

BUS USER SUPPORT SYSTEM

DETAIL DESIGN DOCUMENT

Class Design

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SIGNATURE PAGE

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# Introduction

## Purpose

Bus user support system class design document contains descriptions of all classes of the Bus user support system. It includes:

* Class diagrams that describe the static relation of all classes in the system.

## Definitions*,* Acronyms and Abbreviations

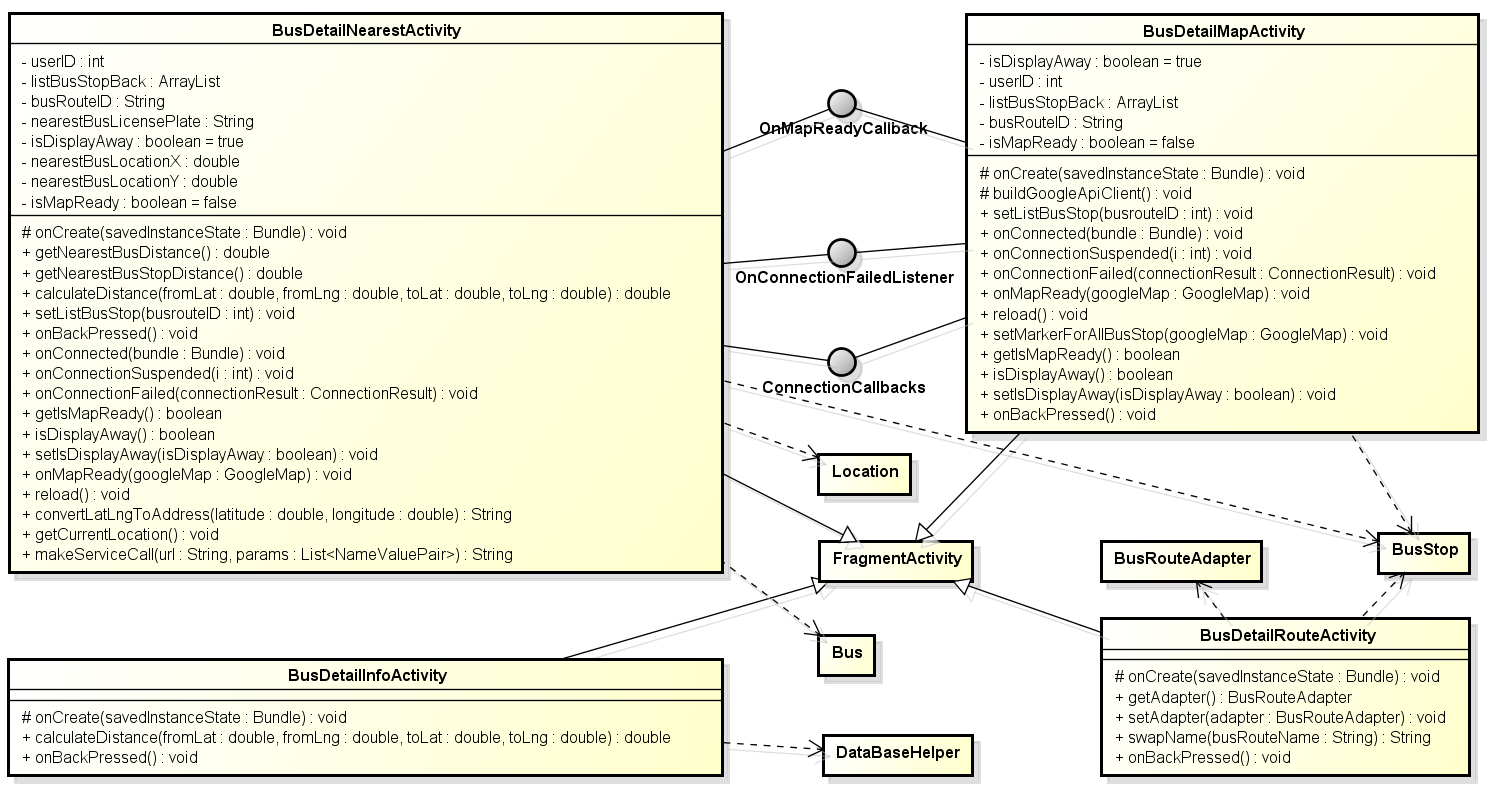
|  |  |  |
| --- | --- | --- |
| Abbreviations | Description | Comment |
| BUSS | Bus User Support System |  |

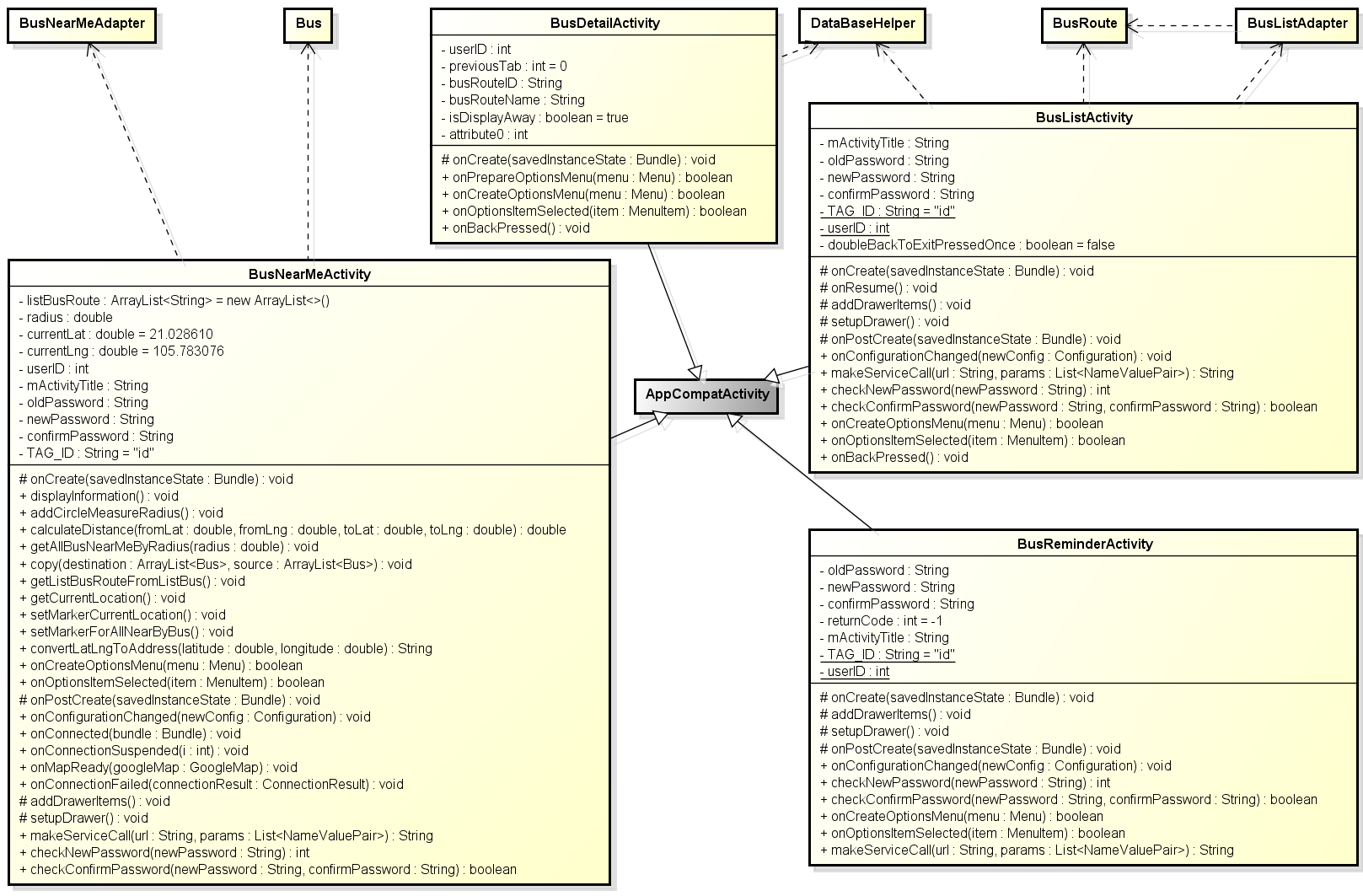
# Packages

|  |  |  |  |
| --- | --- | --- | --- |
| No | Package | Language | Description |
| 1. 01 | activity | Java | Store all activities |
|  | adapter | Java | Store all adapters for activities |
|  | common | Java | Store all common class/object |
|  | dao | Java | Store all class which provide access to data |
|  | wsclient | Java | Store all class which work with web service |
|  | libs | Java | Store all libraries |
|  | res | XML | Store all resources (layout files, images, strings, values, colors, menu….) |

## ActivityPackage

### Bus group





**Figure 1: Class diagram activity package – bus group**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | AddFavoritePlaceActivity | Provide activity add favorite place |
| 2 | AddReminderActivity | Provide activity add reminder |
| 3 | BusDetailActivity | Provide activity bus detail |
| 4 | BusDetailInfoActivity | Provide activity bus detail tab info |
| 5 | BusDetailMapActivity | Provide activity bus detail tab map |
| 6 | BusDetailNearestActivity | Provide activity bus detail tab nearest |
| 7 | BusDetailRouteActivity | Provide activity bus detail tab route |
| 8 | BusListActivity | Provide activity bus list |
| 9 | BusNearMeActivity | Provide activity bus near me |
| 10 | DirectionActivity | Provide activity direction – navigation |
| 11 | EditFavoritePlaceActivity | Provide activity edit favorite place |
| 12 | FavoritesActivity | Provide activity favorites |
| 13 | FavoriteBusesActivity | Provide activity favorite tab bus |
| 14 | FavoritePlacesActivity | Provide activity favorite tab place |
| 15 | FindPathActivity | Provide activity find path |
| 16 | FindPathFavoriteActivity | Provide activity find path tab favorite |
| 17 | FindPathHistoryActivity | Provide activity find path tab history |
| 18 | FindPathMapActivity | Provide activity find path tab map |
| 19 | FindPlaceActivity | Provide activity find place |
| 20 | LoginActivity | Provide activity login |
| 21 | PathDetailByListActivity | Provide activity path detail by list |
| 22 | PathDetailByMapActivity | Provide activity path detail by map |
| 23 | PathFoundActivity | Provide activity path found |
| 24 | SettingsActivity | Provide activity settings |
| 25 | SignUpActivity | Provide activity sign up |
| 26 | TrackActivity | Provide activity track |

### 

#### BusDetailActivity

##### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | userID | int |  | private |  |
| 2 | previousTab | int | 0 | private |  |
| 3 | busRouteID | String |  | private |  |
| 4 | busRouteName | String |  | private |  |
| 5 | isDisplayAway | boolean | true | private |  |

##### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | onCreate() | Called when activity create |
| 2 | onPrepareOptionsMenu() | Called when prepare option menu |
| 3 | onCreateOptionsMenu () | Called when create option menu |
| 4 | onOptionsItemSelected() | Called when option menu is selected |
| 5 | onBackPressed() | Called when back button is pressed |

**onCreate**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Parameter name | Type | I/O | Default | Description |
| 1 | savedInstanceState | Bundle | In |  |  |

**onPrepareOptionsMenu**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Parameter name | Type | I/O | Default | Description |
| 1 |  | Boolean | Out |  |  |
| 2 | menu | Menu | In |  |  |

**onCreateOptionsMenu**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Parameter name | Type | I/O | Default | Description |
| 1 |  | Boolean | Out |  |  |
| 2 | menu | Menu | In |  |  |

**onOptionsItemSelected**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Parameter name | Type | I/O | Default | Description |
| 1 |  | Boolean | Out |  |  |
| 2 | item | MenuItem | In |  |  |

#### BusDetailInfoActivity

##### Attributes

N/A

##### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | onCreate() | Called when activity create |
| 2 | calculateDistance() | Call to calculate distance between two LatLng point |
| 3 | onBackPressed() | Called when back button is pressed |

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| * **Return:** * **Visibility:** * **Purpose:** | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| onCreate() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** create activity | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | saveInstanceState | Bundle |  |

|  |  |  |  |
| --- | --- | --- | --- |
| calculateDistance() | | | |
| * **Return:** double * **Visibility:** public * **Purpose:** calculate distance between two latlng | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | fromLat | Double | From point’s latitude |
| 2 | toLat | Double | From point’s longitude |
| 3 | fromLng | Double | To point’s latitude |
| 4 | toLng | Double | To point’s longitude |

|  |
| --- |
| onBackPressed() |
| * **Return:** void * **Visibility:** public * **Purpose:** handle when back button is pressed |

#### BusDetailMapActivity

##### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | isDisplayAway | boolean | True | private |  |
| 2 | userID | int | 0 | private |  |
| 3 | listBusStopBack | ArrayList<BusStop> |  | private |  |
| 4 | busRouteID | String |  | private |  |
| 5 | isMapReady | boolean | false | private |  |

##### Methods

|  |
| --- |
| buildGoogleApiClient() |
| * **Return:** void * **Visibility:** protected * **Purpose:** build api client |
| Parameters |

|  |  |  |  |
| --- | --- | --- | --- |
| onCreate() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** create activity | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | saveInstanceState | Bundle |  |

|  |  |  |  |
| --- | --- | --- | --- |
| setListBusStop() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** set list bus stop | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | busrouteID | Int | Bus route id |

|  |
| --- |
| onBackPressed() |
| * **Return:** void * **Visibility:** public * **Purpose:** handle when back button is pressed |

|  |
| --- |
| onConnected() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when connected |

|  |  |  |  |
| --- | --- | --- | --- |
| onConnectionSuspended() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when connection suspended | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | i | Int |  |

|  |  |  |  |
| --- | --- | --- | --- |
| onConnectionFailed() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when connect failed | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | connectionResult | ConnectionResult | Bus route id |

|  |
| --- |
| onMapReady() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when map ready |

|  |
| --- |
| reload() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when activity reload |

|  |  |  |  |
| --- | --- | --- | --- |
| setMarkerForAllBusStop() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | busrouteID | Int | Bus route id |
| 2 | googleMap | GoogleMap | Map to handle things |

|  |
| --- |
| getIsMapReady() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect |

|  |
| --- |
| isDisplayAway() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect |

|  |  |  |  |
| --- | --- | --- | --- |
| setIsDisplayAway() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | isDisplayAway | Int | Parameter indicate is display away or not |

|  |
| --- |
| onBackPressed() |
| * **Return:** void * **Visibility:** public * **Purpose:** handle when back button is pressed |

#### BusDetailNearestActivity

##### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | isDisplayAway | boolean | True | private |  |
| 2 | nearestBusLicensePlate | String |  | private |  |
| 3 | listBusStopBack | ArrayList<BusStop> |  | private |  |
| 4 | busRouteID | String |  | private |  |
| 5 | isMapReady | boolean | false | private |  |
| 6 | nearestBusLocationX | Double |  | private |  |
| 7 | nearestBusLocationY | double |  | private |  |
| 8 | userID | Int | 0 | private |  |

##### Methods

|  |
| --- |
| getNearestBusDistance() |
| * **Return:** double * **Visibility:** public * **Purpose:** get nearest bus distance |
| Parameters |

|  |
| --- |
| getNearestBusStopDistance() |
| * **Return:** double * **Visibility:** public * **Purpose:** get nearest bus stop distance |
| Parameters |

|  |  |  |  |
| --- | --- | --- | --- |
| setListBusStop() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** set list bus stop | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | busrouteID | Int | Bus route id |

|  |  |  |  |
| --- | --- | --- | --- |
| calculateDistance() | | | |
| * **Return:** double * **Visibility:** public * **Purpose:** calculate distance between two latlng | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | fromLat | Double | From point’s latitude |
| 2 | toLat | Double | From point’s longitude |
| 3 | fromLng | Double | To point’s latitude |
| 4 | toLng | Double | To point’s longitude |

|  |
| --- |
| reload() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when activity reload |

|  |  |  |  |
| --- | --- | --- | --- |
| onCreate() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** create activity | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | saveInstanceState | Bundle |  |

|  |
| --- |
| onConnected() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when connected |

|  |  |  |  |
| --- | --- | --- | --- |
| onConnectionSuspended() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when connection suspended | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | i | Int |  |

|  |  |  |  |
| --- | --- | --- | --- |
| onConnectionFailed() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when connect failed | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | connectionResult | ConnectionResult | Bus route id |

|  |
| --- |
| onMapReady() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when map ready |

|  |
| --- |
| getIsMapReady() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect |

|  |
| --- |
| isDisplayAway() |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect |

|  |  |  |  |
| --- | --- | --- | --- |
| setIsDisplayAway() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** called when app content reconnect | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | isDisplayAway | Int | Parameter indicate is display away or not |

|  |
| --- |
| onBackPressed() |
| * **Return:** void * **Visibility:** public * **Purpose:** handle when back button is pressed |

|  |
| --- |
| getCurrentLocation() |
| * **Return:** void * **Visibility:** public * **Purpose:** called to get current location |
| Parameters |

|  |  |  |  |
| --- | --- | --- | --- |
| convertLatLngToAddress() | | | |
| * **Return:** String * **Visibility:** public * **Purpose:** called to convert latlng to address | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Lat | Double |  |
| 2 | Lng | Double |  |

|  |  |  |  |
| --- | --- | --- | --- |
| makeServiceCall() | | | |
| * **Return:** String * **Visibility:** public * **Purpose:** called to convert latlng to address | | | |
| Parameters | | | |
| No. | Parameter | Type | Description |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | url | String |  |
| 2 | params | List<NameValuePair> |  |

#### BusDetailRouteActivity

##### Attributes

N/A

##### Methods

|  |  |  |  |
| --- | --- | --- | --- |
| onCreate() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** create activity | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | saveInstanceState | Bundle |  |

|  |
| --- |
| getAdapter() |
| * **Return:** BusRouteAdapter * **Visibility:** public * **Purpose:** get adapter |

|  |  |  |  |
| --- | --- | --- | --- |
| setAdapter() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** set adapter | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | adapter | BusRouteAdapter | Adapter of BusRoute |

|  |  |  |  |
| --- | --- | --- | --- |
| swapName() | | | |
| * **Return:** String * **Visibility:** public * **Purpose:** swap bus direction | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | busRouteName | String | Bus route name |

|  |
| --- |
| onBackPressed() |
| * **Return:** void * **Visibility:** public * **Purpose:** Handle onBackPressed event |

#### BusListActivity

##### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | mActivityTitle | String |  | private |  |
| 2 | oldPassword | String |  | private |  |
| 3 | newPassword | String |  | private |  |
| 4 | confirmPassword | String |  | private |  |
| 5 | TAG\_ID | String | id | private |  |
| 6 | userID | int |  | private |  |
| 7 | doubleBackToExitPressedOnce | boolean | false | private |  |

##### Methods

|  |  |  |  |
| --- | --- | --- | --- |
| onCreate() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** create activity | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | saveInstanceState | Bundle | Save instance state |

|  |
| --- |
| onResume() |
| * **Return:** void * **Visibility:** protected * **Purpose:** call when activity is on resume |

|  |
| --- |
| addDrawerItems() |
| * **Return:** void * **Visibility:** protected * **Purpose:** add drawer item |

|  |
| --- |
| setupDrawer() |
| * **Return:** void * **Visibility:** protected * **Purpose:** setup drawer |

|  |  |  |  |
| --- | --- | --- | --- |
| onPostCreate() | | | |
| * **Return:** void * **Visibility:** protected * **Purpose:** call before starting activity | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | savedInstanceState | Bundle | Save instance state |

|  |  |  |  |
| --- | --- | --- | --- |
| onConfigurationChanged() | | | |
| * **Return:** void * **Visibility:** public * **Purpose:** call when configuration was changed | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | newConfig | Configuration |  |

|  |  |  |  |
| --- | --- | --- | --- |
| makeServiceCall() | | | |
| * **Return:** String * **Visibility:** public * **Purpose:** | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | url | String |  |
| 2 | params | List<NameValuePair> |  |

|  |  |  |  |
| --- | --- | --- | --- |
| checkNewPassword() | | | |
| * **Return:** int * **Visibility:** public * **Purpose:** check new password field | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | newPassword | String |  |

|  |  |  |  |
| --- | --- | --- | --- |
| checkConfirmPassword() | | | |
| * **Return:** boolean * **Visibility:** public * **Purpose:** check confirm password field | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | newPassword | String |  |
| 2 | confirmPassword | String |  |

|  |  |  |  |
| --- | --- | --- | --- |
| onCreateOptionsMenu() | | | |
| * **Return:** boolean * **Visibility:** public * **Purpose:** call when create menu | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
| 1 | item | MenuItem |  |

|  |  |  |  |
| --- | --- | --- | --- |
| onOptionsItemSelected() | | | |
| * **Return:** double * **Visibility:** public * **Purpose:** get nearest bus distance | | | |
| Parameters | | | |
| **No.** | **Parameter** | **Type** | **Description** |
|  |  |  |  |

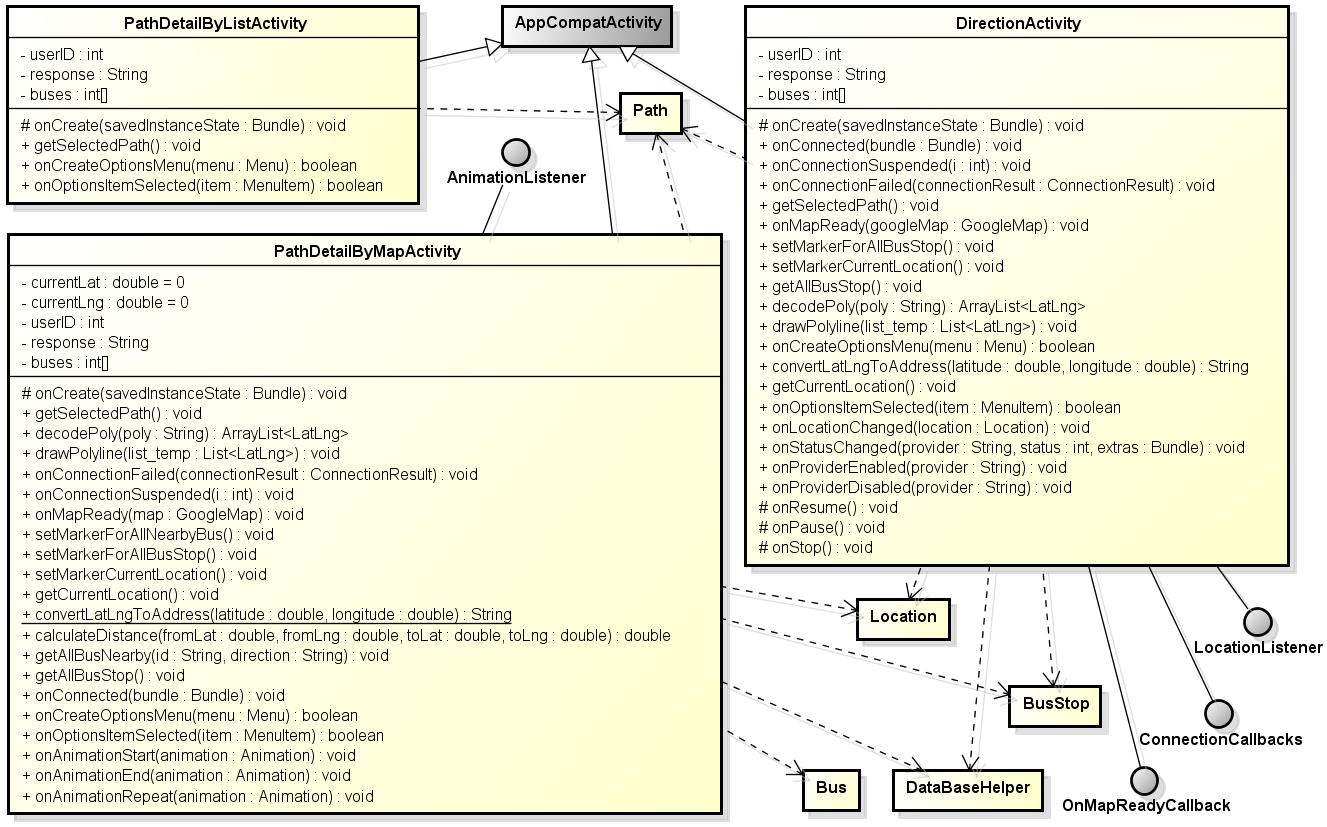
|  |
| --- |
| onBackPressed() |
| * **Return:** void * **Visibility:** public * **Purpose:** Handle onBackPressed event |

#### BusNearMeActivity

### Path group







#### FindPathActivity

#### FindPathMapActivity

#### FindPathHistoryActivity

#### FindPathFavoriteActivity

#### FindPlaceActivity

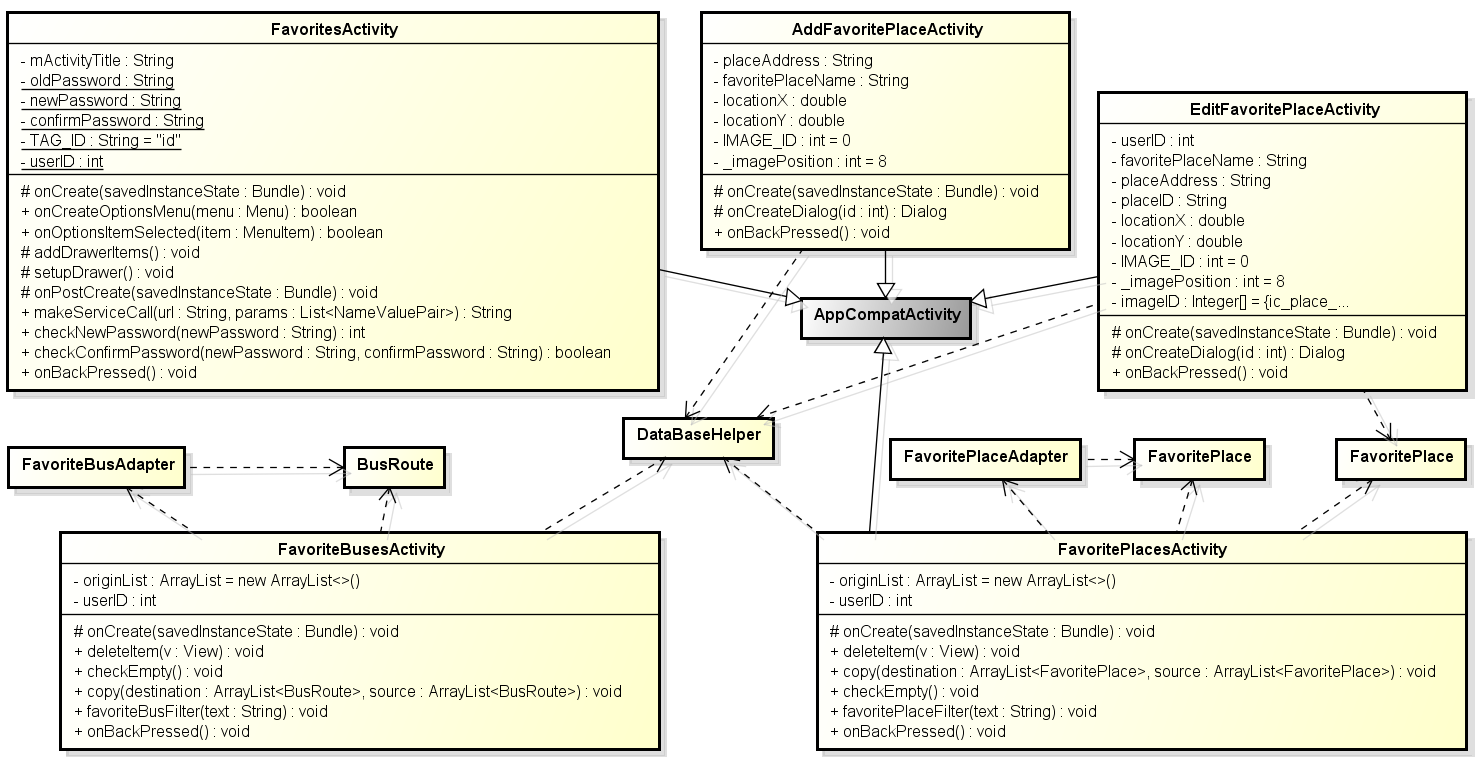
#### PathFoundActivity

#### PathDetailByListActivity

#### PathDetailByMapActivity

#### DirectionActivity

### Favorites group



#### FavoritesActivity

#### FavoriteBusesActivity

#### FavoritePlacesActivity

#### AddFavoritePlaceActivity class

##### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1. 1 | \_imagePosition | Int | 8 | private |  |
| 1. 2 | actionMode | ActionMode |  | Private |  |
| 1. 3 | btChooseIcon | ImageButton |  | Private |  |
|  | callback | ActionMode.CallBack |  | Private |  |
|  | dialog | Dialog |  | Private |  |
|  | favoritePlace | FavoritePlace |  | Private |  |
|  | favoritePlaceName | String |  | Private |  |
|  | IMAGE\_ID | Int | 0 | Private |  |
|  | ivPlaceIcon | ImageView |  | Private |  |
|  | locationX | Double |  | Private |  |
|  | location | Double |  | Private |  |
|  | placeAddress | String |  | Private |  |

##### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | onBackPressed() | Handle onBackPressed event |
|  | onCreate(Bundle) | Called when activity create |
|  | onCreateDialog(int) | Called when create dialog |

**onCreate**

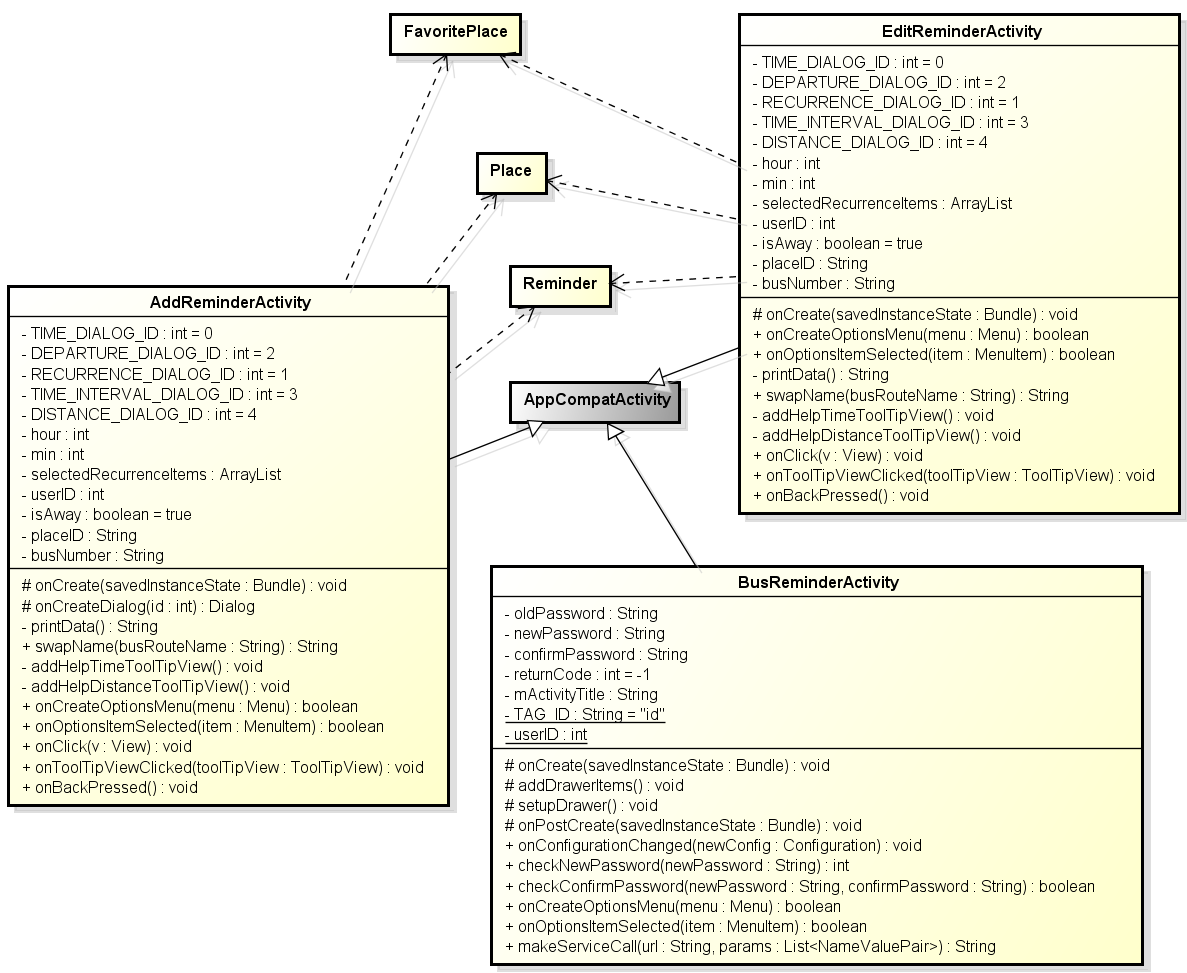
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Parameter name | Type | I/O | Default | Description |
| 1 | savedInstanceState | Bundle | In |  |  |

**onCreateDialog**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Parameter name | Type | I/O | Default | Description |
| 1 | Id | int | In |  |  |
| 2 | Dialog | Dialog | Out |  |  |

#### EditFavoritePlaceActivity

### Reminder group



#### BusReminderActivity

##### Attributes

##### Methods

#### AddReminderActivity

##### Attributes

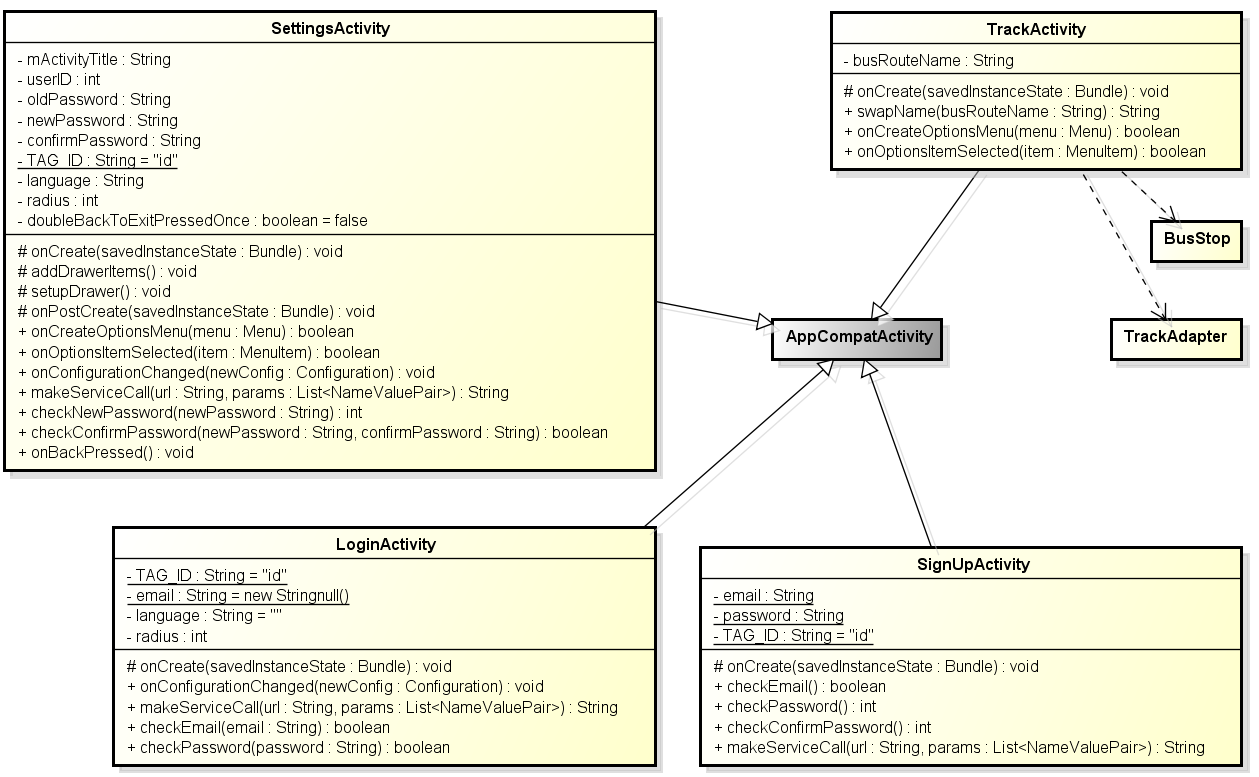
##### Methods

#### EditReminderActivity

##### Attributes

##### Methods

### Other



#### LoginActivity

##### Attributes

##### Methods

#### SignUpActivity

##### Attributes

##### Methods

#### SettingsActivity

##### Attributes

##### Methods

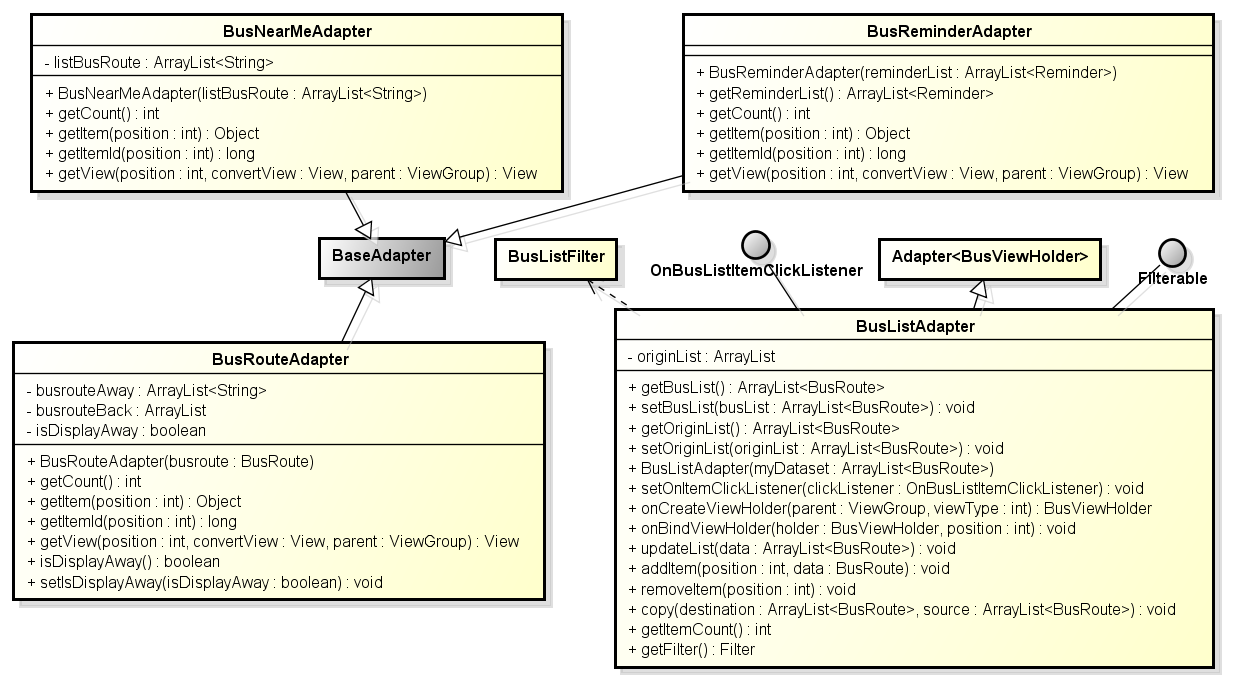
#### TrackActivity

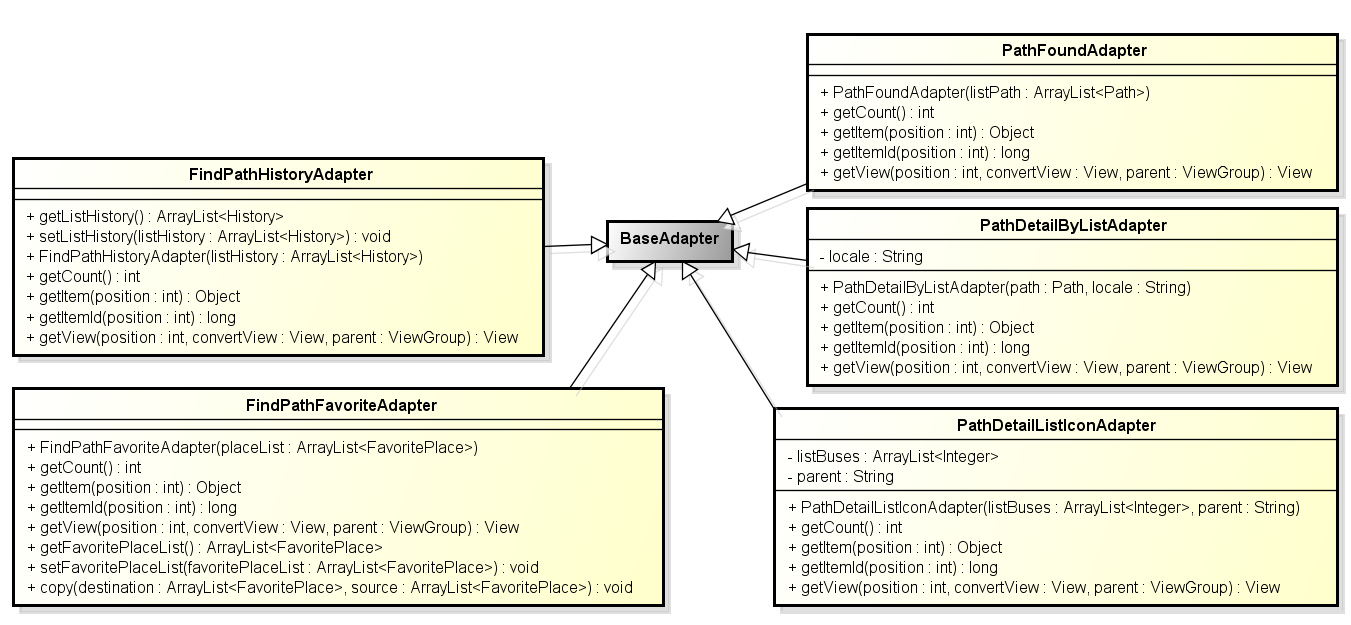
##### Attributes

##### Methods

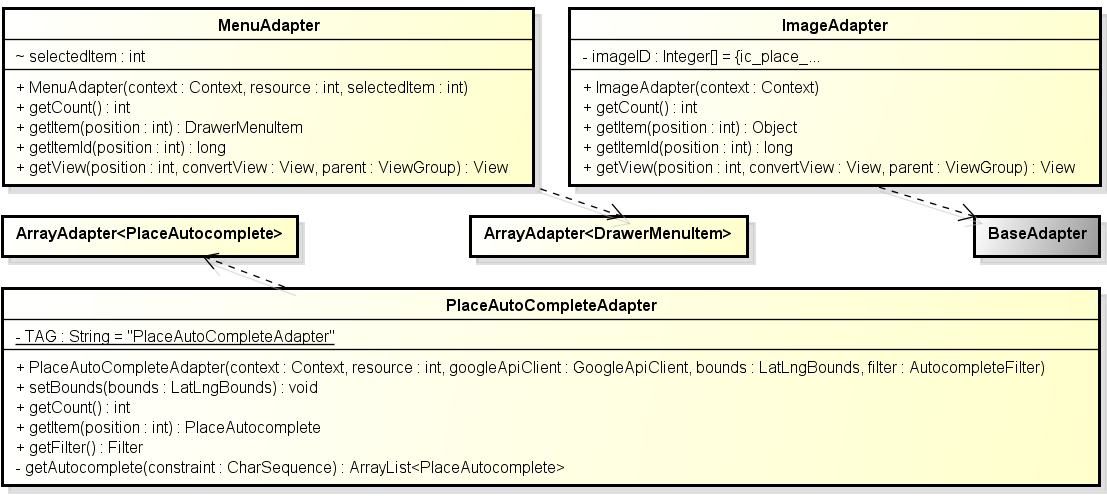
## AdapterPackage

### Class diagram









**Figure 2: Class diagram adapter package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | BusListAdapter |  |
| 2 | BusNearMeAdapter |  |
| 3 | BusReminderAdapter |  |
| 4 | BusRouteAdapter |  |
| 5 | FavoriteBusAdapter |  |
| 6 | FavoritePlaceAdapter |  |
| 7 | FindPathFavoriteAdapter |  |
| 8 | FindPathHistoryAdapter |  |
| 9 | ImageAdapter |  |
| 10 | MenuAdapter |  |
| 11 | PathDetailByListAdapter |  |
| 12 | PathDetailListIconAdapter |  |
| 13 | PathFoundAdapter |  |
| 14 | PlaceAutoCompleteAdapter |  |
| 15 | TrackAdapter |  |

### BusListAdapter

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | language | String |  | Package |  |
| 2 | searchradius | Number |  | Package |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | getLanguage() | Interact with database: get language info |
|  | getSearchRadius() | Interact with database: get search radius info |
|  | setLanguage() | Interact with database: set language |
|  | setSearchRadius() | Interact with database: set search radius |

### BusNearMeAdapter

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | setting(String) | Set language |
|  | setting(int) | Set search radius |

### BusRouteAdapter

### FavoriteBusAdapter

### FavoritePlaceAdapter

### FindPathFavoriteAdapter

### FindPathHistoryAdapter

### ImageAdapter

### MenuAdapter

### PathDetailByListAdapter

### PathDeatilListIconAdapter

### PathFoundAdapter

### PlaceAutoCompleteAdapter

### TrackAdapter

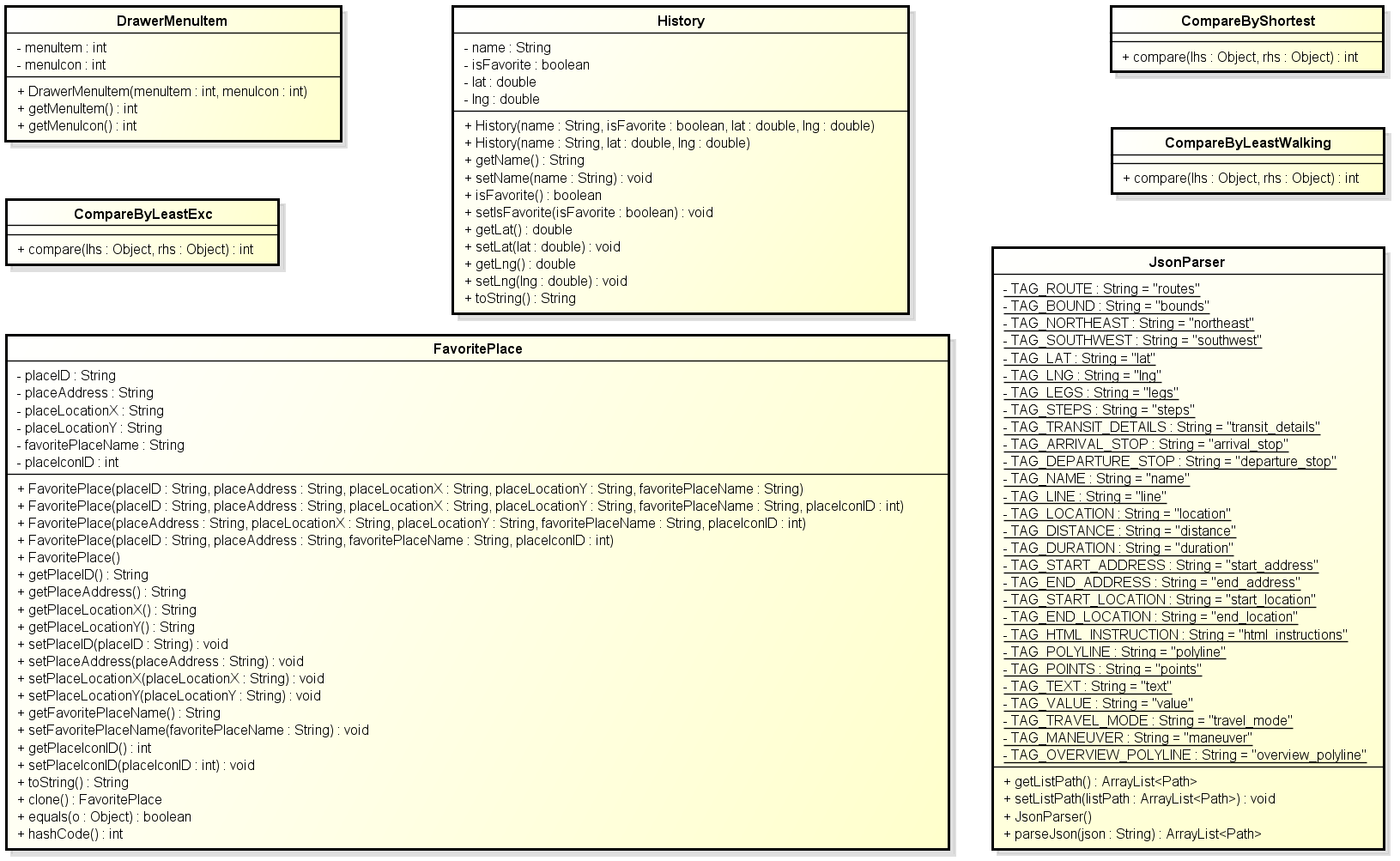
### Sequence Diagram

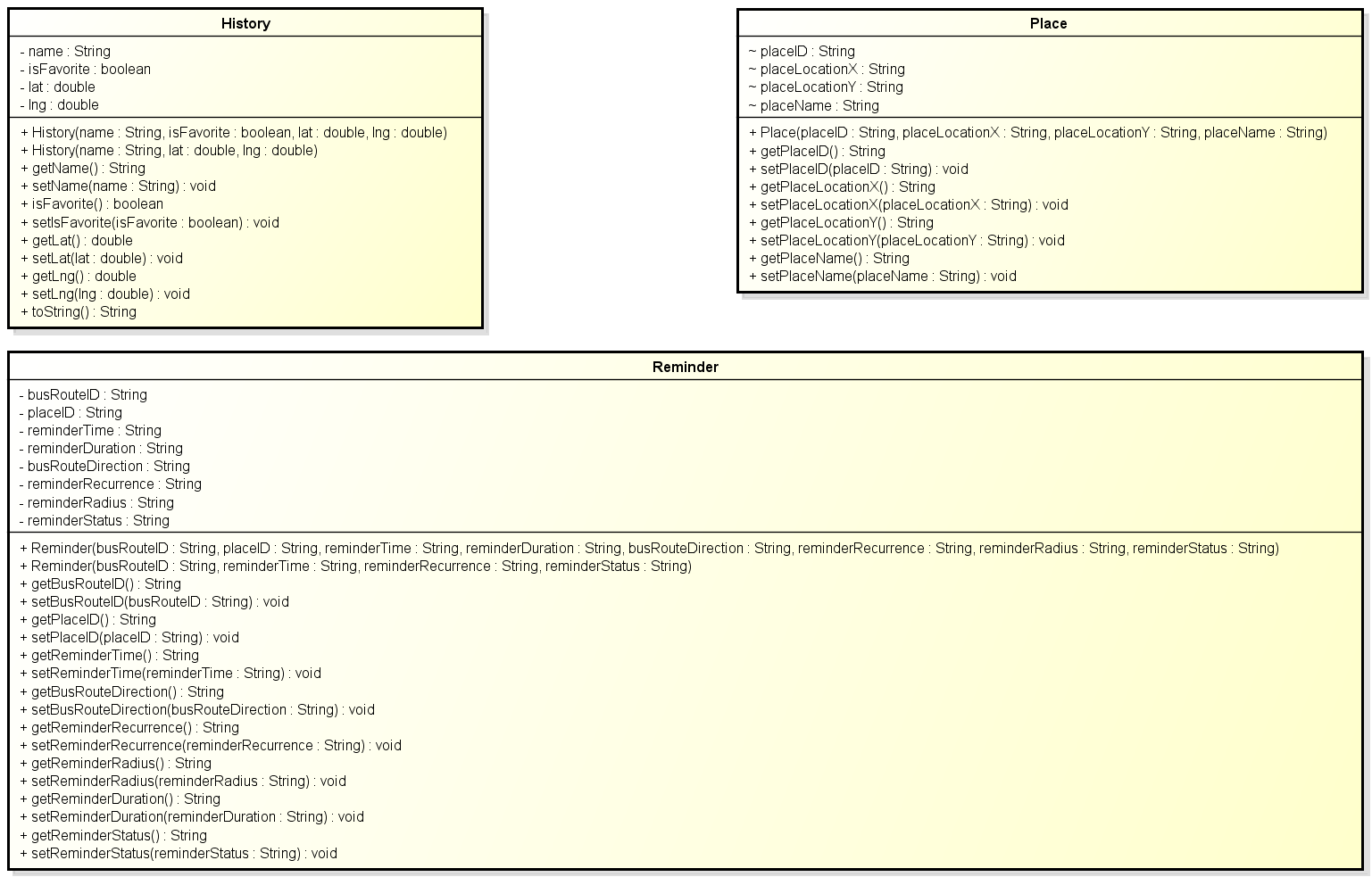
#### UC006\_Change app setting

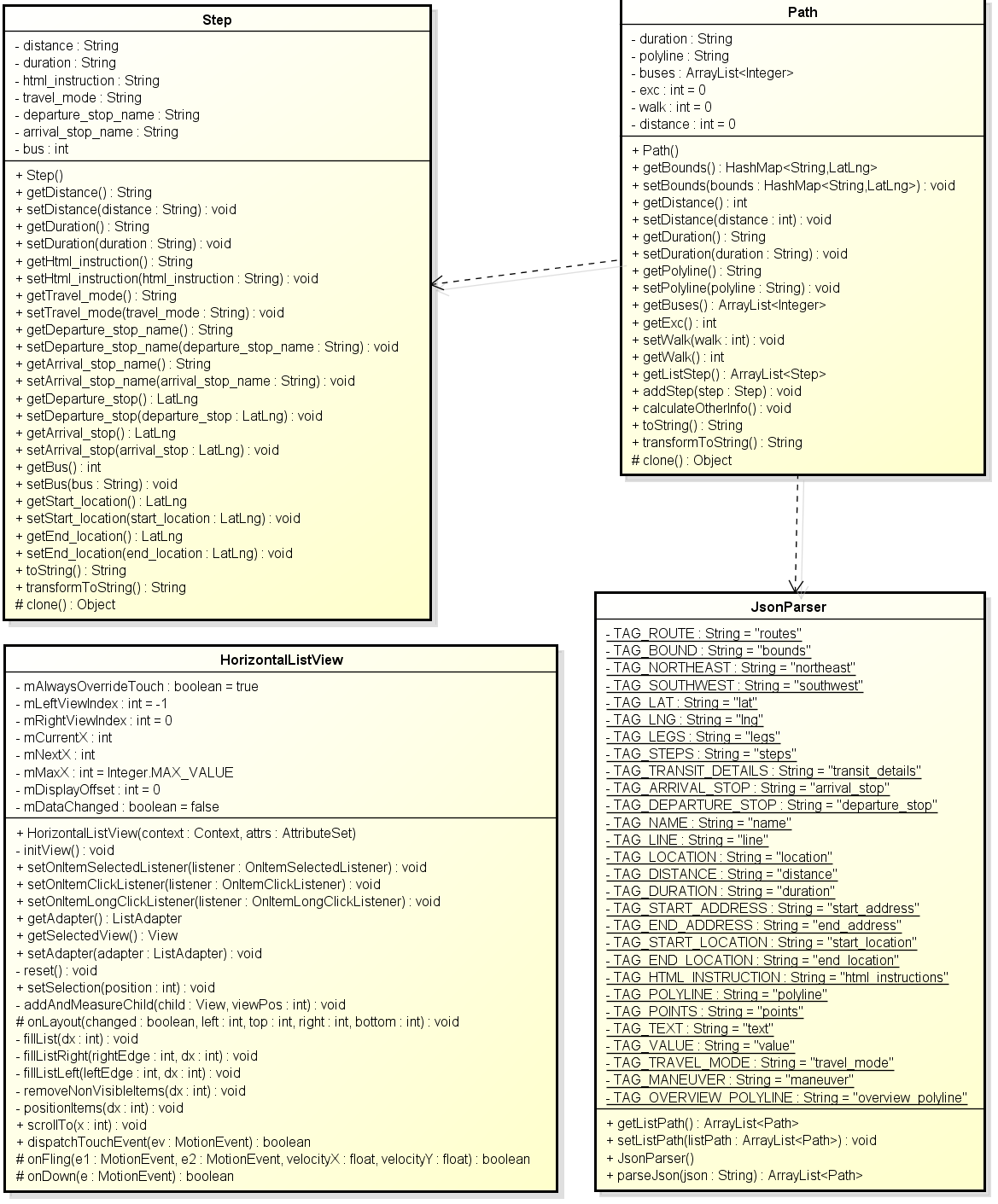
## Common Package

### Class diagram









**Figure 3: Class diagram Common package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | Bus |  |
| 2 | BusRoute |  |
| 3 | BusStop |  |
| 4 | BusViewHolder |  |
| 5 | CompareByLeastExc |  |
| 6 | CompareByLeastWalking |  |
| 7 | CompareByShortest |  |
| 8 | DrawerMenuItem |  |
| 9 | FavoritePlace |  |
| 10 | History |  |
| 11 | HorizontalListView |  |
| 12 | JsonParser |  |
| 13 | Path |  |
| 14 | Place |  |
| 15 | Reminder |  |
| 16 | Step |  |

### Bus

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | busList | Bus[] |  | package |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

### BusRoute

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | viewBusList() | View bus list |
|  | viewBusDetail() | View bus detail |
|  | viewBusRoute() | View bus route |
|  | viewBusMap() | View bus map |
|  | viewBusNearest() | View bus nearest |
|  | viewBusNearMe() | View bus near me |

### BusStop

### BusViewHolder

### CompareByLeastExc

### CompareByLeastWalking

### CompareByShortest

### DrawerMenuItem

### FavoritePlace

### History

### HorizontalListView

### JsonParser

### Path

### Place

### Place

### Reminder

### Step

### Sequence diagram

#### UC0007\_View bus list

#### UC0008\_Search bus in list

#### UC0009\_View bus info

#### UC0010\_View bus route

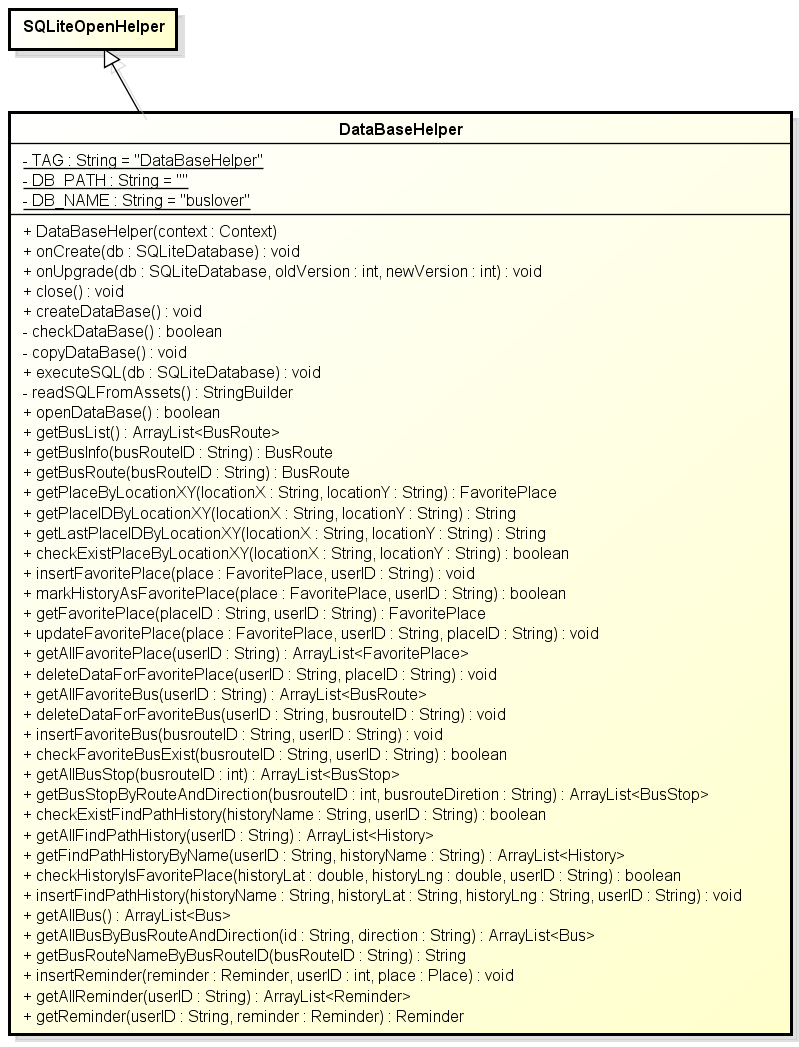
#### UC0011\_View bus map

#### UC0012\_View bus nearest

#### UC0013\_View bus near me

## dao Package

### Class diagram



***Figure 4: Class diagram dao package***

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | DataBaseHelper | Include method interact with database |

### DataBaseHelper

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1. 1 | departure | Place |  | private |  |
| 1. 2 | destination | Place |  | private |  |
| 1. 3 | pathList | Path[] |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | findPath() | Find path |
|  | getDeparture() | Get departure |
|  | getDestination() | Get destination |
|  | setDeparture() | Set departure |
|  | setDestination() | Set destination |
|  | showPathFound() | Show path found |
|  | showPathDetail() | Show path detail |
|  | showDirection() | Show direction |

### Sequence Diagram

#### UC0014\_Find path

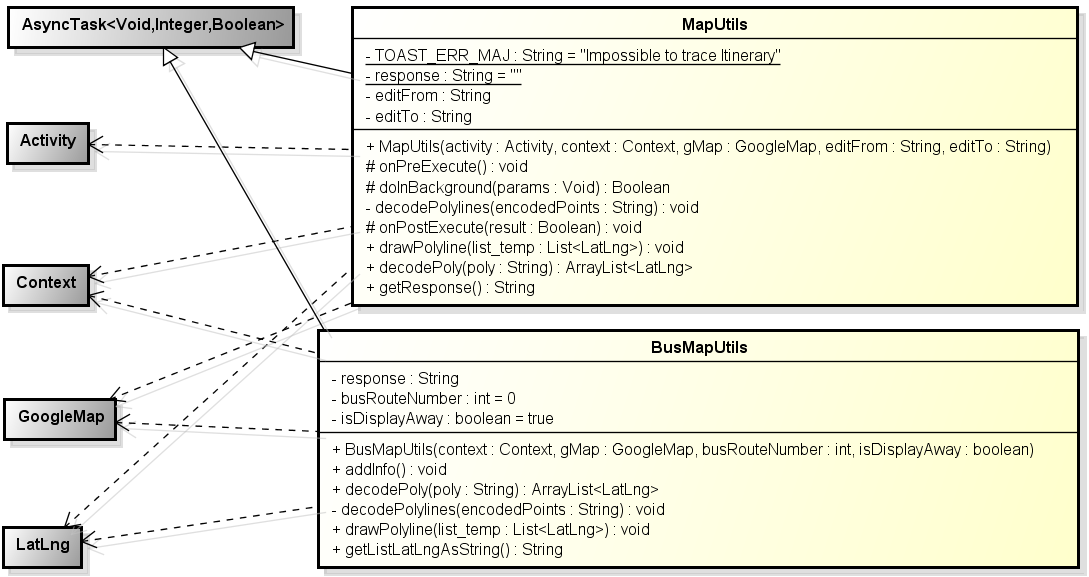
#### UC0015\_View path found

#### UC0016\_View path detail

#### UC0017\_View direction

## wsclient Package

### Class diagram



**Figure 5: Class diagram wsclient package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | BusMapUtils | Include method to work with bus map related services |
| 2 | MapUtils | Include method to work with map related services |

### BusMapUtils

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | reminderList | Reminder[] |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | getReminderList() | Interact with database: get reminder list |
|  | setReminder() | Interact with database: set a reminder (add/edit/delete/suspend) |
|  | showReminderList() | Notify change to view – show reminder list |
|  | showReminderDetail() | Notify change to view – show reminder detail |
|  | showReminderSetDone() | Notify change to view – show reminder set done |

### MapUtils

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
|  | setReminder() | Set a reminder (add/edit/delete/suspend) |
|  | viewReminder() | View reminder list |
|  | viewReminderDetail() | View reminder detail |

### Sequence Diagram

#### UC0018\_View bus reminder

#### UC0019\_Add reminder

#### UC0020\_Edit reminder

#### UC0021\_Delete reminder

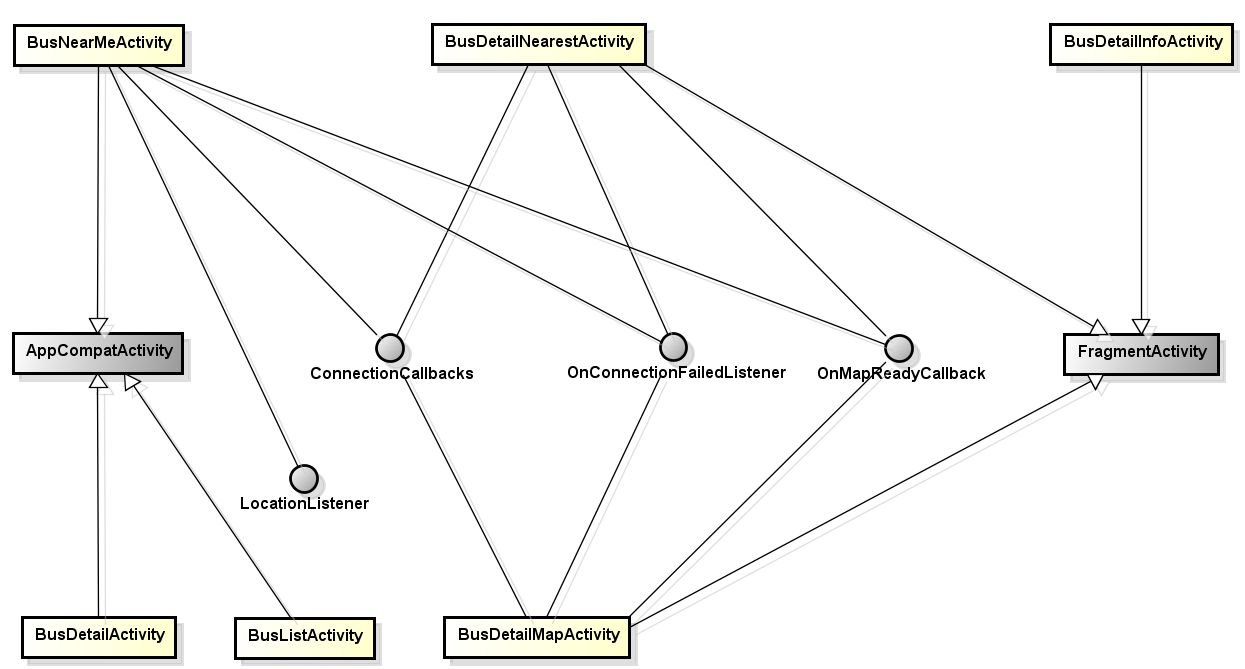
#### UC0022\_Suspend/Unsuspend all reminder

#### UC0023\_Suspend/Unsuspend a chosen reminder

# Functions

## Bus function group

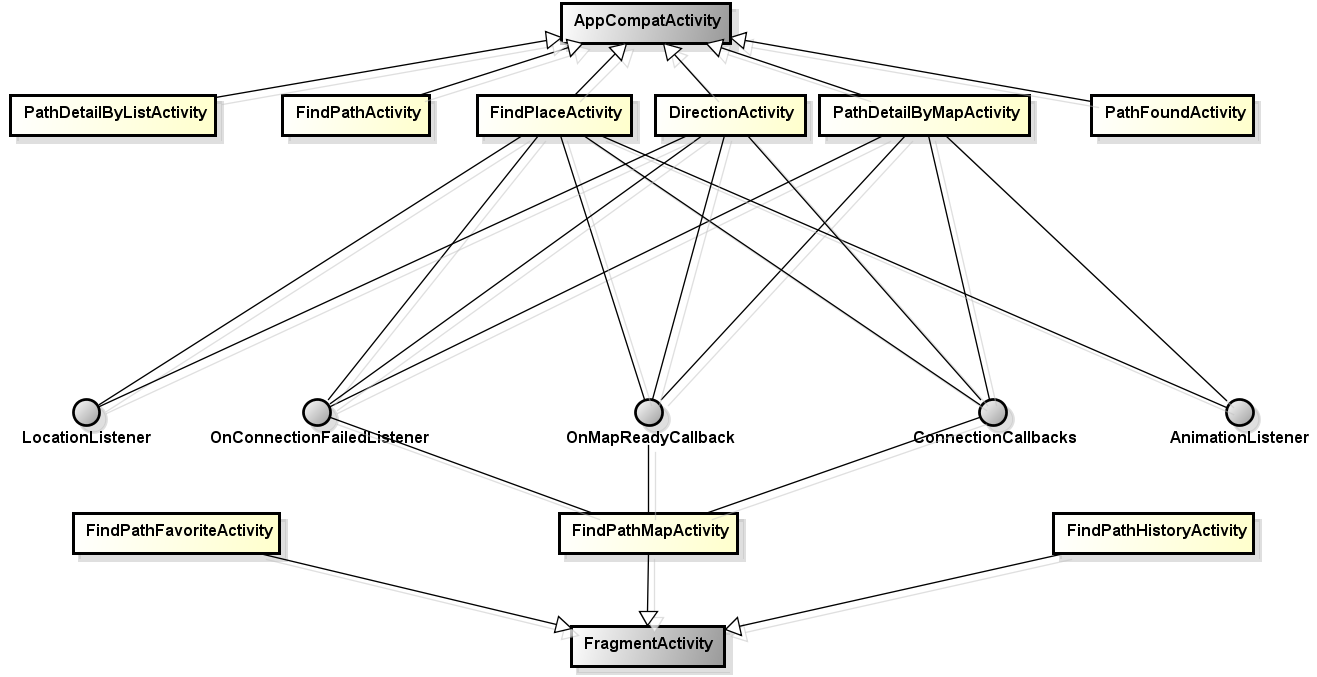
### Class diagram



### Sequence diagram

## Path function group

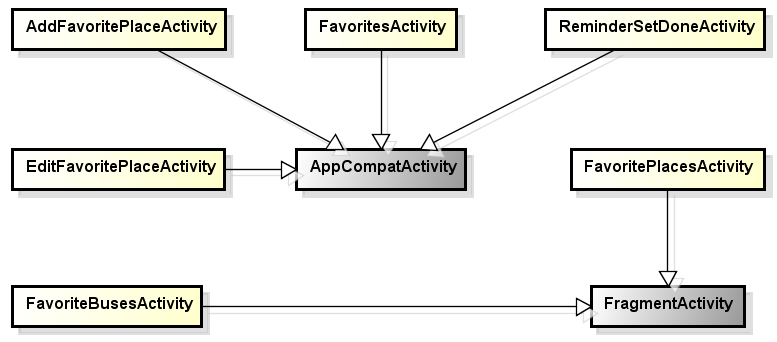
### Class diagram



### Sequence diagram

## Favorites function group

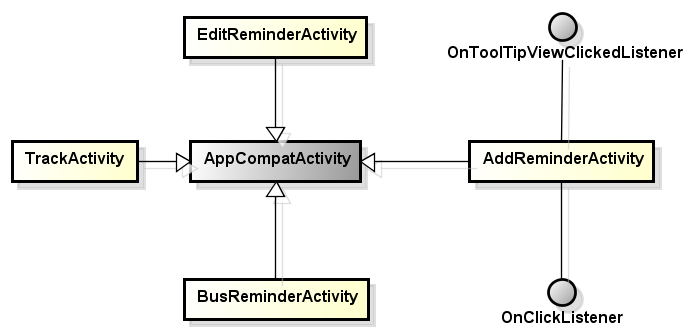
### Class diagram



### Sequence diagram

## Reminder function group

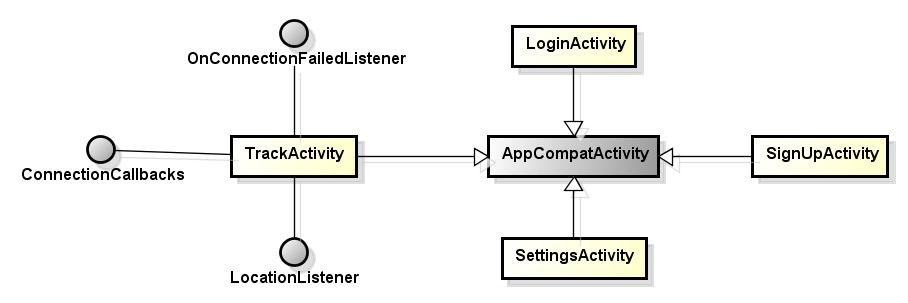
### Class diagram



### Sequence diagram

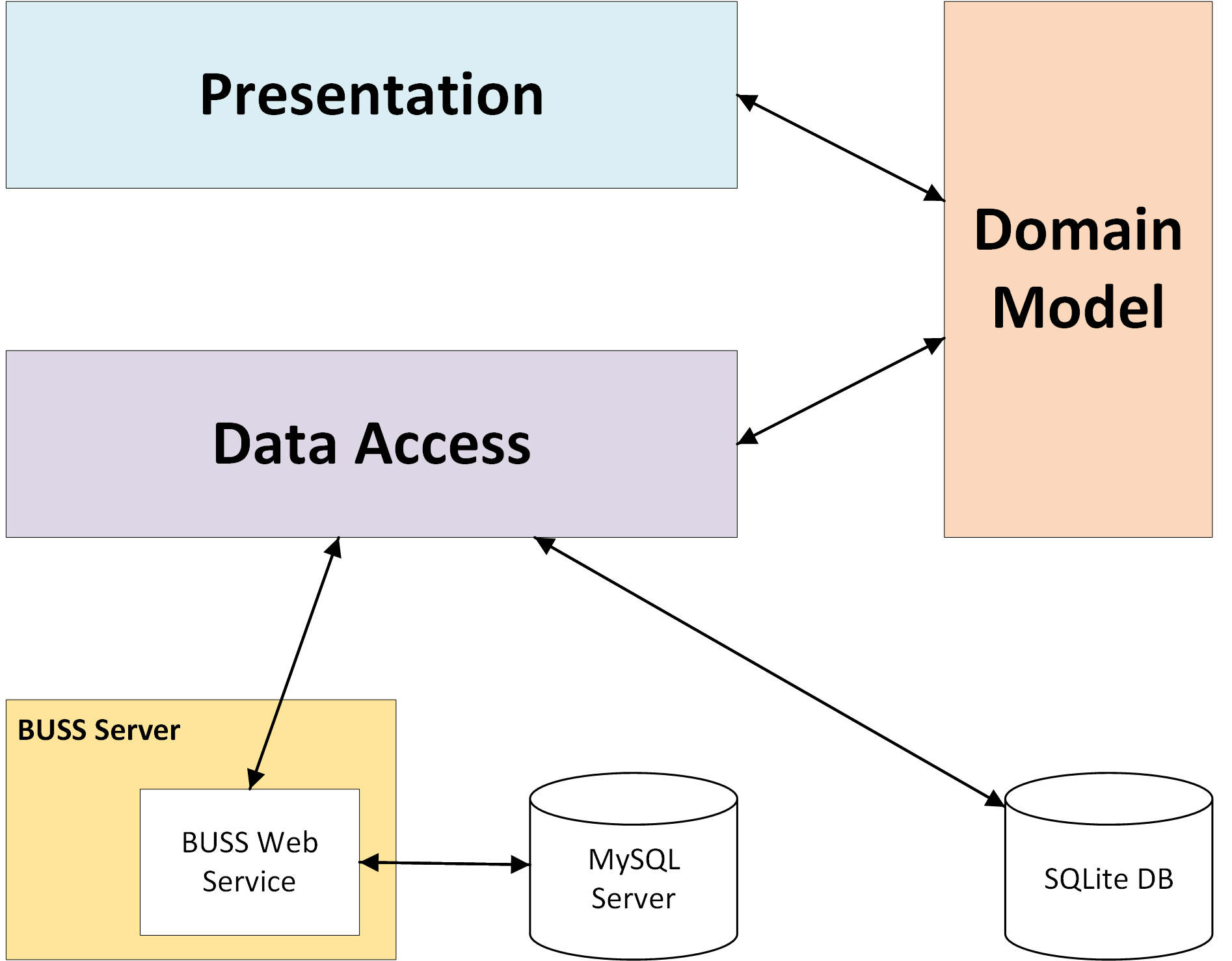
## Other function

### Class diagram



### Sequence diagram

# Layer architecture pattern



***Figure 6: Layer architecture pattern***