

**Database Implementation for Covid-19 Data Tracking:**

In this Project you will:

Design a **database** for keeping track of Covid-19 pandemic data in the USA, **map the requirements to an ER diagram and to relational tables**.

Here are the **database requirements** (The data is not included in this phase):

1. The data is organized by counties, so we need to keep track of each US state, and the list of counties within that state.
2. For each **STATE**, we want to store the **state abbreviation**, state name, its capital city along with the number of officials which can be derived from the officials' table.
3. Elected **OFFICIALS** will be organized by each state – for each elected official, the data will include their **ID**, name (**elected\_official**), designation (office), email and phone number. **The IDs, email ids, and the phone numbers are unique**. The officials' names may or may not be unique. Each state has a different number of elected officials.
4. For each **CITY**, we want to store the city name and the state it is a part of. Some cities can span across multiple counties. The city name is unique only within a state regardless of whether it spans multiple counties or not. Each city is within one state only.
5. For each **COUNTY**, we want to store the county name and its population. Each county is within one state, but the county name is unique only within that state. Counties in different states may have the same name. A county can have 1 or more cities in it.
6. **COVIDDATA** will be organized by county – for each date. The data will include several pieces of information like the state abbreviation, number of confirmed **new daily** infections, and the number of confirmed **new daily** deaths. We will also keep track of derived information about the **total monthly** infections and **total monthly** deaths from Covid-19 in each county for each date.
7. The **covidData.txt** data file has more than 62,000 lines and includes the data for 5 states: Texas, New Mexico, Oklahoma, Arkansas, and Louisiana between March 22 and August 2, 2020.
8. This surveillance data will be used for tracking US trends in disease incidence (the number of new cases of a disease in a population as time progresses) and to stay in contact with the state's elected officials.

**You should turn in a word document via Canvas to a document that includes:**

1. The **EER diagram** (NOT UML) for your design. Include a document that **states any assumptions** that you made and your design choices.
2. **Relational Schema** of your EER diagram.

**Some rules to follow:**

1. You can use any ER DB design tools, or you can draw the ER diagram by hand and scan the image and turn it in. In your documentation, describe which **tool you used**, if any, and **where you got it from**.
2. If the project has 2 students, include both names and ids in your document along with a description of **what each member did**.
3. A **signed copy** of the handwritten and **dated** Honor Code shown below should be included in every project and exam submission. **(Failing to add it will cost 20 points)**

4. **Students are required to NOT share their solutions to Covid 19 project. They are also required to not discuss the solution with others or use anyone else's solution. Any violation of the policy will result in a 0 for this project for all students concerned.**

## **HONOR CODE**

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code

I will not participate in any form of cheating/sharing the questions/solutions.

The Honor Code can be typed at the top of your solution document. The image of your dated signature (handwritten signature with date) needs to be included at the bottom of the Honor Code.