

SafetyCheck Android Application

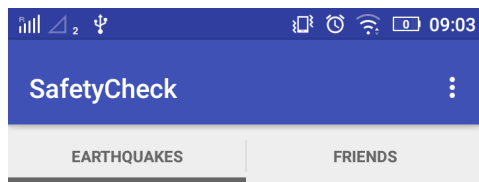
Submitted By:
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SafetyCheck is an android application which pulls earthquake alerts and friends information from server and notify user whenever there has been new alert detected. The user can also view the earthquake and its impacted area on map. It also shows friends that may have been impacted by this earthquake.

I have used some some Android SDK APIs to build this application. This document will walk through all those functionalities.

The server for this application is running at 52.32.136.81:8080

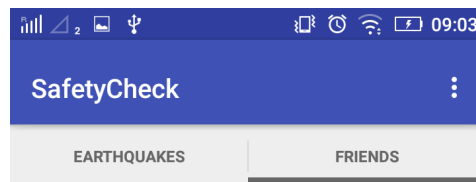
MainActivity with Sliding Tab panel



Earthquakes

SHOW ON MAP

4.9	58.97 -152.34 An earthquake with magnitude 4.9 occurred near Nanwalek, AK at 08:17:34.00 UTC on Apr 29, 2016. (This event has been
4.8	58.88 -152.4 An earthquake with magnitude 4.8 occurred near Nanwalek, AK at 08:17:32.00 UTC on Apr 29, 2016. (This event has been
4.7	-15.46 -73.3 An earthquake with magnitude 4.7 occurred near Puquio, Peru at 06:33:18.70 UTC on Apr 29, 2016. (This event has
4.7	39.75 74.08 An earthquake with magnitude 4.7 occurred near Sary-Tash, Kyrgyzstan at 04:36:36.80 UTC on Apr 29, 2016. (This event
6.9	10.2 -103.8 An earthquake with magnitude 6.9 occurred near Acapulco, Guerrero, Mexico at 01:33:44.00 UTC on Apr 29, 2016. (This
6.8	10.25 -103.76 An earthquake with magnitude 6.8 occurred near Acapulco, Guerrero, Mexico at 01:33:38.80 UTC on Apr 29, 2016. (This
4.9	-16.1 167.27 An earthquake with magnitude 4.9 occurred near Santo (Luganville), Vanuatu at 01:01:56.20 UTC on Apr 29, 2016.
4.8	-16.13 166.97 An earthquake with magnitude 4.8 occurred near Santo (Luganville), Vanuatu at 00:52:47.70 UTC on Apr 29, 2016.
5.5	33 -112 An earthquake with magnitude 3 occurred near Tempe, AZ



Friends

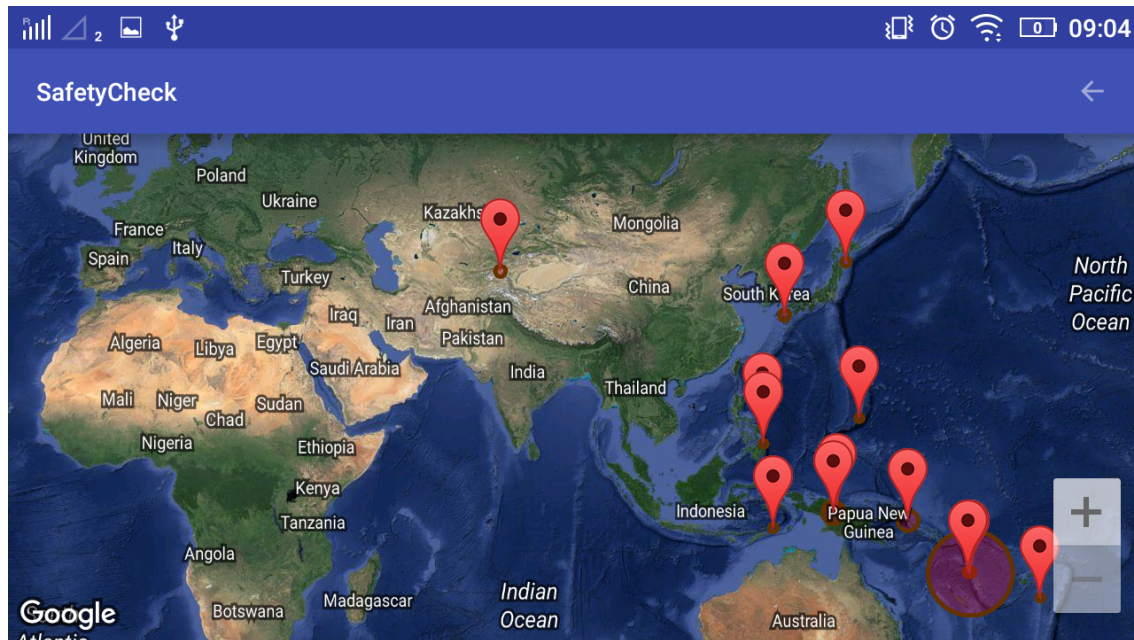
SHOW ON MAP

Vidur S. Bhatnagar Philadelphia, Pennsylvania
Vardhang Shah Sydney, Australia
Anand Walvekar Lubbock, Texas
Abhishek Patil Mumbai, India
Chirag Sanghvi Pune, India
Mihir Bhatt Tempe, Arizona
Bharat Singh Tempe, Arizona
Manish Soni Pune, India
Mukund Manikarnike Tempe, Arizona
Rajkumar Mundel ...

User can either swipe or touch tab header to move across tabs.

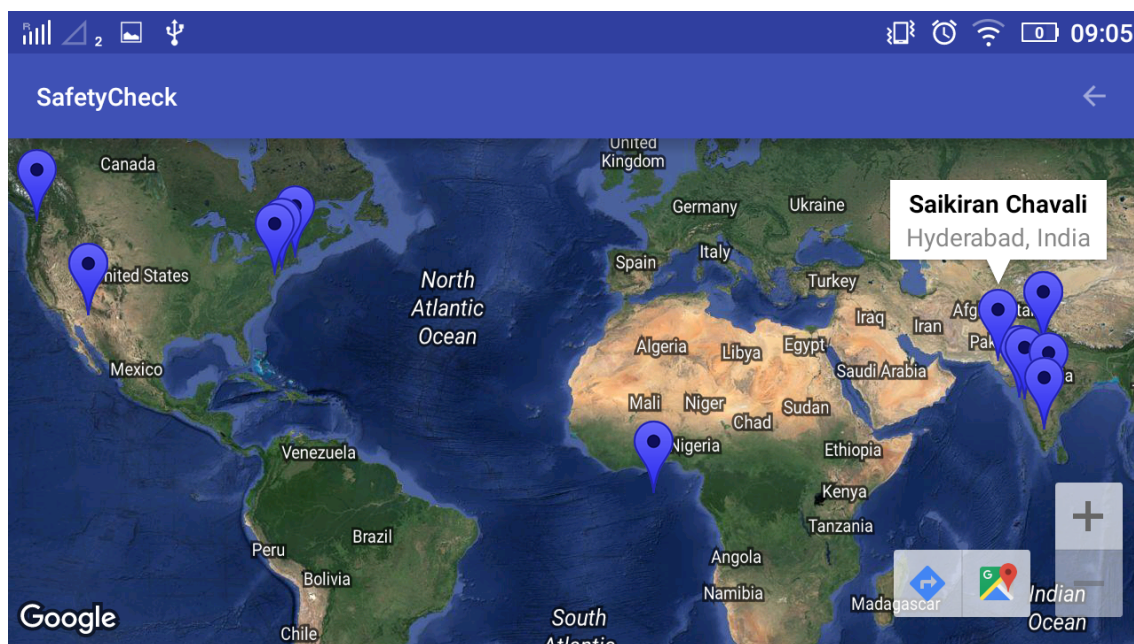
It is making use of SectionsPagerAdapter and PlaceholderFragment to inflate either R.layout.list_earthquake or R.layout.list_friends based on user tab selection.

Map Activity - Map All Earthquakes

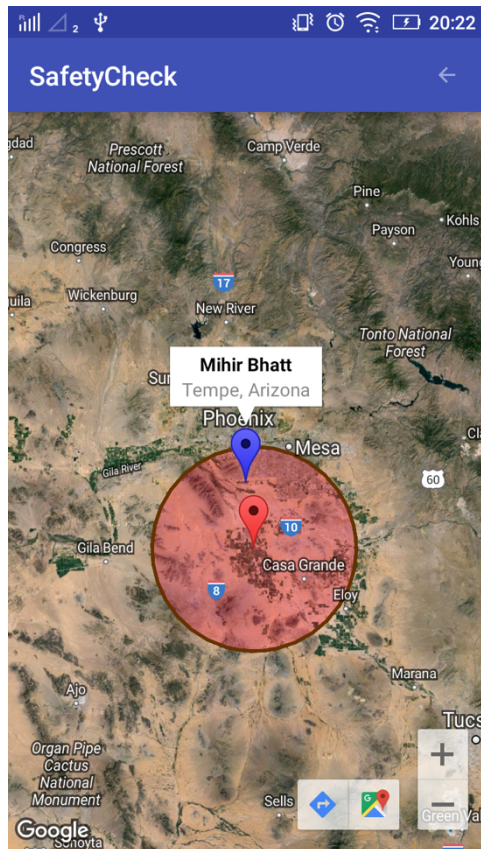


When user touches “SHOW ON MAP” button under earthquakes tab, it creates an intent to MapActivity to show all earthquakes with their impacted area on world map. You can also view more details of Earthquake if you touch the marker.

MapActivity – Map All Friends



When user touches “SHOW ON MAP” button under Friends tab, it creates an intent to MapActivity to show all friends on world map. You can also view your friends name if you touch on marker.



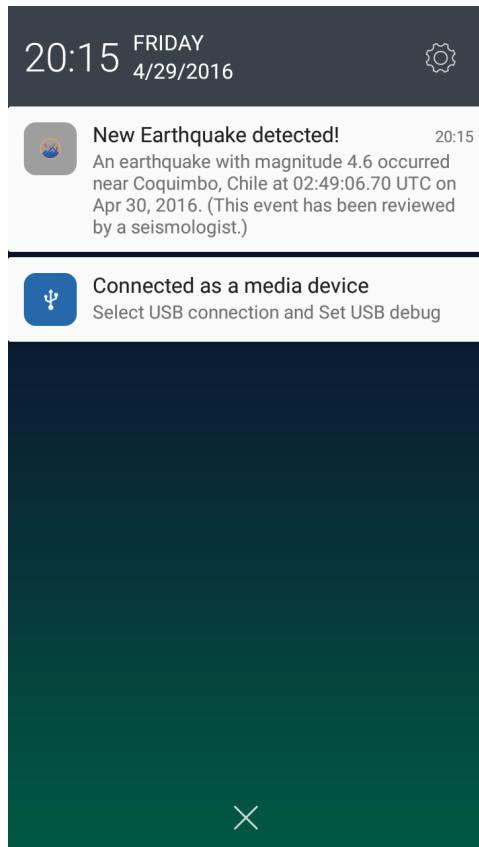
Fetch Earthquakes using EarthquakeReceiver and EarthquakeService:

EarthquakeReceiver which extends **BroadcastReceiver** class, is periodically triggered by the AlarmManager (every 3mins) to start EarthquakeService.

This **intent service** pulls earthquakes data from server and notify user if there has been any new earthquake. This process keeps running in background even if the application is closed.

Notification:

Whenever a new earthquake alert is encountered by EarthquakeService, it generates a notification for the user with earthquake details. If user opens this notification it launches the MapActivity showing earthquake impacted area.



To Demo Notification:

- Go to <http://52.32.136.81:8080/SafetyCheckWeb/earthquakes.html>
- Try insert a dummy earthquake using Add button on right top

Magnitude:	<input type="text" value="4"/>
Latitude:	<input type="text" value="22"/>
Longitude:	<input type="text" value="-92"/>
Description:	<input type="text" value="This is a dummy earthquake alert!"/>

<input type="button" value="Save"/>	<input type="button" value="Add Earthquake"/>	<input type="button" value="Canel"/>
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- You should be able to see earthquake notification within 3 mins

EarthquakeContentProvider:

This application also make use of content provider to access EarthquakeTable. This design will allow other applications also to access EarthquakeTable

Classes Used to support Content Provider:

- EarthquakeContentProvider
- EarthquakeContract
- EarthquakeDBHelper

Future Scope:

- Allow add contacts from user.
- Fetch Weather alerts
- Setting preference to allow customization of frequency to check for alerts