

Project 2

ALIVE

IEEE WIE

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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.

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OXYGEN PROBLEM

There is a huge lack of Oxygen today, due to lack of efective planning and mismanagement of the Oxygen Resources. Our solution aims to solve that. So there will be proper, calculated and effective distribution of Oxygen to all hospitals, nursing homes, shops, pharmacies etc. Any shortage to come, will be reflected before hand in our system for preparation and prevention.

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VACCINATION PROBLEM

There are several lines and queues for vaccine in he hospitals. People are not getting vaccines even after waitng for so long. This is also increasing infections.
Our projects aims to provide the transparent datas about howmuch vaccine has arrived, is being manufactures, istrributed how much where which state recieves, hospitals recieve how much, how many vaccinations can they do in one day etc.

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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

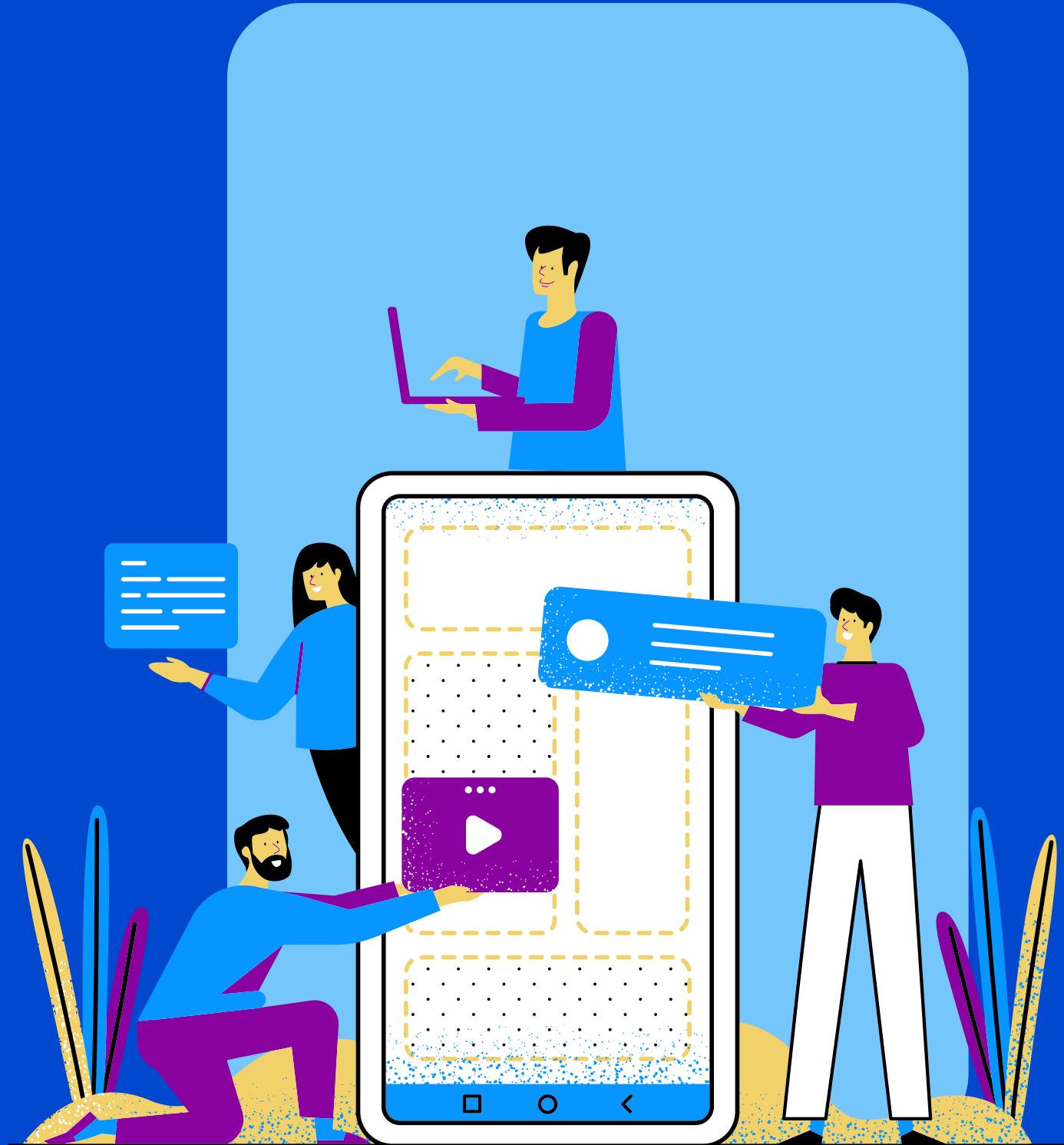
DATA TO GRAPHS AND PIECHARTS AND TABLES

ML and DL

DATA FEEDED TO MACHINE LEARNING AND DEEP LEARNING ALGORITHMS TO
PREDICT FUTURE AND PRESENT CONDITION.



1



Our Website

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

NEXT ➔

HOME PAGE

ALIVE

HOME ABOUT USERS LOGIN SIGNUP



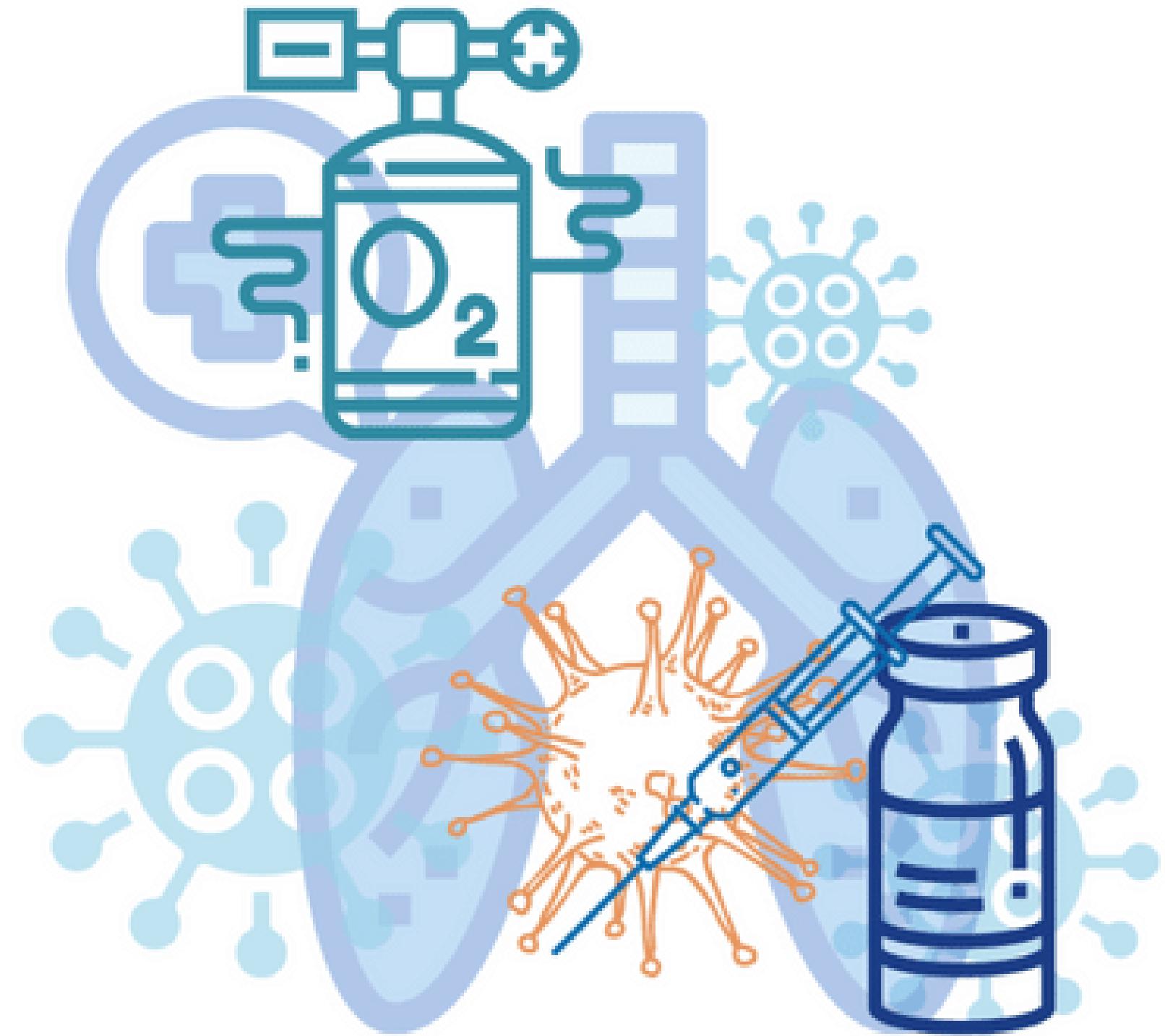
ABOUT US PAGE

about us

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users

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manufacturers

oxygen manufacture
[click here](#) to go to dashboard

vaccine manufacturer
[click here](#) to go to dashboard

[oxygen manufacturer](#)

[vaccine Manufacturer](#)

Distributors

oxygen distributer
[click here](#) to go to dashboard

vaccine distributer
[click here](#) to go to dashboard

[oxygen distributer](#)

[vaccine distributer](#)

Importers

oxygen importers [click here](#) to go to dashboard

vaccine importers [click here](#) to go to dashboard

[oxygen importers](#)

[vaccine importers](#)

Hospitals

To access and maintain oxygen database [click here](#).
Lorem ipsum dolor sit amet consectetur adipisicing elit. Tempore laboriosam quis

[oxygen database](#)

Hospitals

To access and maintain vaccine and vaccination database
[click here](#)

[vaccine database](#)

Vaccination centres

To access to vaccine and vaccination database [click here](#)

[vaccine database](#)

General Users

To get access to dasboard. Lorem ipsum dolor sit amet
[click here](#)

[user's dashboard](#)

Indigeneous

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[Indigeneous](#)

Services

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lorem ipsum
lorem ipsum

About

Company
Team
lorem ipsum

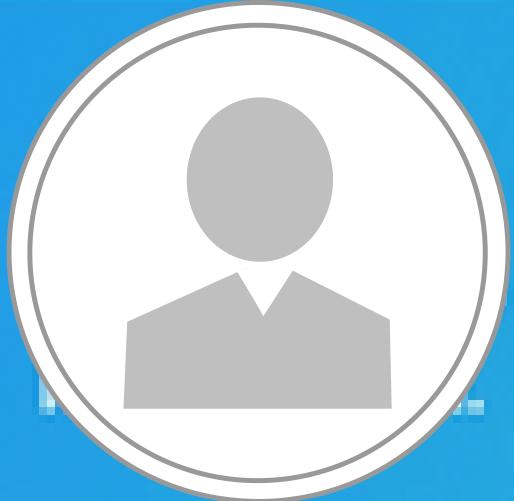
ALIVE

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USER SECTION

This section helps user to get access of their respective dashboards based on the user's type



It's faster with Facebook,
or Google, but email
works too.

[Can't login?](#)

Login or Signup

Facebook

Google

With Email:

Email

Password

[Login or Signup](#)

LOGIN
SIGNUP

ID verification

OTP system

Email Verification

Signup Form
It's quick and easy.

CodingNepal

codingnepalweb@gmail.com

Signup

Already a member? [Login here](#)

OTP Verification

We've sent a verification code to your email - codingnepalweb@gmail.com

Enter verification code

Submit

LOGIN PAGE



Login

user type

Phone Number

[click here](#) to generate OTP

OTP

[Submit](#)

Don't you have an account? [Sign up](#)

ALIVE

Registration



user name

User Category

Individual Address

Phone Number

Email Address

For Company /Industry People

Industry/Company Name

Company Id/Govt. Provided Permission:

Choose File No file chosen

Company Type

Company Address

City / District

This is item 1

Pin code

Company's Phone Number

Company's Email Address

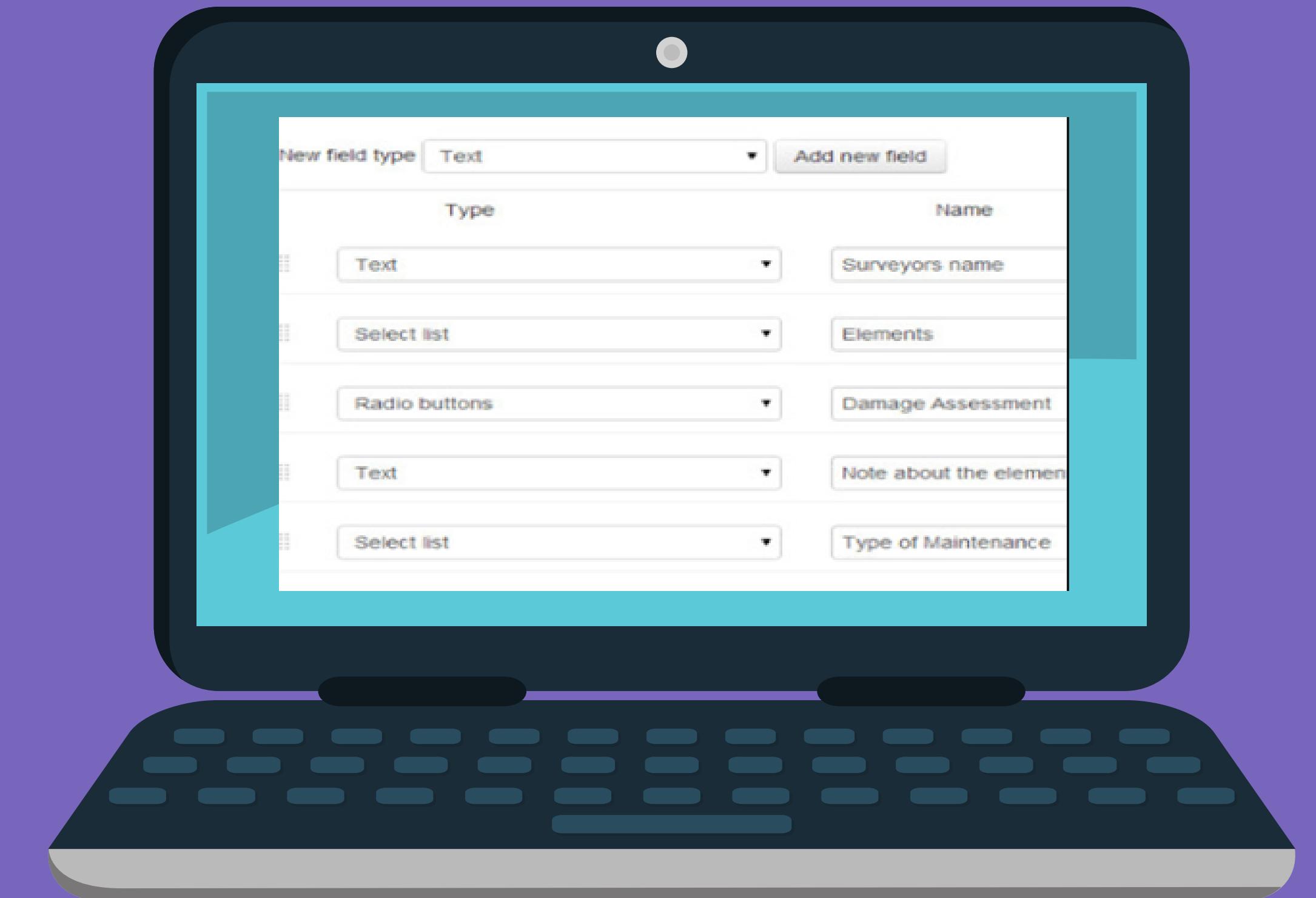
Submit

Already have an account? [Login](#)

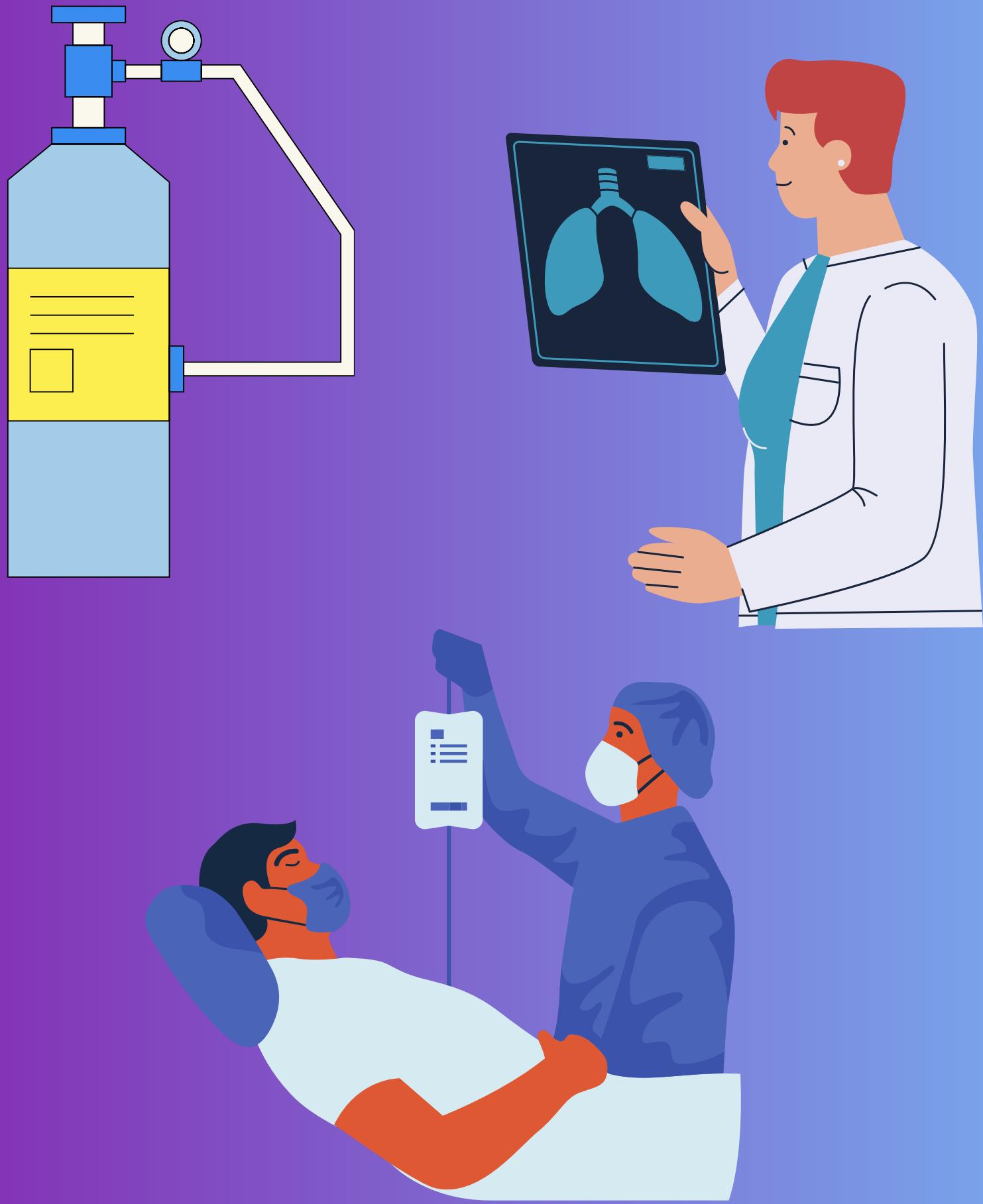
SIGN UP PAGE

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 collected and
stored.



The questions listed in the next slides are preliminary prototype based questions, more research 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:

Distributors:

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:

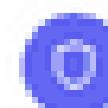
Oxygen cylinders:

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:

The questions in the previous slides are just simple example questions and not the real questions which will be asked.

**The real questions have been put in the website we built.
The question bank is huge considering that we considered all aspects of Oxygen and Vaccine Production and Supply Chain Management and we have put that in the website we created.**

The questions have been framed after a lot of research.

**STEP 1**

Fill the basic details of your industry/company.

**STEP 2**

Fill in details of the type and quantity of Oxygen you produce and distribute.

**STEP 3**

Fill in details about the products other than Oxygen that you manufacture.

**STEP 4**

Fill in details of distributors and areas of distribution.

**STEP 5**

You will receive an email of your responses.



BASIC DETAILS

Industry/Company Name:

Enter Industry name

Location:

Contact Email ID:

Type of Company:

Your Name:

Your Email ID:

TYPES OF MANUFACTURE

What does your Industry Manufacture (Final product)? (Check all that apply)

- Industrial Gaseous Oxygen
- Industrial Liquid Oxygen
- Medical Gaseous Oxygen
- Medical Liquid Oxygen
- Vacuum Insulated Evaporator
- Oxygen Concentrators
- Industrial Oxygen Cylinders
- Medical Oxygen Cylinders
- Oxygen Tankers
- Nasal Cannula
- Simple Face Mask
- Partial Rebreather
- Drymask
- Nasal
- Bag Valve Mask
- Non rebreather
- Nasal Catheter
- Flow Meter

INDUSTRIAL GASEOUS OXYGEN

Quantity in M tonnes:

Quantity

Quantity distributed as Medical Oxygen in M tonnes:

Quantity

Type of Distribution:

Internal



(Incase of External Distributor)

Name of Distributer Company:

Enter name of Distributer

Areas of distribution:

State:

City:

Specific Area

State:

Specific Area:

Add New

INDUSTRIAL LIQUID OXYGEN

Quantity in M tonnes:

Quantity

Quantity distributed as Medical Oxygen in M tonnes:

Quantity

Type of Distribution:

Internal



(Incase of External Distributor)

Name of Distributer Company:

Enter name of Distributer

Areas of distribution:

State:

City:

Specific Area

State:

Specific Area:

Add New

MEDICAL GASEOUS OXYGEN

Quantity in M tonnes:

Quantity

Quantity distributed as Medical Oxygen in M tonnes:

Quantity

Type of Distribution:

Internal

(Incase of External Distributor)

Name of Distributer Company:

Enter name of Distributer

Areas of distribution:

State

City

Specific Area

State:

Specific Area:

Add New

MEDICAL LIQUID OXYGEN

Quantity in M tonnes:

Quantity

Quantity distributed as Medical Oxygen in M tonnes:

Quantity

Type of Distribution:

Internal

(Incase of External Distributor)

Name of Distributer Company:

Enter name of Distributer

Areas of distribution:

State

City

Specific Area

State:

Specific Area:

Add New

Waste Generated

Quantity per day produced:

Quantity

Quantity distributed for Medical use per day:

Quantity

Average Capacity of each (in L):

Quantity

Average Capacity of each (in L)/Quantity distributed (per day)= Quantity of Oxygen capacity:

Quantity

Type of Distributors:

Internal

(Incase of External Distributor)

Name of Distributor Company:

Enter name of Distributor

Areas of distribution:

State:

City

Specific Area

State:

Specific Area:

Add New

Oxygen Concentration

Quantity per day produced:

Quantity

Quantity distributed for Medical use per day:

Quantity

Average Capacity of each (in L):

Quantity

Average Capacity of each (in L)/Quantity distributed (per day)= Quantity of Oxygen capacity:

Quantity

Type of Distributors:

Internal

(Incase of External Distributor)

Name of Distributor Company:

Enter name of Distributor

Areas of distribution:

State:

City

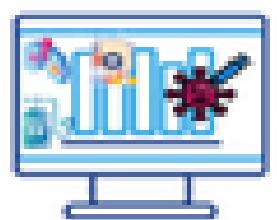
Specific Area

State:

Specific Area:

Add New

So in this way we have a lot of qiestions and criterias to be filled by the manufacturers of Oxygen



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About Us Themes Timeline Prizes Sponsors Contacts



STEP 1

Fill the basic details of your industry/company.



STEP 2

Fill in details of the type and quantity of Oxygen you produce and distribute.



STEP 3

Fill in details about the products other than Oxygen that you manufacture.



STEP 4

Fill in details of distributors and areas of distribution.



STEP 5

You will receive an email of your responses.



BASIC DETAILS

Hospital/Nursing Home Name:

Location:

Select State

Contact Email ID:

Type of Company:

Government/Public

Your Name:

OXYGEN STORAGE TANK

Available:

Yes

Number of Tanks:

Number of Tanks

Capacity of Tanks:

Capacity of Tanks

Capacity of Tanks* Number:

Total Oxygen Capacity

Quantity of Oxygen required per day:

Quantity

Number of patients served approximately each day:

Number

So in this way we have a lot of questions and criterias to be filled by the Reciever/Hospitals of Oxygen



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- STEP 6**
You can view graphs/statistics on our home page.



BASIC DETAILS

Distributor Industry/Company Name:

Enter industry name

Location:

Select State

Contact Email ID:

Enter company email

Type of Company:

Government/Public;

Your Name:

Enter your name

Your Email ID:

Enter your emailID

Distributors of:

Name:

Quantity:-

Add New

Region of main Distribution of Oxygen:

State:

City and area:

DISTRIBUTION

What does your Company Distribute? (Final product) (Check all that apply)

Temporary filled Oxygen Tankers (To supply oxygen to the hospitals)

Number of Tankers leaving per day:

Number of Tankers leaving

Capacity of each (in MT):

Capacity in MT

Capacity of each (in MT) * Number of Tankers leaving per day:

Total quantity of oxygen distributed

Trucks containing Filled Oxygen Cylinders

Number of Trucks leaving per day:

Number of Trucks leaving

Average Number of Cylinders in each:

Capacity

Average Capacity of each Cylinders:

Capacity

Average Capacity of each cylinder * Number of Cylinders in each truck * Number of Trucks leaving per day:

Total quantity of oxygen distributed

Trucks containing Oxygen Equipments

If other Equipments, what are the equipments:

Name:

Quantity:

**So in this way we have a lot of questions and
criterias to be filled by the Distributors of
Oxygen**



VACCINATION

Manufacturers:

1. Name of organisation:
COVISHIELD
COVAXIN
SPUTNIK
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:
COVISHIELD
COVAXIN
SPUTNIK
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



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-  **STEP 1**
Fill the basic details of your industry/company.
 -  **STEP 2**
Fill in details of the type and quantity of Oxygen you produce and distribute.
 -  **STEP 3**
Fill in details about the products other than Oxygen that you manufacture.
 -  **STEP 4**
Fill in details of distributors and areas of distribution.
 -  **STEP 5**
You will receive an email of your responses.
 -  **STEP 6**
You can view graphs/statistics on our home page.



**BASIC DETAILS****Name of organisation:****Location:****Contact Email ID:****Type of Company:****Your Name:****Your Email ID:****Name of Distributors on their main Region of Distribution with name of Hospitals(separated by commas):****Name of Distributor:**

State:**City:****Hospital Name with Address:**

Add New**VACCINES MANUFACTURED****Which vaccines do you produce and quantity per day and distributed quantity per day? (Check all that apply)****COVAXIN** Quantity Quantity Distributed**COVISHIELD** Quantity Quantity Distributed**SPUTNIK V** Quantity Quantity Distributed**AstraZeneca** Quantity Quantity Distributed**EFPIA-BioNTech** Quantity Quantity Distributed**J&J Johnson & Johnson** Quantity Quantity Distributed

127.0.0.1:8000/VaccineDistributers

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STEP 6
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DISTRIBUTION DETAILS

Name of Distribution organisation:

Enter industry name

LOCATION:

Select State

Contact Email ID:

Enter company email

Type of Company:

Government/Public

Your Name:

Enter your name

Your Email ID:

Enter your emailID

Main Region of Distribution with name of Hospital/Centres:

Name of sub-Distributor(if any):

State:

City:

Hospital/Centre Name with Address:

Vaccine distributed to them:

Add New

VACCINE DISTRIBUTED

Which vaccines do you distribute per day and distributed quantity per day?
(Check all that apply)

COVAXIN

Quantity

COVISHIELD

Quantity

OIVUTIVEK V

Quantity

AstraZeneca

Quantity

Pfizer-BioNTech

Quantity

Johnson & Johnson

Quantity



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Name of Centre/Community/Hospital

Address

Email ID

Phone number

What Vaccine? (Check all that apply):

COVAXIN

COVISHIELD



Total Amount of Vaccine per day present?

Number of staffs involved in vaccination?

Number of staffs involved in vaccination?

Approximately how many people can be vaccinated in one day?

Number of people called in today's slot for vaccine?

Number of People arrived?

How many first dose?

first dose

Put down the author nos of the first dose people who are vaccinated:

Author numbers 1st dose:

Add New

How many second dose?

second dose

Put down the author nos of the second dose people who are vaccinated:

Author numbers 2nd dose:

Add New

Total Number of people Vaccinated?

Total



VaccineAlive

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- STEP 6**
You can view graphs/statistics on our home page.



Enter your patient information:

Name:

DOB:

Location:

Contact Email ID:

Contact phone number:

Mother Number:

Age:

Vaccination Type:

Center Name:

Date of birth (in years):

Date of taking first dose:

Date given for second dose:

Upload first dose certificate downloaded from covid site:

No file chosen

Select from Google Sheets:

Name:

DOB:

Location:

Contact Email ID:

Contact phone number:

Mother Number:

Age:

Vaccination Type:

Center Name:

Date of birth (in years):

Date of taking second dose:

Upload first dose certificate downloaded from covid site:

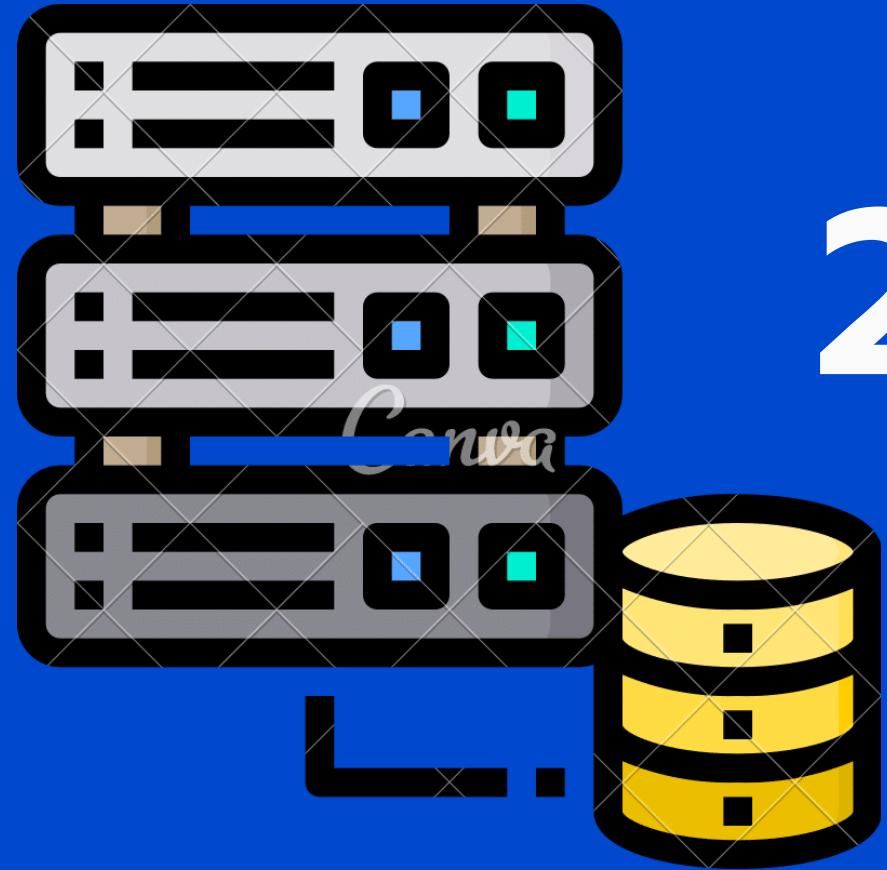
No file chosen

Upload second dose certificate downloaded from covid site:

No file chosen

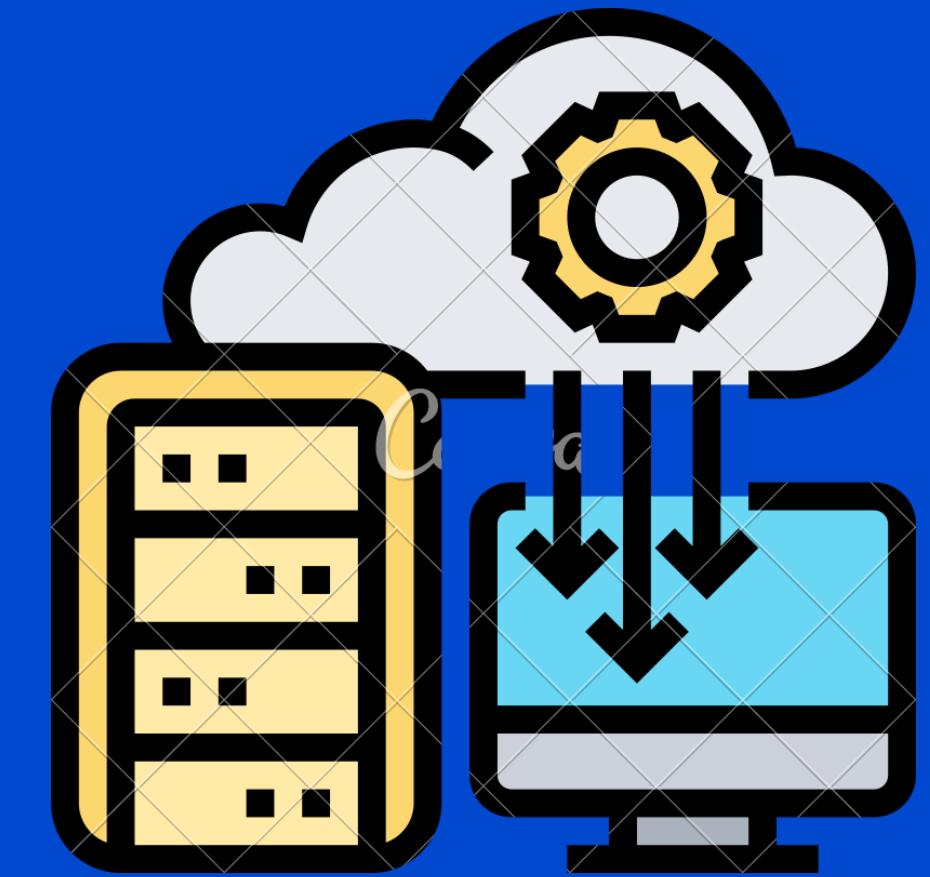
E-TOKEN SYSTEM for people who have completed vaccination



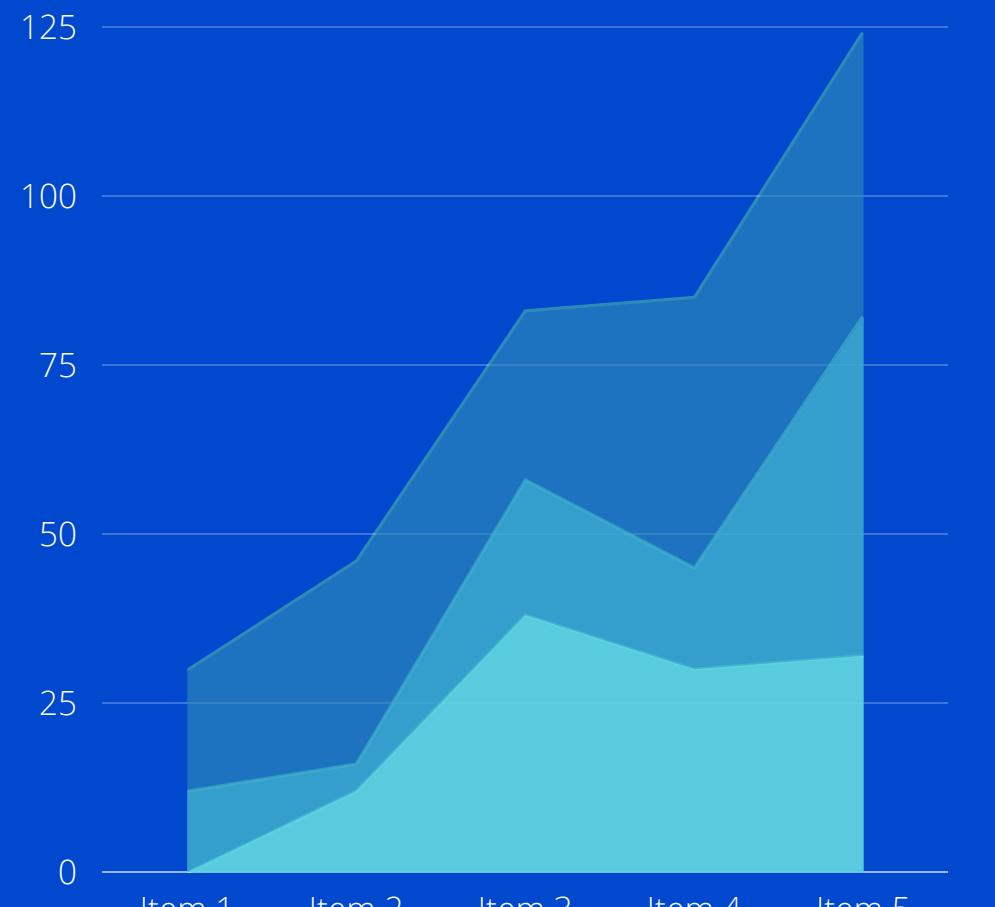
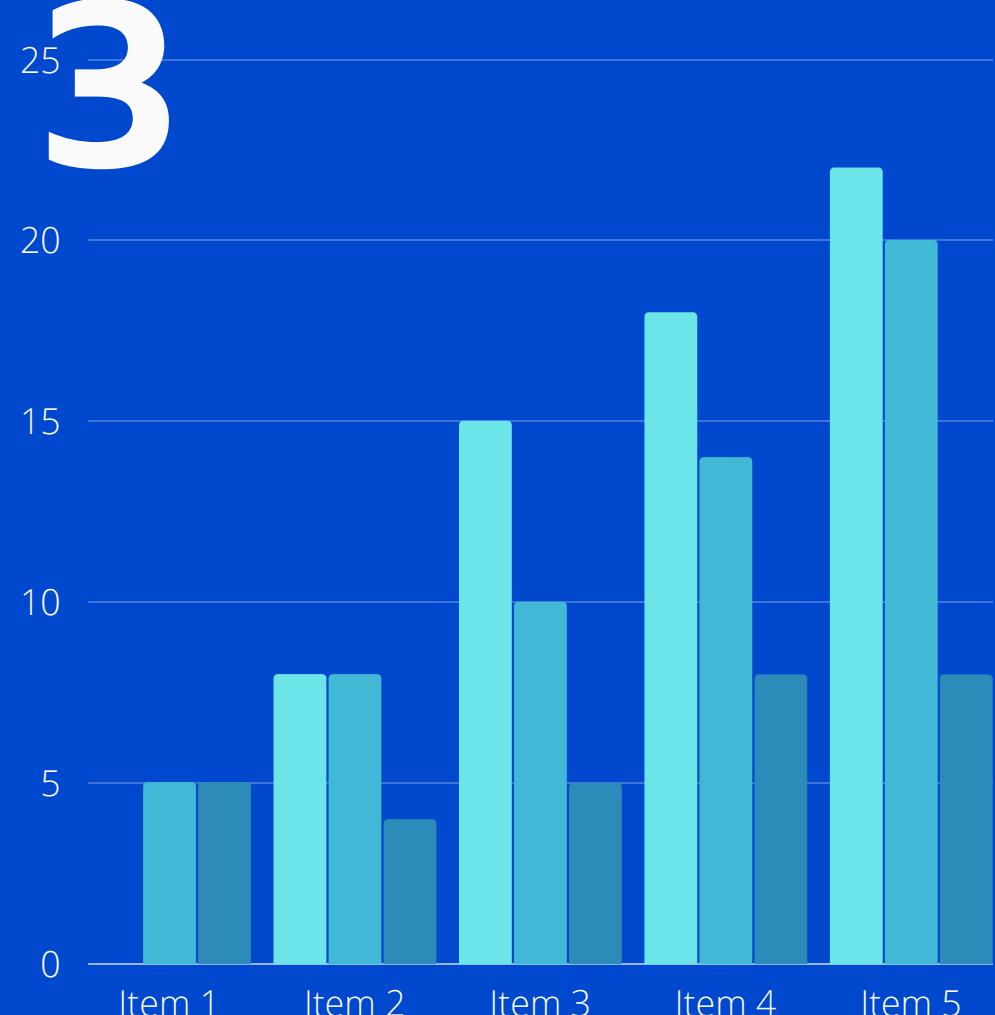


2 Cloud data Storage

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

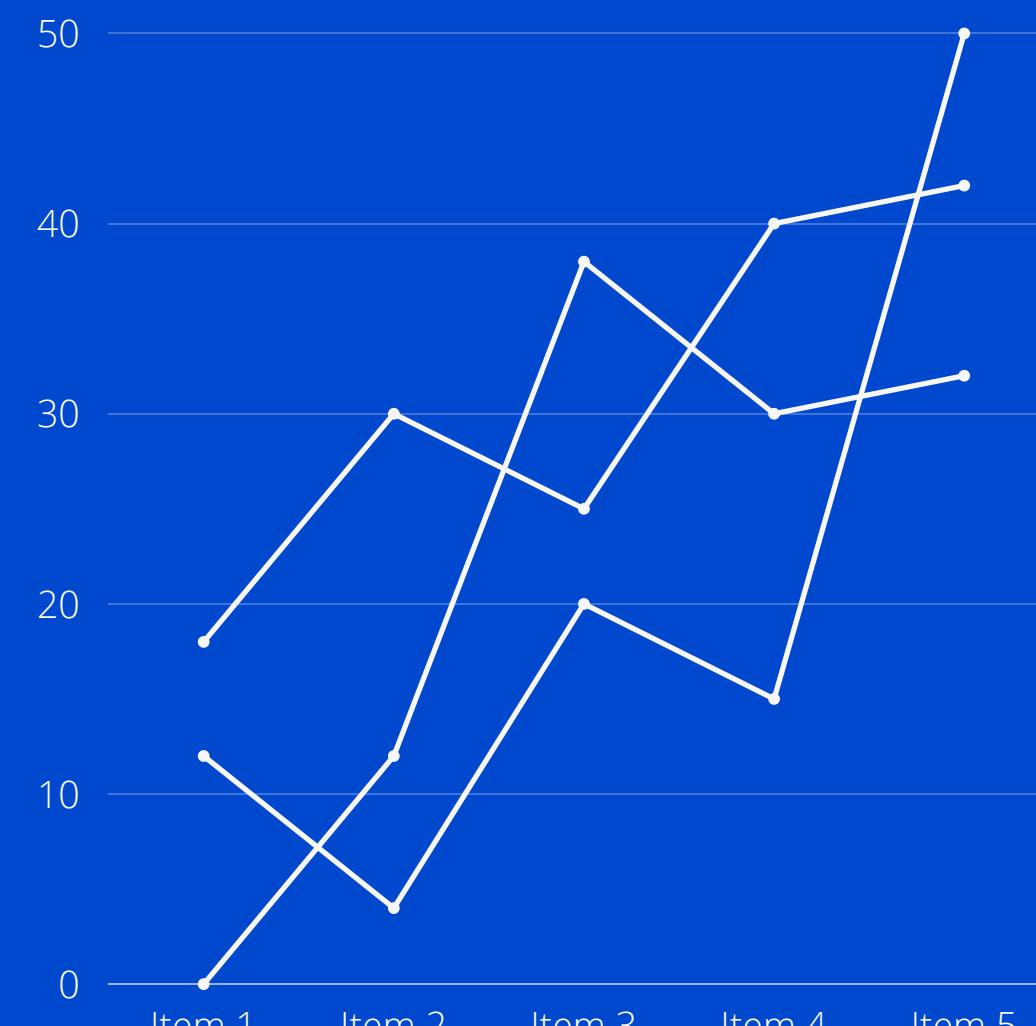
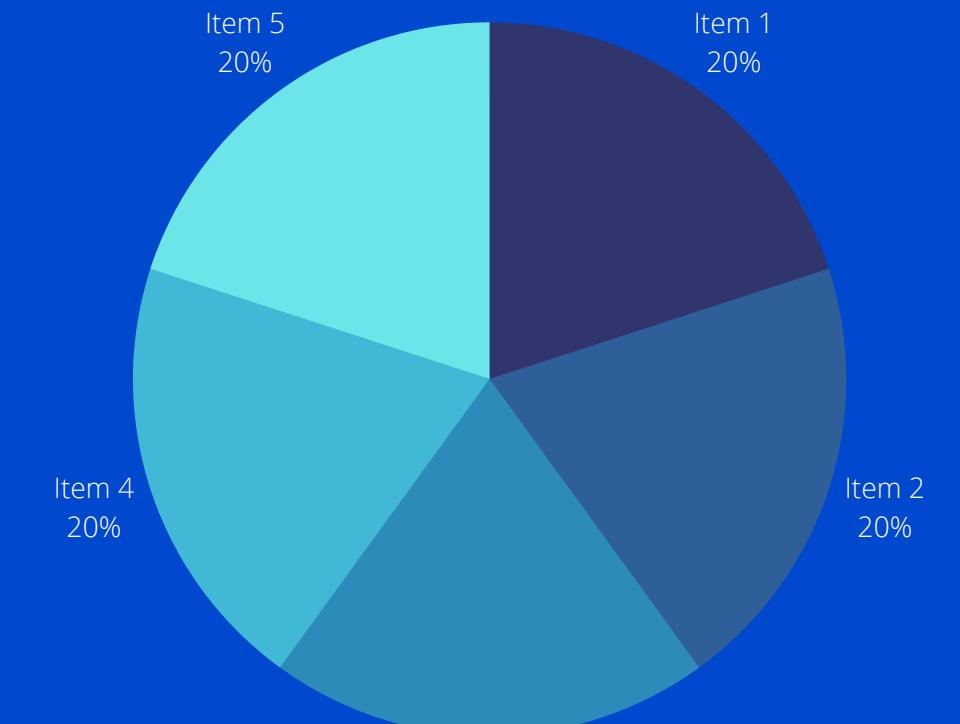


3



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.

We plan to build this project locally on our system with MICROSOFT VISUAL STUDIO COMMUNITY 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



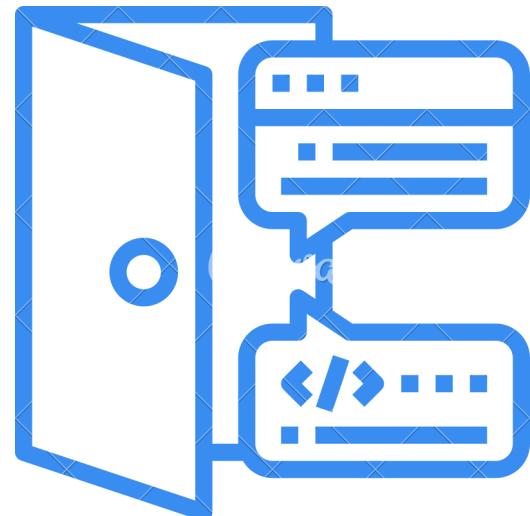
BACKEND

User authentication

User information
management

Webpage content
management

SEO optimiztion

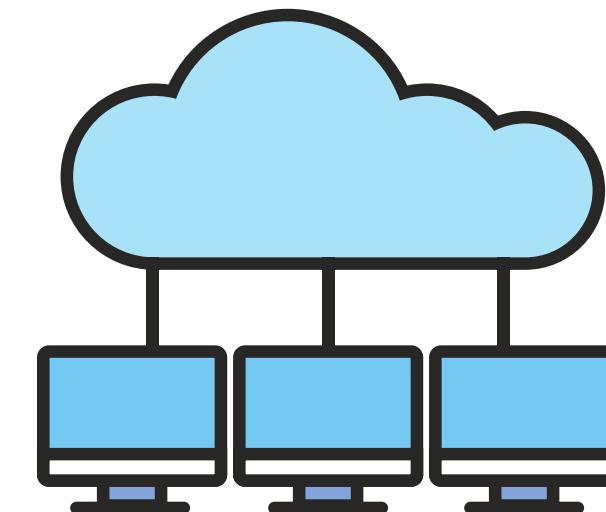


DATABASE

Data and
resource collection

Sorting out the
data according
to regions/states

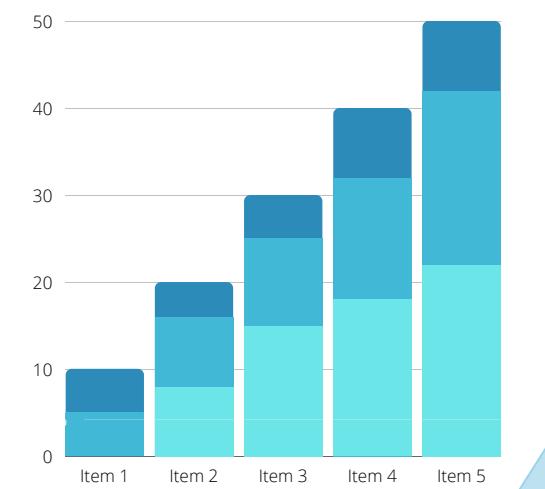
Create and fill oxygen
and vaccination table
using postgres

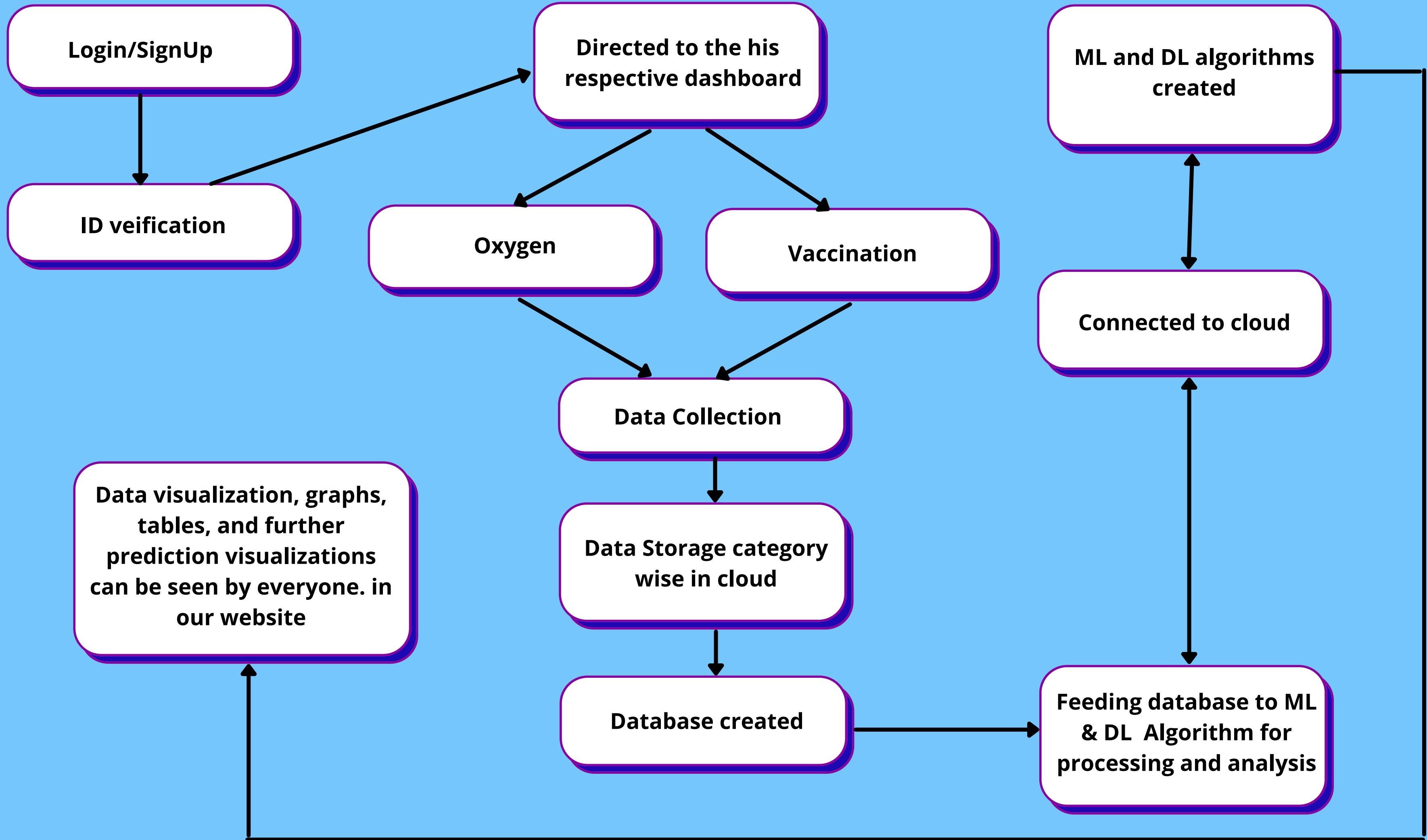


ML AND DL

Algorithm generation
and model training

Graphical prediction





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.

What we learnt

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

We learnt everything using Youtube and various Documentations.

Github Link

A-GHOSH-dev/
Alive_MicrosoftAzureDe...



2 Contributors 0 Issues 0 Stars 1 Fork

 GitHub

A-GHOSH-dev/Alive_MicrosoftAzureDeveloperLeagueHack
Contribute to A-GHOSH-dev/Alive_MicrosoftAzureDeveloperLeagueHack development by creating an account on GitHub.
 GitHub

https://github.com/A-GHOSH-dev/Alive_MicrosoftAzureDeveloperLeagueHack

Roles

Ananya Ghosh-

Research on the Oxygen/Vaccine Production and Supply Chain Management, Framing the questions, Making the pages for each type of users with the questions (Frontend+Backend)

Muskan Samantaray-

Research on the technical aspect of project execution, Tech stack, Project deployment process, Home page, login/signup, authentication (Frontend+Backend)

We are yet to deploy the ML part of the project. This is a huge research based project and requires huge dataset preparation and research. We are done with the frontend and backend mostly. But ML is on its way to deployment. We have all hings prepared and will deploy the ML part just after our FATs

THANK YOU