

# Database for Vaccine Distribution & Logistics

Team 23

Jordan Pappas

Kamil Ahmed Aslam

Mohamed Keita

Website URL: <http://betaweb.csug.rochester.edu/~jpappas2/index.html> (please open in Chrome)

## Project Report

### 1. Project Description:

The logistics sector is an important player in the distribution of the new COVID-19 vaccines. To address the urgency of quickly vaccinating the world population, we developed a database solution to increase distribution efficiency and allow organizations to closely monitor the administration of vaccine doses. Our database system provides users with real time information about the vaccine supply chain: vaccine designers, distribution centers, manufacturers, and recipients. Using this information, users can input queries, add information, and analyze summary statistics surrounding vaccine distribution.

### 2. Summary:

Only one of our group members had prior experience with SQL and none of our members had prior experience with HTML or PHP, so there was a major learning curve while completing milestone 3 and milestone 4. However, this resulted in a fulfilling and challenging learning experience. As a group, the most challenging part of the project was utilizing SQL. Transforming our database idea into an ER diagram, relational map, and finally a working MySQL database was an arduous undertaking, but it gave us hands-on experience with the entire database design process. We now understand how the knowledge gained from this project can be readily applied to a real-world scenario, i.e. working with a customer to produce a database defined by customer requirements.

On the other hand, the website creation using HTML was the most fun part of the process because we were able to finally bring the database to life with user interface and input. Moreover, developing the user interface using HTML and CSS allowed for creativity and UX design principles.

Fortunately, we were able to implement our original design from milestone 1 accurately.

### 3. Future Works:

If given another semester to continue developing the website, we would focus on making the site more robust as it relates to logistics monitoring. First, we would implement a shipment tracking display. This would provide users real-time updates on the status of vaccine shipments. In addition, we would include logistics metrics that would serve to track supply chain performance. These metrics would include cycle time of vaccine development to administration, inventory days of supply, and on-time delivery rate.