Mobile Application Development

Higher Diploma in Science in Computer Science

Produced by

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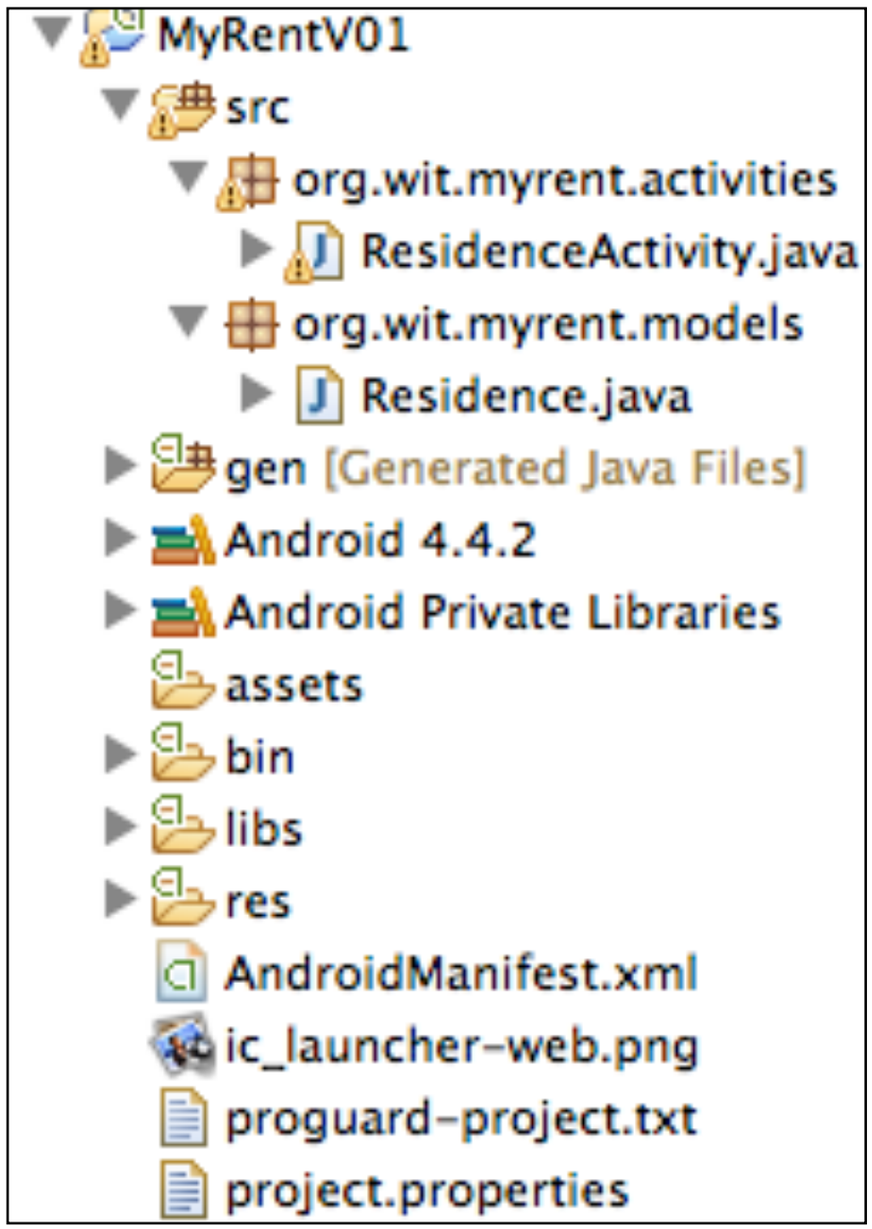
eLearning support unit

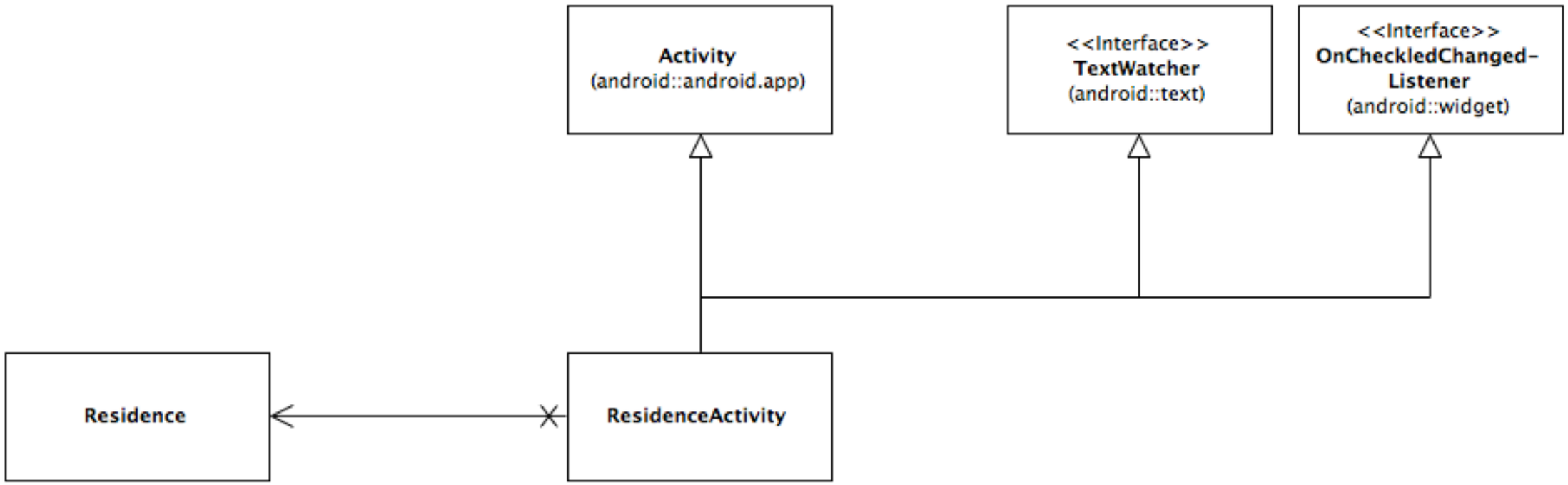
MyRent v01-03

Version 01

MyRent
LOCATION
52.253456,-7.187162
STATUS
Rented?


MyRentV01
src
org.wit.myrent.activities
ResidenceActivity.java
org.wit.myrent.models
Residence.java
gen [Generated Java Files]
Android 4.4.2
Android Private Libraries
assets
bin
libs
res
AndroidManifest.xml
ic_launcher-web.png
proguard-project.txt
project.properties

MyRent-v01 UML

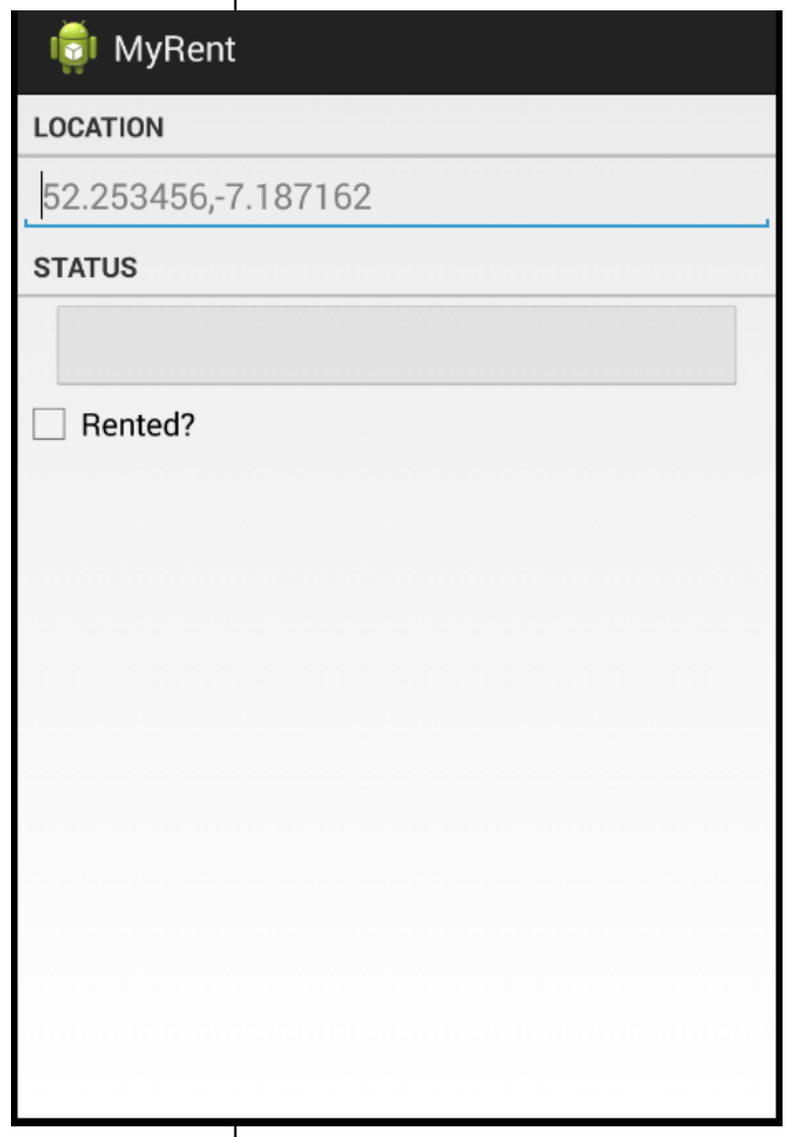


Model Class

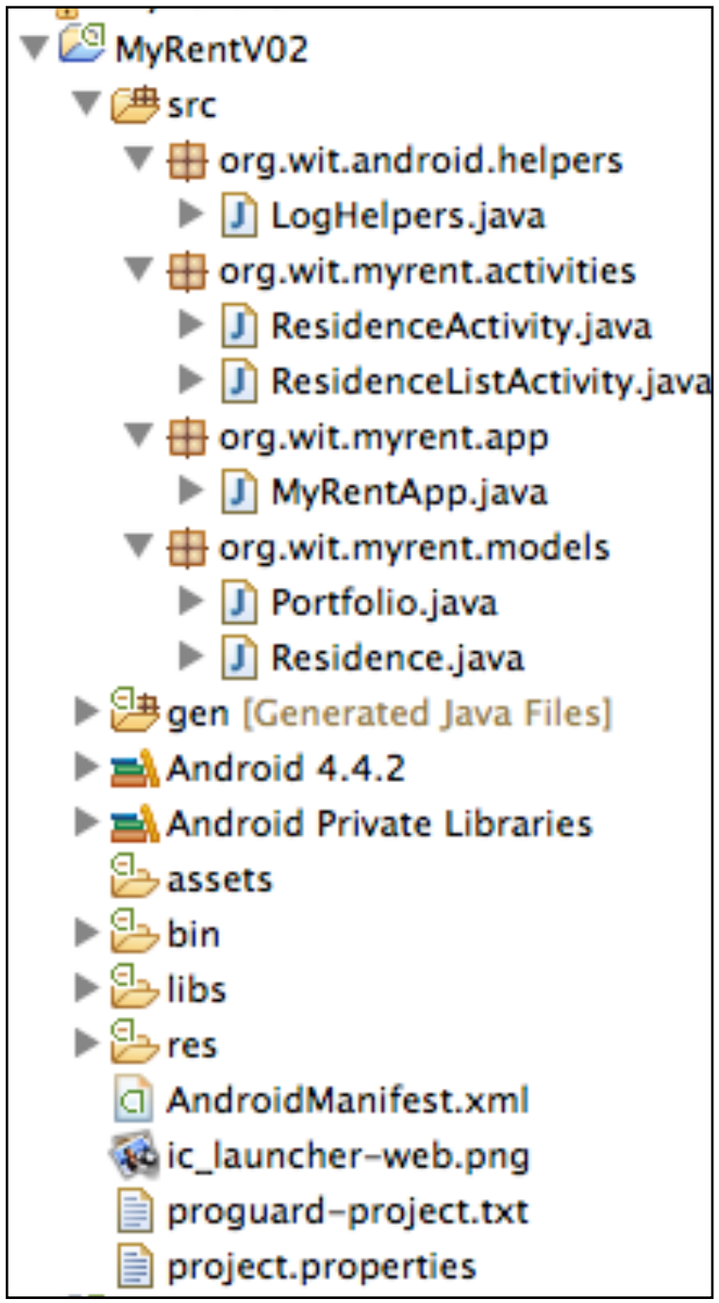
```
public class Residence
{
  public UUID id;

  public String  geolocation;
  public Date    date;
  public boolean rented;

  public Residence()
  {
    id = UUID.randomUUID();
    this.date = new Date();
  }

  public String getDateString()
  {
    return "Registered: " + DateFormat.getDateTimeInstance().format(date);
  }
}
```

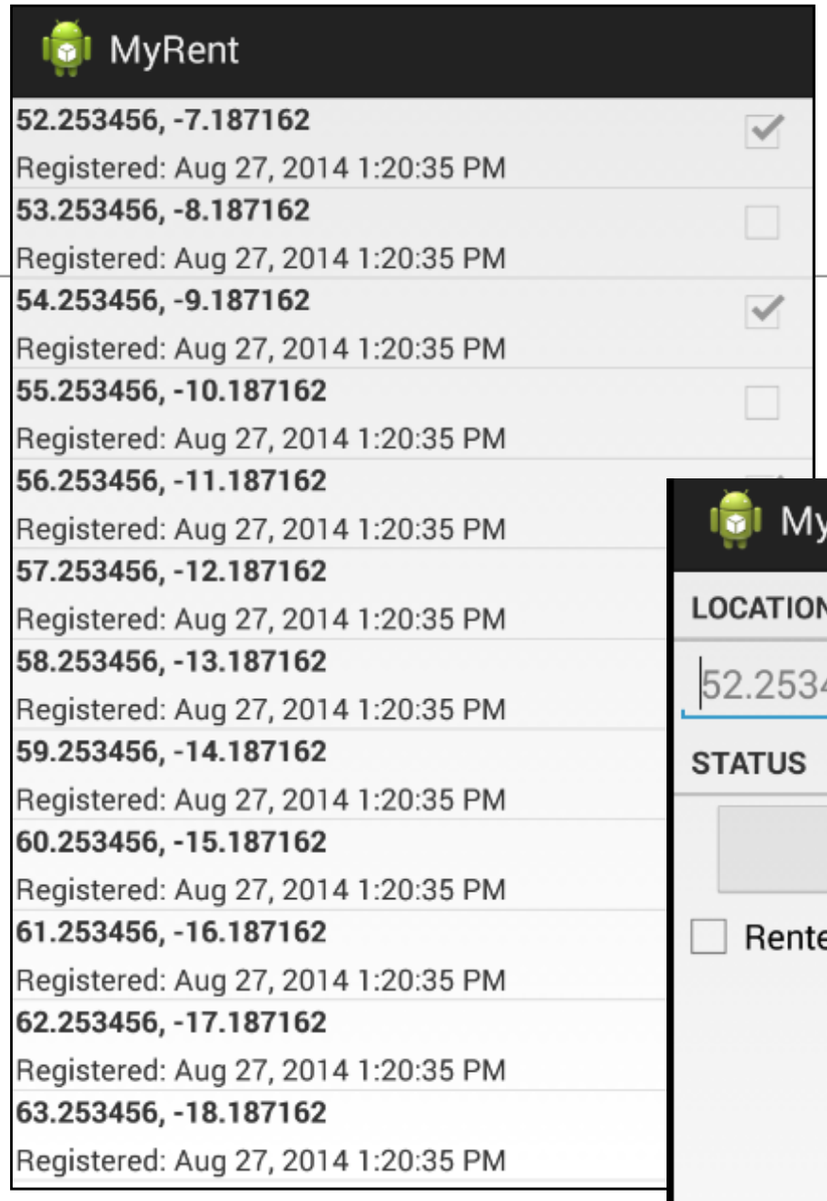
```java
public class ResidenceActivity extends Activity implements TextWatcher, OnCheckedChangeListener
{
  private EditText geolocation;
  private CheckBox rented;
  private Button   dateButton;
  private Residence residence;

  @Override
  public void onCreate(Bundle savedInstanceState)
  {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_residence);

    geolocation = (EditText) findViewById(R.id.geolocation);
    dateButton  = (Button)   findViewById(R.id.registration_date);
    rented      = (CheckBox) findViewById(R.id.isrented);

    residence = new Residence();

    geolocation.addTextChangedListener(this);
    geolocation.setText(residence.geolocation);
    dateButton .setEnabled(false);
    rented     .setChecked(residence.rented);
    rented     .setOnCheckedChangeListener(this);
  }
  @Override
  public void onCheckedChanged(CompoundButton arg0, boolean isChecked)
  {
    Log.i(this.getClass().getSimpleName(), "rented Checked");
    residence.rented = isChecked;
  }
  @Override
  public void afterTextChanged(Editable c)
  {
    Log.i(this.getClass().getSimpleName(), "geolocation " + c.toString());
    residence.geolocation = c.toString();
  }
  @Override
  public void beforeTextChanged(CharSequence arg0, int arg1, int arg2, int arg3)
  {}
  @Override
  public void onTextChanged(CharSequence arg0, int arg1, int arg2, int arg3)
  {}
}
```

ResidenceActivity

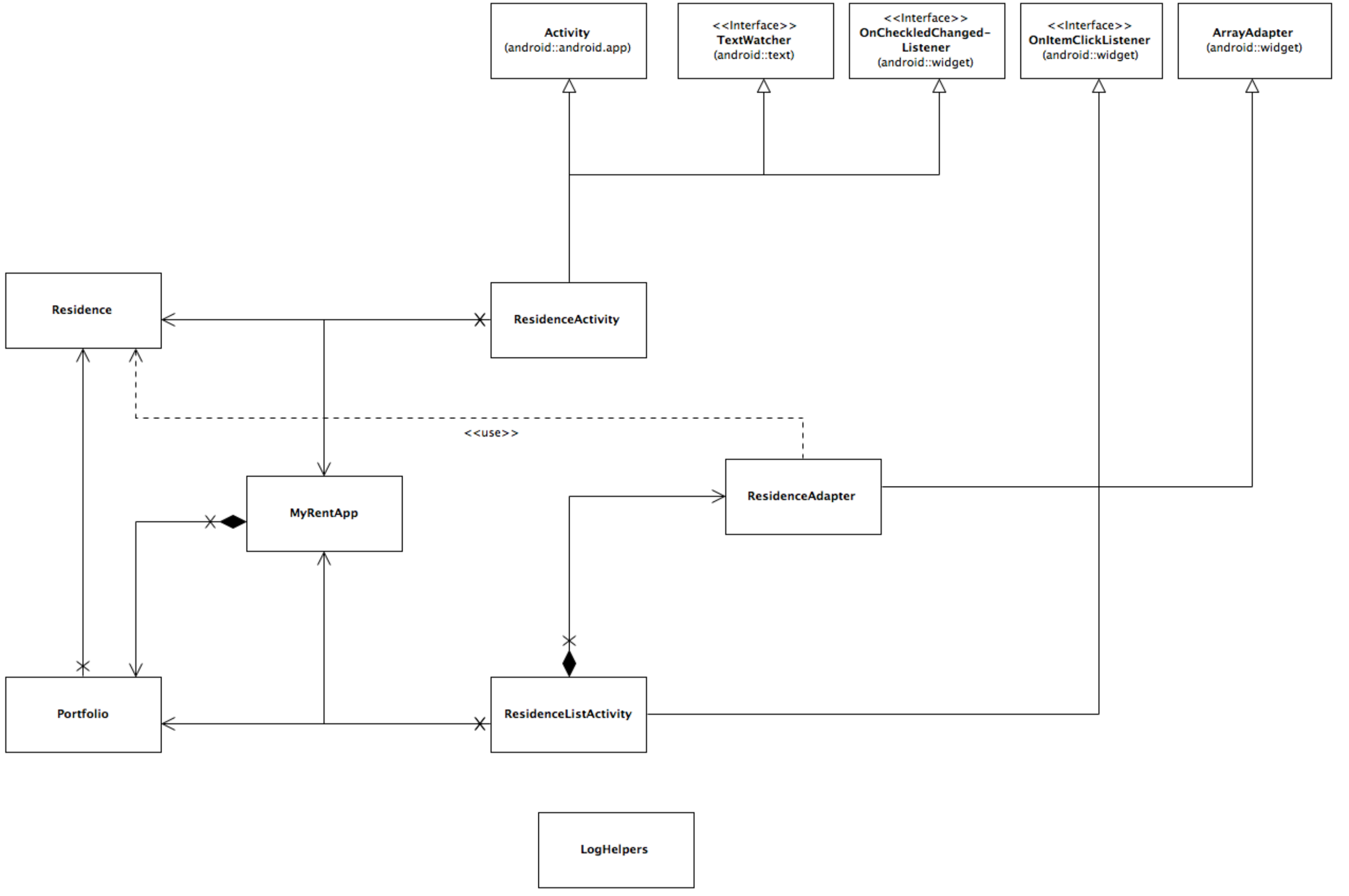


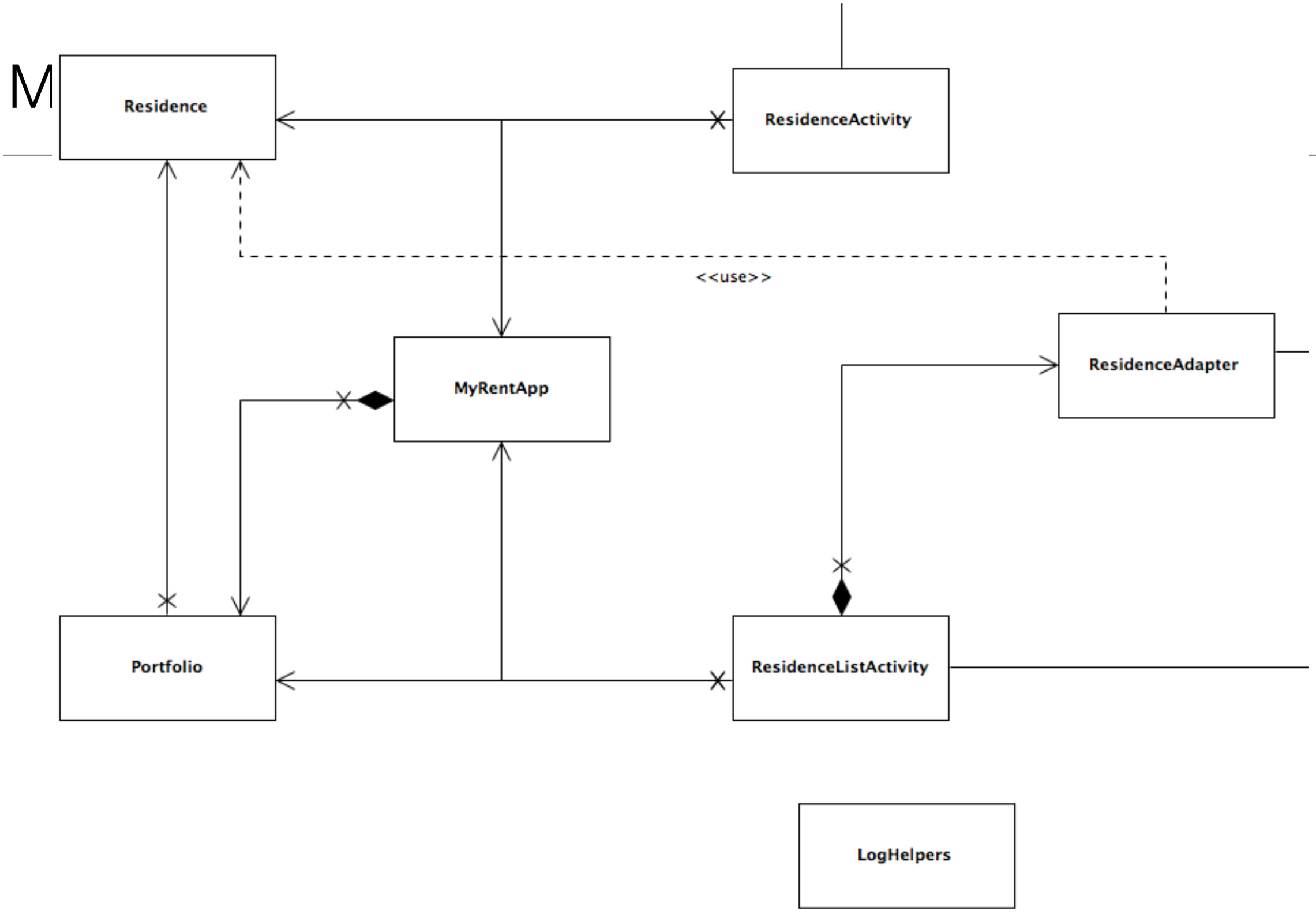
MyRent v02


MyRentV02
src
org.wit.android.helpers
LogHelpers.java
org.wit.myrent.activities
ResidenceActivity.java
ResidenceListActivity.java
org.wit.myrent.app
MyRentApp.java
org.wit.myrent.models
Portfolio.java
Residence.java
gen [Generated Java Files]
Android 4.4.2
Android Private Libraries
assets
bin
libs
res
AndroidManifest.xml
ic_launcher-web.png
proguard-project.txt
project.properties


MyRent
52.253456, -7.187162
Registered: Aug 27, 2014 1:20:35 PM
53.253456, -8.187162
Registered: Aug 27, 2014 1:20:35 PM
54.253456, -9.187162
Registered: Aug 27, 2014 1:20:35 PM
55.253456, -10.187162
Registered: Aug 27, 2014 1:20:35 PM
56.253456, -11.187162
Registered: Aug 27, 2014 1:20:35 PM
57.253456, -12.187162
Registered: Aug 27, 2014 1:20:35 PM
58.253456, -13.187162
Registered: Aug 27, 2014 1:20:35 PM
59.253456, -14.187162
Registered: Aug 27, 2014 1:20:35 PM
60.253456, -15.187162
Registered: Aug 27, 2014 1:20:35 PM
61.253456, -16.187162
Registered: Aug 27, 2014 1:20:35 PM
62.253456, -17.187162
Registered: Aug 27, 2014 1:20:35 PM
63.253456, -18.187162
Registered: Aug 27, 2014 1:20:35 PM

MyRent
LOCATION
52.253456,-7.187162
STATUS
Rented?


Activity
(android::android.app)
<<Interface>>
TextWatcher
(android::text)
<<Interface>>
OnCheckledChanged-
Listener
(android::widget)
<<Interface>>
OnItemClickListener
(android::widget)
ArrayAdapter
(android::widget)
Residence
ResidenceActivity
<<use>>
ResidenceAdapter
MyRentApp
Portfolio
ResidenceListActivity
LogHelpers


Residence
ResidenceActivity
<<use>>
MyRentApp
ResidenceAdapter
Portfolio
ResidenceListActivity
LogHelpers

Residence

```
public class Residence
{
  public UUID id;

  public String  geolocation;
  public Date    date;
  public boolean rented;

  public Residence()
  {
    id = UUID.randomUUID();
    this.date = new Date();
  }

  public String getDateString()
  {
    return "Registered: " + DateFormat.getDateTimeInstance().format(date);
  }
}
```

Portfolio

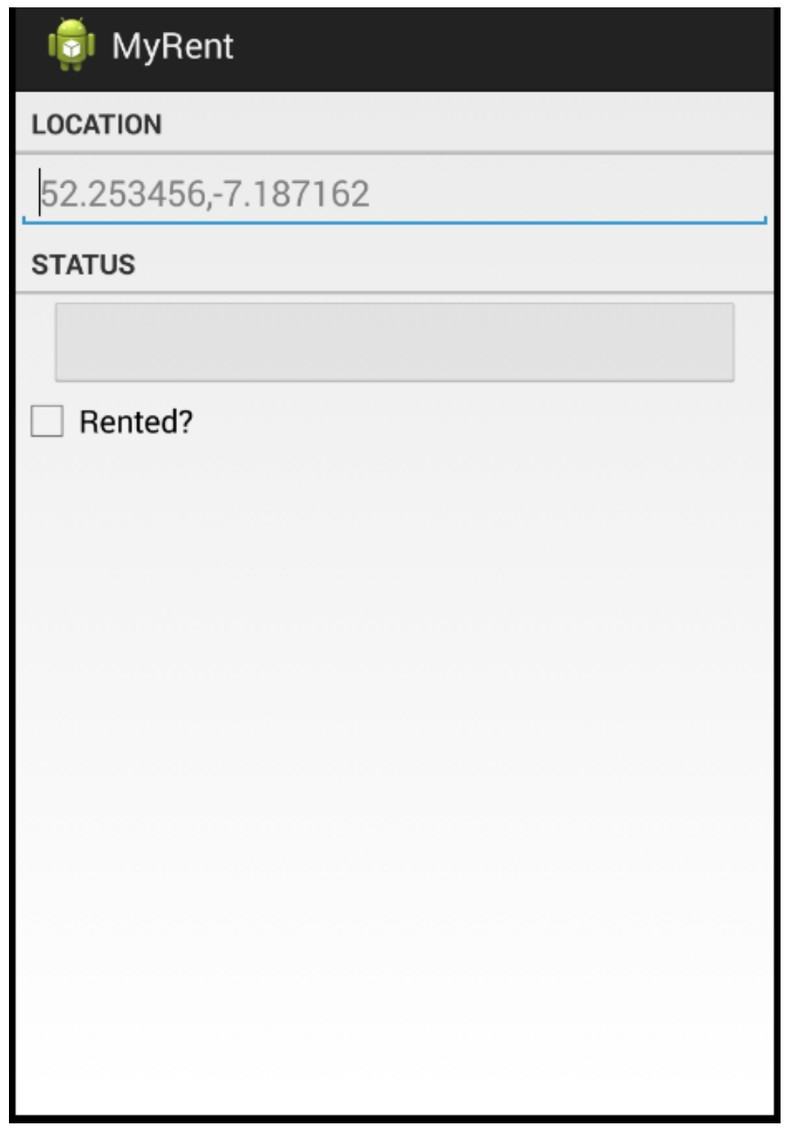
```
public class Portfolio
{
  public  ArrayList<Residence>  residences;

  public Portfolio()
  {
    residences = new ArrayList<Residence>();
    this.generateTestData();
  }

  public void addResidence(Residence residence)
  {
    residences.add(residence);
  }

  public Residence getResidence(UUID id)
  {
    Log.i(this.getClass().getSimpleName(), "UUID parameter id: "+ id);

    for (Residence res : residences)
    {
      if(id.equals(res.id))
      {
        return res;
      }
    }
    info(this, "failed to find residence. returning first element array to avoid crash");
    return null;
  }

  private void generateTestData()
  {
    for(int i = 0; i < 100; i += 1)
    {
      Residence r = new Residence();
      r.geolocation = (52.253456 + i) % 90 +  ", " + (-7.187162 - i) % 180 + "";
      if(i%2 == 0)
      {
        r.rented = true;
      }
      else
      {
        r.rented = false;
      }
      residences.add(r);
    }
  }
}
```

MyRentApp

```
public class MyRentApp extends Application
{
  public Portfolio portfolio;

  @Override
  public void onCreate()
  {
    super.onCreate();
    portfolio = new Portfolio();

    info(this, "RentControl app launched");
  }
}
```

```
public class ResidenceActivity extends Activity implements TextWatcher,
                                                            OnCheckedChangeListener
{
  private EditText geolocation;
  private CheckBox rented;
  private Button   dateButton;

  private Residence residence;
  private Portfolio portfolio;

  @Override
  public void onCreate(Bundle savedInstanceState)
  {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_residence);

    geolocation = (EditText) findViewById(R.id.geolocation);
    dateButton  = (Button)   findViewById(R.id.registration_date);
    rented      = (CheckBox) findViewById(R.id.isrented);

    geolocation.addTextChangedListener(this);
    dateButton .setEnabled(false);
    rented     .setOnCheckedChangeListener(this);

    MyRentApp app = (MyRentApp) getApplication();
    portfolio = app.portfolio;

    UUID resId = (UUID) getIntent().getExtras().getSerializable("RESIDENCE_ID");
    residence = portfolio.getResidence(resId);
    if (residence != null)
    {
      updateControls(residence);
    }
  }

//...
```

ResidenceActivity

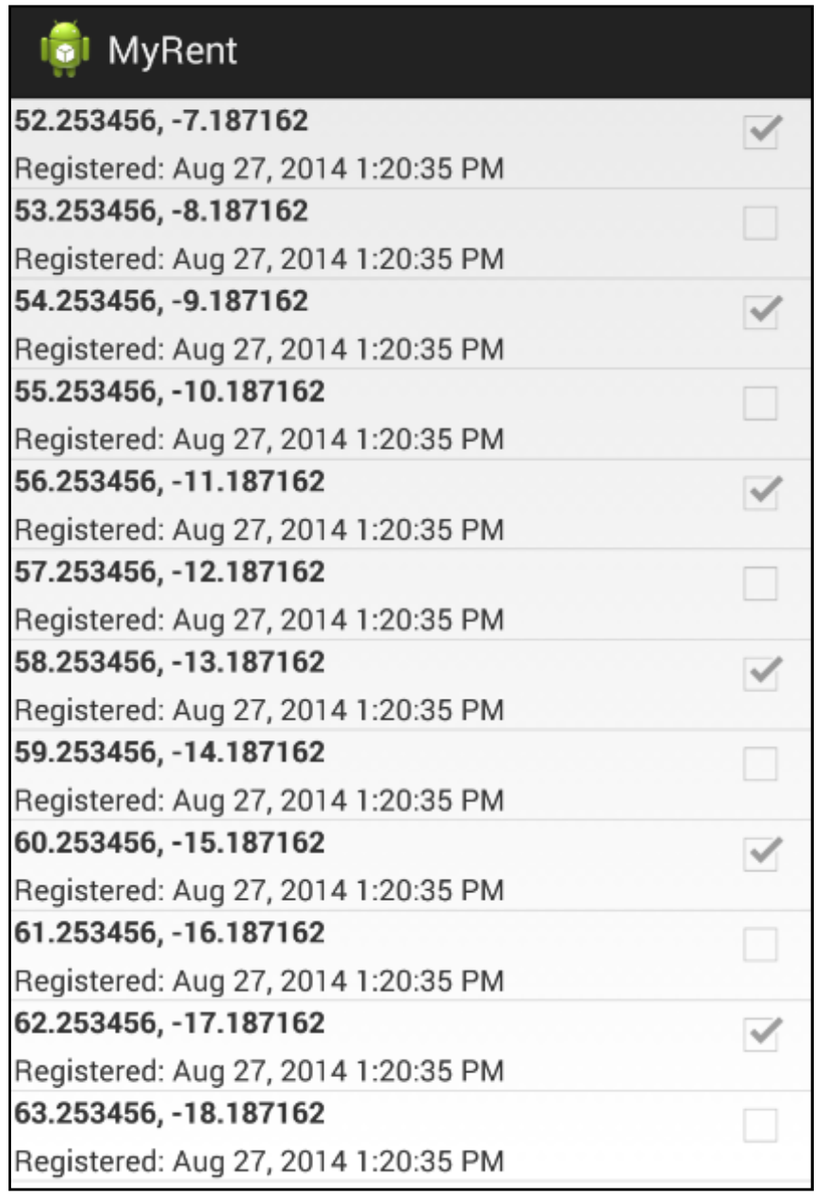


ResidenceActivity - Event Handlers

```
  @Override
  public void onCheckedChanged(CompoundButton arg0, boolean isChecked)
  {
    Log.i(this.getClass().getSimpleName(), "rented Checked");
    residence.rented = isChecked;
  }

  @Override
  public void afterTextChanged(Editable c)
  {
    Log.i(this.getClass().getSimpleName(), "geolocation " + c.toString());
    residence.geolocation = c.toString();
  }

  @Override
  public void beforeTextChanged(CharSequence arg0, int arg1, int arg2, int arg3)
  {
  }

  @Override
  public void onTextChanged(CharSequence arg0, int arg1, int arg2, int arg3)
  {
  }
}
```

ResidenceListActivity

```
public class ResidenceListActivity extends Activity implements OnItemClickListener
{
  private ListView listView;
  private Portfolio portfolio;
  private ResidenceAdapter adapter;

  @Override
  public void onCreate(Bundle savedInstanceState)
  {
    super.onCreate(savedInstanceState);
    setTitle(R.string.app_name);
    setContentView(R.layout.activity_residencelist);

    listView = (ListView) findViewById(R.id.residenceList);

    MyRentApp app = (MyRentApp) getApplication();
    portfolio = app.portfolio;

    adapter = new ResidenceAdapter(this, portfolio.residences);
    listView.setAdapter(adapter);
    listView.setOnItemClickListener(this);
  }

  @Override
  public void onItemClick(AdapterView<?> parent, View view, int position, long id)
  {
    Residence residence = adapter.getItem(position);
    Intent intent = new Intent(this, ResidenceActivity.class);
    intent.putExtra("RESIDENCE_ID", residence.id);
    startActivity(intent);
  }

  @Override
  public void onResume()
  {
    super.onResume();
    adapter.notifyDataSetChanged();
  }
}
```



ResidenceAdapter

```
class ResidenceAdapter extends ArrayAdapter<Residence>
{
  private Context context;

  public ResidenceAdapter(Context context, ArrayList<Residence> residences)
  {
    super(context, 0, residences);
    this.context = context;
  }

  @Override
  public View getView(int position, View convertView, ViewGroup parent)
  {
    LayoutInflater inflater = (LayoutInflater) context.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
    if (convertView == null)
    {
      convertView = inflater.inflate(R.layout.list_item_residence, null);
    }
    Residence res = getItem(position);

    TextView geolocation = (TextView) convertView.findViewById(R.id.residence_list_item_geolocation);
    geolocation.setText(res.geolocation);

    TextView dateTextView = (TextView) convertView.findViewById(R.id.residence_list_item_dateTextView);
    dateTextView.setText(res.getDateString());

    CheckBox rentedCheckBox = (CheckBox) convertView.findViewById(R.id.residence_list_item_isrented);
    rentedCheckBox.setChecked(res.rented);

    return convertView;
  }
}
```

LogHelper

```
public class LogHelpers
{
  public static void info(Object parent, String message)
  {
    Log.i(parent.getClass().getSimpleName(), message);
  }
}
```

AndroidManifest

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  package="org.wit.myrent"
  android:versionCode="1"
  android:versionName="1.0" >

  <uses-sdk
    android:minSdkVersion="16"
    android:targetSdkVersion="19" />

  <application
    android:name=".app.MyRentApp"
    android:allowBackup="true"
    android:icon="@drawable/ic_launcher"
    android:label="@string/app_name"
    android:theme="@style/AppTheme" >

    <activity
      android:name=".activities.ResidenceListActivity"
      android:label="@string/app_name" >
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>

    <activity
      android:name=".activities.ResidenceActivity"
      android:label="@string/app_name" >
    </activity>

  </application>

</manifest>
```

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