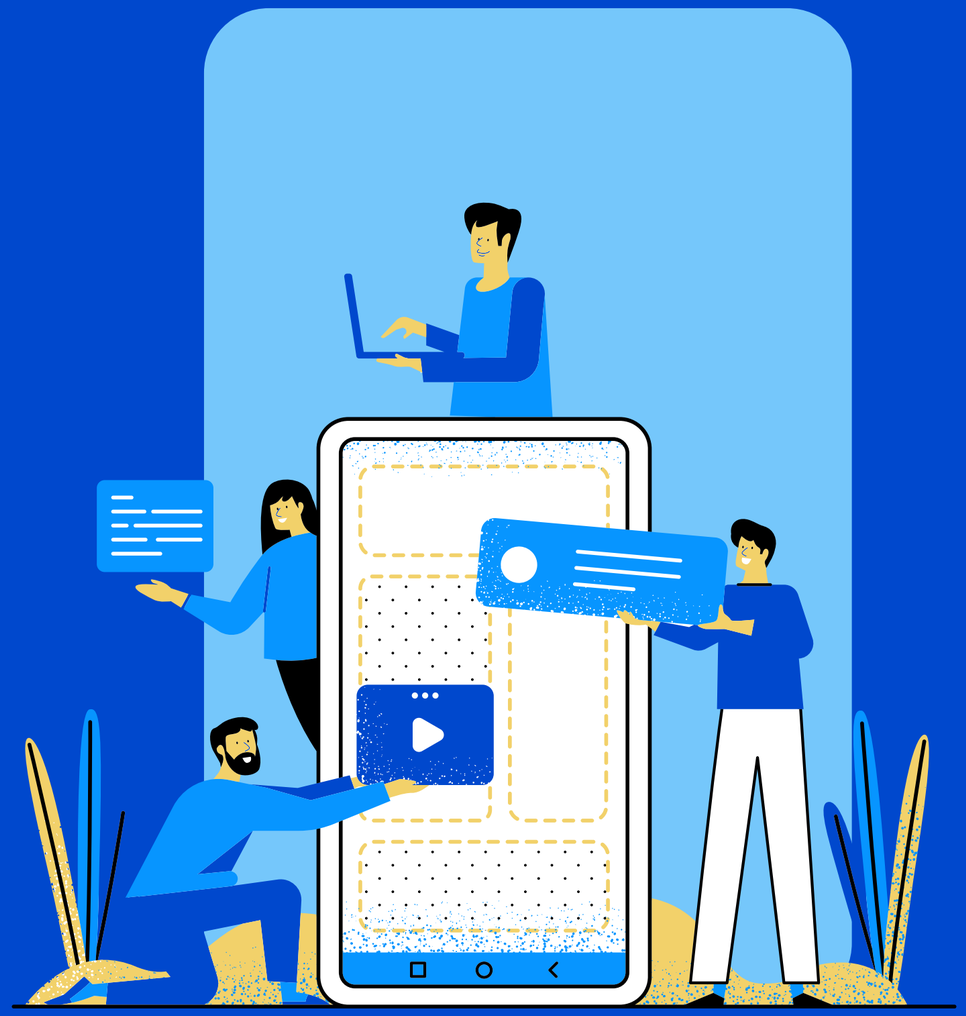
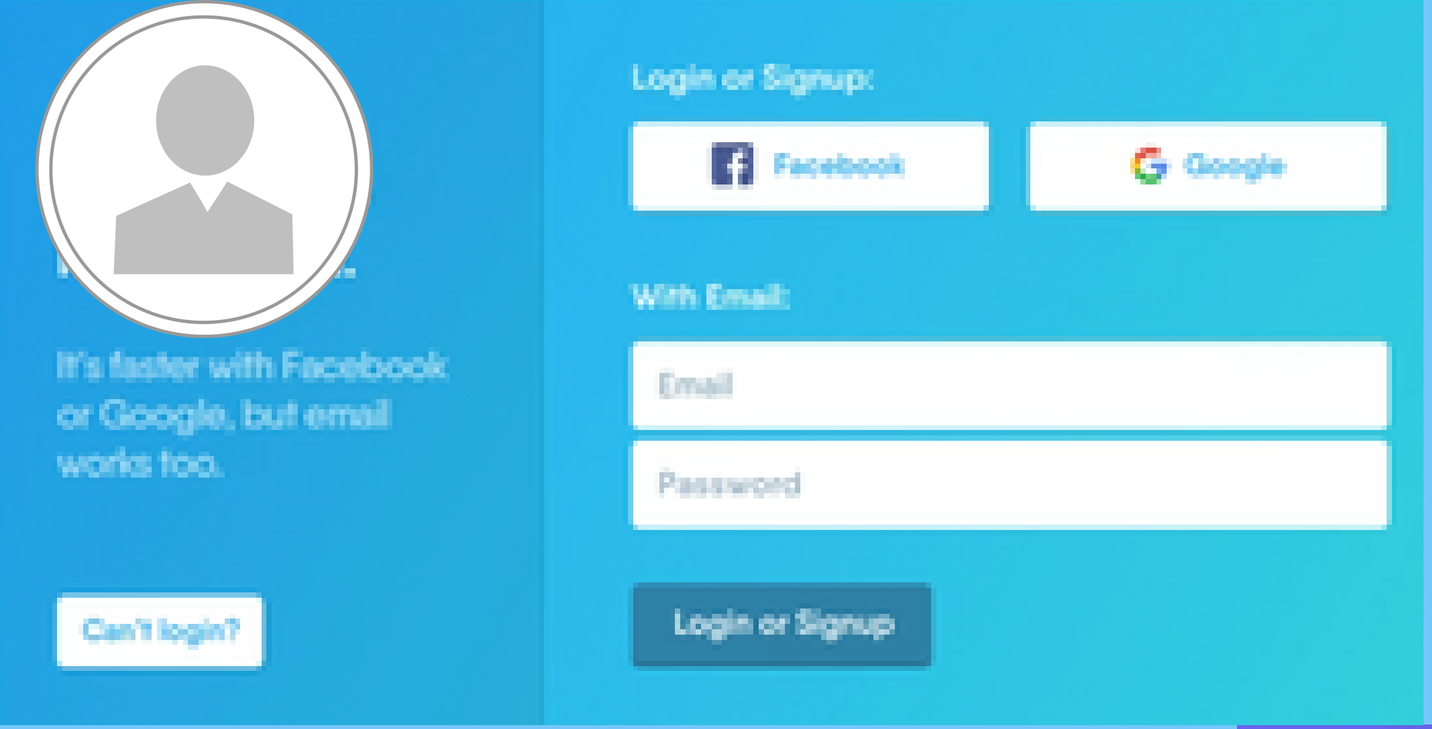


Our Website

Data Filling Process by the Users in their respective sector through our website

NEXT ➡



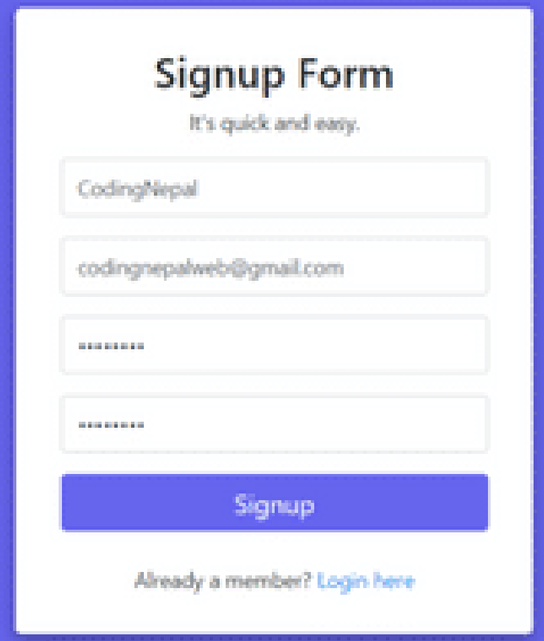
LOGIN

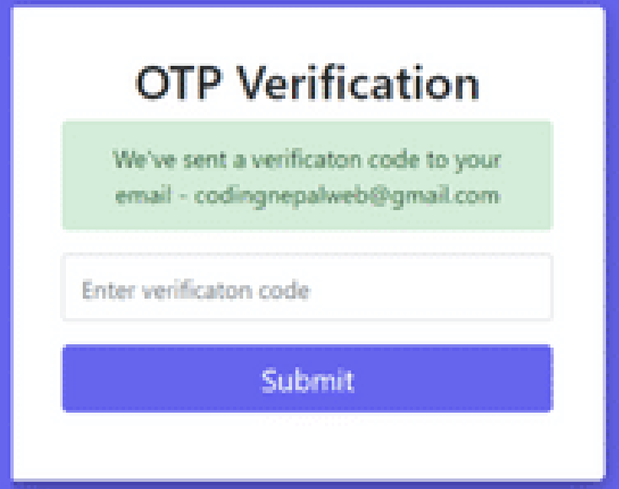
SIGNUP

ID verification

OTP system

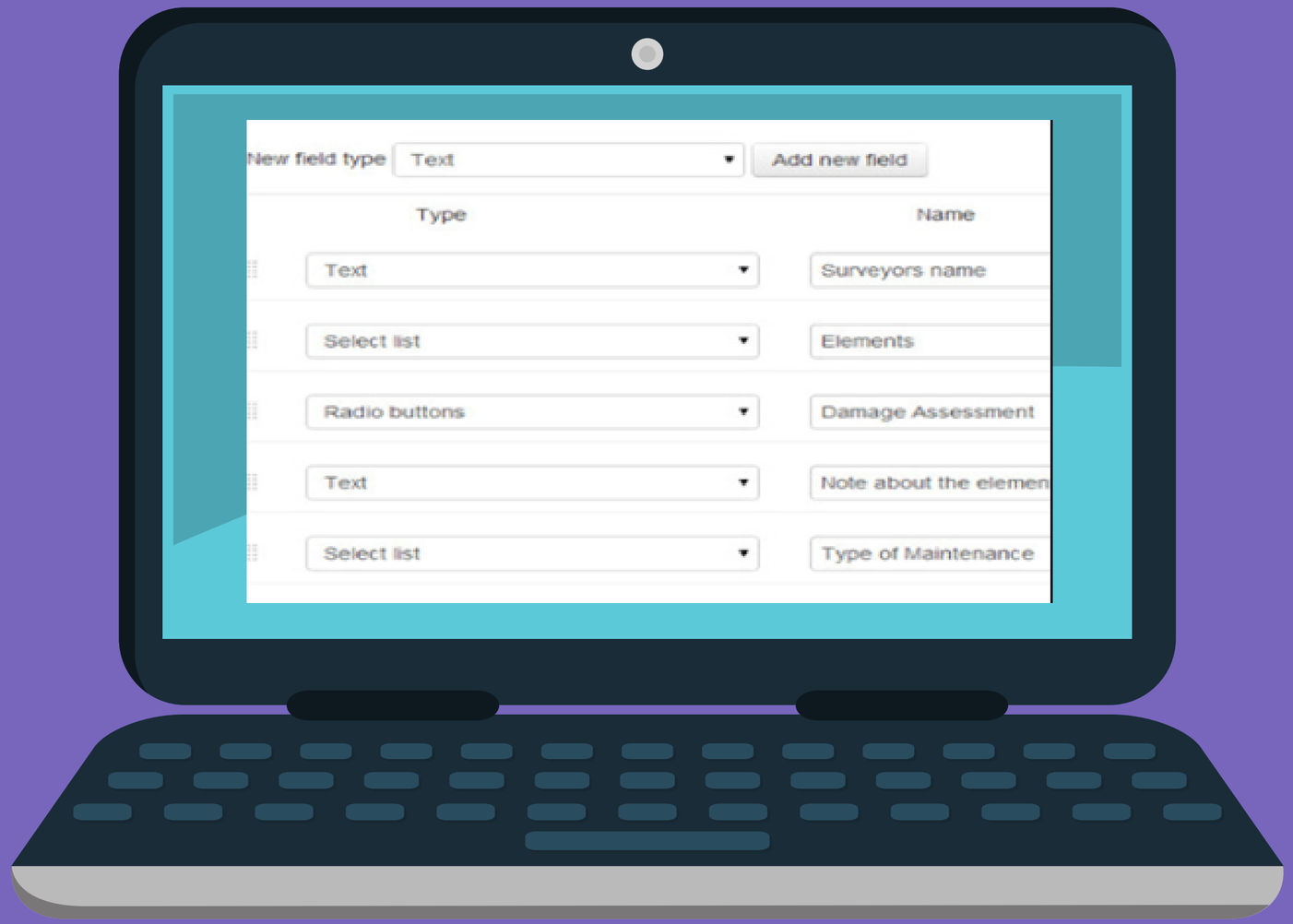
Email Verification





Data Filling Process by the Users in their respective sector through our website

We provide few set of questions and user has to answer those and data gets colleted and stored.



The questions listed in the next slides are preliminary prototype based questions, more rsearch will be done by us and proper set of questions will be formulated to make it market ready.

OXYGEN

Manufacturers:

Industrial Oxygen:

1. Type of Oxygen:

Liquid,

gaseous

2. Quantity in M tonnes:
3. Number of tankers distributed for medical use:

Medical Oxygen:

1. Type of Oxygen:

Liquid,

gaseous

2. Quantity in M tonnes:

Oxygen Cylinders:

1.Capacity:

2.size:

3.Quantity:

4.With/without flowmeter

Oxygen concentrator:

1.Capacity of each:

2. Quantity:

Vacuum insulated evaporator:

- Quantity:
- Capacity:

Distributers:

Oxygen Tanker :

1.Quantity:

2.Capacity of each:

Trucks/Vehicles to transport oxygen:

1.Number of Trucks leaving:

2.Capacity:

3.Destinations:

4.Number of empty cylinders returning:

5.Locations from where they are returning:

Retailer:

1.Number of Oxygen cylinders available:

2.Total quantity of oxygen:

3.Number of cylinders sold each day:

4.Number of oxygen concentrators:

5.Number of oxygen concentrators sold each day:

6.Number of Empty cylinders returned:

7.Cost:

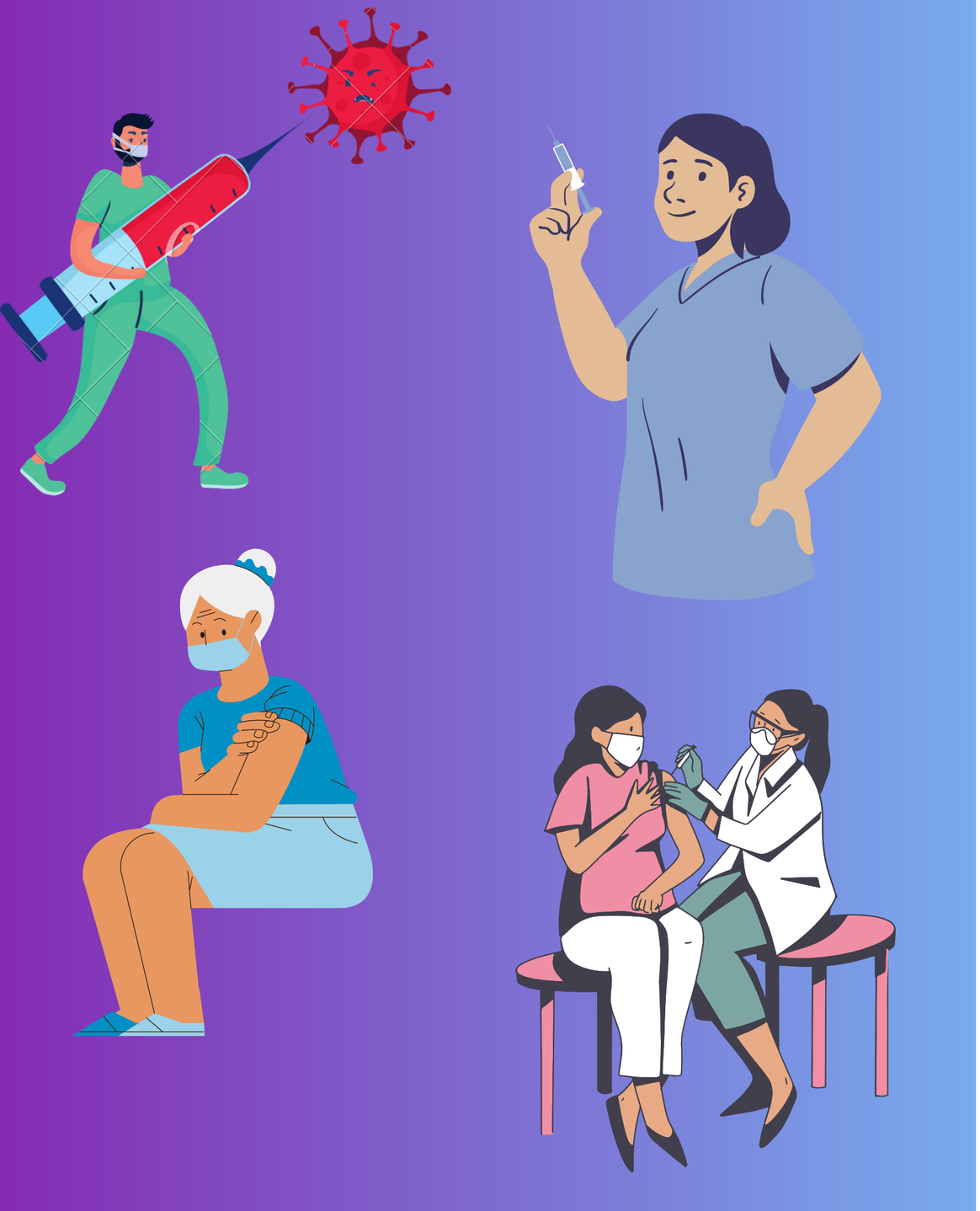
Hospitals:

Storage tank:

1.Available: Yes/No
2.Capacity:
3.Quantity of Oxygen required each day:
4.Number of patients served approximately each day:
5.Storage tank maintenance frequency in a year:
6.Emergency response team function:
7.Alternative oxygen supply presence description:
8.Quantity of alternative oxygen:
9.Average number of Oxygen requiring patient each day:
10.Oxygen received from:
11.Cost:

Oxygen cylinders:

1.Number of cylinders:
2.Quantity of oxygen in total:
3.Number of patients served:
4.Quantity of Oxygen required each day:
5.Average number of Oxygen requiring patient each day:
6.Number of empty cylinders returned:
7.Oxygen cylinders received from:
8.Empty cylinders returned to:
9.Cost:



VACCINATION

Manufacturers:

1. Name of organisation:
2. Type of vaccine:

COVISHIELD
COVAXIN
SPUTNIK

3. Quantity of vaccine produced each day:
4. Amount of vaccine distributed each day:
5. Distributer organisation name:

Distributers:

1. Organisation name:
2. Type of vaccine distributed:

COVISHIELD
COVAXIN
SPUTNIK

3. Quantity of vaccine distributed each day:
4. Region of distribution:
5. Centres distributed to:
6. Quantity of vaccine distributed in each centre:

Centres/Hospitals:

1. Vaccine received from:
2. Quantity of vaccine received:
3. Type of Vaccine received:

COVISHIELD

COVAXIN

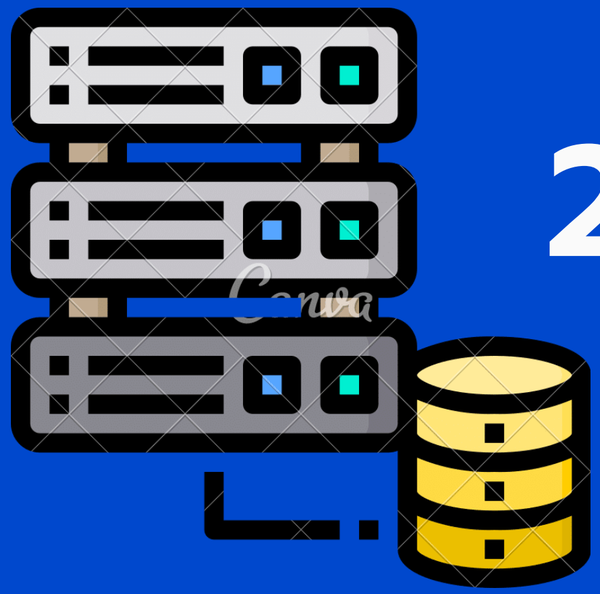
SPUTNIK

4. Number of people registered/booked in this centre today:
5. Number of people arrived for vaccine today:
6. Number of people vaccinated today:
7. Adhaar numbers of the people vaccinated:

Vaccinated People:

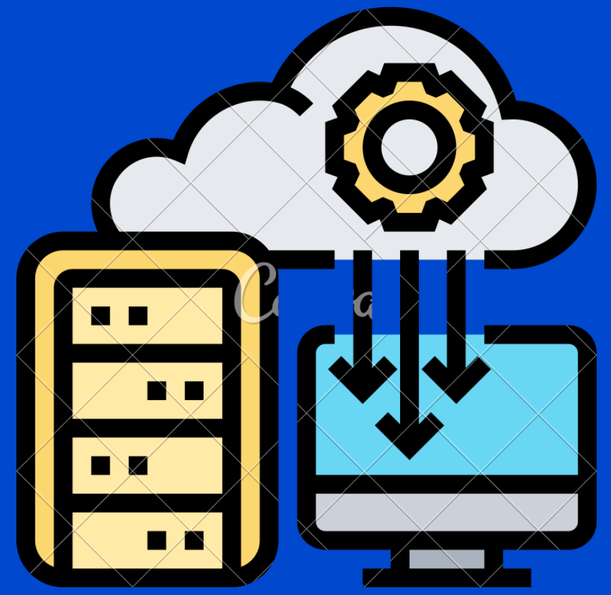
1.Name:
2.DOB:
3.Adhaar no.:
4.Age:
5.Vaccine type:
6.Centre from which you took vaccine:
7.Side effects (if any):
8.Date of taking first dose:
9.First dose: Taken
10.Second dose taken?
11.Vaccine type of second dose:
12.(If not) Date of taking second dose:
13.Second dose taken on in actual:
14.Number of days delay:
15.First vaccine e-token given by us
16.Second vaccine e-token given by us

E-TOKEN SYSTEM for people who have completed vaccination



2 Cloud data Storage

Data and resource collection. Sorting out the data according to regions/state. Create and fill oxygen and vaccination table using postgres



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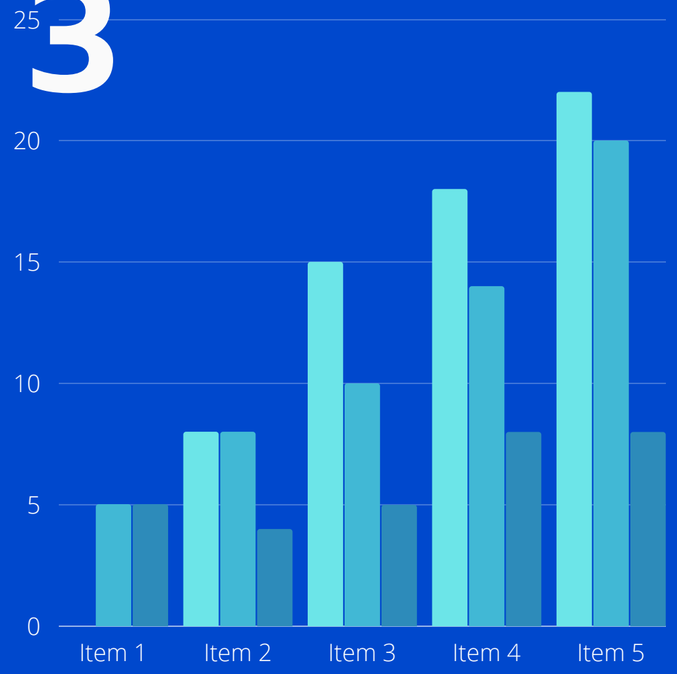
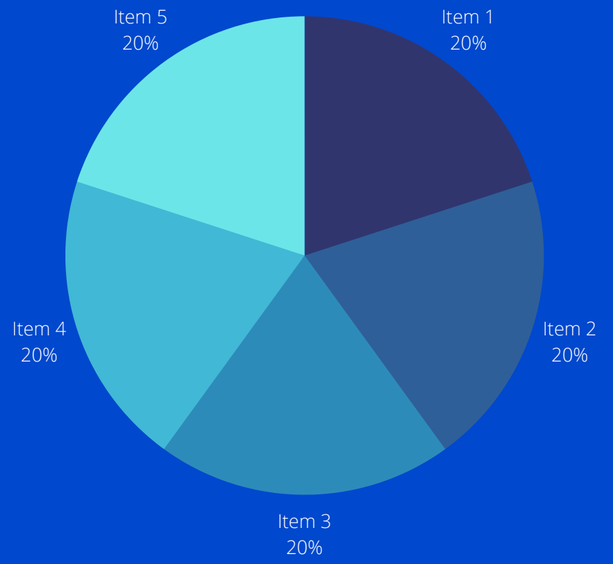
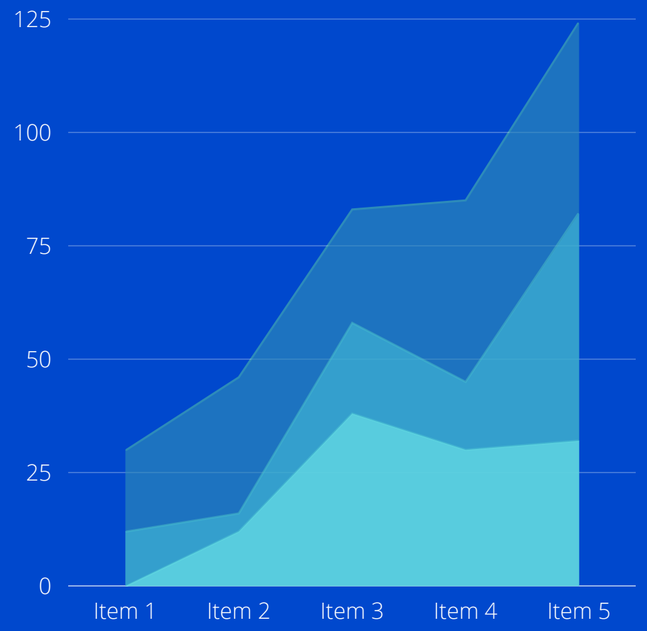
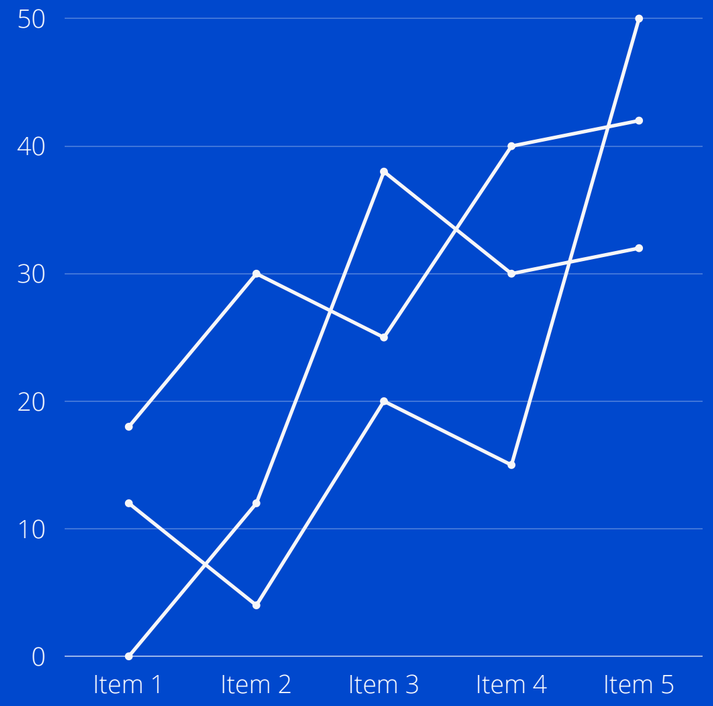


ML & DL Algorithms

Algorithm generation and model training. Graph Generation, Future pattern Prediction, region wise, timewise, with data classification and analysis.







4 Data Visualization

Data Viewed, graphs, tables, predictions in our Website

TECH STACK

Description of the entire tech stack to be used in this project.

This entire project will be built and deployed using MICROSOFT AZURE SERVICE . we plan to build this project locally on our system with MICROSOFT VISUAL STUDIO COMMUNTIY 2019 and AZURE CLOUD SERVICES.

TECH STACKS TO BE USED

Frontend of the website

HTML , CSS , JAVASCRIPT , BOOTSTRAP, Hosting using Azure Storage

Backend of the website

Azure function API for Python framework - Django , AZURE Postgres Services

DATABASES

AZURE database for PostgreSQL
OR AZURE Cosmos DB

ML and DL

PYTHON , PyTorch, Azure Machine Learning Studio, Azure Datascience VM

WORKFLOW

FRONTEND

Design UI/UX
for prototype

Landing page

Login signup page

Dashboards for
oxygen and
vaccination

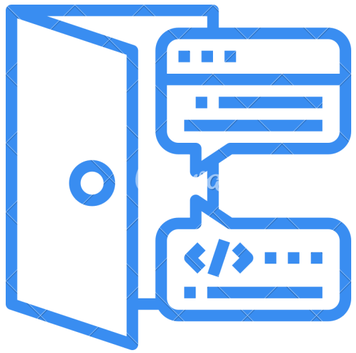
BACKEND

User authentication

User information
management

Webpage content
management

SEO optimiztion



DATABASE

Data and
resource collection

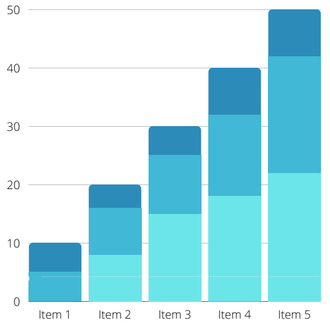
Sorting out the
data according
to regions/states

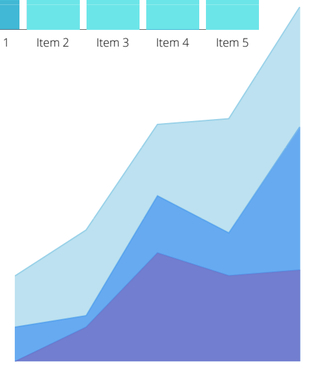
Create and fill oxygen
and vaccination table
using postgres

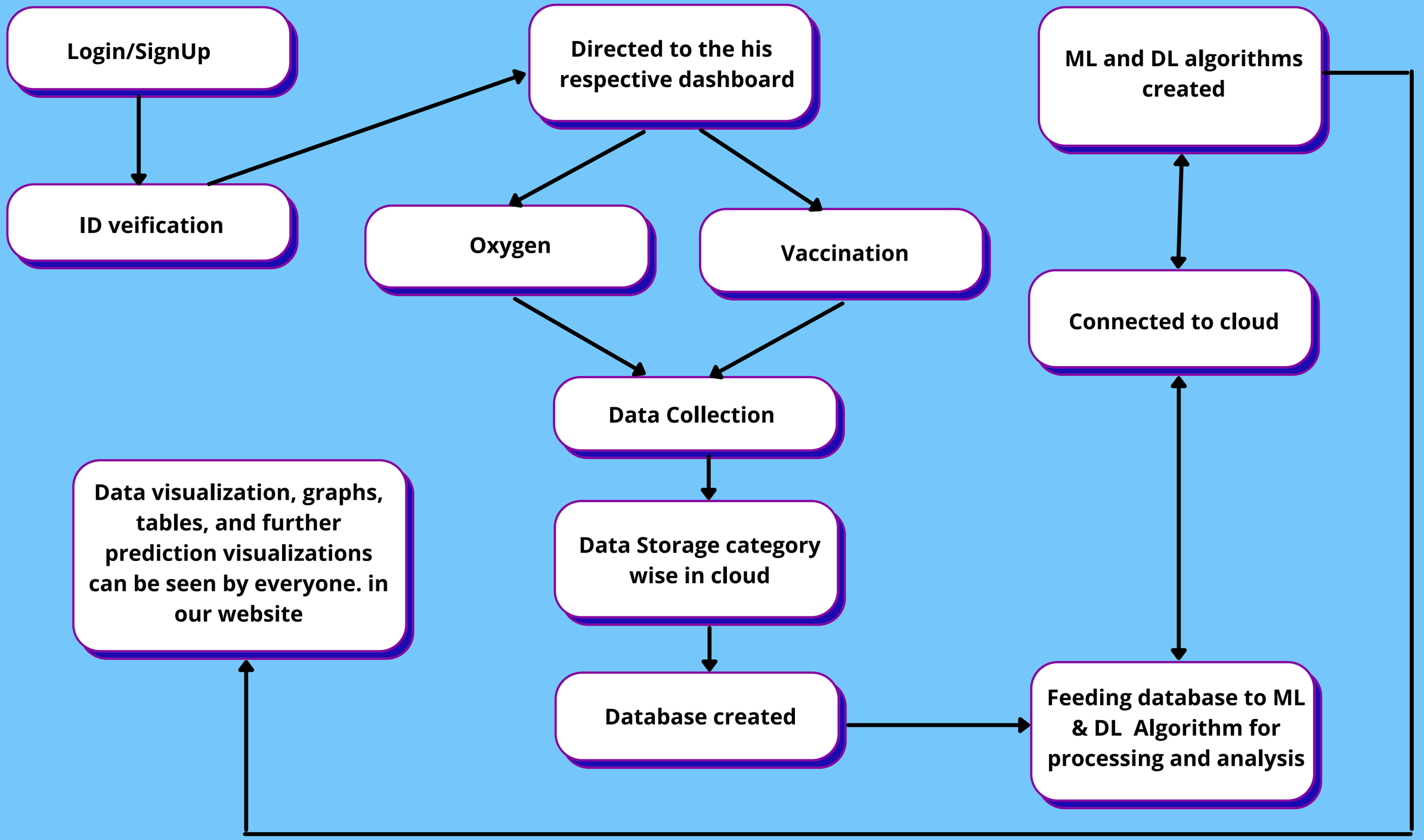
ML AND DL

Algorithm generation
and model training

Graphical prediction






Login/SignUp
ID veification
Directed to the his respective dashboard
Oxygen
Vaccination
Data Collection
Data Storage category wise in cloud
Database created
Data visualization, graphs, tables, and further prediction visualizations can be seen by everyone. in our website
Feeding database to ML & DL Algorithm for processing and analysis
Connected to cloud
ML and DL algorithms created

ADVANTAGES

- Provide a huge database store information about all the resources that are available in the country and being used to treat patient, hence in a way promote effective covid resources management.

- The Ml model will help in better prediction of the needs to deal with the present and future situation , thus help to come up with an efficient way to assess and address the situation better.

- The general users will be able to know about the available covid resources in their localities and register to avail those resources like vaccine and oxygen when needed. They will be assigned an e-certificate/e-token for each of the resources that they have availed for , hence making the entire management process more efficient.

THANK YOU