BusCount by hiHats
Development Documentation

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Build Process

The build process is handled by gradle. See the build.gradle for information about SDK and needed dependencies.

A Google Maps developer API key is required to build. Follow instructions in the `main/res/values/map_api_key.xml`.

Major Technique and Design Decisions

MVP - model view presentation

The code is built with MVP in mind. The view has no logic at all, compared to what a view would have in the MVC pattern. Android development is built on lots of code in activities and fragments which acts as controllers with lots of power. The controllers keep track of communication with the models and handles events from the views.

Implementation of Parse and the data layer

The database implementation is a simple solution based on functional programming. The main database interface `IDataHandler` contains an inner class representing a callback, which the implementations of the interface can make use of. Our implementation currently utilises Parse (parse.com), and the implementation is just an extension of Parse's own callbacks.

Communication with API

We have both a `net` and a `util` package which together handles the api calls. The net package contains classes which handles the http calls form and to the api. The `util` package then converts the data to something that we can use in the application. These are the two most important classes from the `net` and the `util` classes.

HTTPHandler
This is the backend class for all api http calls. It returns a String with data that the util classes then parses to more useful formats.
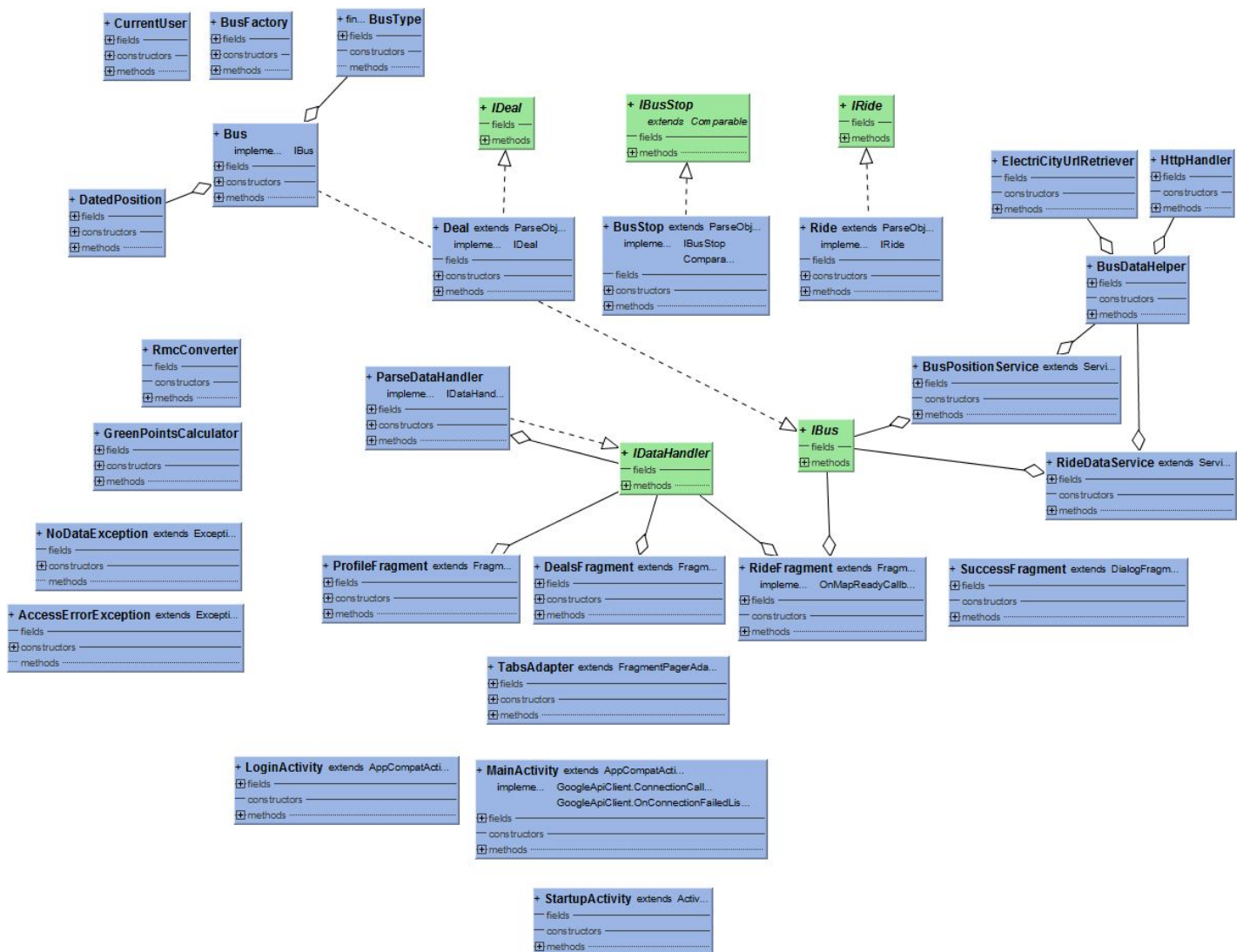
BusDataHelper
This class converts the data obtained by the class HTTP-Handler to useful formats to use further up in the application layers. This is the class that gets called from outside the `net`/`util` package.

Flow Chart
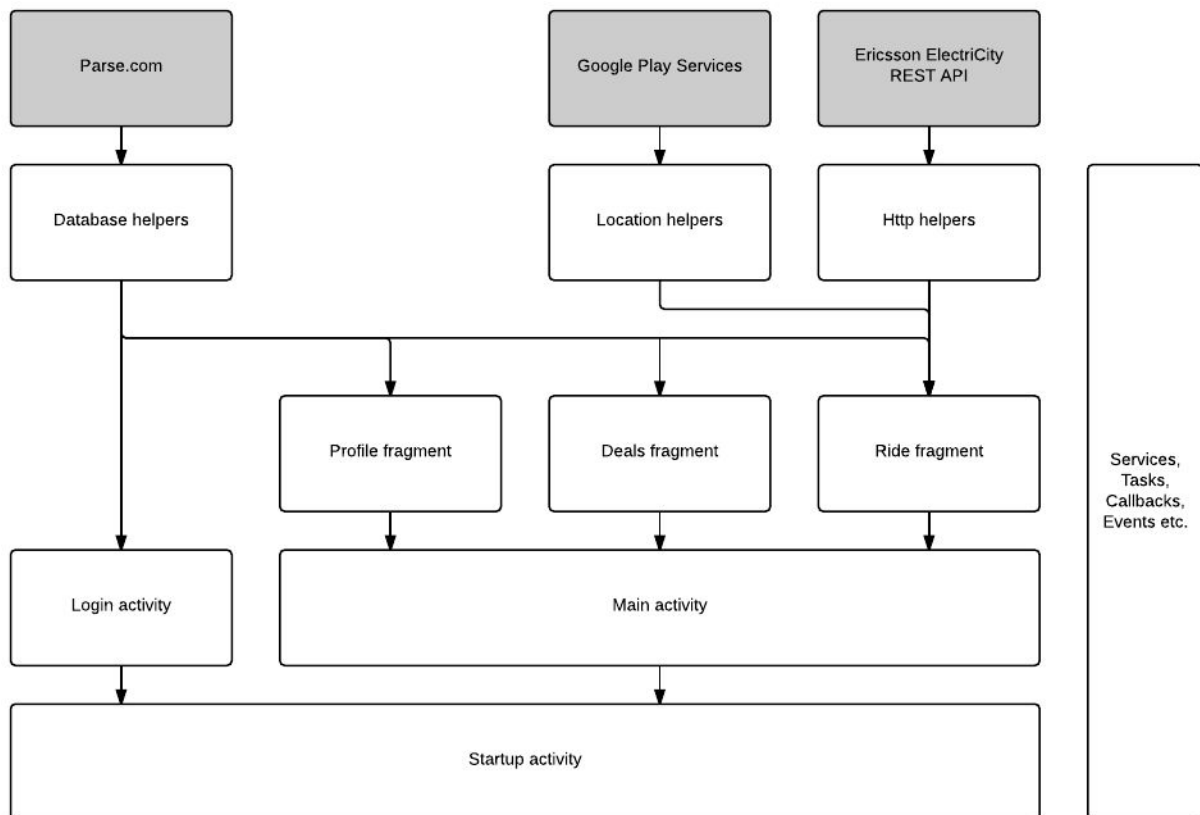
The flow chart above is an abstract representation of the application structure. Note that the whole view layer is omitted

UML

External Dependencies

Parse

Parse is used to store all of the data. It's an easy to learn API that works right out of the box.

https://parse.com/docs/android/api/
https://parse.com/docs/android/guide

Google Play Services

Google Play Services is used to draw maps, display bus stops and buses, and to get the device's current location.

https://developers.google.com/android/guides/overview

GraphView

Graphview is an open-source library used to draw the rides-graph on the profile page.

https://github.com/jjoe64/GraphView.git