CPSC 304

Milestone #3

Date: November 2nd, 2022

Group Number: 72

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

Todo

- M4
  - a. Find existing application features (OR design new application pages) to fulfill "GROUP BY", "HAVING", and "Nested Aggregation + GROUP BY" query requirements once these are learned in class
  - b. Any necessary updates to schema we encounter while building the application
  - c. Page 1: CompassTap management (SQL and frontend)
  - d. Page 2: CompassTap search (SQL and frontend)
  - e. Page 3: Bus/Skytrain models by route (SQL and frontend)
  - f. Page 4: Driver experience search page (SQL and frontend)
  - g. Test all functions of the application
- M5
  - a. Demo preparation: test queries 1–10
  - b. Populate data tables
  - c. Homepage/index
- M6
  - a. Self and peer evaluation

Timeline

All dates without times refer to 11:59PM

- Nov 4 4:30PM:
  - M3 meeting
- Nov 12:
  - Figure out if we need additional pages to fulfill M5 query guidelines* (Emily)
  - Figure out any schema changes (Emily)
  - Set up project on Git (All)
  - Homepage done (Aviva)
  - Page 1 (CompassTap management) frontend done (Aviva)
  - Page 1 SQL done (Tom)
- Nov 19:
  - Pages 2 (Aviva), 3 (Emily), 4 (Tom) done (sql and frontend)
  - *Any additional pages done (Various authors)
- Nov 26:
  - M4 project description done
    - what was accomplished (Aviva)
    - schema change (Emily)
    - Screenshots (Aviva)
  - M4 README done (Tom)
  - **M4 done apart from potential finishing touches (Tom)**
  - Populate data tables (Emily)

- Nov 27 10PM:
  - M4 due date
  - M6 (individual and peer assessment) due date
- Dec 2 10PM:
  - M5 deliverables due
- TBD:
  - Test run M5 demo (All)
  - M5 demo (All)

UI Design

Our application will have four main pages. Sketches and descriptions are provided below.

Page 0: Homepage

Page 1: CompassTap management page

Page 1: INSERT/UPDATE/DELETE compass taps

| Add a compass tap: | Card ID: | | Time: | | Route: | v | Stop ID: | v |

Card ID	Time	Route	Stop ID	Stop Name		
1234 1234 1234 1234 1234	18:35:42 2022-07-26	99 B-Line	61935	UBC Exchange @ Bay 7	✖	✎
5678 5678 5678 5678 5678	19:02:11 2022-08-09	Canada Line	OK	Oakridge-41st Ave Station	✖	✎

- The route field has a dropdown for ease of addition (it auto fills), and the stop ID then auto populates with only stops along that route (along with the associated stop name to verify for the user)

- ✖ deletes the associated row

- ✎ opens a popup and allows editing of the associated row

Page 2: CompassTap search page, bus/skytrain models by route page

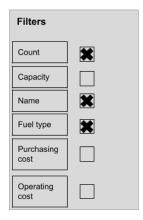Page 2: SELECT for taps on a route at a specific stop during a specific time period

Route:	99 B-Line ∨	Stop ID:	61935 (UBC Exch… ∨	Start date:	18:30:00 2022-07-26	End date:	19:00:00 2022-07-26

350 results:

Card ID	Time	Route	Stop ID	Stop Name
1234 1234 1234 1234 1234	18:35:42 2022-07-26	99 B-Line	61935	UBC Exchange @ Bay 7
5678 5678 5678 5678 5678	18:56:02 2022-07-26	99 B-Line	61935	UBC Exchange @ Bay 7
…	…	…	…	…

SELECT for buses/skytrains on a specific route and PROJECT the result

Route:	99 B-Line ∨

3 results:

Count	Name	Fuel type
1000	NFI XN40	N Gas
200	Nova Bus LFS	Diesel
100	NFI XDE60	Diesel-Electric

Filters

Count	☒
Capacity	☐
Name	☒
Fuel type	☒
Purchasing cost	☐
Operating cost	☐

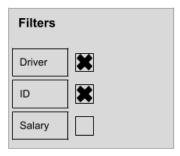# Page 3: Driver experience search page

Page 3: SELECT drivers with adequate experience and PROJECT only their name and ID

We would like to see all drivers who have experience driving all the buses
that are used on a route so that we may allocate them to drive it.

Route: 99 B-Line ∨

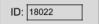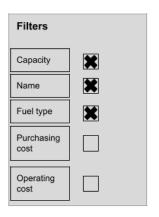Models present:

- NFI XDE60
- NFI XN40
- Nova Bus LFS

Filters

Driver	☒
ID	☒
Salary	☐

50 results:

Driver	ID
Derek	08834306
Evan	09144205
…	

Page 4: Bus model search page

ID: 18022

Name	Capacity	Fuel type
NFI XDE60	120	Diesel-Electric

Filters

Capacity	☒
Name	☒
Fuel type	☒
Purchasing cost	☐
Operating cost	☐

Queries:

1. INSERT
   a. Insert a CompassTap (page 1)
2. DELETE
   a. Delete a CompassTap (page 1)
3. UPDATE
   a. Update a CompassTap (page 1)
4. Selection
   a. Select compasstaps using routes (page 2)
   b. Select busmodel or skytrainmodel using routes (page 2)
5. Projection
   a. See specific columns of Bus Models (page 2,4)
   b. See specific columns of Drivers (page 3)
6. Join
   a. Find information about the Bus Model of a specific bus (page 4)
7. GROUP BY
   [not required m3]
8. HAVING
   [not required m3]
9. Nested aggregation + GROUP BY
   [not required m3]
10. Division
    a. Driver experience (page 3): Find all drivers that have experience driving all bus models of a given route