DBMS Lab Assignment-1 Report

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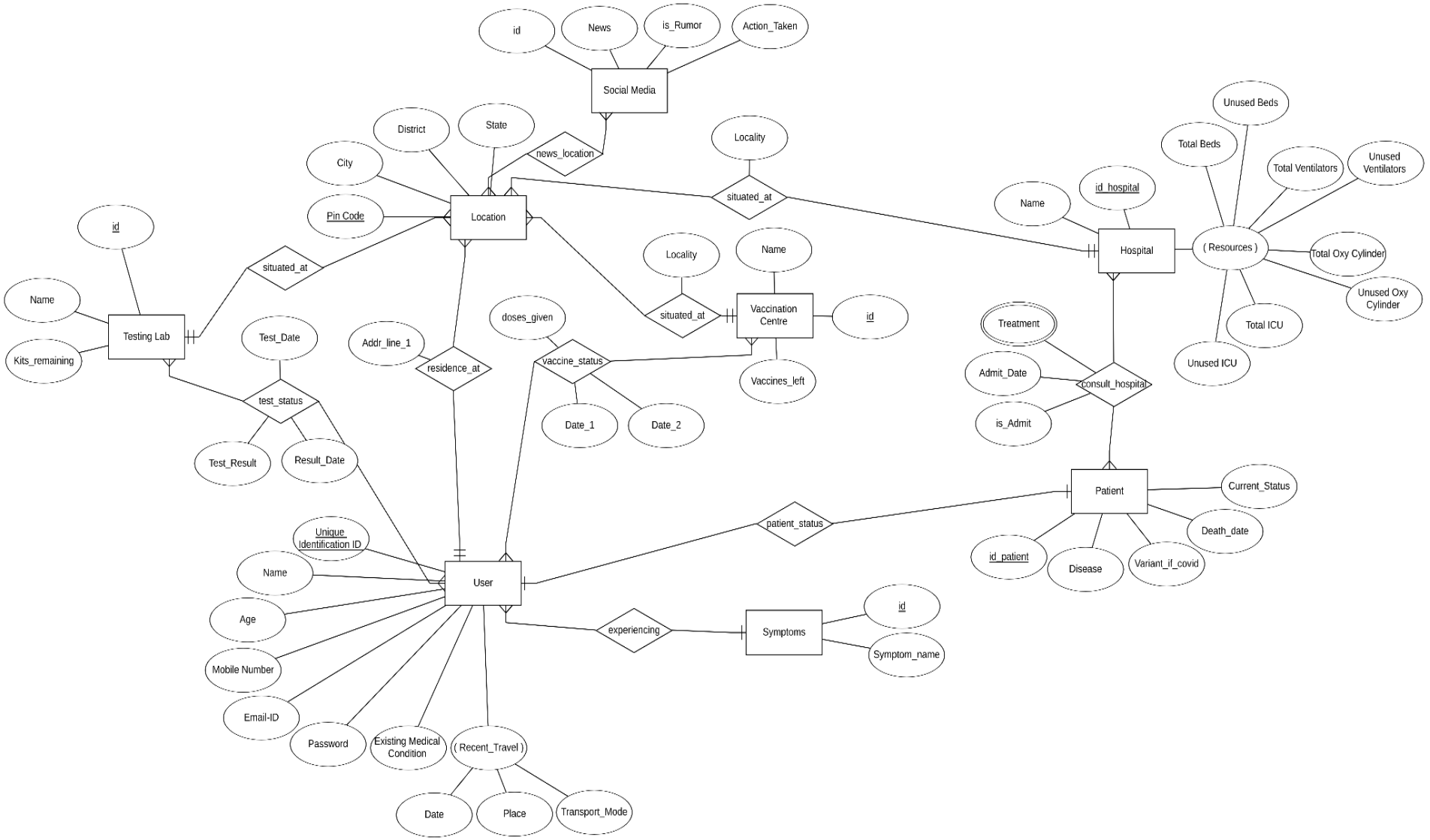

id
News
is_Rumor
Action_Taken
Social Media
District
State
City
news_location
Locality
Pin Code
Location
situated_at
Unused Beds
Total Beds
Total Ventilators
Unused Ventilators
Name
id_hospital
Hospital
(Resources)
Total Oxy Cylinder
Unused Oxy Cylinder
Total ICU
Unused ICU
id
Name
Testing Lab
Kits_remaining
situated_at
Test_Date
Addr_line_1
residence_at
doses_given
vaccine_status
Locality
Name
situated_at
Vaccination Centre
id
Vaccines_left
Date_1
Date_2
Treatment
Admit_Date
is_Admit
consult_hospital
test_status
Test_Result
Result_Date
Patient
Current_Status
Death_date
id_patient
Disease
Variant_if_covid
patient_status
Unique Identification ID
Name
Age
Mobile Number
Email-ID
Password
Existing Medical Condition
(Recent_Travel)
Date
Place
Transport_Mode
User
experiencing
Symptoms
id
Symptom_name

Description of ER Diagram

In the given ER Diagram, we have 8 entities, namely:

- User

  The User has attributes which describe his unique identification number, contact details, login details, health details and recent travel history

- Patient

  The Patient is a user who has his own unique patient ID, current status, disease, covid variant if covid infected and date of death if deceased

- Location

  This entity has the Pin Code, City, District and State

- Hospital

  A Hospital has its ID, name and the data of various resources such as ICU, Oxygen Cylinders, Beds and Ventilators

- Vaccination Centre

  A Vaccination Centre has its ID, name and vaccine data

- Testing Lab

  A Testing Lab has its ID, name and testing kit data

- Symptoms

  The entity Symptoms has various symptom names listed along with their unique ID

- Social Media

  The Social Media entity has news which is scraped from social media. Every news has its own unique ID along with whether it's a rumor or not and the action taken to stop the further spread of rumor.

The relationships in the ER Diagram are:

- patient_status : This relation defines whether a user is a patient or not, ie, whether he is suffering from a disease or not.
- experiencing : This relation defines the symptoms experienced by a specific user.
- consult_hospital : This relationship defines the hospital which a particular patient is consulting and whether he is admitted or not along with the treatment he received. If admitted, the relation also has an Admit_Date attribute. This is a many to many relationship.
- situated_at : This relation is defined between Hospital and Location, Vaccination Centre and Location and Testing Lab and Location. This is a one to many relationship and has an attribute to store the locality of the corresponding entity. Also, it is mandatory that every record in the Hospital, Vaccination Centre and Testing Lab has to be related to a record in Location.
- test_status : This relationship is defined between a User and a Testing Lab and contains the attributes to store test date, test result and result date. This is a many to many relationship.
- residence_at : This relationship is defined between User and Location and stores the address of the user. This is a one to many relationship.
- vaccine_status : This relationship is defined between user and Vaccination Centre and stores the data for number of doses given and the date at which each dose is administered. This is a many to many relationship.
- news_location : This is a relationship defined between Social Media and Location and this defines that the news is pertaining to which location. This is a many to many relationship.

Tables

User
Unique identification Number *Name* *Age* *Mobile Number* *Email-ID* *Password* *Existing Medical Condition* *Recent Travel* *Date* *Place* *Transport_Mode*

Patient
id_patient *Disease* *Variant_if_covid* *Death_date* *Current_Status*

Location
Pin Code *City* *District* *State*

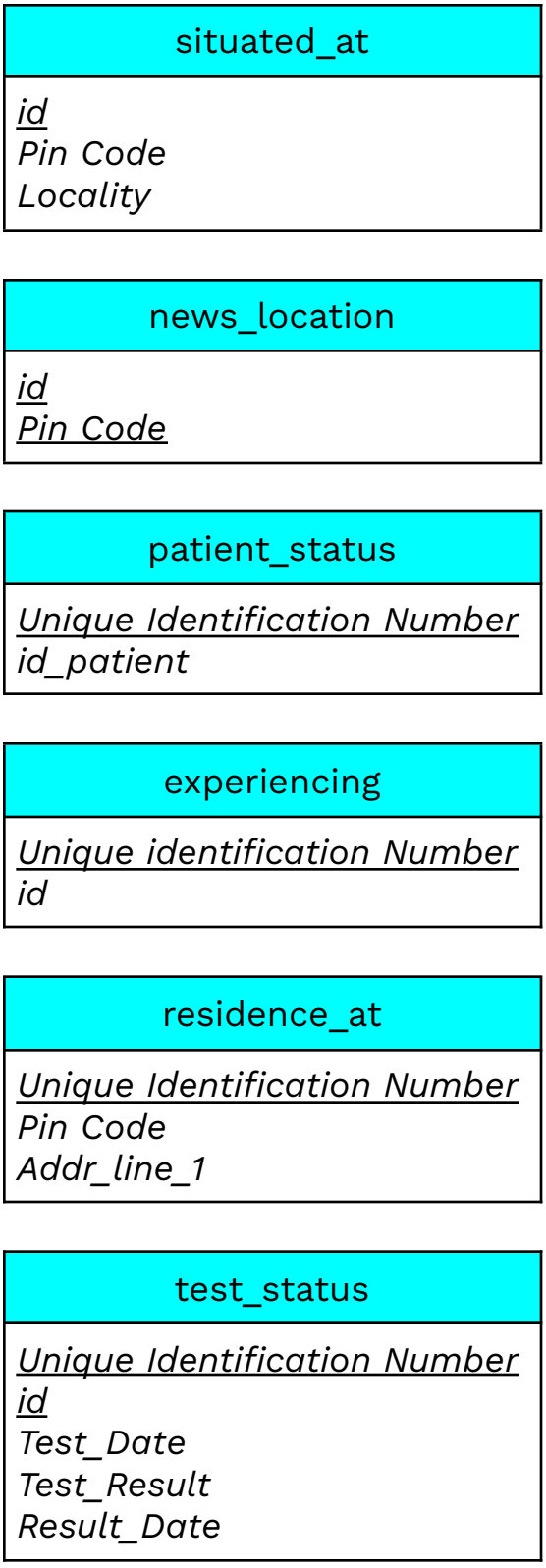
Hospital
id_hospital *Name* *Resources* *Total Beds* *Unused Beds* *Total Ventilators* *Unused Ventilators* *Total Oxygen Cylinders* *Unused Oxygen Cylinders* *Total ICU* *Unused ICU*

Vaccination Centre
id *Name* *Vaccines_left*

Testing Lab
id *Name* *Kits_remaining*

Symptoms
id *Symptom_name*

Social Media
id *News* *is_Rumor* *Action_Taken*


situated_at
id
Pin Code
Locality
news_location
id
Pin Code
patient_status
Unique Identification Number
id_patient
experiencing
Unique identification Number
id
residence_at
Unique Identification Number
Pin Code
Addr_line_1
test_status
Unique Identification Number
id
Test_Date
Test_Result
Result_Date

vaccine_status
Unique Identification Number *id* *doses_given* *Date_1* *Date_2*

consult_hospital
id_patient *id_hospital* *is_Admit* *Admit_Date* *Treatment*

*Underlined - Primary Key
*Composite attributes are defined by giving a tab space

Features

By using this database structure the users, government agencies and healthcare officials can access and interpret the data in various ways. This database can provide the progress of the pandemic with time as we have stored dates of all the new found cases and the number of deaths can also be calculated using our model. Also the inventory can also be taken care of as we have stored data of various things used in hospitals, vaccination centers and testing labs. As we have also used the Location entity, we can also classify or filter our required data according to given location and use it to monitor the progress of the pandemic. Contact tracing can also be done as we store recent travel history and his residential address in the database model.

Our model has additional functionality to also see which symptoms are more common among the general public and the percentage of tests which have a positive result. We can also find the number of fully, partially and non vaccinated people.

Thank You