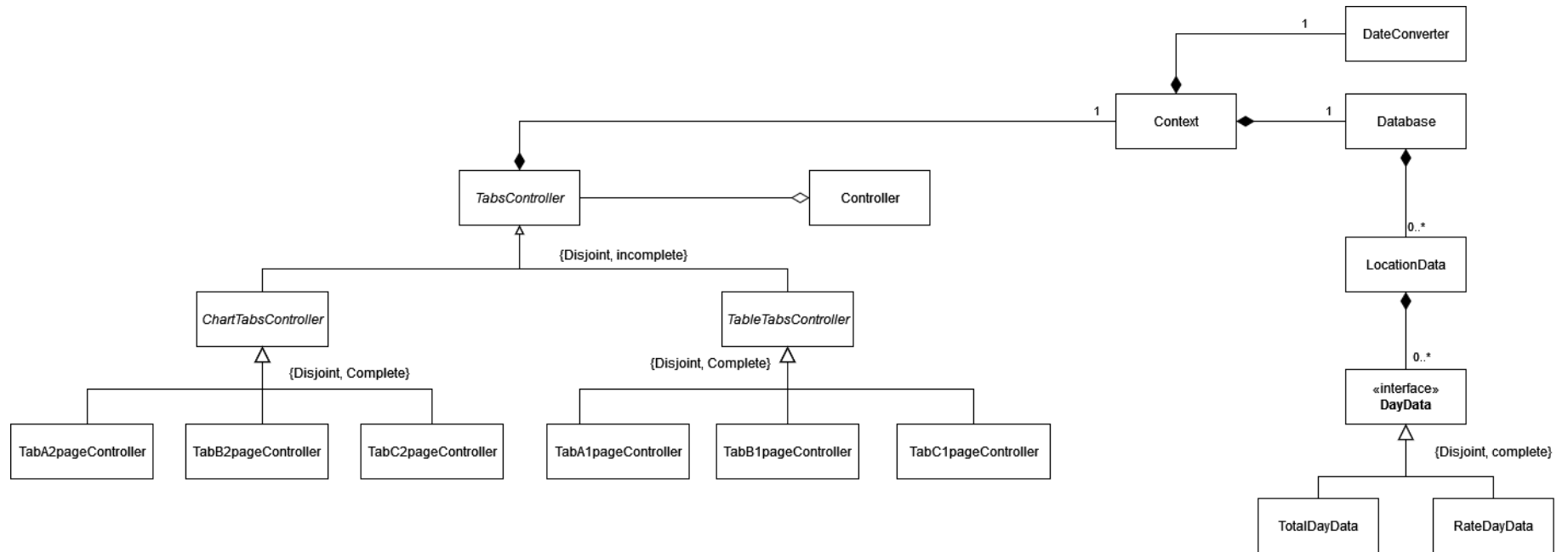


Updated Class Diagram



System Analyses:

1. The system first stores the entire dataset into the internal database first, then any request to display data queries from the database, as opposed to directly querying the .csv file. This serves two benefits. One, is that this approach prevents any error caused by changes to the .csv file when the program is running. Two, storing in an internal database allows more efficient querying and more data analyses can be performed. For example, the current implementation stores **LocationData** in a hash map. This allows **O(1)** time access when querying the database for a location's data, whereas directly querying the .csv file requires linear search, which is **O(n)**.
2. Controllers for task A1, B1, C1 inherits **TableTabsController**, and controllers for task A2, B2, C2 inherits **ChartTabsController**. This means that the main functionality for fulfilling the task requirements are in **TableTabsController** and **ChartTabsController**, not in **TabA1pageController**, **TabA2pageController**, and so on. This prevents coding the same functionality repeatedly, since the main difference between, say, A1, B1, and C1 are the contents displayed, not their functionality. It also makes changes more convenient because changing the superclass alone can affect all three subclasses.
In particular, **TabsController** is responsible for handling choosing country in the checkboxes, **ChartTabsController** is responsible for generating the chart and handling date range selection, while **TableTabsController** is responsible for generating the table and handling single date selection.

User Input Control / Error Checking Enforced

Overall:

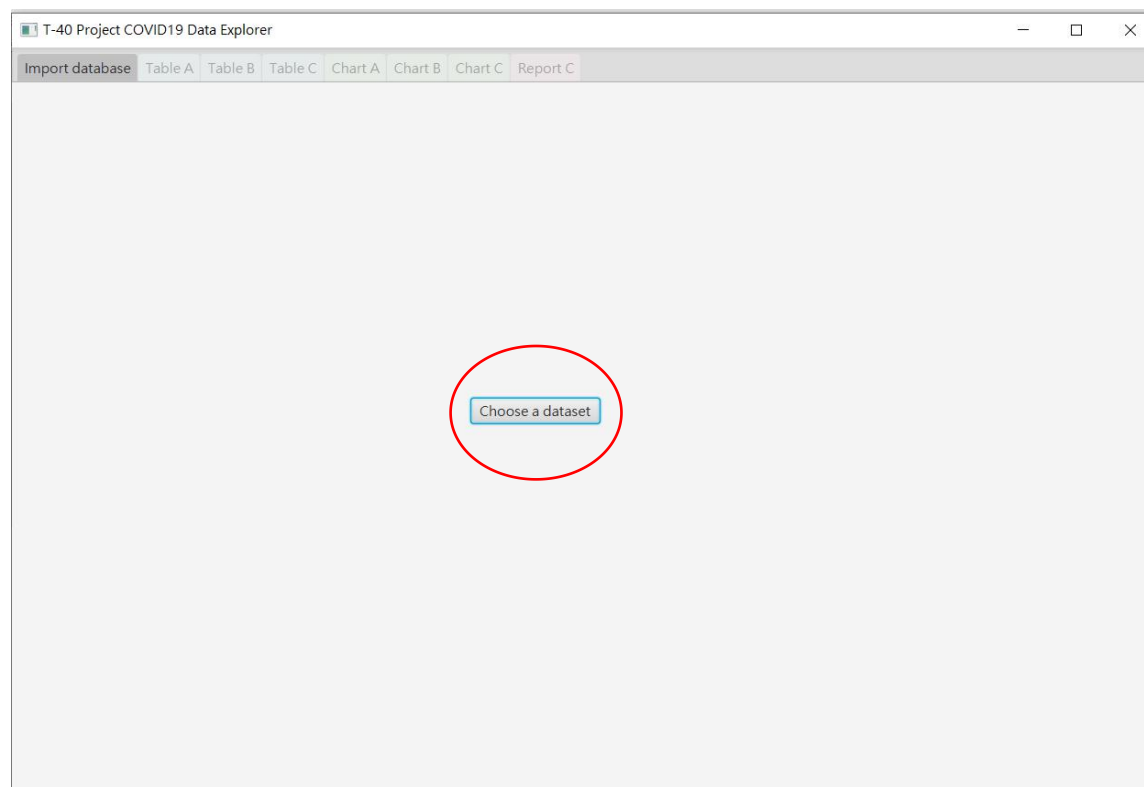
Users can only access tabs of table, chart, and report only after a dataset is successfully imported into the system.

In Tasks:

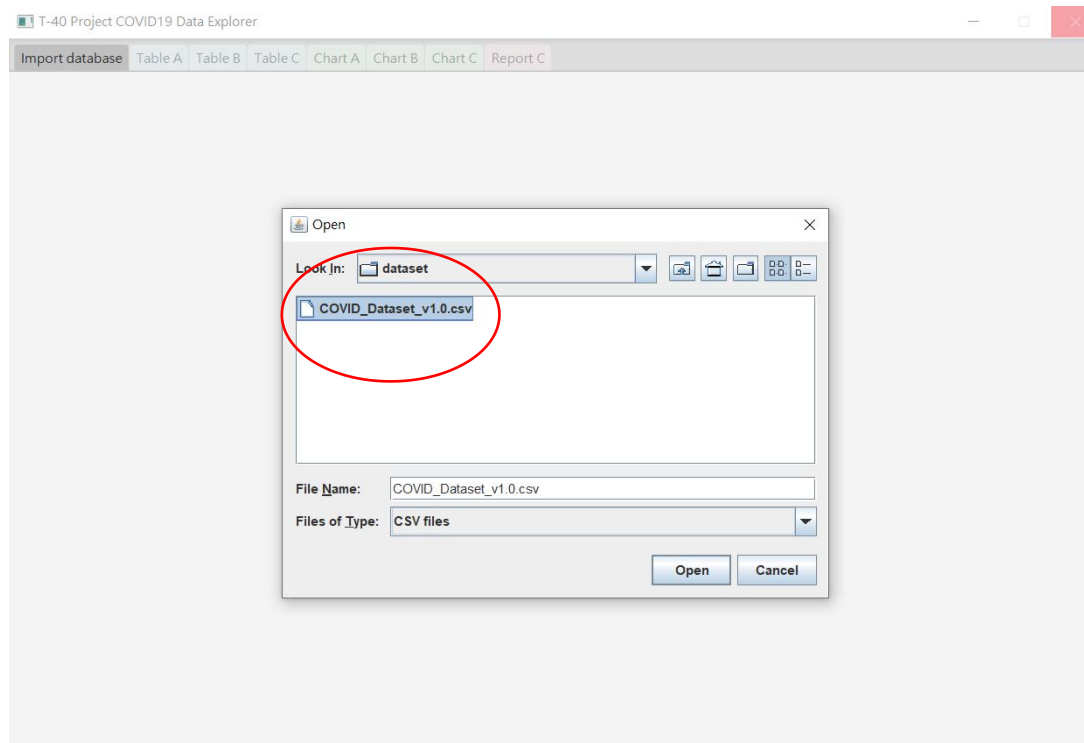
Task A1, B1, C1	Task A2, B2, C2
<ul style="list-style-type: none">- There must at least be one country chosen- There must be a date chosen- The date chosen must be within the range of date in the dataset. (e.g., if the first data appears in the dataset is on 1 Jan 2020, then the date chosen must be on or after 1 Jan 2020.)	<ul style="list-style-type: none">- There must at least be one country chosen.- Both the start date and the end date must be chosen.- The start date must be before the end date.- The start date cannot be the same day as the end date.- Both the start and end date must be within the range of date in the dataset.- The system will prompt the user if there are countries have no data at all across the target period.

Basic instruction

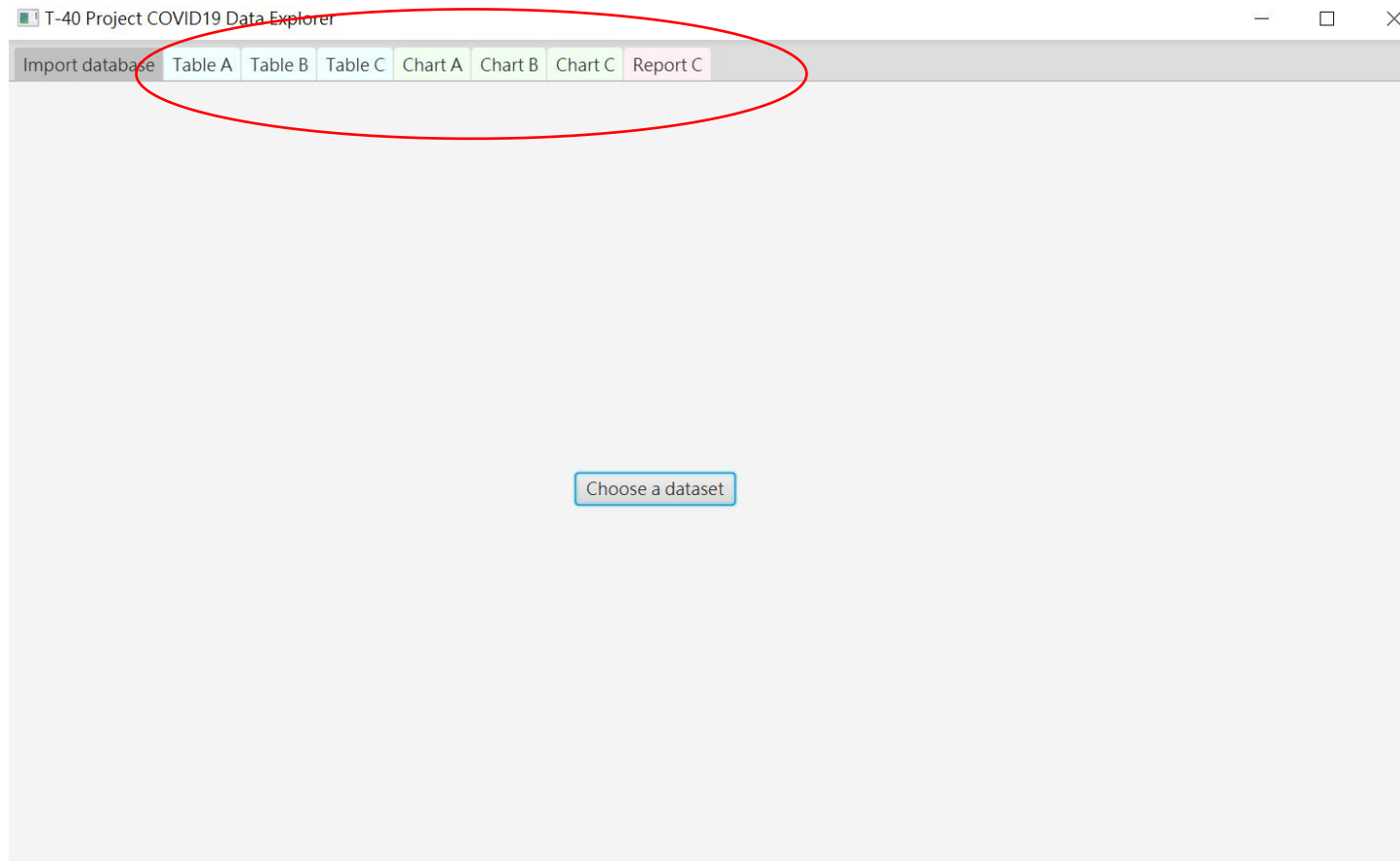
1. First, click the “Choose a dataset” button



2. Then choose a dataset, the dataset should be in .csv format. There is a default dataset provided in the source code.



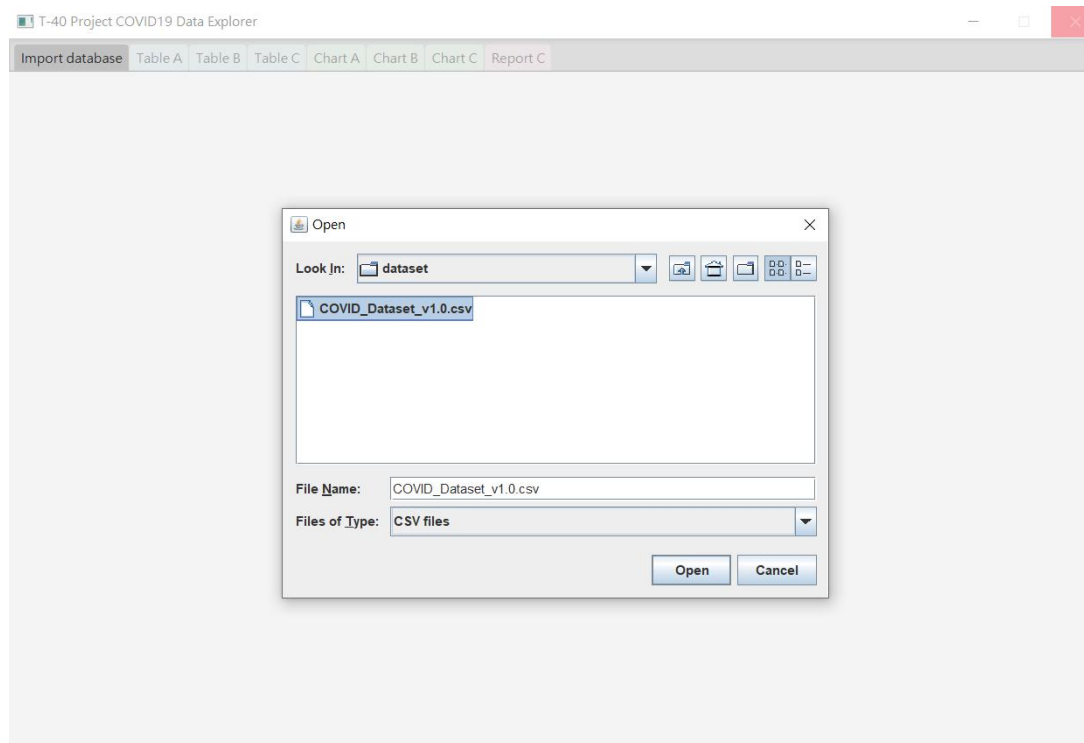
3. The dataset should be loaded if you see the tab has become brighter. You may the choose the table, chart or report you would like to know.



Extra features

Here are some extras features we implement to our project:

File chooser: Instead of asking users to type in the dataset name, we allows them to choose the dataset they would to use.



Country and date picker: Instead of asking user to input the desired date or countries, we allow them to choose the date or countries they want.

Import database

Table A

Table B

Table C

Chart A

Chart B

Chart C

Report C

Select target Countries

☐ Afghanistan

☐ Africa

☐ Albania

☐ Algeria

☐ Andorra

☐ Angola

☐ Anguilla

☐ Antigua and Barbuda

☐ Argentina

☐ Armenia

☐ Aruba

☐ Asia

☐ Australia

☐ Austria

☐ Azerbaijan

☐ Bahamas

☐ Bahrain

☐ Bangladesh

☐ Barbados

☐ Belarus

☐ Belgium

☐ Belize

☐ Benin

☐ Bermuda

☐ Bhutan

< 11月 >

< 2021 >

週日 週一 週二 週三 週四 週五 週六

31 1 2 3 4 5 6

7 8 9 10 11 12 13

14 15 16 17 18 19 20

21 22 23 24 25 26 27

28 29 30 1 2 3 4

5 6 7 8 9 10 11

Confirm Selection

and a date

Fully Vaccinated

Vaccination Rate

表格中沒有內容