



ASSIGNMENT 3

CSCI 5708 – Mobile Computing

BUS TRACKER

Live bus tracking application for Halifax

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Overview

Bus Tracker is an android application (Minimum API Level: 23) to track the position Transit in Halifax. The application has a search bar at top and a re-center button placed on the top of Google Map.

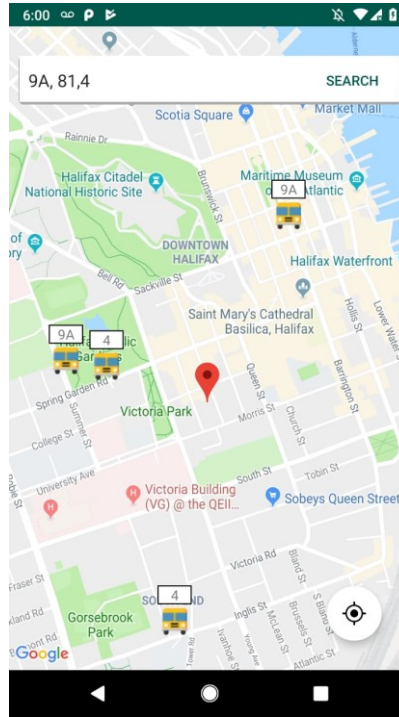


Figure 1: Screenshot of the Application

Functionalities

Basic Features

1. Shows the Position of all/selected Transits.
2. Shows the Route number along with marker symbol.
3. Save the map camera state and restores it when the application resumes.
4. User can zoom and pan the map freely.

Additional Features

1. User location is pinned and updated on change.
2. Re center the map anytime w.r.t to the user's current location.
3. Filters and tracks only selected route Transits.

Polish

1. Animation effect – To simulate the transit movement effect, the custom interpolator is used to track latitude, longitude and tilt.
2. Material Design – UI elements are created using AndroidX – Material Design.

Device Feature

GPS – Global Positioning System is used to get the user's current location.

Framework, Tools and Libraries

- Android Studio – 3.4
- Java – JRE (1.8.0)
- 'com.google.android.material:material' – 1.0.0
- 'com.google.android.gms:play-services-maps' – 17.0.0
- 'com.google.transit.gtfs-realtime-bindings' – 0.0.4

References

- [1] MartinMartin. (n.d.). Multiple Info Windows in Android Maps API 2. Retrieved from <https://stackoverflow.com/questions/15331983/multiple-info-windows-in-android-maps-api-2>
- [2] Paul, Saeed, A., Binu, Saeed, A., Saeed, A., Aamir, . . . Saeed, A. (2019, March 18). Android Example : Animate marker on Google map with current location. Retrieved from <https://codinginfinite.com/android-example-animate-marker-map-current-location/>
- [3] Protocol Buffers | Google Developers. (n.d.). Retrieved from <https://developers.google.com/protocol-buffers/>