

CS480 – Course project

Summer 2021

Database: **covid19_vaccination**

Description:

Consider the following database design. A user is signed into the portal and has a unique ID like (SSN), name, location and a phone number. Each county or a district has different vaccination centers each of which has a unique ID, which records the track of people vaccinated, the dose of the vaccine and the stock of vaccination left. A person can get the vaccine from any center but has to get the same 2 doses of vaccine. Each vaccine has a unique number which can be used to track the person who has received the vaccine and the date they got the vaccine. There is also information about the type of vaccine and the possible side effects caused by the vaccine in each dose. Finally, the user can see the states or the counties which have the highest vaccinations received.

Part 2 – CRUD (Create, read, update, and delete)

Deadline: July 17, 2021

List of strong entities:

1. user
2. vaccination_center
3. vaccine

List of weak entities:

4. receivers
5. stock
6. side_effects

We will implement the following functionality using Java and SQL with necessary GUI interfaces.

1. Insert/delete/update/read a **user** all attributes including the SSN should be inserted.
2. Insert/delete/update/read a **receiver** all attributes including the receiver id should be inserted.
3. Insert/delete/update/read a **vaccine** (all attributes except the vaccine_id). The vaccine_id should be generated by the system automatically using MySQL autoincrement.

Part 3 – Queries

Deadline: July 31, 2021

Based on the Demo, we will implement the following functionality using Java and SQL with necessary GUI interfaces.

Trivial Queries:

1. List all the Users
2. List all Vaccination centers in a particular county
3. List the all the vaccine names.

Non-trivial Queries:

1. List all the users who received both the doses of vaccination in the previous month.
2. List the state which received the highest vaccination till date.
3. List the state which has the highest stock of Pfizer available.
4. List the county where people had the maximum side effects after taking each type of vaccine within the past 48 hours.
5. List all the counties in a particular state which have vaccination rates less than 50% (Less than 50% of the people have been vaccinated).
6. List all county in a particular state which have the highest vaccination centers.