**ITrack** – curfew monitoring system

The android application code project structure is composed of the following;

Under the following directories the following application components are defined.

1. Activities – manage the interaction of application components through user events, and holds the objects consisting the resource layout of the entire application.
   1. AnnouncementActivity.java - displays list of announcement published by brgy. Representative.
   2. EmergencyActivity.java – displays list of possible emergencies which can be sent by minors in case of unexpected circumstances.
   3. NotificationDetails.java – displays list of latest emergency details received by respective parent.
   4. TableParentAssignActivity.java – displays list of minors, their names and their relationships to their parent.
   5. LoginActivity.java – display username and password fields for application authentication.
   6. NavigationDrawerActivity.java – creates a common navigation, and sidebar menu and activity shared to other activities in the application.
2. Adapter – responsible for holding json data from web host database and populates listview / recyclerview.

Note: The conventions provided for adapter means it is intended Activity it was named.

* 1. AnnouncementAdapter.java
  2. EmergencyAdapter.java
  3. TableParentAssignAdapter.java

1. Fragment – refers to the reusable layout which can be called across multiple activities. This applies to common screens such as follows;
   1. AnnouncementFragment.java – this is no longer used, this was replaced by AnnouncementActivity.java which displays announcement list.
   2. HomeFragment.java – this is no longer used, this was replaced by HomeActivity.java
2. Models - this represents database tables and corresponding fields used by the app to provide data to the whole application. This works using set and get function which maintains the data within the activity and across different parts of the application.

Note: See model folder for more details.

1. Services - this is responsible for processing long operations such as server side operations, token authentication, location tracking and etc;
   1. FireBaseInstanceIdService.java – issues application token granted by firebase once application is sign in.
      1. Triggered once the parent is logged on to the application.
   2. MessagingService.java – responsible for receiving push notifications / realtime notifications from firebase server provided app token is issued by firebase.
      1. Triggered once emergency is sent by minor to the parent.
2. Utilities – this are application common classes which are repetitively used within the application especially on data operations, designs, json parsing.

Note; See utils folder for more info.

* 1. ApiUrl.java
     1. contains the link or url of the php scripts uploaded to the webhost.
     2. Holds the references of links used by the application to query data.
  2. CropCircleUtil.java
     1. Responsible for cropping images into elliptical shape for every activity preview.
  3. CustomJSONRequest.java
     1. Parses json data from database and binds it to the view.
  4. KeyConfig.java
     1. Contains all json key names. Since this keys will be used by the Android app to parse data and display to activity.
  5. VolleySingleton
     1. Pushes and finalizes database operations depending on application request. Committing query and request is its main purpose.
     2. Cache or retrieve parts of the data to avoid heavy data usage when using the application.
  6. FontCache and FontManager – provides fontawesome icons responsive to different screen sizes and densities.

1. Helpers – custom classes enabling animations and other concerns specific to design, animation layout etc;
   1. DividerItemDecoration.java
      1. Creates horizontal line separator for recyclerview
      2. Ex: AnnouncementActivity.java, EmergencyActivity.java, TableParentAssignActivity.java
      3. Separates items in a listing.
   2. FlipAnimator
      1. Long press to toggle flip animation to AnnouncementActivity.java.
2. AndroidManifest.xml
   1. Find file inside the application: C:\Users\admin\Desktop\Tutorials\Mobile\ITrack\app\src\main
   2. Responsible for application permission such as LOCATION, INTERNET and others;
   3. Register all the application components such as Activity, Service, Permissions, Metada and others.