

CS480 – Course project

Summer 2021

Database: covid19_vaccines_information

Description:

We are tracking information about COVID-19 vaccines across the globe that are being developed, going under clinical trials, or approved. Each vaccine will include the candidate name, mechanism of vaccination, list of sponsors, background details, and a list of countries participating in the trials. For each sponsor, we're storing the name of the sponsor, as well as the country that the sponsor is based in. Moreover, we're storing the name and the country code for all the countries in the world.

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

Deadline: July 17, 2021

List of strong entities:

1. Country
2. Sponsor
3. Vaccine

List of weak entities:

4. VaccineTrialsInCountry
5. SponsorManufacturesVaccine

We will implement the following functionality using either Python/Django and MySQL or Java and MySQL with necessary GUI interfaces.

1. Insert/delete/update/read a **Country**. The country code attribute will act as a primary key and thus must be unique.
2. Insert/delete/update/read a **Vaccine**. The vaccine name attribute will act as a primary key and thus must be unique.
3. Insert/delete/update/read a **Sponsor**. The sponsor name attribute will act as a primary key and thus must be unique.
4. Insert/delete/update/read a **VaccineTrialsInCountry**. The vaccine name and country code will both act as a primary key and thus, the combination must be unique.
5. Insert/delete/update/read a **SponsorManufacturesVaccine**. The sponsor name and vaccine name will both act as a primary key and thus, the combination must be unique.

Part 3 – Queries

Deadline: July 31, 2021

Based on the Demo, we will implement the following functionality either Python/Django and MySQL or Java and MySQL with necessary GUI interfaces.

Trivial Queries:

1. CRUD Country: edit a country
2. CRUD Country: delete a country
3. CRUD SponsorManufacturesVaccine: edit a SponsorManufacturesVaccine
4. CRUD SponsorManufacturesVaccine: delete a SponsorManufacturesVaccine
5. List all sponsors based in a specific country by country code

Non-trivial Queries:

1. List all sponsors and their countries
2. List all vaccines based in a specific country
3. List all the vaccines manufactured by a specific sponsor.
4. List all countries with the number of vaccine trials.
5. List all sponsors who's vaccines are in a specific vaccine status. A vaccine status is defined as the different phases of clinical trials or if approved for use.