girldevelopit

Beginning Java for Android
Session 4: Finding yourself

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Adding interactivity

- OnTouchListenter
  - implement by whole activity
  - make anything touchable
- MotionEvent
  - ACTION_UP
  - ACTION_DOWN
  - ACTION_MOVE
  - EDGE_
  - AXIS_

Calling OnTouchListener

Create main.xml with a FrameLayout and a Button.

```
public class touchDrawable extends Activity implements
    OnTouchListener{
...
layout = (FrameLayout)findViewById(R.id.frameLayout1);
      button=(Button)findViewById(R.id.button1);
     button.setOnTouchListener(this);

params = new LayoutParam
    (LayoutParams.WRAP_CONTENT,
    LayoutParams.WRAP_CONTENT);
```

Creating OnTouch Method

```
@Override
public boolean onTouch(View view, MotionEvent me) {
if (me.getAction() == MotionEvent.ACTION_DOWN) {
ShapeDrawable rectangle = new ShapeDrawable ();
      rectangle.setShape(new RectShape());
      rectangle.setIntrinsicHeight(100);
      rectangle.setIntrinsicWidth(200);
      rectangle.getPaint().setColor(Color.GREEN);
      iView = new ImageView(this);
      iView.setImageDrawable(rectangle);

layout.addView(iView, params);
}
```

Creating OnTouch Method, cont.

```
if (me.getAction() == MotionEvent.ACTION_UP) {
status = STOP_DRAGGING;
}

else if (me.getAction() == MotionEvent.ACTION_MOVE) {
    if (status == START_DRAGGING) {
      System.out.println("Dragging");
      iView.setPadding((int) me.getRawX(), (int) me.getRawY(), 0, 0);
      iView.invalidate();
    }
}
return false;
}
```

Android Location

- Geocoder
  - Forward and Reverse Geocoding
  - Converting addresses to Latitude and Longitude
- Address
  - Set of strings to represent location
- LocationManager
  - Access to System Geo Location Software and Hardware

Using Android Location

Add permissions to Manifest File

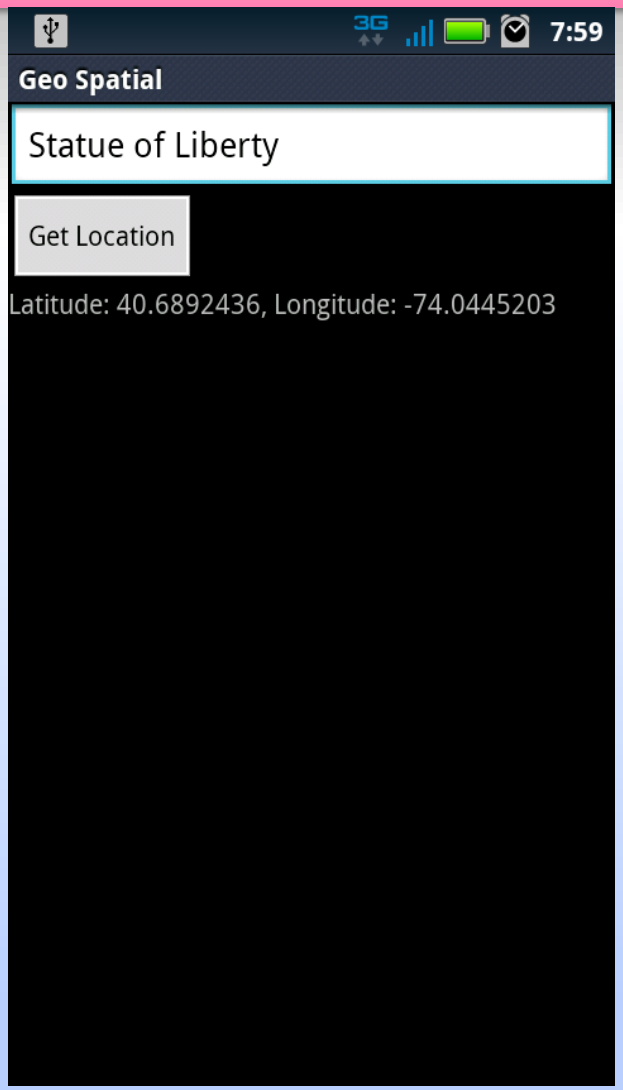
```
<uses-permission
    android:name="android.permission.ACCESS_FINE_LOCATION" />
<uses-permission
    android:name="android.permission.ACCESS_COARSE_LOCATION"
    />
<uses-permission android:name="android.permission.INTERNET" />
```

Import classes into Activity File

```
import android.location.Address;
import android.location.Geocoder;
import android.location.LocationManager;
```

Preparing the Layout

- Add EditText to take Address
- Add Button
- Add TextView to display Latitude and Longitude



Giving and getting Geo Data

```
myGeoCoder = new Geocoder(this);

    button.setOnClickListener(new OnClickListener() {
     public void onClick(View v) {
      String addressInput = address.getText().toString();

      try {

       List<Address> foundAdresses =
myGeoCoder.getFromLocationName(addressInput, 5);

       if (foundAdresses.size() == 0) {
       latLong.setText("Sorry, we could not find that address");
       }
```

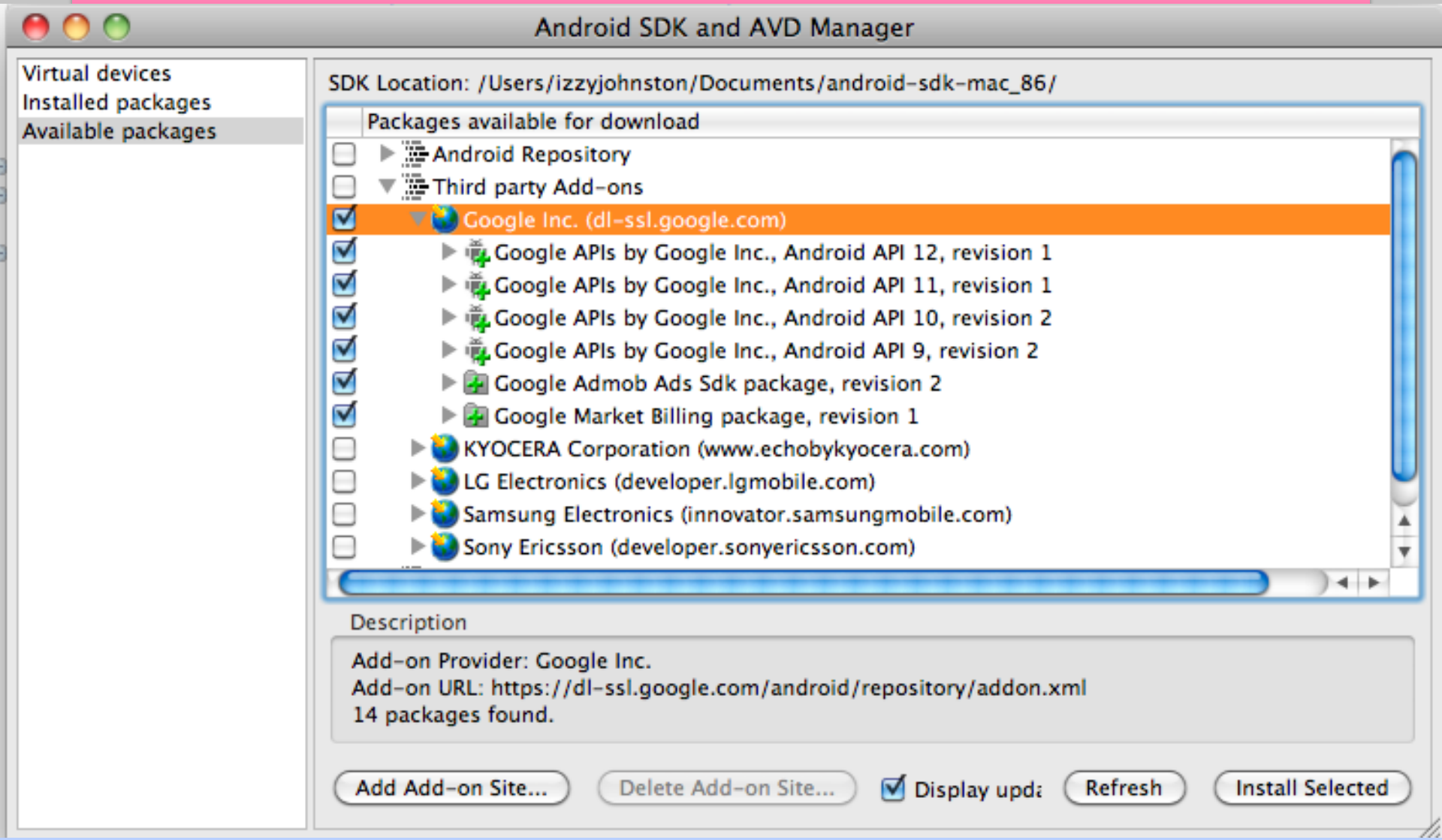
Giving and Getting Data, cont.

```
else {
            for (int i = 0; i < foundAdresses.size(); i++) {
              Address x = foundAdresses.get(i);
              lat = x.getLatitude();
              lng = x.getLongitude();
              latLong.setText("Latitude: "+lat+", Longitude: "+lng);
            }
}
          }
          catch (Exception e) {

          }

        }
      });
```

Google Maps APIs

- Map Imaging
- Allows addition of Views not in SDK
- Can call Maps according to geo-location
- Show Markers

Adding Third Party APIs



Calling Google Maps

Add Library in Manifest File

<uses-library android:name="*com.google.android.maps*" />

Import classes into Activity File

```
import com.google.android.maps;
import com.google.android.maps.MapActivity;
import com.google.android.maps.MapController;
import com.google.android.maps.MapView;
```

Extend MapActivity

```
public class FindMe extends MapActivity
```

Adding MapView to main.xml

```
<com.google.android.maps.MapView
      android:id="@+id/mapView1"
      android:layout_width="fill_parent"
      android:layout_height="fill_parent"
      android:clickable="true"
      android:apiKey="okb_7ZLOgkqpspHjVyoGKoKLPYvJP_cW-
    Nvalvw"
   />
```

Obtaining a MapKey

http://code.google.com/android/add-ons/google-apis/mapkey.html

Show MapView

```
MapView myMap = (MapView) findViewById(R.id.
    mapView1);
myMap. setSatellite(false) ;
myMap.setBuiltInZoomControls(true);

MapController myController = myMap.getController();
myController.setZoom(10);

GeoPoint myGeoPoint = new GeoPoint((int) (lat*1000000),
    (int)( lng*1000000);
myController.animateTo(myGeoPoint);
```

Adding a Marker

```
ImageView myMapMarker = new ImageView(this) ;

MapView.LayoutParams myMapMarkerParams = new
MapView.LayoutParams( LayoutParams.WRAP_CONTENT,
        LayoutParams. WRAP_CONTENT,
        myGeoPoint, MapView. LayoutParams. TOP_LEFT ) ;
myMapMarker. setImageResource(R. drawable. marker) ;

myMap. addView(myMapMarker, myMapMarkerParams);
```

What Now?

- Great Resources
  - http://developer.android.com
  - http://www.anddev.org/
  - http://stackoverflow.com
- How to get Published??
  - Signing: http://developer.android.com/guide/publishing/app-signing.html
  - Versioning: http://developer.android.com/guide/publishing/versioning.html
  - Preparing: http://developer.android.com/guide/publishing/preparing.html
  - Publishing: http://developer.android.com/guide/publishing/publishing.html

Questions?