Class: Java smartphone Mini 2
Assignment 4 SMS messenger with GEO information
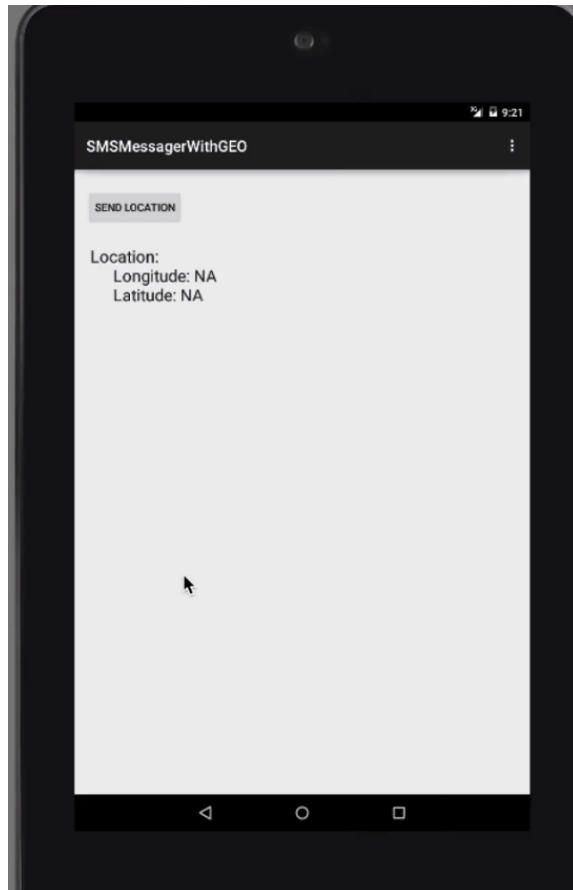**Author: Wei-Lin Tsai weilints@andrew.cmu.edu**
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Demo Link
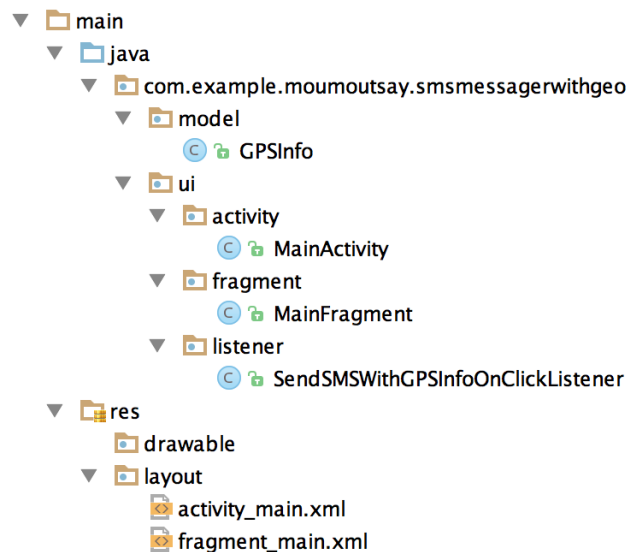https://www.youtube.com/watch?v=-dPXDL2URQQ

Main Page

Whenever user click "SEND LOCATION", the application will try to get current location. If the location is get, it will sent a SMS to the device itself.

Please note as Demo shows, the location information is set by emulator monitor. Besides, the telephone number is get using android API. As a result, the SMS will send to device itself.

Architecture

```
▼ 📁 main
  ▼ 📁 java
    ▼ 📁 com.example.moumoutsay.smsmessagerwithgeo
      ▼ 📁 model
          ©🔒 GPSInfo
      ▼ 📁 ui
        ▼ 📁 activity
            ©🔒 MainActivity
        ▼ 📁 fragment
            ©🔒 MainFragment
        ▼ 📁 listener
            ©🔒 SendSMSWithGPSInfoOnClickListener
  ▼ 📁 res
      📁 drawable
    ▼ 📁 layout
        📄 activity_main.xml
        📄 fragment_main.xml
```

The key is GPSInfo and SendSMSWithGPSInfoOnClickListener. The GPSInfo handle core functions of location retrieval. The SendSMSWithGPSInfoOnClickListener has a listener. When user click the button, it will get GPS location from GPSInfo, get the phone number of current device and then send a SMS.

Exception Handling

Because the flow is simple. Whenever the exception occurs, it will add log to logcate and pop out a Toast telling the user check the setting and try it again. For instance, in GPSInfo

```java
} catch (Exception e) {
    Log.d(LOG_TAG, "Can not get Location" + e);
    Toast.makeText(context,
            "Can not get Location because" + e + "\n, please check setting and try again",
            Toast.LENGTH_LONG).show();
    return null;
}
```

And in SendSMSWithGPSInfoOnClickListener

```java
// send SMS here
try {
    TelephonyManager tMgr = (TelephonyManager) act.getSystemService(Context.TELEPHONY_SE
    String mPhoneNumber = tMgr.getLine1Number();

    //act.startActivity(new Intent(Intent.ACTION_VIEW, Uri.parse("sms:"
    //        + mPhoneNumber)));
    sendSMS(mPhoneNumber, "Location:\n\t\tLongitude: " + log + "\n\t\tLatitude: " + lat)

    Toast.makeText(act.getApplicationContext(),
            "SMS with GPS info is sent !!",
            Toast.LENGTH_LONG).show();
} catch (Exception e) {
    Toast.makeText(act.getApplicationContext(),
            "Send SMS failed, please try again",
            Toast.LENGTH_LONG).show();
    Log.d (LOG_TAG, "Send SMS failed" + e);
}
```