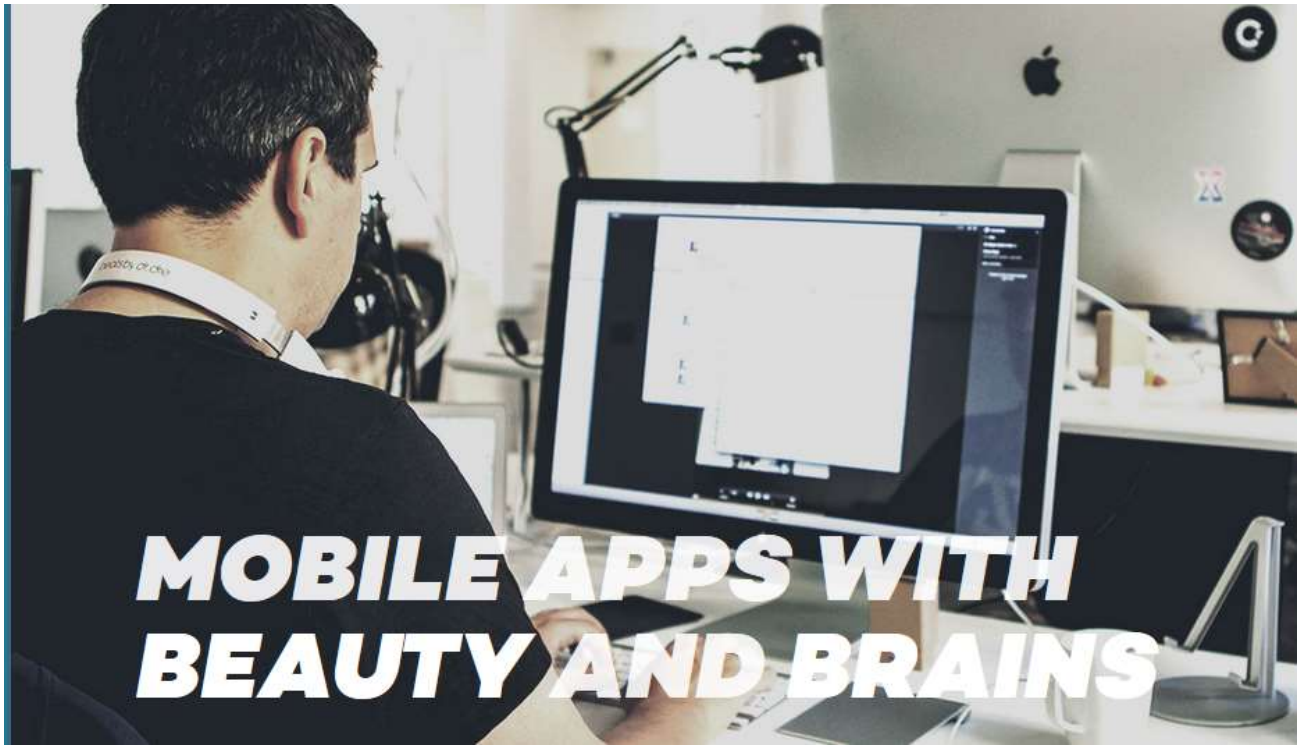
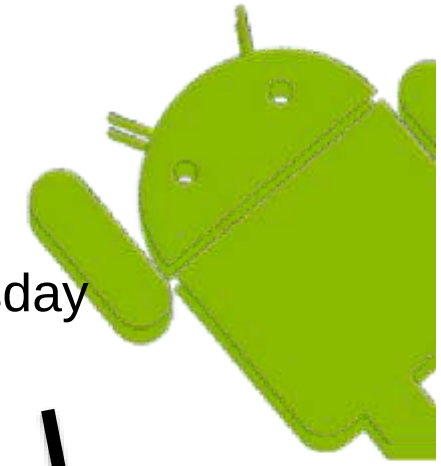
Welcome

Mads Frandsen, Shape



Mobile app development – week 4



Wednesday
Feb 17

Wednesday
Feb 24

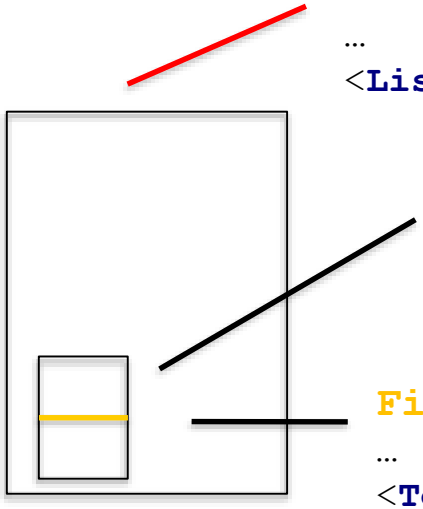
Guest

Questions and comments to WorkplanW4

Mandatory assignment

Exercises

Scrollable lists



File: tingle_activity.xml

```
…
<ListView
    …
    android:id="@+id/thing_list_view"
    …    />
```

File: list_item.xml

```
…
<TextView
    …
    …    />
```

```
List<Thing>

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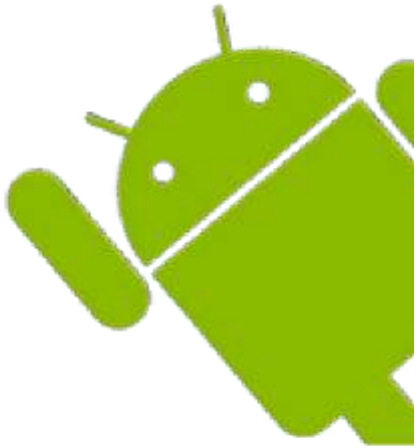
```

```
listAdapter = new ArrayAdapter<>(… R.layout.list_item, thingsDB.getThingsDB() );

((ListView) findViewById(R.id.thing_list_view)).setAdapter(listAdapter);
```

List of Things



```
listAdapter = new ArrayAdapter<>

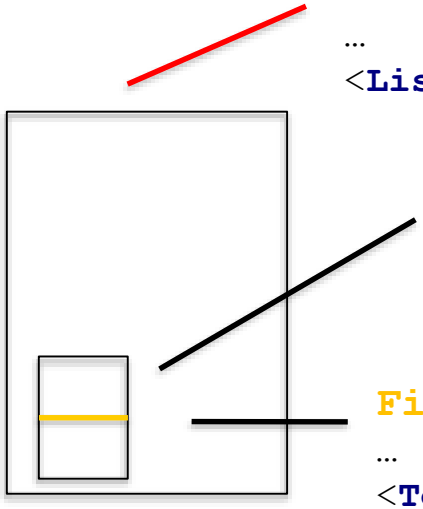
(… R.layout.list_item, thingsDB.getThingsDB() );


Type of thingsDB.getThingsDB() is List<Thing>

Type of thingsDB.getThings().toArray() is Object[]
```

Object[] **cannot** be cast to Thing[] !!!!

Scrollable lists



File: tingle_activity.xml

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<ListView
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    android:id="@+id/thing_list_view"
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```

File: list_item.xml

```
…
<TextView
    …        ????
    …    />
```

```
List<Thing>

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-------
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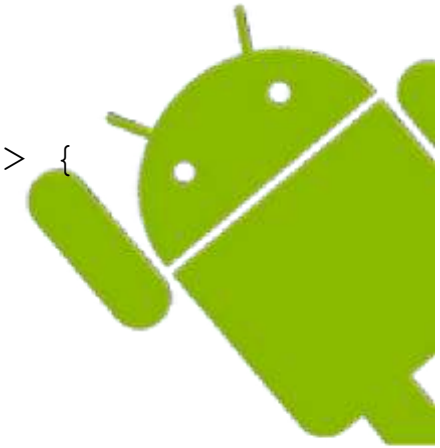
---

---
```

```
listAdapter = new ThingArrayAdapter(…, thingsDB.getThingsDB() );

((ListView) findViewById(R.id.thing_list_view)).setAdapter(listAdapter);
```

Customizing a row



```
public class ThingArrayAdapter extends ArrayAdapter<Thing> {

  public View getView(int i, View concertView, ViewGroup parent){

    TextView whatView = (TextView) rowView.findViewById(R.id.thing_what);
    whatView.append(values.get(i).getWhat());

    TextView whereView = (TextView) rowView.findViewById(R.id.thing_where)
    whereView.append(values.get(i).getWhere());

    return rowView;
  }
```

Customizing a row

```
public class ThingArrayAdapter extends ArrayAdapter<Thing> {

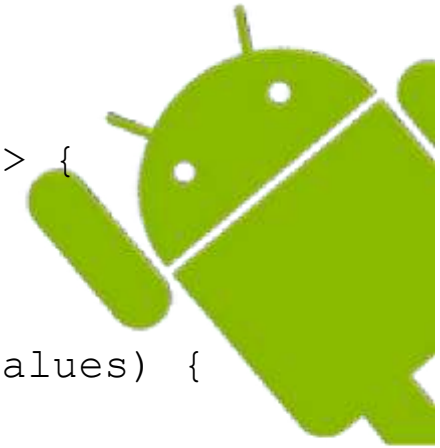
  public View getView(int i, View concertView, ViewGroup parent){
    LayoutInflater inflater = (LayoutInflater)
        context.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
    View rowView= inflater.inflate(R.layout.list_item_thing, parent, false

    TextView whatView = (TextView) rowView.findViewById(R.id.thing_what);
    whatView.append(values.get(i).getWhat());

    TextView whereView = (TextView) rowView.findViewById(R.id.thing_where)
    whereView.append(values.get(i).getWhere());

    return rowView;
  }
```

Customizing a row



```
public class ThingArrayAdapter extends ArrayAdapter<Thing> {
  private final Context context;
  private final List<Thing> values;

  public ThingArrayAdapter(Context context, List<Thing> values) {
    super(context, R.layout.list_item_thing, values);
    this.context= context;
    this.values= values;
  }

  public View getView(int i, View concertView, ViewGroup parent){
    LayoutInflater inflater = (LayoutInflater)
        context.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
    View rowView= inflater.inflate(R.layout.list_item_thing, parent, false

    TextView whatView = (TextView) rowView.findViewById(R.id.thing_what);
    whatView.append(values.get(i).getWhat());

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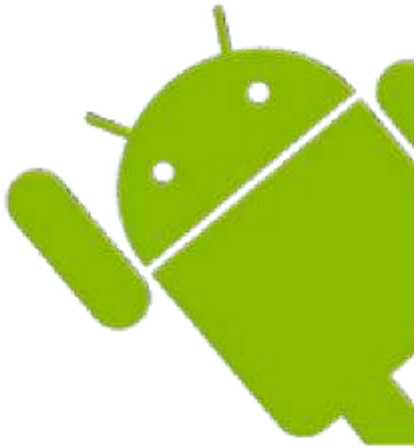
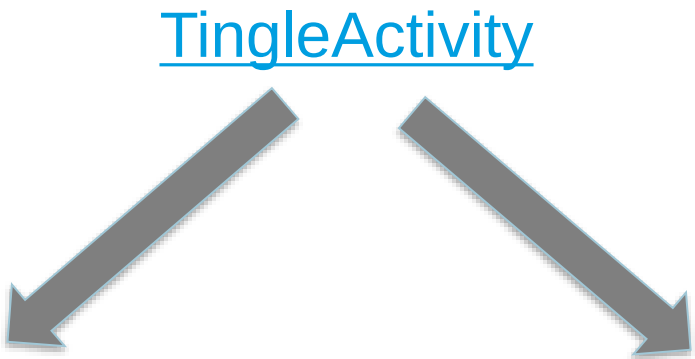
    whereView.append(values.get(i).getWhere());

    return rowView;
  }
```

2. Copy the code of TingleActivity.java and activity_tingle.xml from TingleV2 to the two new files (TingleFragment.java and fragment_tingle.xml). This will initially generate a lot of syntax errors. Do not worry about this right now.

Fragments





TingleActivity

almost empty

TingleFragment

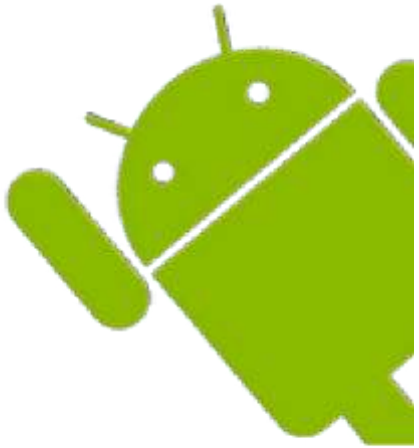
almost like TingleActivity

Multistream programming

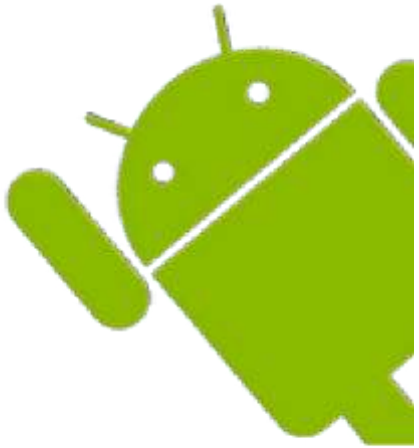
Single stream

Multistream

Searching in a large list (of things)



Skipped 391 frames! The application may be doing too much work on its main thread.



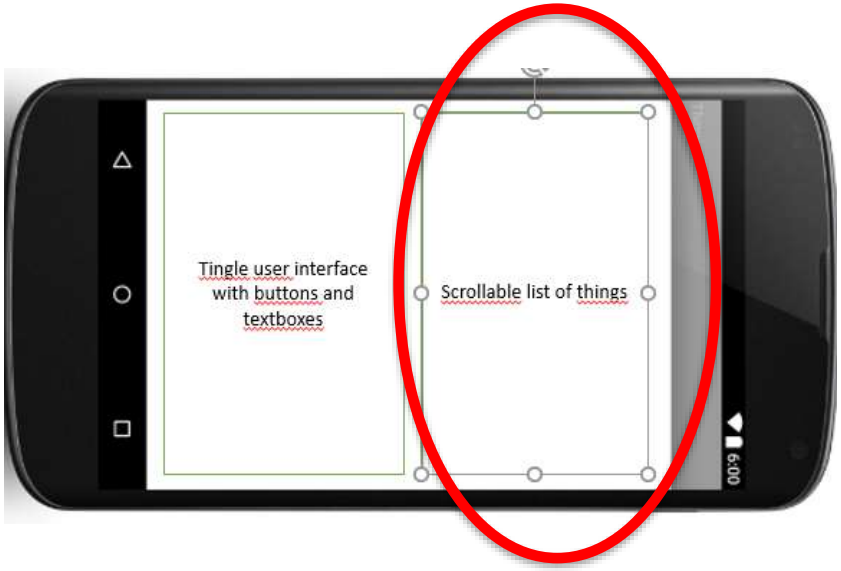
```
class ClientThread implements Runnable {
    @Override
    public void run() {
        try {
                ...
        } catch (...) {   }
    }
}
```

First mandatory assignment – Tingle V4

Tingle V3 = Tingle V2 - but using fragments

Tingle V4 = Tingle V3 (using two activities) in portrait mode (normal orientation)

and in landscape:



+ Tingle V4 has a Delete function

Mandatory assignment submission

Your solution must be submitted via learnIT and consist of files: *Code* and *Documentation* as explained below.

Code: A complete Android Studio project directory with a working app (no syntax errors or runtime exceptions).

Documentation: A 1-2 page documentation (in pdf format) explaining your solution. The documentation must contain these sections:

- most important design choices, for example, class and layout structures
- short explanation of user interface extensions compared to Tingle V3
- how did you test the app
- problems (if there are any) e.g. if something does not work completely as you want