Pandemic management Database from Govt. side

Prepared by

Group S1_T6

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FINAL SRS

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1. Introduction

1.1 Purpose:

The pandemic situation not only damages the health of the people but also the essentials which are in need of the current situations, for example the finance, the tension between community and countries. the live A database system would be designed for a pandemic management system by Government and for the Government.This system will provide all the necessary information to government in the fight against pandemic also the relative information the all the departments mentioned in the portal along with the private sectors, healthcare workers and suppliers of food and necessary products in order to minimize damage caused by the situation created by the pandemic.This system will provide a base for correlation among Healthcare Department, Police Department, Finance sector, Transport sector, Central Government, State Government, Private sector members, food and necessary product suppliers and common people. The synchronisation of all the departments of the government along with medical workers and co-workers to control the effects of the pandemic.

1.2 Intended Audience and Reading Suggestions:

Intended Audience:
- Common people
- Government
- Healthcare workers
- Police
- People from business & supply management
- NGOs
- Analysts.

Reading suggestions:
- https://www.nhp.gov.in/
- https://www.worldometers.info/coronavirus/country/india/
- https://covidlawlab.org/
- https://www.covid19india.org/

- https://www.mygov.in/corona-data/covid19-statewise-status/
- https://covidindia.org/
- NEWS channels, e-newspapers

1.3 Product Scopes:

- COVID-19 related news and announcements
- Ration/Food supply management
- Migrants management
- COVID management analysis
- COVID-19 spread related information (Lockdown & Healthcare)
- Propaganda spread during COVID-19
- Most affected areas (Health care & Economy)

1.4 Problem Description:

The pandemic caused by the COVID-19 has taken 1 million lives across the globe and increasing, the economy has collapsed brutally and many people have lost their jobs and financial support, the hospitals are flooded by the patients. Special thanks to the Indian government to prevent yourself from deadly viruses and preventing millions of lives by imposing a lockdown and curfew. But as a result the economy collapsed by -23.9% in the first quarter. But in countries like the U.S., Malaysia, the situations are worse, they chose the economy over health and they lost more lives and couldn't save the economy too. The coronavirus pandemic is slowing global commerce to a crawl, but many of the world's largest economies are taking extraordinary actions to propel them through the crisis. The population's density in Japan and India are approximately the same. But in japan people accept lockdown by themselves but in India , some places people do not follow lockdown so the increasing rate of corona in India is higher than Japan. In India, some places people were not aware of the government's complete guideline.

In A country like India the efforts made by the government are fascinating but not good in terms of migrants workers and economy. And in some states the health care has also not worked as per the situation.

For example the hospitals in Maharashtra are flooded with covid patients and the health care seems to have collapsed as the 33% deaths and 20% of the total cases are from Maharashtra. Now the doctors in those areas are getting into a trauma and panicking conditions made by the virus. Also the communication between the states, departments and healthcare workers also the police department didn't happen so cooperatively and the lack of communication lead to mismanagement in the field of industries and private sectors. So the right set of steps get the minimum damage from the situation caused by the pandemic. In India the total lockdown is a good solution but not the optimal solution as the COVID-19 spread is different in different regions. The metro cities need to have more attention from the government because of having high population density. Also the area where the population is less dense, the economical restrictions should be decreased so that they can produce the best of the possible and prevent from economical damage.

In India many industries are situated far away from the metro cities just because of environmental laws imposed years back. So there was an advantage to reduce the damage to the finance of the country but the necessary steps were neither taken nor observed hence we see the worse consequences of the economy and unemployment. Our pandemic management system will take this in account and analyse to get the least damage by the pandemic and also guiding the government to the issues and the possible solutions.Because of corona government have to take decision and have to declare a lockdown and because of lockdown many people have lost their jobs. Also some people even don't get food for eating.The situation is very worse. Many companies hire freshers for job but because of corona and lockdown they are at a loss.So companies fired freshers from job.The corona pandemic has brought hunger to millions of people around the world. National lockdowns and social distancing measures are drying up work and incomes, and are likely to disrupt agricultural production and supply routes — leaving millions to worry how they will get enough to eat.

That's why a database has been created to maintain a record of the corona pandemic news and it's requirements like communication and coordination of different departments, also the financial management,

public health, and specially the migrants and food - medicine supply.The system also monitors what steps the government takes for people during the pandemic and also guides to some problems. We have also included data about currently active corona cases and some economic analysis. This system can automate the record keeping work. It can prove to be highly effective and secure to successfully manage the situations created by the pandemic and reduce the damage. This database is also useful for civilians to know about covid-19 and also useful for spreading awareness of corona pandemic.

According to experts,this hunger crisis is global and caused by a multitude of factors linked to the coronavirus pandemic and the ensuing interruption of the economic order:
- the sudden loss in income for countless millions who were already living hand-to-mouth
- the collapse in oil prices
- widespread shortages of hard currency from tourism drying up
- overseas workers not having earnings to send home
- Ongoing problems like climate change, violence, population dislocations and humanitarian disasters.
- The pandemic could result in 7 million unintended pregnancies, the UN warns.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow). The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from

infection by washing your hands or using an alcohol based rub frequently and not touching your face.

Many countries are trying to find the corona vaccine. But until the corona vaccine is found, experts say using masks and sanitizers we can fight against corona and we have to work during corona. Now all the fields are started. But some restrictions are there for avoiding corona. In cricket also they prohibit spectators from coming to see matches on the ground and bowlers cannot use saliva on the ball etc.Also in many places like hospitals, schools, temples we cannot enter without masks.

The first set of nouns can be the information related to the common people. That could be the news, special laws and all the decisions by the government and the related departments of the government. The effect of pandemic could also be mentioned in the first set of nouns. So there is the column of either an information page or the announcement and the comment related to it. Also the order of importance can be a measure to see how important the information is. In the covid pandemic time, we should also add the news related to the covid cases. But that can also be disintegrated into the columns mentioned above. We also need to keep track of the fake news spreaded. So to aware the people about the fake news, there will be a team for correcting those and all the users will also be given privilege to report fake news spreaded, but that will be on another set. On the other hand we can also have some columns related to the news's category, the department, and the number of reports.

The second set of nouns can be the information related to the users.The user will have privilege to see the respective data/information also to raise an issue or report false information.This set of nouns will consist of the general information about the user, the number of reports that they have done, number of issues raised, any spam and management related information about the user (spam or spreading false narrative). The state of the user (Active/Passive/Blocked). Do they have any experience of migration during the pandemic time. The third set of nouns can contain issues and reports raised by the users. That will contain the user id related to the report/issue, the type, and the

registration type, the action and result. The fourth set of nouns will contain information about the migrant workers and supply chain of essential information.

2. Fact Finding Face

2.1 Background Readings:

Descriptions:
- Website:
  https://healthmanagement.org/s/pandemic-legal-database
- Video:
  Lockdown- India Fights Coronavirus
  https://www.hotstar.com/1260027143

'The COVID-19 Law Lab is a joint project of the United Nations Development Programme (UNDP), the World Health Organization (WHO), the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the O'Neill Institute for National and Global Health Law at Georgetown University. It will create, manage and share a database of legal documents from more than 190 countries. This collection is aimed at helping national authorities to establish and implement efficient legal frameworks in relation to the pandemic and ensuring that international human rights standards are upheld.

Well-designed laws are critical for effective implementation of the WHO International Health Regulations: surveillance; infection prevention and control; management of travel and trade; and implementation of measures to maintain essential health services. They are also key to national COVID-19 responses, according to Dr Tedros Adhanom Ghebreyesus, WHO Director-General. "Laws that impact health often fall outside the health sector. As health is global, legal frameworks should be aligned with international commitments to respond to current and emerging public health risks. A strong foundation of law for health is more important now than ever before," he says.

The COVID-19 Law Lab database includes state of emergency declarations, quarantine measures, disease surveillance, legal measures relating to mask-wearing, social distancing, and access to medication and vaccines, adopted by various states. Research on pandemic-related legal frameworks is also to be featured, including in areas such as human rights, public health laws, COVID-19 best practices and socioeconomic recovery. This work is based on the UHC Legal Solutions Network aimed at providing legal foundations for achieving universal health coverage.

Lawmakers from around the world are invited to contribute to this new set of laws that is constantly growing, which would help to prevent stigma, discrimination, further harm to marginalised populations, or negative impact on the implementation of the pandemic response strategies.'
From https://healthmanagement.org/s/pandemic-legal-database

From this we can explain the need across the globe and their solutions. But here in India, due to higher population density some of the requirements are not necessary and some other requirements need to be emphasised such as migrant workers and food supply. Here most of the human right related objectives are covered but for a country like India and with higher population density, we need not worry much about human rights but more of a public healthcare because there are more chances of spreading the virus and infectants. Also the essential areas must not get higher or permanent damage by the pandemic like the economy. For that many other departments need to work accordingly and cooperatively also with other field members like private and healthcare workers. So our major task is to build strong connections with all these departments. So our main task is to address problems to the respective departments and the announcements to all the other people along with other departments. For example the shifting of migrant workers leads to the coordination of transportation departments(IRCTC & XSRTC X=respective state code), the police force, the healthcare system, finance department and other NGOs. So all the issues raised by

the migrant workers need to be presented to all of these departments and build a strong communication between the departments so that they can form a strong coordination to resolve the issue.

Also the different departments will get the relative information about their field. For example, the healthcare department will get the information about the people in there area who are affected by the virus, some special(health care) needs like providing basic medicines and other essential information regarding the nutrition and diet plans to improve the public health and reduce the spread of viruses. They can not get the information regarding the financial problems raised by the people. The financial department portal will get those complaints and issues.

Here different portals will give different information about the management of the situation in the pandemic time. So the pandemic management database management system will ensure to give all the information about the current situation and their analysis to all of their viewers and they will get the relative information. Thus we can get the information from other TTP websites and Govt. Portals and satisfy the main requirements to successfully manage the situation of the pandemic. There are many aspects to look at these management ideas because pandemic not only affects the public health, but also the mental health, economy, tensions between countries and people and sometimes animal life. Our task is to manage all of those and give the best of the management work to coordinate the factors that drive the progress of civilization.

References:
- COVID-19 LAW LAB
  Their requirements are here. DBMS LINK
- https://healthmanagement.org/s/pandemic-legal-database
- https://www.nhp.gov.in/
- https://www.worldometers.info/coronavirus/country/india/
- https://covidlawlab.org/
- https://www.covid19india.org/
- https://www.mygov.in/corona-data/covid19-statewise-status/

- https://covidindia.org/
- E-newspapers

Required Details:
- Access to health services
- Administrative penalties
- Contact tracing
- COVID-19-specific law
- Criminal penalties
- Curfew
- Essential services/workers
- Exposure/transmission/non-disclosure
- Extraordinary powers
- Face coverings/masks
- Gender
- HIV
- HIV COVID-specific guidelines
- HIV-treatment dispensing
- Human rights
- Intellectual property
- International travel/borders
- Judicial oversight
- Lockdown/stay-home
- Medicines & Access
- Migrants/asylum seekers/refugees
- Non-discrimination
- Physical distance
- PPE/personal protective equipment
- Prisons/prisoners/detainees
- Procurement of medical supplies
- Prophylaxis
- Restrictions on police powers
- Surveillance apps/software
- Telecommuting
- Vaccines

2.2 Interviews

2.2.1 Interview 1

Goga Consultancy : Role Play Interview Plan

Project Reference: SF/SJ/2020/12

Interviewee: Deep Patel(Role Play)

Designation: Head of Healthcare Department,Central Government of India

Interviewer: 1) Hiren Chaudhary(Role Play)

Designation: Software Development Engineer, Goga Consultancy

      2) Pratik Panchal(Role Play)

Designation: Business Development Executive, Goga Consultancy

Date: 30/09/2020   **Time:** 10:30

Duration: 30 minutes   **Mode:** Online

Purpose of Interview: Preliminary meeting to identify problems of Covid-19 pandemic and to know the decisions made by the government to fight against corona crises.

Agenda:

➢ Problems with existing management
➢ Any specific requirements
➢ Any collaboration between different departments
➢ Follow-up Actions

Documents to be brought to the interview:

➢ Manual of different departments working during pandemic.
➢ Any further plans.

2.2.2 Interview 2

Goga Consultancy: Role Play Interview Plan

Project Reference: SF/SJ/2020/12

Interviewee: 1) Hiren Chaudhary(Role Play)

Designation: Commissioner of Police,Gujarat

Interviewer: 1) Naman Dave(Role Play)

Designation: Software Development Engineer, Goga Consultancy

2) Deep Patel (Role Play)

Designation: Business Development Executive, Goga Consultancy

Date: 30/9/2020   **Time:** 16:30

Duration: 45 minutes   **Mode:** Online

Purpose of Interview: Preliminary meeting to identify steps taken by the police department to enforce the lockdown and guidelines made by the government and also to know about problems faced by civilians and police officers during lockdown of Covid-19 pandemic.

Agenda:

➢ Problems with security of health workers and any other concerns
➢ Current security procedures
➢ Necessary steps followed by the police to execute the rules made by the government
➢ About transportations facilities
➢ Initial ideas and Follow-up actions
➢ How civilians are following rules and guideline declared by the government

2.2.3 Interview 3

Goga Consultancy: Role Play Interview Plan

Project Reference: SF/SJ/2020/12

Interviewee: 1) Naman Dave(Role Play)

Designation: Prime minister of India

Interviewer: 1) Deep Patel(Role Play)

Designation: Software Development Engineer, Goga Consultancy

2) Hiren chaudhary (Role Play)

Designation: Business Development Executive, Goga Consultancy

Date: 01/10/2020   **Time:** 10:30

Duration: 45 minutes   **Mode:** Online

Purpose of Interview: Preliminary meeting to identify how the government is handling the current situation of corona pandemic.How they are managing different departments and which departments of government are playing a crucial role in this.How they are balancing the economy of the nation while dealing with lockdown and this pandemic.

Agenda:

➢ Problems with security of health workers and any other concerns
➢ Problems with current economic status
➢ Necessary steps followed by the state government to execute the rules made by PM
➢ How the government is helpful to civilians, health workers, migrants, doctors during this critical situation
➢ Initial ideas and Follow-up actions
➢ Future plans and strategy for society.
➢ About Foregin policy
➢ How the government is helpful to researcher to find vaccines of corona
➢ Regarding showing of fake numbers of Active cases and deaths

2.2.3 Interview 4

Goga Consultancy: Role Play Interview Plan

Project Reference: SF/SJ/2020/12

Interviewee: 1) Chintu Patel(Role Play)(Corona patient)

Designation: Civilian

Interviewer: 1) Pratik Panchal(Role Play)

Designation: Software Development Engineer, Goga Consultancy

        2) Hiren chaudhary (Role Play)

Designation: Business Development Executive, Goga Consultancy

Date: 01/10/2020   **Time:** 10:30

Duration: 45 minutes   **Mode:** Online

Purpose of Interview: Preliminary meeting to identify which problems corona patients and their families are facing. How they are dealing with this and which type of help did the government provide to them. What message would they like to tell the other people about fighting against corona and awareness about it.

Agenda:

- ➢ How hospitals take care of corona- patients.
- ➢ How society behaves with their family.
- ➢ How the Government provides food and other basic requirements to their families.
- ➢ How their family takes care of them.
- ➢ How they follow the procedure of quarantine.
- ➢ To know which other facilities and help they require from the government.

Requirements gathered from interviews:

Medical Workers:

Required more towards the prevention of the health regarding effects and aware people about the prevention of the deadly viruses as the nation does not hold the capacity to give the best healthcare facility to everyone so there is only one way to reduce the spread and reduce the damage. So from their perspectives, we require 1) NEWS, 2) Access to the nutritious food environment and basic medicines(Major in Homeopathic).

One of the medical workers also stated that the civil hospitals in Gujarat also provided basic Homeopathic medicines free to the civilians. But this information needs to be spreaded more faster than covid to prevent the damage and become disinfectant or prepare their body to fight against viruses. So we received a mejor requirement to get the people aware about the effort done by the health workers around them. One more requirement is from users where their condition should reach the health workers faster.

Police Department:

The police departments will get the information of the execution of the laws imposed, the affected areas and analysis, for example the covid hotspot and it will give them some idea about imposing the curfew or the lockdown. The similar department the respective information about the special law imposed on their area such as specific instructions and guidelines to the police force about the law imposed. During this pandemic the Police Department has to play a vital role to save many lives.

In some areas we have seen that people are very careless and they don't wear masks and don't keep social distance. So the

Police Department has to give some more efforts and more attention to that area. Also we heard that in some areas the Policemen misuse the power given by the government during pandemic situations. They brutally beat civilians without any reason although they follow rules. But it happens very rarely.

PMO Office:

Firstly they need information regarding how different departments are working and co-relations between them. What are the requirements of different departments and their priorities.They required daily news about what is happening in the country and what are the current problems.They also need to know about fake news spreaded by some sites or channels and how to stop them.They also need to take decisions regarding corona pandemic.

They need to give some more attention on finding the corona vaccine and provide funds to find vaccine.They need current information regarding the economy and what types of problems people are facing due to economical loss so that they can take necessary steps. Now-a-days we can see that many countries are trying to find a corona vaccine together. So for that they need to collaborate with one another and arrange the meeting.

In India, we can see how our Prime minister Shri Narendra Modi always talks with CM of all states and discusses problems that are facing during a pandemic. PM also addresses people and gives them positivity and strength to face this pandemic with unity.This is the main difference between India and other countries.

2.3 Questionnaires

COVID-19 Pandemic Management :

1. Do you use the Arogya Setu app?
    a. Yes
    b. No

2. Do you stay updated of news regarding COVID-19?
    a. Yes
    b. No

3. Which platform do you use to obtain COVID-19 Related information?
    a. News Papers
    b. WHO
    c. Applications
    d. News Channels

4. Rate the decisions made by the Government to prevent the spread of the Coronavirus.
    O 1   O 2   O 3   O 4   O 5

5. How do you rate the coordination among Health-Workers, Police Staff and Government Officials?
    O 1   O 2   O 3   O 4   O 5

6. Do you or any of your relatives get affected by COVID-19?
    a. Yes
    b. No
    c. I choose not to Stay

7. If yes, then in which type of hospital did you or your relatives were admitted?
    a. Government Hospital
    b. Private Hospital

8. Did you migrate during Lockdown?
   a. International
   b. Domestic
   c. ONone
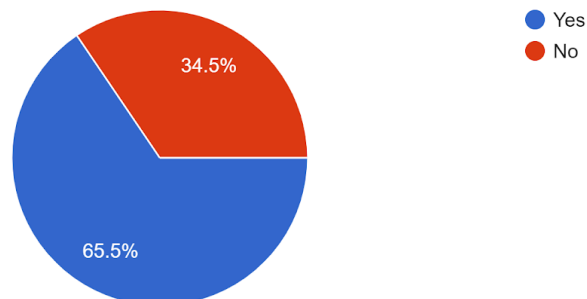
9. How do you rate the facilities provided by the government to migrants?

   O 1   O 2   O 3   O 4   O 5
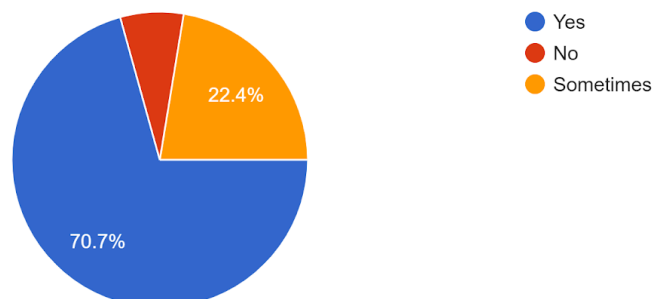
Summary of Questionnaire Responses:
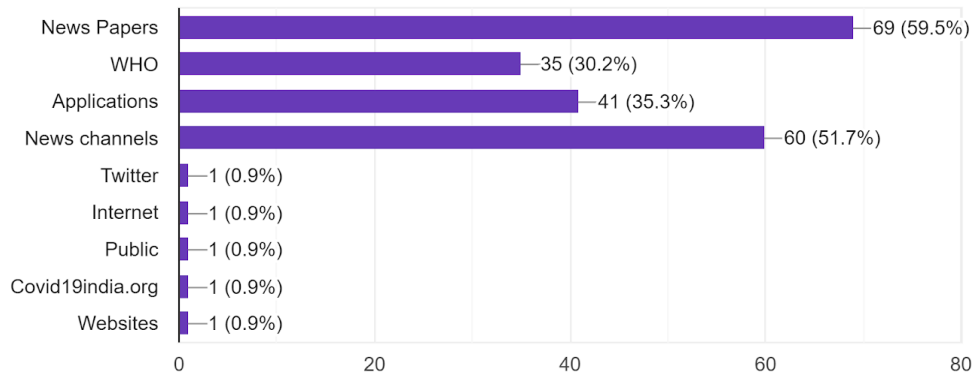
Do you use Arogya Setu app?

116 responses

- Yes
- No

34.5%

65.5%

Do you stay updated of news regarding COVID-19?

116 responses

- Yes
- No
- Sometimes

22.4%

70.7%

Which platform do you use to obtain COVID-19 Related Information?
116 responses

Platform	Value
News Papers	69 (59.5%)
WHO	35 (30.2%)
Applications	41 (35.3%)
News channels	60 (51.7%)
Twitter	1 (0.9%)
Internet	1 (0.9%)
Public	1 (0.9%)
Covid19india.org	1 (0.9%)
Websites	1 (0.9%)

Rate the decisions made by the Government to prevent the spread of the Coronavirus.
116 responses
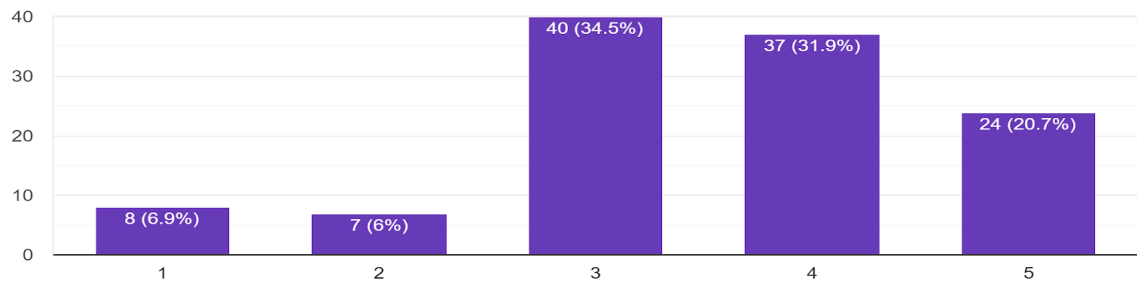
Rating	Value
1	8 (6.9%)
2	7 (6%)
3	40 (34.5%)
4	37 (31.9%)
5	24 (20.7%)

How do you rate the coordination among Health-Workers, Police Staff and Government Officials?
116 responses

Rating	Value
1	6 (5.2%)
2	8 (6.9%)
3	15 (12.9%)
4	31 (26.7%)
5	56 (48.3%)
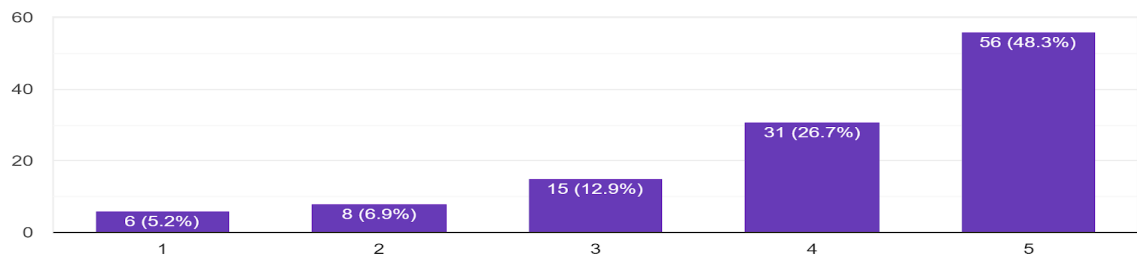
Do you or any of your relatives get affected by COVID-19?
116 responses

Yes
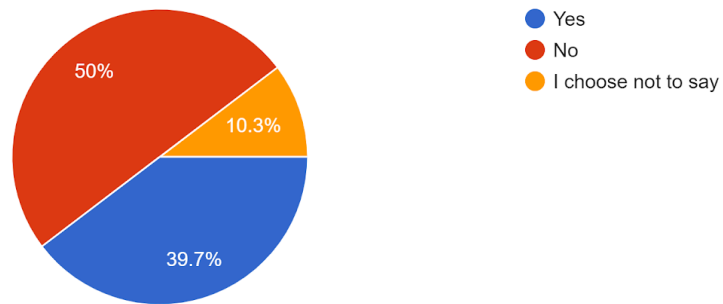No
I choose not to say

50%
10.3%
39.7%

If yes, then in which type of hospital did you or your relatives were admitted?
66 responses

Goverment Hospital
Private Hospital

43.9%
56.1%
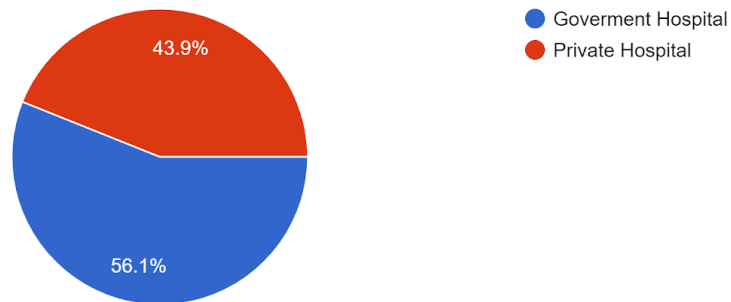
Did you migrate during Lockdown?
116 responses

International
Domestic
None

80.2%
16.4%
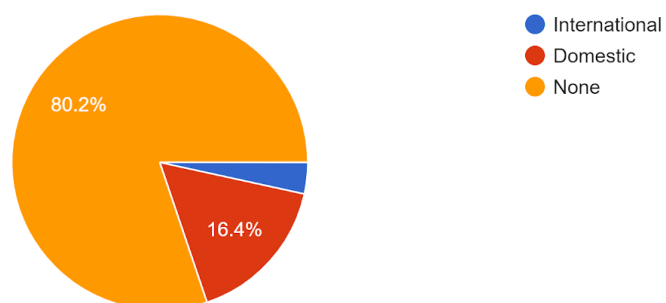
How do you rate the facilities provided by the government to migrants?
116 responses
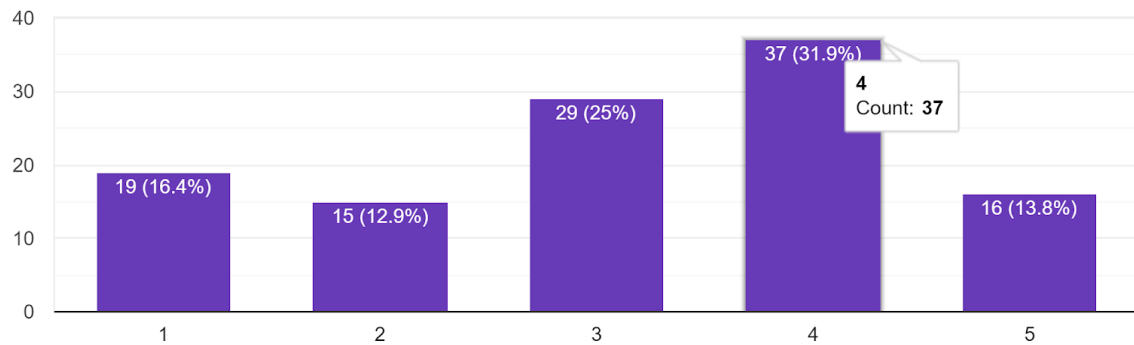
Short Answers From Responses:

Would you like to give any suggestion to the government regarding pandemic management?

➢ Better management government hospital
➢ Instead of spreading fear, tackle it in a systematic form
➢ I request the government officials please provide law protection to our real super heroes like doctors who are always ready to serve our people anytime, policemen and other workers who help us to maintain peace in our country.
➢ Make a complete lockdown for 1 month In all over india. And only hospital emergency can move during lockdown
➢ when there were 500 cases in the country complete lock down was implemented and now when we are second most affected country the government is completely ignoring it.
➢ Make more free mask disturbing free medical treatment
➢ The government should take a tough decision and follow it by the people which should be also monitored by the government.
➢ Must send the quarantine cases to their homes directly and ban them from going out for 14 days rather than keeping them in hotels where the facilities might not be as good and safe as it should be..
➢ Bed capacity of government hospitals should be increased
➢ Need Educated People in Government.
➢ Covid-19 test increase

- ➢ Better management government hospital
- ➢ Important is need in health care facilities
- ➢ Keep record of migrant worker
- ➢ Government officials doing excellent job but sometime our Corona warriors are not getting respect as they deserve. Some uneducated or fools are shouting on them , not following rules and regulations of this pandemic. So please I'm expecting that government will do something about this serious matter.
- ➢ Public awareness is the basic step to tackle down this pandemic
- ➢ Improve medical field
- ➢ Better management government hospital
- ➢ Government should have pre required plans of any epidemic or pandemic because from last 100 years to till we faced many epidemic and pandemic. And also government should work on making systems to overcome any health emergency as well as for economic slowdown.
- ➢ Government hospital better management is require

Requirement gathered from Responses:

The data says that the efforts done by the government are good but not sufficient as the number of people is very huge. This leads to a very dangerous situation of spreading the infection faster. In the regions where the population density is too high for example Mumbai and Delhi, where only the exceptional system is required to prevent the spread of infections. That's why in a country like India we need pandemic specific laws to be exceptional and can be opposite to human rights such as imposing curfew and lockdown. In India there is a specific section i.e. section 144, 140. But these sections are imposed particularly to the small areas.

Our main task is to get the people from those areas aware about the actions done by the governments and provide the proper guidelines to them by the government and other health organisations like WHO. So here the major factor to become a

responsible channel to the people, healthcare workers and other government officials and also the judicial members and police members.

Our portal is common to all the people and that requirements different types of administrative facilities. Because we will have inputs from the users, healthcare providers(private), government, law enforcement, judiciary. All of these will provide different sets of inputs and will form the overall management and it would be done by this system.

So the extracted requirements are as below.

- Better management of Government Hospitals
- Provide Law protection to health workers
- Implement more strict rules for lockdown
- Bed capacity of government hospitals should be increased
- Public awareness is the basic step to tackle down this pandemic

Also different sets of people will require different sets of data. Common people would require data regarding spread of virus, cases nearby and over the country globe, guide lines from healthcare workers and the awareness of pandemic specific laws also the private industry members. The healthcare workers will get the information provided by the government, law enforcement as well as requests from common people/users such as requests for sanitizing the society or a venue or providing some healthcare facilities.

Their private industry members will get the information of non-infected areas and their analysis will reduce the damage (financial as well as health). Also the suppliers (food and essentials) will get the important information regarding their supply chain.

The government and other departments will get the information of the execution of the laws imposed, the affected areas and analysis, for example the covid hotspot and it will give them some idea about imposing the curfew or the lockdown. The similar department the respective information about the special law imposed on their area such as specific instructions and guidelines to the police force about the law imposed.

2.4 Observations

Goga Consultancy: Observations

Project Reference: SF/SJ/2020/12

Observations by: Pratik Panchal (Goga Consultancy- Product manager)

Date: 03/10/2020   **Time:** 09:30
Duration: 45 minutes   **Mode:** Online

Observations:
- There are so many different portals helpful to the specific set of people.The healthcare worker's portal will get the information related to their work. Similarly the police and law enforcement agencies' protal will get the information regarding the special laws imposed at their area and other instructions and guidelines. Also the government people will get the related information and analysis.
- The output seems to be good but this system is very complex to be built.
- Requires collaboration of people from government agencies as well as the private sector, this requires a lot of data security.
- Site is sensitive, so need to care a lot.

3.Fact Finding Chart

Objective	Technique	Subject	Time commitment
To understand how Government has managed corona pandemic	Background reading	Websites, Videos	2 days
To find out concerns regarding medical facilities and its capacity	Interview	Head of Healthcare Department	30 minutes
To find out concerns regarding lockdown and security	Interview	Commissioner of police,Gujarat	45 minutes
To find out current problems of nation due to pandemic and steps taken by the government	Interview	Prime Minister of India	45 minutes
To know the problem faced by a patient and their requirements	Interview	Corona Patient	45 minutes
To establish any specific requirements	Questionnaire	Civilians	Half day

Objective	Technique	Subject	Time commitment
To know connection between government and Civilians	Questionnaire	Civilians	Half day
To know awareness of general public towards pandemic	Questionnaire	Civilians	Half day
Objective	**Technique**	**Subject**	**Time commitment**
To follow up development of business understanding	Observation	Product Manager	45 minutes

4. Requirements:

- Government Announcements
  - COVID-19-specific law
  - Judicial oversight
  - Lockdown/stay-home
  - Restrictions on police powers
  - Surveillance apps/software
  - Curfew
  - HIV COVID-specific guidelines
  - Human rights
- Tracking and Reducing fake news
  - IT cell
  - Fake news-history & detection
  - Fact-checking
  - Criminal penalties (NSA)

- Lockdown Management & Health Care
  - Medicines & Access
  - Application of Government Announcements
  - Contact tracing
  - Essential services/workers (Police and healthcare workers)
  - Exposure/transmission/non-disclosure
  - Extraordinary powers
  - Face coverings/masks
  - Non-discrimination
  - Physical distance
  - Prophylaxis
- Migration of people during the lockdown (international/domestic)
  - Migrants/asylum seekers/refugees (local & international)
  - Non-discrimination
  - Physical distance
  - Telecommuting
  - Prisons/prisoners/detainees
- Ration/Food supply to people in need (Area wise)
  - Procurement of medical supplies
  - Vaccines
  - Food supply management

5. User Classes and Characteristics:

- **Government Officials**
  - Government Officials can use this information in many ways.
  - To provide more healthcare facilities in areas where corona cases are increasing rapidly.
  - To get the pandemic related news, analysis in order to impose curfews or lockdowns and the pandemic specific special laws for the crime.

- They can pre estimate some information about corona cases and take appropriate action in particular areas.

● **Healthcare Workers**
  - By using this Database they get to know in which area corona cases are increasing rapidly. So they can provide more medical facilities and do more testing in that particular area.
  - The emergency transportation facilities of the healthcare department (Ambulance) can get the location specific details.

● **Police**
  - To know where people are more careless about pandemic and also to provide security to healthcare workers and doctors in some areas.
  - To know in which specific areas the government has declared some guidelines and how it is managed by the department.

● **Migrants**
  - Migrants can get transportation help provided by the government.
  - They can know the transition of corona in a particular area before moving there.
  - This database also provides information about the necessary precautions to be taken during traveling.

● **Civilians**
  - Civilians can get some information from databases to know about active corona cases in different areas and take some precautions.
  - They can get help if any emergency situation happens from emergency transportation facilities provided by the government.
  - They can get information about nearest hospitals and Corona Wards located in their area.

6. Operating Environment:

This product will run on an online platform , The main communication mechanisms are going to be SQL script and the content management system talking with the database.

6.1 Hardware, Software or Connectivity Requirements

- **Hardware**:We need at least an i3 processor for managing databases. In future if we start expanding we might need multiple server sets in different areas of different cities to divide load forming a data distribution system.

- **Software**: We need any software which can perform sql query and structuring our database. and also python for building software for managing databases. We will require a domain name to run the website online.

- **Connectivity** : We need python to connect our software with the database.

6.2 External Interface Requirements

- **Hardware Interfaces**

In future if we start expanding we might need our own server to store information in the form of cache or we might need multiple server sets in different areas of different cities to divide load.

- **Software Interfaces**

The website server will fetch data from Our database using sql query and show the data. To run the web application online will require a domain name of its own. The user will have to use any browser to access the web application.

- **Communications Interfaces**

  All communication between the user and Our database will be end to end encrypted. The form filled by the user will be sent to Our server via email. If a user has any doubt while filling the form he can communicate with our AI chatbot about general doubts. Our website runs on HTTPS so there is no issue of security. If still the user has any doubt about the adoption process we have given customer service number.

7.Product Functions:

- As the user logs in to the system, he/she will be given a questionnaire to fill information about himself and will be given a related portal(s).
- Users will be given a questionnaire about their locations.
- The functionality of our database includes pulling data from the external database, storing user profile data and matches, and updating the database hourly. The only communication mechanism will be SQL script. The frontend will be available for the data visualization.
- System will match the choices of a user with the database and display all Covid-19 cases around his/her location as well as the country globe.
- Health workers will also update corona related news for particular areas so the users get information about this.
- Our database helps the Government to create new guidelines and also update guidelines so users get information from this database.
- The common people will get the pandemic related news, information and guidelines specific to the area as well as across the country.
- The law enforcement and police will get the instructions and guidelines about the pandemic specific laws enforced to their area and around the country in common.

- The judiciary personnel will get the information regarding the violation of laws (Human rights, Pandemic specific laws) and their analysis.
- The transportation management government departments (IRCTC, GSRTC) will get the information regarding migrants and goods supply (food and medicines)
- Migrants will get the information of their area as well as their destination area and transportation facilities

8.Privileges:

- **Government:**
  - **PM/CM (PMO/CMO)**
    - The government gets to know all information about Covid-19. So The government can take the necessary steps to prevent it.
    - The Government can access all the data and can do required changes.
    - They can transfer the information between different departments working on pandemic.
    - The overall analysis about the situation and their management.
    - The foreign policy suggestions
    - Privilege to announce the pandemic specific newz, laws, guidelines, and steps taken by the government.

  - **Finance Minister (Finance Department)**
    - Financial condition across the country as well as the globe
    - Regional analysis of the economic conditions and the potential changes to improve the financial condition of the country.
    - Announce the changes done by this department
    - Also knowing the financial issues faced by the people from different groups

- Collaborative information / steps demanded by other departments.

  ○ **Chairman & MD (Transportation department)**
    - Situation of migrants, goods, food, and medicines across the country
    - The analysis of such situations and possible solutions
    - Collaborative information / steps demanded by other departments
    - Privilege to announce the changes and different steps taken by this department.
    - Problems and issues raised by the people related to this department

- **Police Department(Police, DGP):**
  - They can access information regarding lockdown and security concerns and update it.
  - They can also know about new guidelines provided by the government so they can take necessary steps to follow rules.
  - They can update the information regarding awareness of people in particular areas and if any emergency situation happens.

- **Health Workers (Doctors, Nurses):**
  - They have access to all the modules in the database. They can know about current situations and currently active corona cases.
  - They can also update the database according to corona cases.
  - They can update how many medical equipments are available.
  - They can update the information regarding bed capacity of the hospitals and how many corona wards are available..

- **Civilians:**
  - They only access databases to know news related to the corona pandemic and can not update any information.

- They can know information about which hospitals are near to him/her in emergency situations.

9.Assumptions:

- The website runs on web browser
- The user can have any software have to perform the query on the database. Can be from a python, Java connectors, PopSQL, PostgreSQL, SQLite.
- The user will have the internet connectivity to use the website.
- The user is familiar with the working environment of the website.
- The Database company will have enough hardware requirements to bear the user load.
- The Database company will have server response 24x7.
- Server has enough capability to handle the large amount of requests from users.
- Health workers have required details of covid-19 so They can update it.

10.Business Constraints:

- Using this database Businessmen get to know in which area we have to increase our service online so more customers use this service.
- On this site, we are providing insights and guidance to small businesses searching for ways to cope with the operational stress generated by COVID-19.
- The database has detailed information about fake news , number of corona cases, migrations, latest guidelines and so we can prevent it.
- The database should be regularly updated so users can get the latest news.
- Data should not get corrupted in case of system crash or power failures.

FINAL NOUN ANALYSIS

TABLE 1 : Noun Analysis

Nouns	Verbs
pandemic	Caused by
the COVID-19	took
1 million lives	
the globe	lose
the economy	collapse, flood
many people	Prevent, affect, die
jobs	gone
financial support	give
the hospitals	flood
the patients	increase
the Indian government	Impose, guid, prevent, propel
yourself	save
deadly viruses	Slow, lose
millions	lose
lives	propel
a lockdown	Impose
curfew	Impose
a result	Propel
the first quarter	Lose (economical)
countries	Cooperate

the U.S.	Damaged
Malaysia	Damaged
the situations	Worsen
health	Affected
more lives	lose
The coronavirus pandemic	damaged
global commerce	hit
a crawl	increase
the world	went
largest economies	collapsed
extraordinary actions	increased
the crisis	occurred
The population's density	Caused crisis
Japan	prevented
India	Toughen
people	faced
lockdown	imposed
India	danger
some places	Highly populated
people	unaware
the increasing rate	crime
corona	Caused problems
the government	Gave
Efforts	made
Government	fascinating

Health care	worked
hospitals	flooded
Health care	collapsed
doctors	getting
trauma	getting
doctors	Panicking
departments	cooperate
Healthcare workers	cooperate
Police Department	cooperate
communication	mismanagement
steps	damage
situation	caused
Covid 19	spread
Metro cities	need
government	having
Economical restrictions	decreased
people	produced
Economical damage	prevent
industries	situated
Environmental laws	imposed
demage	reduce
steps	taken
steps	observed
economy	see
unemployment	see

Pandemic management system	take
pandemic	analyse
government	guiding
government	Take
government	declare
people	lost
people	get
companies	hire
companies	fired
Corona pandemic	brought
lockdowns	Measures
Social distancing	Measures
Agricultural production	disrupt
millions	worry
people	eat
Countries	Try
Corona Vaccine	Find
Experts	Say
We	Fight
All the fields	Start
They	Prohibit
Spectators	See
Bowlers	Use
We	Enter
The COVID-19 Virus	Spread

Infected Person	Coughs , Sneezes
Transmission	Prevent
The disease	Causes , Spread
Hands	Wash
People	Infected
Infected people	experience
Older People	Develop
The Pandemic	Result
Hunger Crisis	Cause
factors	linked
The pandemic	Could result
Database	Create
Corona Pandemic News	Maintain
The system	monitors
The government	takes
The system	Automate
people	included
The system	prove
The situations	create
The damage	reduced
The civilians	know
Effect of pandemic	mentioned
The information	related
The order of importance	measure
people	add

The news	related
The news	disintegrated
The columns	mention
civilians	Need, keep
Fake news	spreaded
The users	give
information	related
user	have
privilege	see
issue	raise
False information	report
nouns	Consist
No. of reports	done
No. of issues	raised
spam	related
experience	have
set of nouns	contains
reports	raised
User id	contain

Table 2 : Accepted Noun and Verbs List

Candidate entity set	Candidate attribute set	Candidate relationship set
People	User Name User id User status Reports raised	Add, raise, read
Hospitals	Patient_id Patient Name Patient Status	Treat, manage
Countries	Name Economy Status No. of active cases Vaccine	Collaborate
Government	Department_id Fund provide Lockdown Curfew Pandemic Specific Law	Impose, Guide, announce
Police Department	PoliceDepartment_id Department_name Region Status	Enforce, manage, announce
Healthcare Workers	Employee_Id Employee Name Employee Type Region Population density in the region Status Hunger Crisis	Treats, update, announce, Cause

Issues & Reports	Type Statement Issue region	Aware (Fake news, account)
News and Current Affair	Issues raised Reports added	Aware
Migrants	Region_id	Raise issue
Manager Supply Chain	Region_id	Manage, raise issue, announce
Administrator	Admin_id	Administrate
News reporter	N_id, N_attach, is_raised, fake_ratio, Field	Reports

Table 3 : Rejected Noun List

Nouns	Reject Reason
pandemic	duplicate
1 million lives	irrelevant
the globe	general
many people	vague
jobs	vague
deadly viruses	general
millions	irrelevant
lives	vague
Lockdown and curfew	general
a result	irrelevant
the first quarter	vague

countries	association
the U.S.	general
Malaysia	general
the situations	irrelevant
more lives	duplicate
The coronavirus pandemic	duplicate
global commerce	general
the world	duplicate
extraordinary actions	irrelevant
Japan	general
India	general
people	duplicate
India	duplicate
some places	vague
people	duplicate
Efforts	general
trauma	general
steps	general
Covid 19	duplicate
Metro cities	general
government	duplicate
Economical restrictions	duplicate
people	duplicate
Economical damage	duplicate
industries	general

Environmental laws	duplicate
demage	general
steps	general
steps	general
economy	duplicate
unemployment	duplicate
lockdowns	duplicate
Social distancing	vague
Agricultural production	irrelevant
millions	irrelevant
people	duplicates
Countries	general
Experts	general
We	vague
All the fields	irrelevant
They	irrelevant
Spectators	vague
Bowlers	irrelevant
We	general
Transmission	irrelevant
The disease	duplicate
Hands	duplicate
People	duplicate
Database	vague
Corona Pandemic News	duplicate

The system	general
The situations	duplicate
The damage	irrelevant
The information	duplicates
The news	general
The columns	irrelevant
The users	Irrelevant

ER Diagrams

ER Diagram version:1

ER Diagram version:2
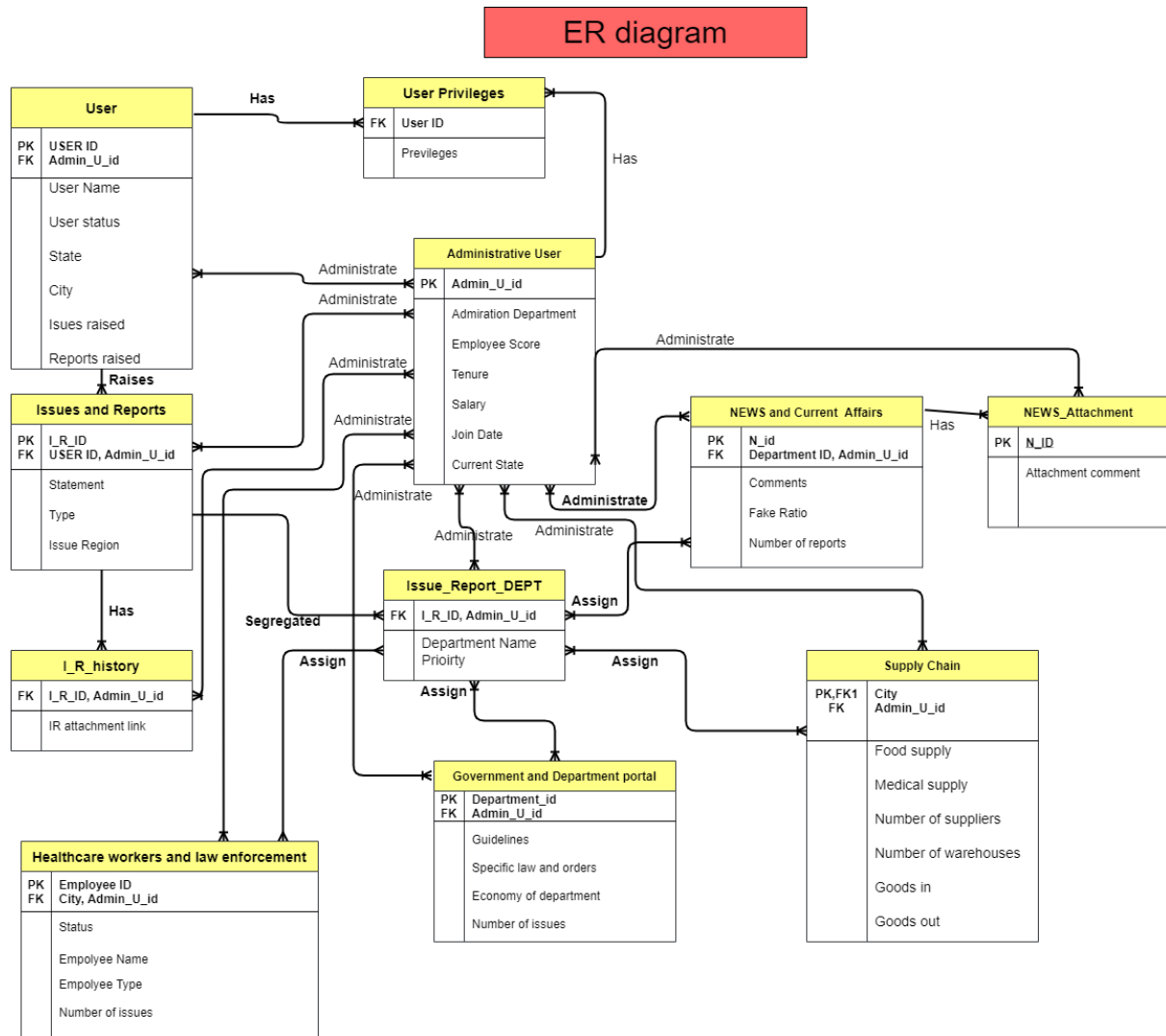
ER diagram

ER Diagram version:3

Link for E-R Diagram:

https://drive.google.com/file/d/1HQYUib8Qa8Fox9wkQaBGT1zsGkCSzj ad/view?usp=sharing
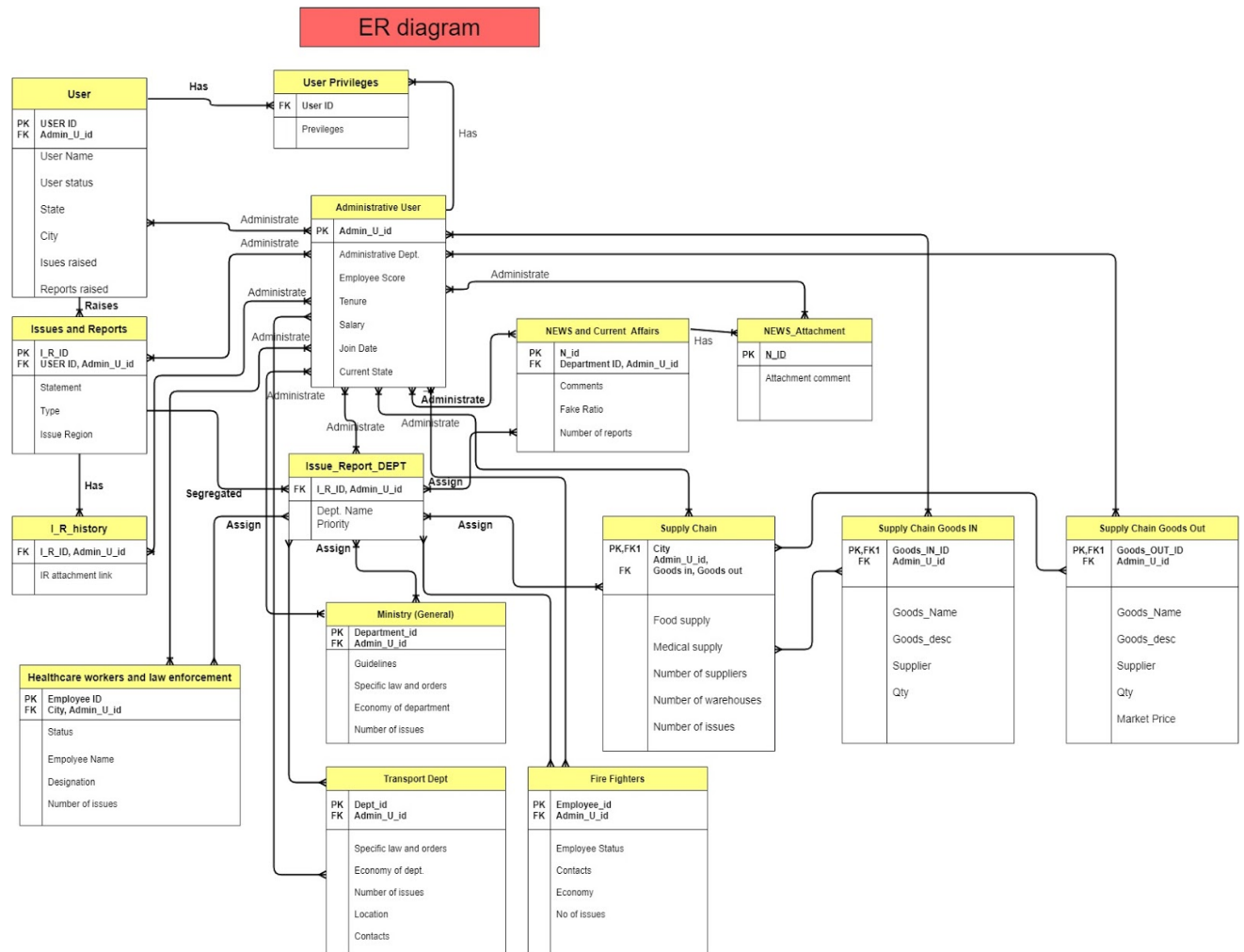
Normalization and Schema Refinement

1. **User(**<u>USER_ID</u>, Admin_U_id, User_name, User_status, State, City, Issues raised, Reports raised, Privileges**)**
2. **Issues and Reports(**<u>I_R_ID</u>, User_ID , Admin_U_ID , Statement , Type , Issues Region**)**
3. **I_R history(**I_R_id, Admin_U_id, IR_attachment_link**)**
4. **Issues_Report_DEPT(**I_R_id, Admin_U_id, dept_name, priority**)**
5. **Healthcare workers and law enforcement(**<u>Employee ID</u>, City, Admin_U_ID, Status, Employee Name, Designation, Number of issues**)**
6. **Ministry(**<u>Department_id</u>, Admin_U_id, Guidelines, Specific law and orders, Economy of Department, Number of issues**)**
7. **Transport Dept(**<u>Dept_id</u>, Admin_U_id, specific law and orders, Economy of dept, no. of issues, Location, Contacts**)**
8. **Fire Fighters(**<u>Employee_id</u>, Admin_U_id, Emploee_status, Contacts, Economy, No_of_issues**)**
9. **Supply Chain(**<u>City</u>, Admin_U_id, Goods in, Goods out, Food supply, Medical supply, Number of suppliers, Number of warehouses, Number of issues**)**
10. **Supply Chain Goods IN(**<u>Goods_in_Id</u>, Admin_U_Id, Goods_Name , Goods_desc, Supplier, Qty**)**
11. **Supply Chain Goods OUT(**<u>Goods_out_Id</u>, Admin_U_Id, Goods_Name, Goods_desc, Supplier, Qty**)**
12. **NEWS_Attachment(**<u>N_Id</u> , Attachment Comment**)**
13. **NEWS and Current Affairs(**<u>N_id</u> ,Department Id, Admin_U_Id , Comments, Fake Ratio, Number of Report**)**
14. **Administrative User(**<u>Admin_U_Id</u> ,Administrative Department, Employee name, Tenure, Salary ,Join Date , Current State**)**
15. **Administrative_Dept_Rel(**<u>ADR_ID</u>, Supportive_dept, Supportive_dept_PK, Admin_PK**)**

1. User

        USER_ID-> Admin_U_id

        USER_ID-> User_nam

        USER_ID-> User_status

        USER_ID-> State

        USER_ID-> City

        USER_ID-> Issues raised,

        USER_ID-> Reports raised

2. Administrative User

        Admin_U_ID -> Administrative Department

        Admin_U_ID -> Employee name

        Admin_U_ID -> Tenure

Admin_U_ID -> Salary
Admin_U_ID -> Join Date
Admin_U_ID -> Current State

3. Issues and Reports
I_R_ID -> User_ID
I_R_ID -> Admin_U_ID
I_R_ID -> Statement
I_R_ID -> Type
I_R_ID -> Issues Region

4. Supply Chain Goods OUT
Goods_out_Id ->Admin_U_Id,
Goods_out_Id ->Goods_Name
Goods_out_Id ->Goods_desc
Goods_out_Id -> Supplier
Goods_out_Id ->Qty

5. Supply Chain Goods IN
Goods_in_Id ->Admin_U_Id
Goods_in_Id ->Goods_Name
Goods_in_Id ->Goods_desc
Goods_in_Id ->Supplier
Goods_in_Id ->Qty

6. Supply Chain
City ->Admin_U_id
City ->Goods in
City ->Goods out
City ->Food supply
City ->Medical supply
City ->Number of suppliers
City ->Number of warehouses
City ->Number of issues

7. Ministry
Department_ID -> Admin_U_id
Department_ID -> Guidelines
Department_ID -> Specific law and orders
Department_ID -> Economy of Department
Department_ID -> Number of issues

8. Transport Dept
Dept_id -> Admin_U_id
Dept_id -> specific law and orders
Dept_id -> Economy of dept
Dept_id -> no. of issues
Dept_id -> Location

Dept_id -> Contacts

9. Fire Fighters
Employee_id -> Admin_U_id
Employee_id -> Emploee_status
Employee_id -> Contacts
Employee_id -> Economy
Employee_id -> No_of_issues

10. NEWS and Current Affairs
N_id ->Department Id
N_id ->Admin_U_Id
N_id ->Comments
N_id ->Fake Ratio
N_id ->Number of Report

11. Administrative_Dept_Rel
ADR_ID->Supportive_dept
ADR_ID->Supportive_dept_PK
ADR_ID->Admin_PK

1NF   : No multivalued attribute
User Privileges, NEWS attachments, I_R_History detached from their original relational schemas
2NF   : No partial dependency (A proper subset of CK → NPA)
3NF   : No Transitive Relations (Super key → Prime attribute)
BCNF : And, for any dependency A → B, A is a superkey
(For all the tables)

Because we have only one candidate key for all the relations.(If archive DBs are attached then the NF would be 1st NF)

1. User(USER_ID, Admin_U_id, User_name, User_status, State, City, Issues raised, Reports raised)
2. User Privileges(User_Id , Privileges)
3. Issues and Reports(I_R_ID , User_ID , Admin_U_ID , Statement , Type , Issues Region)
4. I_R history(I_R_id, Admin_U_id, IR_attachment_link)
5. Issues_Report_DEPT(I_R_id, Admin_U_id, dept_name, priority)
6. Healthcare workers and law enforcement(Employee ID, City, Admin_U_ID, Status, Employee Name, Designation, Number of issues)

7. Ministry(<u>Department_id</u>, Admin_U_id, Guidelines, Specific law and orders, Economy of Department, Number of issues)
8. Transport Dept(<u>Dept_id</u>, Admin_U_id, specific law and orders, Economy of dept, no. of issues, Location, Contacts)
9. Fire Fighters(<u>Employee_id</u>, Admin_U_id, Emploee_status, Contacts, Economy, No_of_issues)
10. Supply Chain(<u>City</u>, Admin_U_id, Goods in, Goods out, Food supply, Medical supply, Number of suppliers, Number of warehouses, Number of issues)
11. Supply Chain Goods IN(<u>Goods_in_Id</u>, Admin_U_Id, Goods_Name , Goods_desc, Supplier, Qty)
12. Supply Chain Goods OUT(<u>Goods_out_Id</u>, Admin_U_Id, Goods_Name, Goods_desc, Supplier, Qty)
13. NEWS_Attachment(<u>N_Id</u> , Attachment Comment)
14. NEWS and Current Affairs(<u>N_id</u> ,Department Id, Admin_U_Id , Comments, Fake Ratio, Number of Report)
15. Administrative User(<u>Admin_U_Id</u> ,Administrative Department, Employee name, Tenure, Salary ,Join Date , Current State)
16. Administrative_Dept_Rel(<u>ADR_ID</u>, Supportive_dept, Supportive_dept_PK, Admin_PK)

DDL SCRIPTS

1) Administrative_dept_rel

CREATE TABLE sv_db.administrative_dept_rel
(
   adr_id integer NOT NULL,
   supportive_dept character varying(100) COLLATE pg_catalog."default",
   supportive_dept_pk integer,
   admin_u_id integer,
   CONSTRAINT adr_id_pk PRIMARY KEY (adr_id),
   CONSTRAINT admin_u_id FOREIGN KEY (admin_u_id)
     REFERENCES sv_db.administrative_user (admin_u_id) MATCH SIMPLE
     ON UPDATE CASCADE
     ON DELETE CASCADE,
   CONSTRAINT administrative_dept_rel_supportive_dept_check CHECK
(supportive_dept::text = ANY (ARRAY['Supply chain'::character varying::text, 'fire
fighters'::character varying::text, 'healthcare workers and law enforcement'::character
varying::text, 'ministry'::character varying::text]))
)

2) Administrative_user

CREATE TABLE sv_db.administrative_user
(
   admin_u_id integer NOT NULL,
   administrative_department character varying(50) COLLATE pg_catalog."default",
   employee_name character varying(100) COLLATE pg_catalog."default",
   tenure character varying(100) COLLATE pg_catalog."default",
   salary integer,
   supplier integer,
   join_date date,
   current_state character varying(20) COLLATE pg_catalog."default",
   CONSTRAINT admin_u_id_pk PRIMARY KEY (admin_u_id)
)

3) fire_fighter

CREATE TABLE sv_db.fire_fighter
(
    employee_id integer NOT NULL,
    admin_u_id integer,
    employee_status character varying(100) COLLATE pg_catalog."default",
    contacts character varying(100) COLLATE pg_catalog."default",
    economy character varying(2000) COLLATE pg_catalog."default",
    no_of_issues integer,
    CONSTRAINT ff_pk PRIMARY KEY (employee_id)
)

4) healthcare_workers_and_law_enforcement

CREATE TABLE sv_db.healthcare_workers_and_law_enforcement
(
    employee_id integer NOT NULL,
    admin_u_id integer,
    city integer,
    status character varying(5000) COLLATE pg_catalog."default",
    employee_name character varying(5000) COLLATE pg_catalog."default",
    designation character varying(5000) COLLATE pg_catalog."default",
    number_of_issues integer,
    CONSTRAINT emloyee_id_pk PRIMARY KEY (employee_id)
)

5) I_r_history

CREATE TABLE sv_db.i_r_history
(
    i_r_id integer,
    admin_u_id integer,
    ir_attachment_link character varying(500) COLLATE pg_catalog."default",
    CONSTRAINT admin_u_id FOREIGN KEY (admin_u_id)
      REFERENCES sv_db.administrative_user (admin_u_id) MATCH SIMPLE
      ON UPDATE CASCADE
      ON DELETE CASCADE
)

6) Issues_and_reports

CREATE TABLE sv_db.issues_and_reports
(
    i_r_id integer NOT NULL,
    user_id integer,
    admin_u_id integer,
    statement_ character varying(1000) COLLATE pg_catalog."default",
    type_ character varying(1000) COLLATE pg_catalog."default",
    issues_region character varying(1000) COLLATE pg_catalog."default",
    CONSTRAINT e_id_pk PRIMARY KEY (i_r_id)
)

7) issues_report_dept

CREATE TABLE sv_db.issues_report_dept
(
    i_r_id integer,
    admin_u_id integer,
    department_name character varying(700) COLLATE pg_catalog."default",
    priority integer,
    CONSTRAINT admin_u_id FOREIGN KEY (admin_u_id)
       REFERENCES sv_db.administrative_user (admin_u_id) MATCH SIMPLE
       ON UPDATE CASCADE
       ON DELETE CASCADE
)

8) ministry
CREATE TABLE sv_db.ministry
(
    department_id integer NOT NULL,
    admin_u_id integer,
    specific_law_and_orders character varying(2000) COLLATE pg_catalog."default",
    guidelines character varying(1000) COLLATE pg_catalog."default",
    contacts character varying(1000) COLLATE pg_catalog."default",
    economy_of_dept character varying(2000) COLLATE pg_catalog."default",
    number_of_issues integer,
    CONSTRAINT ff_id_pk PRIMARY KEY (department_id)
)

9) news_and_current_affairs

CREATE TABLE sv_db.news_and_current_affairs
(
    n_id integer NOT NULL,
    department_id integer,
    admin_i_id integer,
    comment_ character varying(100) COLLATE pg_catalog."default",
    fake_ratio numeric,
    number_of_report integer,
    CONSTRAINT n_id_pk PRIMARY KEY (n_id)
)

10) news_attachment

CREATE TABLE sv_db.news_attachment
(
    n_id integer,
    admin_i_id integer,
    attachment_comment character varying(100) COLLATE pg_catalog."default"
)

11) supply_chain

CREATE TABLE sv_db.supply_chain
(
    city integer NOT NULL,
    goods_in_id integer,
    goods_out_id integer,
    admin_u_id integer,
    food_supply character varying(1100) COLLATE pg_catalog."default",
    medical_supply character varying(1100) COLLATE pg_catalog."default",
    number_of_suppliers integer,
    number_of_warehouses integer,
    number_of_issues integer,
    CONSTRAINT sc_id_pk PRIMARY KEY (city)
)

12) supply_chain_goods_in

CREATE TABLE sv_db.supply_chain_goods_in
(
    goods_in_id integer NOT NULL,
    admin_i_id integer,
    goods_name character varying(1000) COLLATE pg_catalog."default",
    goods_desc character varying(1000) COLLATE pg_catalog."default",
    supplier integer,
    qty integer,
    CONSTRAINT gin_id_pk PRIMARY KEY (goods_in_id)
)

13) supply_chain_goods_out

CREATE TABLE sv_db.supply_chain_goods_out
(
    goods_out_id integer NOT NULL,
    admin_i_id integer,
    goods_name character varying(1000) COLLATE pg_catalog."default",
    goods_desc character varying(1000) COLLATE pg_catalog."default",
    supplier integer,
    qty integer,
    market_price integer,
    CONSTRAINT gout_id_pk PRIMARY KEY (goods_out_id)
)

14) Transport_dept

CREATE TABLE sv_db.transport_dept
(
    dept_id integer NOT NULL,
    admin_u_id integer,
    specific_law_and_orders character varying(2000) COLLATE pg_catalog."default",
    location_ character varying(1000) COLLATE pg_catalog."default",
    contacts character varying(50) COLLATE pg_catalog."default",
    economy_of_dept integer,
    no_of_issues integer,
    number_of_issues integer,
    CONSTRAINT td_id_pk PRIMARY KEY (dept_id)
)

15) user_details

CREATE TABLE sv_db.user_details
(
    user_id integer NOT NULL,
    admin_u_id integer,
    user_name character varying(50) COLLATE pg_catalog."default",
    user_status character varying(8) COLLATE pg_catalog."default",
    state_1 character varying(20) COLLATE pg_catalog."default",
    city character varying(20) COLLATE pg_catalog."default",
    issues_raised integer,
    reports_raised integer,
    CONSTRAINT u_pk PRIMARY KEY (user_id),
    CONSTRAINT user_details_user_status_check CHECK (user_status::text = ANY
(ARRAY['ACTIVE'::character varying::text, 'PASSIVE'::character varying::text,
'BANNED'::character varying::text, 'WARNING'::character varying::text,
'SPECIAL'::character varying::text]))
)

16) User_privileges

CREATE TABLE sv_db.user_privileges
(
    user_id integer,
    privileges character varying(600) COLLATE pg_catalog."default"
)

Insert statements:

INSERT INTO sv_db.administrative_dept_rel(
      adr_id, supportive_dept, supportive_dept_pk, admin_u_id)
      VALUES (?, ?, ?, ?);

INSERT INTO sv_db.administrative_user(
      admin_u_id, administrative_department, employee_name, tenure, salary, supplier,
join_date, current_state)
      VALUES (?, ?, ?, ?, ?, ?, ?, ?);

INSERT INTO sv_db.fire_fighter(
      employee_id, admin_u_id, employee_status, contacts, economy, no_of_issues)
      VALUES (?, ?, ?, ?, ?, ?);

INSERT INTO sv_db.healthcare_workers_and_law_enforcement(
      employee_id, admin_u_id, city, status, employee_name, designation,
number_of_issues)
      VALUES (?, ?, ?, ?, ?, ?, ?);

INSERT INTO sv_db.i_r_history(
      i_r_id, admin_u_id, ir_attachment_link)
      VALUES (?, ?, ?);

INSERT INTO sv_db.issues_and_reports(
      i_r_id, user_id, admin_u_id, statement_, type_, issues_region)
      VALUES (?, ?, ?, ?, ?, ?);

INSERT INTO sv_db.issues_report_dept(
      i_r_id, admin_u_id, department_name, priority)
      VALUES (?, ?, ?, ?);

INSERT INTO sv_db.ministry(
      department_id, admin_u_id, specific_law_and_orders, guidelines, contacts,
economy_of_dept, number_of_issues)
      VALUES (?, ?, ?, ?, ?, ?, ?);

INSERT INTO sv_db.news_and_current_affairs(
      n_id, department_id, admin_i_id, comment_, fake_ratio, number_of_report)
      VALUES (?, ?, ?, ?, ?, ?);

INSERT INTO sv_db.news_attachment(
      n_id, admin_i_id, attachment_comment)
      VALUES (?, ?, ?);

INSERT INTO sv_db.supply_chain(

```
        city, goods_in_id, goods_out_id, admin_u_id, food_supply, medical_supply,
number_of_suppliers, number_of_warehouses, number_of_issues)
        VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?);


INSERT INTO sv_db.supply_chain_goods_in(
        goods_in_id, admin_i_id, goods_name, goods_desc, supplier, qty)
        VALUES (?, ?, ?, ?, ?, ?);


INSERT INTO sv_db.supply_chain_goods_out(
        goods_out_id, admin_i_id, goods_name, goods_desc, supplier, qty, market_price)
        VALUES (?, ?, ?, ?, ?, ?, ?);


INSERT INTO sv_db.transport_dept(
        dept_id, admin_u_id, specific_law_and_orders, location_, contacts,
economy_of_dept, no_of_issues, number_of_issues)
        VALUES (?, ?, ?, ?, ?, ?, ?, ?);


INSERT INTO sv_db.user_details(
        user_id, admin_u_id, user_name, user_status, state_1, city, issues_raised,
reports_raised)
        VALUES (?, ?, ?, ?, ?, ?, ?, ?);


INSERT INTO sv_db.user_details(
        user_id, admin_u_id, user_name, user_status, state_1, city, issues_raised,
reports_raised)
        VALUES (?, ?, ?, ?, ?, ?, ?, ?);
```

SQL Queries

1) Name all the users who are administered by an HR executive

SQL query:

```
select user_name
from user_details
where admin_u_id in (
        select admin_u_id
        from administrative_user
        where administrative_department = 'Human Resources')
```

```
1    select user_name
2    from user_details
3    where admin_u_id in (
4         select admin_u_id
5         from administrative_user
6         where administrative_department = 'Human Resources')
```

Data Output   Explain   Messages   Notifications

	user_name character varying (50) 🔒
1	Seamus Rounce
2	Selby Faraker
3	Marin Goodliff
4	Gauthier Rodgerson
5	Kathi Scotchmoor
6	Opal Carpenter
7	Chancey Mundwell

2) Find all the distinct contacts of ministry who are administered by an HR executive

SQL query:

Select distinct contacts
from ministry
where admin_u_id in (
        select admin_u_id
        From administrative_user
        Where administrative_department = ' Human Resources ')

```
1  Select distinct contacts
2  from ministry
3  where admin_u_id in (
4      select  admin_u_id
5      From administrative_user
6      Where administrative_department = 'Human Resources' )
```

Data Output   Explain   Messages

	contacts character varying (1000) 🔒
1	0049-3420
2	0378-1803
3	35000-879
4	49288-0320
5	55111-556
6	0603-6136
7	0456-1402
8	55154-3915
9	61957-2109
10	54569-1840
11	0113-0403

3) Find all admins who are earning more than 1 lakh LPA

SQL query:

Select employee_name, salary
from administrative_user
where salary > 100000

```
1  Select employee_name, salary
2  from administrative_user
3  where salary > 100000
```

Data Output   Explain   Messages

	employee_name character varying (100)	salary integer
1	Hamlen Rosencwaig	965983
2	Shannon Waight	212076
3	Garnet de Juares	130099
4	Denice Campanelle	989762
5	Willabella O' Scallan	719239
6	Reinaldos Oller	716944
7	Sharity Hafford	377678
8	Urban Schulter	183964
9	Vinny Finci	579366
10	Moritz Allbon	559810

4) Provide a user-employee pair for each user.

SQL query:

> select user_name, employee_name
> from user_details
> join administrative_user
> on user_details.admin_u_id = administrative_user.admin_u_id

```
1  select user_name, employee_name
2  from user_details
3  join administrative_user
4  on user_details.admin_u_id = administrative_user.admin_u_id
```

Data Output   Explain   Messages   Notifications

	user_name character varying (50)	employee_name character varying (100)
1	Travis Willoughley	Edouard Willmot
2	Rorie Mapes	Ravi Klimus
3	Dorry Lermouth	Fancie Biss
4	Alley Carah	Lou McNiven
5	Dacie Leades	Tiebold Langstone
6	Seamus Rounce	Jason Lichtfoth
7	Salome Rowet	Bari Lanham
8	Tiphani Arnot	Cassandra Dewire

5) City-pin 100001 has higher loss due to COVID. We want to provide special guidelines to all the healthcare workers and law enforcement.Provide their details.

SQL query:

Select *
From healthcare_workers_and_law_enforcement
where city = 100001

```
1  Select * from healthcare_workers_and_law_enforcement
2  where city = 100001
```

Data Output   Explain   Messages

employee_id [PK] integer	admin_u_id integer	city integer	status character varying (5000)	employee_name character varying (5000)	designation character varying (5000)	number_of_issues integer
1	21	57	100001	0825379180	Tomkin Gandy	Assistant Manager	10
2	94	92	100001	1157033210	Gregoire Cheatle	VP Product Management	17

6)Provide citywise total healthcare and law enforcement workers.

SQL query:

select city , count(*)
from healthcare_workers_and_law_enforcement
group by city

Query Editor   Query History

```
1   select city,count(*)
2   from healthcare_workers_and_law_enforcement
3   group by city
```

Data Output   Explain   Messages   Notifications

	city integer	count bigint
1	100120	1
2	100162	1
3	100119	1
4	100004	2
5	100001	2
6	100006	1
7	100080	1
8	100043	1

7) Provide the details of all the BANNED users.

SQL query :

Select *
From user_details
Where user_status = 'BANNED'

```
1  Select *
2  From user_details
3  Where user_status = 'BANNED'
```

Data Output   Explain   Messages

	user_id [PK] integer	admin_u_id integer	user_name character varying (50)	user_status character varying (8)	state_1 character varying (20)	city character varying (20)	issues_raised integer	reports_raised integer
1	1	14	Travis Willoughley	BANNED	Tennessee	315114	16	70
2	9	66	Tiphani Arnot	BANNED	Georgia	206642	13	76
3	10	21	Dorry Ashburner	BANNED	Indiana	147592	35	94
4	14	32	Lemuel Brumfield	BANNED	Ohio	341991	12	6
5	18	91	Edi Lewin	BANNED	Florida	187384	66	83
6	23	18	Chaddy Pozzi	BANNED	California	934775	77	87
7	25	10	Constantia Tapply	BANNED	Kentucky	482039	4	22
8	28	100	Claribel Murricanes	BANNED	Oregon	202596	25	71
9	29	31	Kerrie Cleverley	BANNED	Ohio	185518	73	25
10	39	98	Vivia Peskin	BANNED	Kansas	191788	1	24

8) Provide the region where there are maximum number of active users.

SQL query :

select state_1, count(*) as no_of_users
from user_details
where user_status = 'ACTIVE'
group by state_1
order by no_of_users desc limit 1;

Query Editor   Query History

```
1   select state_1, count(*) as no_of_users
2   from user_details
3   where user_status = 'ACTIVE'
4   group by state_1
5   order by no_of_users desc limit 1;
6
```

Data Output   Explain   Messages   Notifications

state_1 character varying (20)	no_of_users bigint
1 California	3

9) Provide user-staus wise user distribution.

SQL Query:

    select user_status,count(user_status)
    from user_details
    Group by user_status

Query Editor   Query History

```
1  select user_status,count(user_status)
2  from user_details
3  Group by user_status
4
```

Data Output   Explain   Messages   Notifications

	user_status character varying (8) 🔒	count bigint 🔒
1	ACTIVE	19
2	WARNING	26
3	PASSIVE	17
4	SPECIAL	16
5	BANNED	22

10) Provide employee details of the help desk operator who is also a firefighter, in decreasing order of raised issue.

SQL Query:

select employee_id,
      Employee_status,
      no_of_issues
from fire_fighter
where employee_status = 'Help Desk Operator'
order by no_of_issues desc

Query Editor	Query History

```
1   select employee_id,employee_status,no_of_issues from fire_fighter
2   where employee_status='Help Desk Operator'
3   order by no_of_issues desc
```

Data Output   Explain   Messages   Notifications

	employee_id [PK] integer	employee_status character varying (100)	no_of_issues integer
1	71	Help Desk Operator	9

11) Count the state wise number of admin users.

SQL Query:

select current_state,
        count(current_state)
from administrative_user
Group by current_state

```
Query Editor    Query History
1   select current_state, count(current_state) from administrative_user
2   Group by current_state
3
```

Data Output   Explain   Messages   Notifications

	current_state character varying (20)	count bigint
1	Oklahoma	1
2	North Carolina	2
3	Colorado	3
4	Florida	7
5	Nevada	2
6	Louisiana	4
7	New York	6
8	New Jersey	2

12) Provide healthcare of law enforcement workers' details who is administered by an administrator situated in 'Texas'.

SQL Query:

Select employee_id,employee_name
from healthcare_workers_and_law_enforcement
Where admin_u_id in(
      Select admin_u_id
      From administrative_user
      Where current_state = 'Texas'
)

	Query Editor	Query History
2	Where admin_u_id in(	
3	Select admin_u_id	
4	From administrative_user	
5	Where current_state = 'Texas'	
6	)	
7		
8		

Data Output   Explain   Messages   Notifications

	employee_id [PK] integer	employee_name character varying (5000)
1	22	Adrienne Leaf
2	46	Reggis Smewin
3	63	Keen Garza
4	80	Torrie Pashley

13) Provide goods and services' description by their quantity demanded/imported.

SQL Query:

```
select goods_desc,
       sum(qty) as qty
from supply_chain_goods_in
group by goods_desc
```

Query Editor   Query History

```
1  select goods_desc,sum(qty) as qty from supply_chain_goods_in
2  group by goods_desc
3  |
```
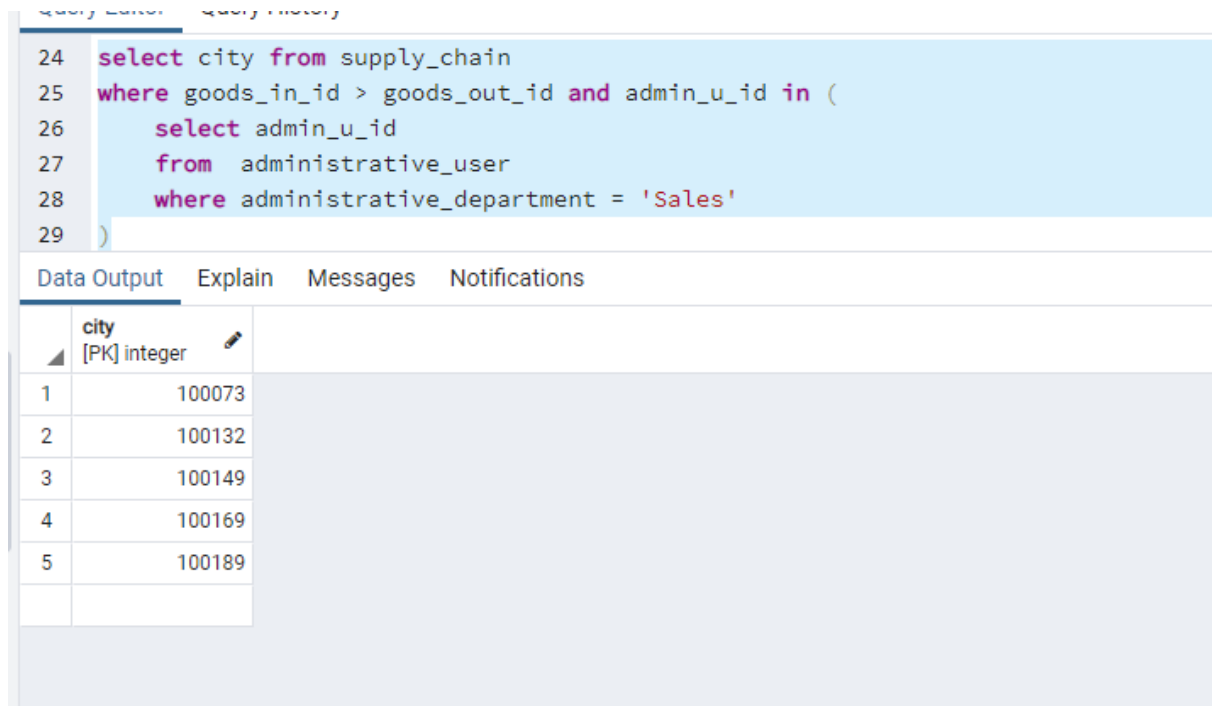
Data Output   Explain   Messages   Notifications

goods_desc character varying (1000) 🔒	qty bigint 🔒	
1	Midazolam hydrochloride	95
2	Witch Hazel	44
3	Beech	87
4	ANTIMONY POTASSIUM TARTR...	14
5	Nicotine Polacrilex	76
6	Titanium Dioxide and Zinc Oxide	111

14) Provide information about the cities where import notified later than export noticed and which is also administered by a Sales admin.

SQL Query:

```
select city from supply_chain
where goods_in_id > goods_out_id and admin_u_id in (
        select admin_u_id
        from  administrative_user
        where administrative_department = 'Sales'
)
```

15) Provide users' details with issues raised less than 4.

SQL Query:

select user_name , state_1 from user_details
where reports_raised < 4

16)Provide goods_name vise total suppliers and which goods are cheaper than 100.

SQL Query:

```
select goods_name,
        sum(supplier) as supplier
from supply_chain_goods_out
where market_price < 100
group by goods_name
order by supplier desc
```

Query Editor   Query History

```
1  select goods_name,sum(supplier) as suppliar from supply_chain_goods_out
2  where market_price < 100
3  group by goods_name
4  order by suppliar desc
5
```

Data Output   Explain   Messages   Notifications

	goods_name character varying (1000)	suppliar bigint
1	Physicians Total Care, Inc.	334
2	PD-Rx Pharmaceuticals, Inc.	291
3	Cardinal Health	266
4	REMEDYREPACK INC.	262
5	Dispensing Solutions, Inc.	232
6	Neutrogena Corporation	213

17) Provide usernames with the same admin location as user's.

SQL Query:

Select user_details.user_name
from user_details
Join administrative_user
On user_details.admin_u_id = administrative_user.admin_u_id
Where user_details.state_1 = administrative_user.current_state

```
34
35  select user_details.user_name from user_details
36  join administrative_user
37  on user_details.admin_u_id = administrative_user.admin_u_id
38  where  user_details.state_1 = administrative_user.current_state
39
40
```

Data Output   Explain   Messages   Notifications

	user_name character varying (50) 🔒
1	Aaron Bernollet
2	Jobie Audry
3	Gauthier Rodgerson
4	Dyann Grisbrook

18) Provide city-wise average salary of the admin.

SQL Query:

Select current_state, avg(salary) from administrative_user
Group by current_state

Query Editor	Query History

```
1  select current_state , avg(salary) from administrative_user
2  group by current_state
```

Data Output   Explain   Messages   Notifications

	current_state character varying (20)	avg numeric
27	Utah	899701.000000000000
28	New Hampshire	936700.000000000000
29	Nebraska	422065.000000000000
30	California	554658.222222222222
31	Kansas	49451.000000000000
32	Texas	511759.375000000000
33	Oregon	98202.000000000000
34	Idaho	12165.0000000000000000
35	Alabama	202523.000000000000
36	Alaska	171396.000000000000

19) Provide city-wise active users.

SQL Query:

```
select city,
        count(user_status)
from user_details
where user_status = 'ACTIVE'
group by city
```

Query Editor	Query History

```
1  |
2  select city,count(user_status) from user_details
3  where user_status = 'ACTIVE'
4  group by city
5
6
```

Data Output	Explain	Messages	Notifications

	city character varying (20) 🔒	count bigint 🔒
1	588269	1
2	138288	1
3	687740	1
4	297526	1
5	783576	1
6	331367	1

20) Provide the department details/location whose economy is nominal (between 40-70).

SQL Query:

```
select dept_id,
       location_,
       economy_of_dept
from transport_dept
where economy_of_dept between 40 and 70
```

Query Editor	Query History

```
1  select dept_id,location_, economy_of_dept from transport_dept
2  where economy_of_dept between 40 and 70
3
```

Data Output   Explain   Messages   Notifications

	dept_id [PK] integer	location_ character varying (1000)	economy_of_dept integer
1	100010	03UU07Z	65
2	100013	0JRH3KZ	55
3	100017	03UQ47Z	61
4	100018	0CFCXZZ	46
5	100019	0CRS7JZ	64
6	100023	075L4ZZ	46

21) The government officials want to see the department wise average salary.

SQL Query:

```
select administrative_department ,
       avg(salary)
from administrative_user
group by administrative_department
```

```
40
41  select administrative_department , avg(salary) from administrative_user
42  group by administrative_department
43
44
```

Data Output   Explain   Messages   Notifications

	administrative_department 🔒 character varying (50)	avg 🔒 numeric
1	Marketing	553159.250000000000
2	Training	356329.000000000000
3	Research and Development	466441.250000000000
4	Product Management	609788.666666666667
5	Sales	662641.142857142857
6	Business Development	446990.181818181818
7	Support	347631.875000000000
8	Legal	574205.875000000000
9	Accounting	571877.333333333333
10	Services	361806.153846153846
11	Human Resources	441693.333333333333

22)There are a lot of issues in the database, we want to see the department wise most prior issues, ordered by their priority.

SQL Query:

```
select max(priority),
        department_name
from issues_report_dept
group by department_name
order by max(priority) desc
```

```
1  select max(priority), department_name from issues_report_dept
2  group by department_name
3  order by max(priority) desc
```

Data Output   Explain   Messages   Notifications

	max integer	department_name character varying (700)
1	10	Marketing
2	10	Human Resources
3	10	Services
4	10	Research and Development
5	10	Sales
6	10	Product Management
7	10	Business Development
8	10	Support
9	10	Legal
10	10	Accounting
11	9	Engineering
12	8	Training

23) Provide issue raiser user names who have raised issues related to 'Business Development'.

SQL Query:

We need more information regarding issues and contact them.

```
select user_name
from user_details
where user_id in (
                  SELECT user_id
                  from issues_and_reports
                  where l_r_id in(Select i_r_id
                                  from
ISSUES_REPORT_DEPT
                                  where department_name = 'Business
Development')
                  )
```

```
 7   select user_name
 8   from user_details
 9   where user_id in (
10                   SELECT user_id
11                   from issues_and_reports
12                   where I_r_id in(Select i_r_id
13                                   from ISSUES_REPORT_DEPT
14                                   where department_name = 'Business Development')
15                   )
```

| Data Output | Explain | Messages | Notifications |

	user_name character varying (50) 🔒
1	Dorry Lermouth
2	Dorry Ashburner
3	Dael Trayling
4	Hyacinthia Rockhall
5	Lem Anan
6	Tulley Winpenny
7	Mei Elcoux
8	Marin Goodliff

Activate Windows
Go to Settings to activate

24)We want to see all the attachments in the archives which have the issue department associated is 'Product Management'. They want to proceed ahead with issues raised and want to investigate further and they want more information regarding the issues.

SQL Query:

```
select * from l_r_history
 where i_r_id in (
                SELECT i_r_id
                from issues_and_reports
                where l_r_id in(Select i_r_id
                        from ISSUES_REPORT_DEPT
                        where department_name = 'Product Management')
        )
```

```
6
7   select * from I_r_history
8   where i_r_id in (
9                   SELECT i_r_id
10                  from issues_and_reports
11                  where I_r_id in(Select i_r_id
12                          from ISSUES_REPORT_DEPT
13                          where department_name = 'Product Management')
14                  )
```

Data Output   Explain   Messages   Notifications

i_r_id integer	admin_u_id integer	ir_attachment_link character varying (500)
1	53	72	dedecms.com
2	75	58	mayoclinic.com
3	45	34	slideshare.net
4	91	61	bloomberg.com
5	33	8	posterous.com
6	61	64	edublogs.org
7	45	95	wufoo.com
8	47	24	cyberchimps.com

Activate Wir
Go to Settings t

25) We have a serious meeting with the government officials regarding possible propaganda spread through fake news, we need to see the department who has raised fake news (we consider the news fake when it has a fake ratio of more than 80%). Show the departments, we will invite their HODs for that.

SQL Query:

```
select administrative_department
from  administrative_user
where admin_u_id in(select admin_u_id
                    from news_and_current_affairs
                    where fake_ratio >0.80)
```

```
21
22   select administrative_department
23   from   administrative_user
24   where admin_u_id in(select admin_u_id
25                       from news_and_current_affairs
26                       where fake_ratio >0.80)
27
28
```

Data Output   Explain   Messages   Notifications

	administrative_department character varying (50) 🔒
1	Human Resources
2	Training
3	Business Development
4	Human Resources
5	Business Development
6	Business Development
7	Marketing
8	Services

26) Provide user names and their respective status who is administered by the engineer.

SQL Query:

```
select user_name, user_status
from user_details
join administrative_user
on user_details.admin_u_id = administrative_user.admin_u_id
where administrative_department = 'Engineering'
```

```
6   select user_name, user_status from user_details
7   join administrative_user
8   on user_details.admin_u_id = administrative_user.admin_u_id
9   where administrative_department = 'Engineering'
```

Data Output   Explain   Messages   Notifications

	user_name character varying (50)	user_status character varying (8)
1	Haleigh Pren	WARNING
2	Bel Aggs	SPECIAL
3	Vivia Peskin	BANNED
4	Geordie Braz	ACTIVE
5	Elissa Brotherton	BANNED
6	Sidnee Garman	ACTIVE
7	Tammy Simon	BANNED

27) Provide administrative information who has raised possible fake news stream (fake ratio > 0.2) also the admin must be from Georgia city.

SQL Query:

select administrative_department , current_state
from administrative_user
where admin_u_id in(select admin_u_id
                    from news_and_current_affairs
                    where fake_ratio >0.20)
and current_state = 'Georgia'

```
21
22   select administrative_department , current_state
23   from  administrative_user
24   where admin_u_id in(select admin_u_id
25                       from news_and_current_affairs
26                       where fake_ratio >0.20)
27   and current_state = 'Georgia'
28
29
```

Data Output   Explain   Messages   Notifications

	administrative_department character varying (50)	current_state character varying (20)
1	Human Resources	Georgia
2	Services	Georgia
3	Legal	Georgia
4	Human Resources	Georgia
5	Research and Development	Georgia

28) Provide department names with the number of reports raised between 10 and 20 and it is not proven fake (proven fake news is the news with fake ratio > 50%).

SQL Query:

select department_id
from news_and_current_affairs
where fake_ratio < 0.50 and number_of_report between 10 and 20

```
4  select department_id from news_and_current_affairs
5  where fake_ratio < 0.50 and number_of_report between 10 and 20
```

Data Output   Explain   Messages   Notifications

	department_id integer 🔒
1	71
2	55
3	76
4	54
5	34
6	20
7	80
8	20
9	18
10	11
11	59
12	99

29) Provide information about import goods which has more than 15 suppliers.

SQL Query:

```
select goods_name,goods_desc,
        supply_chain_goods_in.goods_in_id
from supply_chain_goods_in
join supply_chain
on supply_chain_goods_in.goods_in_id = supply_chain.goods_in_id
where number_of_suppliers > 15
```

```
 8  select goods_name,goods_desc,supply_chain_goods_in.goods_in_id from supply_chain_goods_in
 9  join supply_chain
10  on supply_chain_goods_in.goods_in_id = supply_chain.goods_in_id
11  where number_of_suppliers > 15
```

Data Output   Explain   Messages   Notifications

	goods_name character varying (1000)	goods_desc character varying (1000)	goods_in_id [PK] integer
46	REMEDYREPACK INC.	Quetiapine fumarate	22
47	Reckitt Benckiser LLC	Benzocaine	52
48	BioActive Nutritional, Inc.	Dopamine,	5
49	TEVA Pharmaceuticals USA Inc	OXYBUTYNIN CHLORIDE	46
50	Roxane Laboratories, Inc	Dexamethasone	64
51	Pliva Inc.	Benztropine Mesylate	44
52	West-ward Pharmaceutical Corp.	Heparin Sodium	80
53	Upsher-Smith Laboratories, Inc	sulfacetamide sodium and sulfur	43
54	Snowberry New Zealand Ltd	Zinc Oxide	17
55	Citron Pharma LLC	Valacyclovir Hydrochloride	87

30) Provide goods information which has more than 90 issues attached with them.

SQL Query:

    select goods_name,goods_desc,qty,
        market_price
    from supply_chain_goods_out
    join supply_chain
    on supply_chain_goods_out.goods_out_id = supply_chain.goods_out_id
    where number_of_issues > 90

```
8   select goods_name,goods_desc,qty,market_price from supply_chain_goods_out
9   join supply_chain
10  on supply_chain_goods_out.goods_out_id = supply_chain.goods_out_id
11  where number_of_issues > 90
```

Data Output   Explain   Messages   Notifications

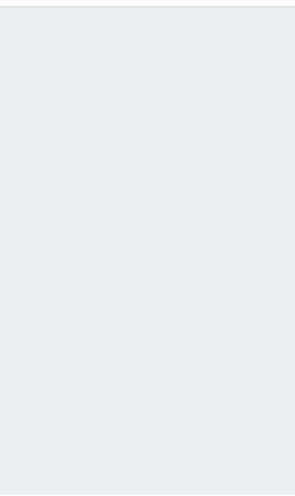|	goods_name character varying (1000)	goods_desc character varying (1000)	qty integer	market_price integer
1	REMEDYREPACK INC.	Pantoprazole Sodium	15	63
2	Laboratoires Boiron	ARNICA MONTANA	46	98
3	REMEDYREPACK INC.	Carvedilol	79	61
4	REMEDYREPACK INC.	Carvedilol	79	61
5	GRIFOLS USA, LLC	factor ix complex	5	41
6	Mylan Pharmaceuticals Inc.	levothyroxine sodium	59	73
7	Mylan Pharmaceuticals Inc.	levothyroxine sodium	59	73
8	Teva Pharmaceuticals USA Inc	Amoxicillin and Clavulanate Po...	24	25
9	REMEDYREPACK INC.	ziprasidone hydrochloride	75	74
10	PhotoMedex, Inc.	Octinoxate, Zinc Oxide	48	52
11	PhotoMedex, Inc.	Octinoxate, Zinc Oxide	48	52

31) Provide admin information on who is associated with a fire fighter department and more than 25 issues raised.

SQL Query:

```
select employee_name,tenure,salary
from administrative_user
join fire_fighter
on administrative_user.admin_u_id = fire_fighter.admin_u_id
where no_of_issues > 25
```

```
 8   select employee_name,tenure,salary from administrative_user
 9   join fire_fighter
10   on administrative_user.admin_u_id = fire_fighter.admin_u_id
11   where no_of_issues > 25
```

Data Output   Explain   Messages   Notifications

	employee_name character varying (100)	tenure character varying (100)	salary integer
1	Edouard Willmot	53	163118
2	Nikki De Benedetti	76	148859
3	Anjanette Salsbury	42	858956
4	Fredericka Abbotson	17	719196
5	Porter Lympenie	29	693487
6	Porter Lympenie	29	693487
7	Adaline Dorin	87	202523
8	Kinnie Philler	17	699588
9	Elonore Hanaford	31	466182
10	Augustin Winsbury	98	316230

32) Provide the total number of issues and reports raised till now.

SQL Query:

select sum(issues_raised),
    sum(reports_raised)
from user_details

```
6
7  select sum(issues_raised), sum(reports_raised) from user_details
```

Data Output   Explain   Messages   Notifications

sum bigint	sum bigint
4808	5017

33) Provide administrative information: Peradmin average user reports and issues.

SQL Query:

select administrative_user.admin_u_id,employee_name,
    avg(issues_raised)avg_issues_raised,
    avg(reports_raised)avg_reports_raised
from user_details
join administrative_user
on administrative_user.admin_u_id = user_details.admin_u_id
group by administrative_user.admin_u_id,employee_name
order by admin_u_id

```
 7  select administrative_user.admin_u_id,employee_name,
 8      avg(issues_raised)avg_issues_raised,
 9      avg(reports_raised)avg_reports_raised
10      from user_details
11  join administrative_user
12  on administrative_user.admin_u_id = user_details.admin_u_id
13  group by administrative_user.admin_u_id,employee_name
14  order by admin_u_id
```

Data Output   Explain   Messages   Notifications

	admin_u_id [PK] integer	employee_name character varying (100)	avg_issues_raised numeric	avg_reports_raised numeric
1	2	Hamlen Rosencwaig	53.0000000000000000	28.0000000000000000
2	3	Shannon Waight	82.0000000000000000	27.0000000000000000
3	5	Denice Campanelle	35.5000000000000000	58.5000000000000000
4	8	Sharity Hafford	42.0000000000000000	60.0000000000000000
5	10	Vinny Finci	46.5000000000000000	16.0000000000000000
6	11	Moritz Allbon	12.0000000000000000	59.0000000000000000
7	12	Maximilian Crummey	100.0000000000000000	56.0000000000000000
8	13	Tiebold Langstone	36.2500000000000000	39.2500000000000000

34) Provide admins who are responsible for managing news attachments.

SQL Query:

```
select distinct(news_attachment.admin_i_id),
        administrative_department,
        current_state,
        attachment_comment
        from news_attachment
join  administrative_user
on  administrative_user.admin_u_id = news_attachment.admin_i_id
```

```
 7   select distinct(news_attachment.admin_i_id),
 8           administrative_department,
 9           current_state,
10           attachment_comment
11           from news_attachment
12   join   administrative_user
13   on    administrative_user.admin_u_id = news_attachment.admin_i_id
```

Data Output   Explain   Messages   Notifications

	admin_i_id integer	administrative_department character varying (50)	current_state character varying (20)	attachment_comment character varying (100)
1	39	Support	Ohio	Packers
2	36	Support	Colorado	Grayhawk
3	13	Business Development	New York	Lakewood
4	52	Engineering	Alabama	Kingsford
5	29	Marketing	Florida	Twin Pines
6	81	Services	Virginia	Vidon
7	21	Sales	Texas	Ridgeway
8	14	Training	Texas	Morningstar
9	5	Human Resources	Georgia	Linden

35)Provide special user details (user status is 'Special').

SQL Query:

select user_id, user_name, city
from user_details
where user_status = 'SPECIAL'

```
8   select user_id, user_name, city from user_details
9   where user_status = 'SPECIAL'
```

Data Output   Explain   Messages   Notifications

	user_id [PK] integer	user_name character varying (50)	city character varying (20)
1	15	Mirabelle Capron	342205
2	20	Bel Aggs	347246
3	22	Alia Kilmurray	550960
4	26	Kimble Boole	761663
5	34	Cleopatra Rickeard	860847
6	37	Hervey Monro	640315
7	38	Nicole Sherreard	925496
8	42	Morgan Laurance	921544
9	47	Phyllis Harborow	398177

36) Firefighters got a victorious job done by a series of rescues in cities with the help of our analyses, we want celebrate that. Find the admin who are associated with this department and has salary more than 50k₹.

SQL Query:

```
select administrative_user.admin_u_id
from administrative_user
join
administrative_dept_rel
on
administrative_user.admin_u_id = administrative_dept_rel.admin_u_id
where supportive_dept = 'fire fighters' and salary > 50000
```

```
 6
 7   select administrative_user.admin_u_id from administrative_user
 8   join
 9   administrative_dept_rel
10   on
11   administrative_user.admin_u_id = administrative_dept_rel.admin_u_id
12   where supportive_dept = 'fire fighters' and salary > 50000
13
```

Data Output   Explain   Messages   Notifications

	admin_u_id [PK] integer
1	7
2	65
3	25
4	78
5	38
6	78
7	60
8	56

37) We need to see the issues along with their attachments which has priority more than 5.

SQL Query:

```
select i_r_history.ir_attachment_link,
        issues_report_dept.priority
from i_r_history
join issues_report_dept
on issues_report_dept.admin_u_id=i_r_history.admin_u_id
where priority>5
order by priority desc
```

```
1  select i_r_history.ir_attachment_link,issues_report_dept.priority from i_r_history
2  join issues_report_dept
3  on issues_report_dept.admin_u_id=i_r_history.admin_u_id
4  where priority>5
5  order by priority desc
6
```

Data Output   Explain   Messages   Notifications

	ir_attachment_link character varying (500)	priority integer
1	theatlantic.com	10
2	parallels.com	10
3	apple.com	10
4	mysql.com	10
5	europa.eu	10
6	posterous.com	10

38)We have got some extra admins from the resources department, provide admins who are busy handling more than 10 issues in the ministry department as well as the fire fighter department.

SQL Query:

select admin_u_id from ministry
where admin_u_id in (select admin_u_id
                                    from fire_fighter
                                    where no_of_issues > 10)
and number_of_issues > 10

```
11   |
12   select admin_u_id from ministry
13   where admin_u_id in (select admin_u_id
14                         from fire_fighter
15                         where no_of_issues > 10)
16   and number_of_issues > 10
17
18
```

Data Output   Explain   Messages   Notifications

	admin_u_id 🔒 integer
1	90
2	14
3	79
4	56
5	72
6	93
7	39
8	7

39) We are analyzing imports and we need to provide specific information to a TTP (Third-party Program for data analytics), for the early business, they want to provide guidelines. Provide supply chain members and their details with less than 5 warehouses.

SQL Query:

```
select supply_chain_goods_in.goods_in_id,
       goods_name, goods_desc
from supply_chain_goods_in
join supply_chain
on supply_chain.goods_in_id = supply_chain_goods_in.goods_in_id
where number_of_warehouses < 5
```

```
7  select supply_chain_goods_in.goods_in_id,goods_name, goods_desc from supply_chain_goods_in
8  join supply_chain
9  on supply_chain.goods_in_id = supply_chain_goods_in.goods_in_id
10 where number_of_warehouses < 5
```

Data Output Explain Messages

	goods_in_id [PK] integer	goods_name character varying (1000)	goods_desc character varying (1000)
1	11	Actavis Inc.	Desipramine Hydrochloride
2	15	ALK-Abello, Inc.	Beech
3	19	The Man Can, LLC	ETHYL ALCOHOL
4	20	STAT RX USA LLC	TADALAFIL
5	24	Topco Associates LLC	Avobenzone, Octisalate, Octocr...
6	49	Lake Erie Medical & Surgical Su...	milnacipran hydrochloride
7	51	Good Neighbor Pharmacy	Isopropyl Alcohol
8	52	Reckitt Benckiser LLC	Benzocaine
9	57	AMI Cosmetic Co.,Ltd.	Allantoin
10	66	General Injectables & Vaccines,...	Ketorolac Tromethamine

40) We have several requests from various suppliers that they need some medical facilities at their warehouses, but we have limited healthcare workers, so currently, we need only healthcare worker's details from the cities with suppliers having less than 15 warehouses.

SQL Query:

```
select employee_name
from healthcare_workers_and_law_enforcement
where city in (select city
                from supply_chain
                where number_of_warehouses < 15)
```

```
13  select employee_name
14  from healthcare_workers_and_law_enforcement
15  where city in (select city
16                  from supply_chain
17                  where number_of_warehouses < 15)
18
19
20
```

Data Output   Explain   Messages   Notifications

| | employee_name
character varying (5000) |
|---|---|
| 1 | Lyell Schoffel |
| 2 | Rivkah Ughi |
| 3 | Kathy Kubecka |
| 4 | Cherida Brameld |
| 5 | Portia Standbridge |
| 6 | Tomkin Gandy |
| 7 | Adrienne Leaf |
| 8 | Sherill Speight |