

## R4.Real.11 – Développement pour applications mobiles

**- TP 3 -**

### **Passage d'activité et listes personnalisées**

**Pr Chaouche A.-C.**

[ac.chaouche@gmail.com](mailto:ac.chaouche@gmail.com)

## Prérequis

- Gestion des vues et des layouts
- Gestion des évènements



## Objectifs du TP

- Passer d'une activité à une autre
- Créer des vues à adaptateur personnalisé

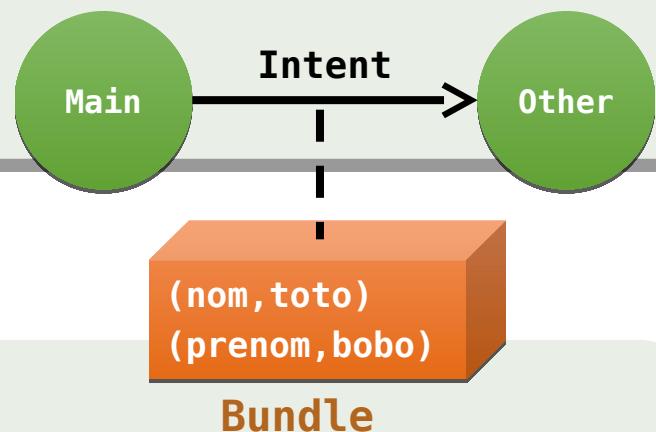
# Transfert de données

## /java/MainActivity.java

```
Intent intent = new Intent(this, OtherActivity.class);
Bundle bundle = new Bundle();
bundle.putString("nom", "toto");
bundle.putString("prenom", "bobo");
intent.putExtras(bundle);
startActivity(intent);
```

## /java/OtherActivity.java

```
Intent intent = getIntent();
Bundle bundle = intent.getExtras();
String nom = bundle.getString("nom");
String prenom = bundle.getString("prenom");
```

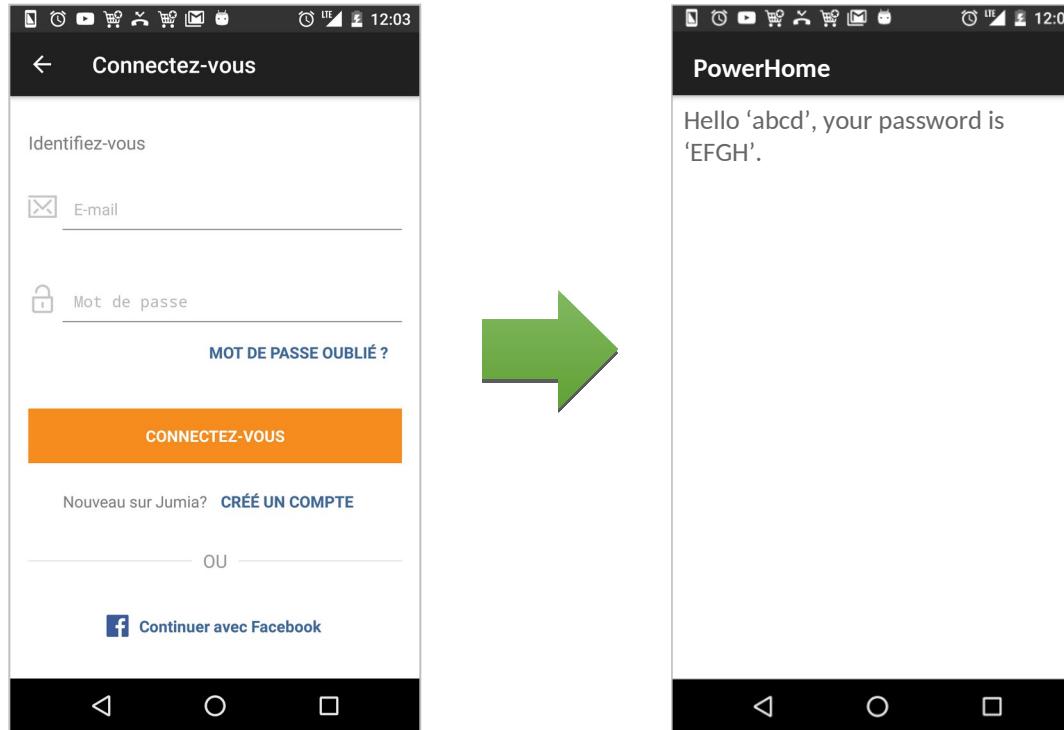


- Les types complexes (c-à-d les objets) doivent implémenter l'interface **Parcelable**, ou **Serializable**

# TP3a : Passage vers l'activité principale

## Faire le passage vers **HabitatActivity**

- Si les identifiants de connexion sont correctes (u: **abcd** & p: **EFGH**)
- Transférer l'identifiant et le mot de passe dans l'**Intent**
- Afficher l'identifiant et le mot de passe dans un **TextView**



# Transfert d'objets complexes (2/2)

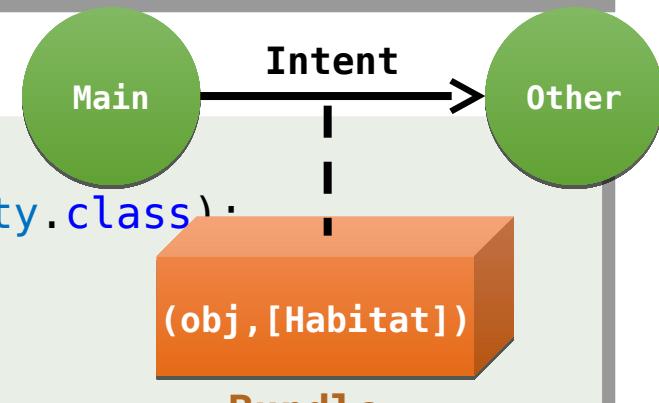
/java/

Habitat.java

```
public class Habitat implements Serializable {  
    ...  
}
```

/java/MainActivity.java

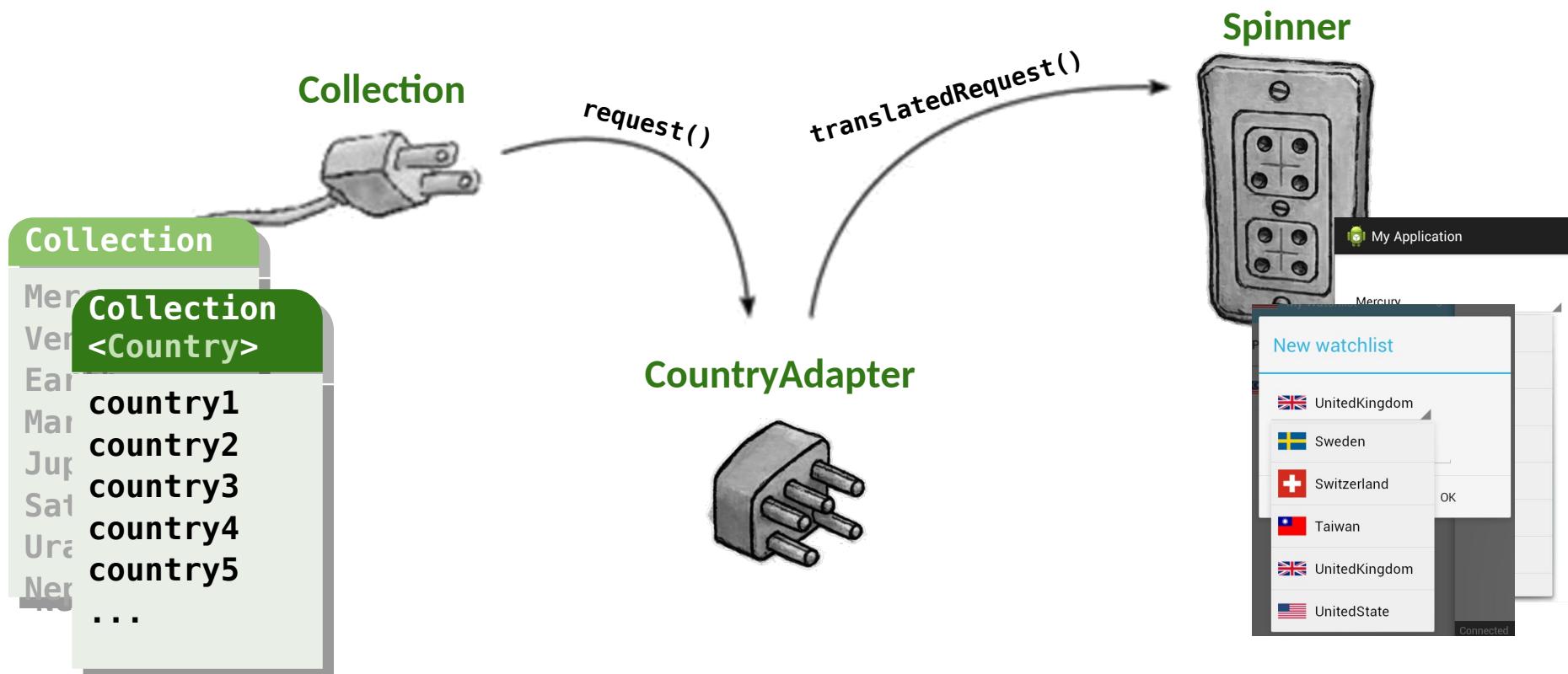
```
Habitat h = new Habitat(...);  
Intent intent = new Intent(this, OtherActivity.class);  
Bundle bundle = new Bundle();  
bundle.putSerializable("obj", h);  
intent.putExtras(bundle);  
startActivity(intent);
```



/java/OtherActivity.java

```
Intent intent = getIntent();  
Bundle bundle = intent.getExtras();  
Habitat h = (Habitat) bundle.getSerializable("obj");
```

# Vues à adaptateur personnalisé (1/3)



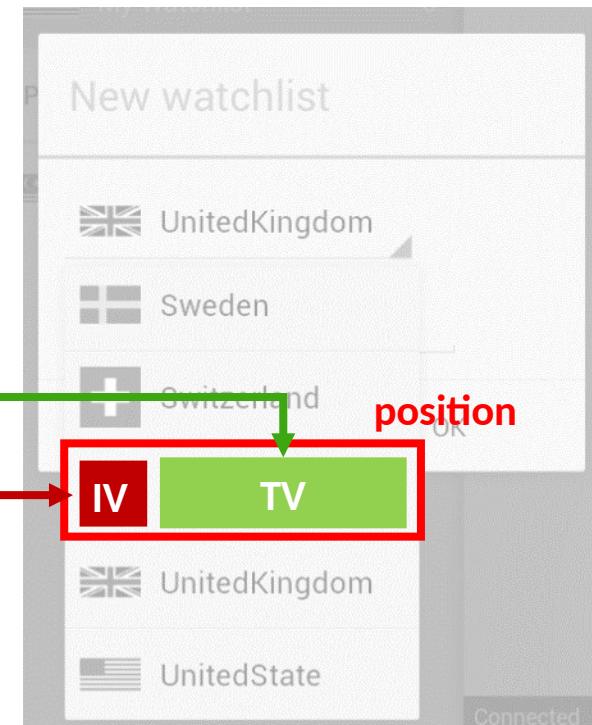
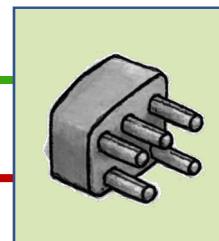
# Vues à adaptateur personnalisé (2/3)

List<Country>

```
new Country(flagId, "Sweden")
new Country(flagId, "Switz...")
new Country(flagId, "Taiwan")
new Country(flagId, "United...")
new Country(flagId, "United...")
```

position

CountryAdapter



position

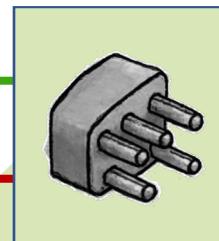
# Vues à adaptateur personnalisé (3/3)

List<Country>

```
new Country(flagId,"Sweden")
new Country(flagId,"Switz...")
new Country(flagId,"Taiwan")
new Country(flagId,"United...")
new Country(flagId,"United...")
```

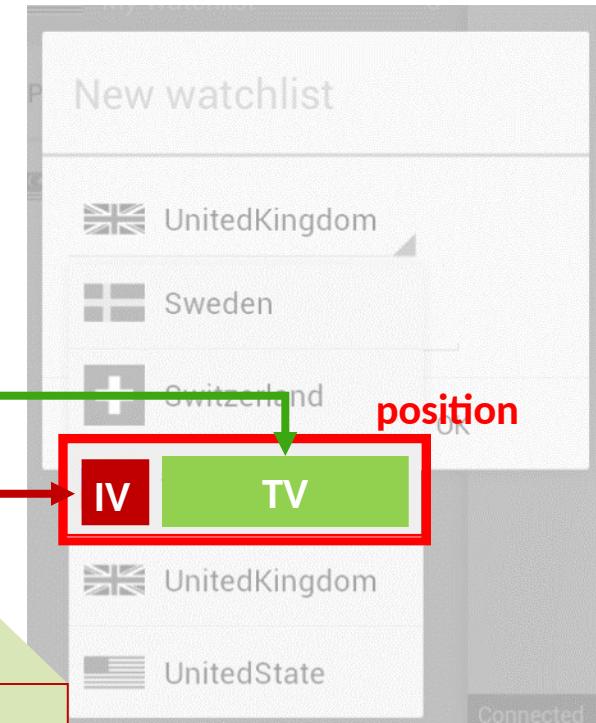
position

CountryAdapter



```
@Override
getView(position, ...){
    ...
}
```

position

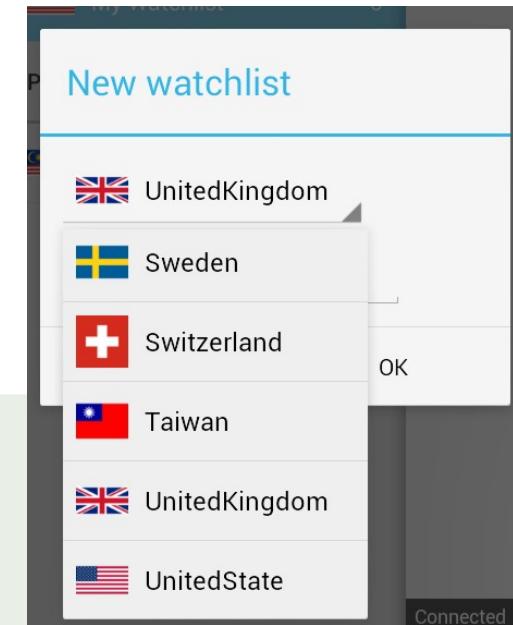


# Vues à adaptateur personnalisé

## 1. Créer l'entité Country

/java/Country.java

```
public class Country {  
    int flagResId;  
    String name;  
    ...  
    public Country(int flagResId, String name){  
        this.flagResId = flagResId;  
        this.name = name;  
    }  
}
```

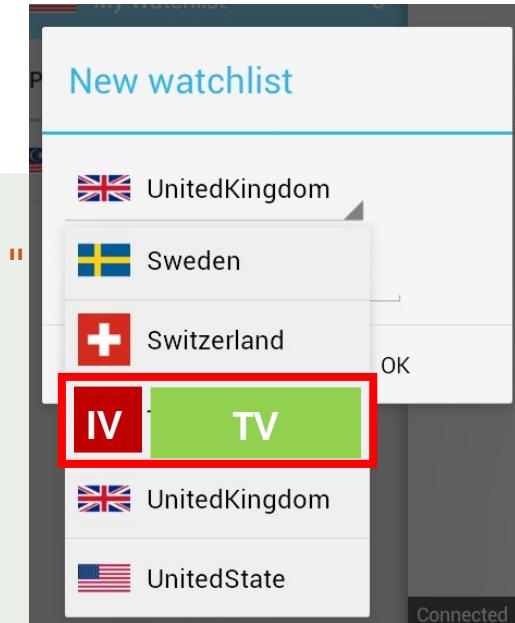


# Vues à adaptateur personnalisé

## 2. Créer une vue pour l'item

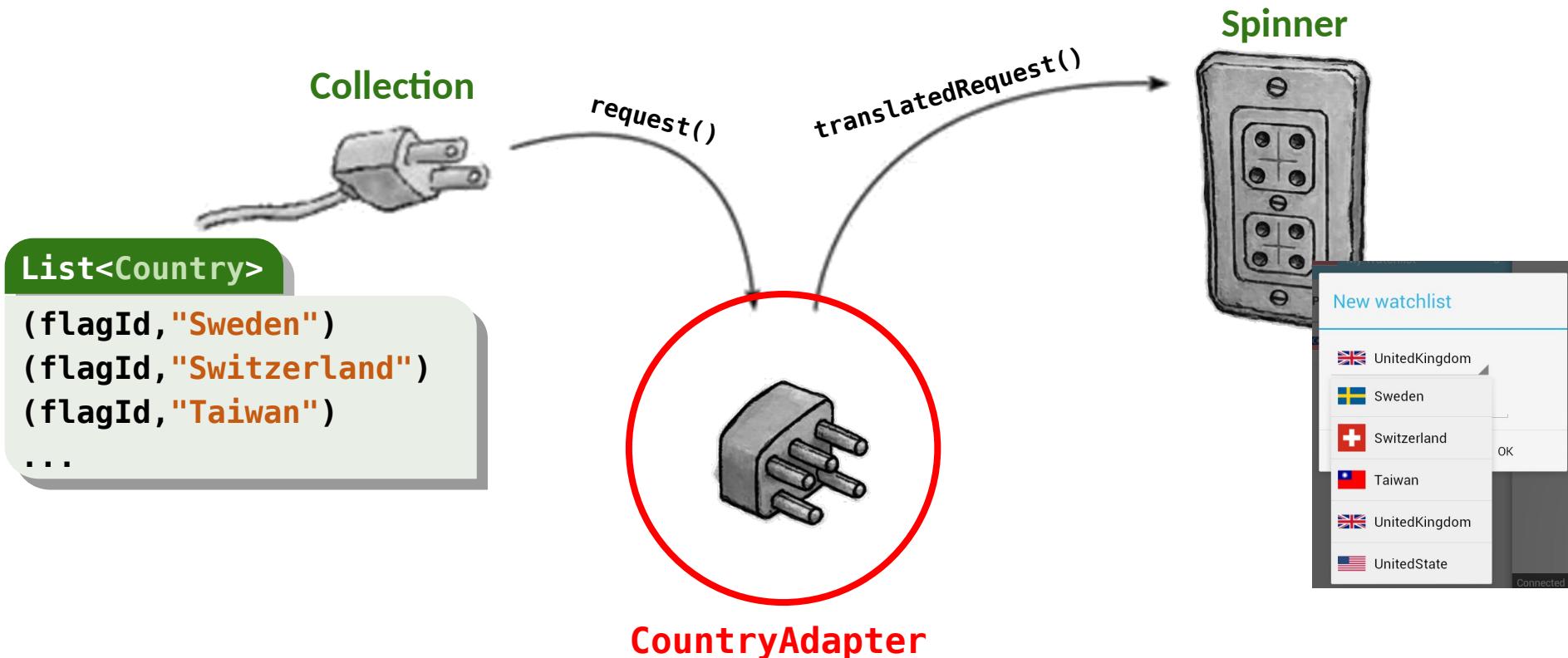
/res/layout/item\_country.xml

```
<LinearLayout  
    xmlns:android="http://schemas.android.com/..."  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:orientation="horizontal">  
    <ImageView  
        android:id="@+id/iv_flag"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content" />  
    <TextView  
        android:id="@+id/tv_name"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content" />  
</LinearLayout>
```



# Vues à adaptateur personnalisé

## 3.a. Créer un adaptateur personnalisé



# Vues à adaptateur personnalisé

## 3.a. Créer un adaptateur personnalisé

/java/CountryAdapter.java

```
public class CountryAdapter extends ArrayAdapter<Country> {  
  
    Activity activity;  
    int itemResId;  
    List<Country> items;  
    ...  
    1  public CountryAdapter(Activity activity,  
                           int itemResId,  
                           List<Country> items) { ... }  
  
    2  @Override  
    public View getView(int position,  
                        View convertView,  
                        ViewGroup parent) { ... }  
}
```

# Vues à adaptateur personnalisé

## 3.b. Implémenter le Constructeur

/java/CountryAdapter.java

```
...
Activity activity;
List<Country> items;
int itemResId;

public CountryAdapter(Activity activity, int itemResId,
                      List<Country> items){
    super(activity, itemResId, items);

    this.activity = activity;
    this.itemResId = itemResId;
    this.items = items;
}

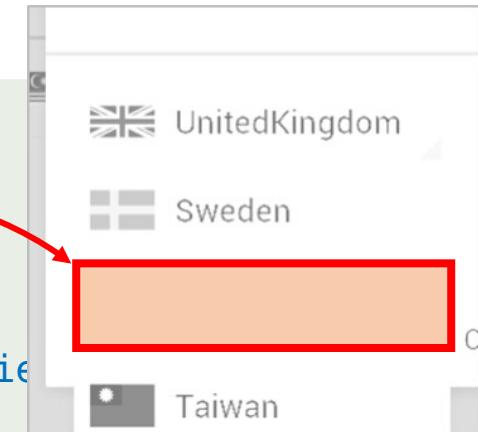
...
```

# Vues à adaptateur personnalisé

## 3.c. Redéfinir la méthode `getView()`

/java/CountryAdapter.java

```
Activity activity;  
List<Country> items;  
int itemResId;  
  
@Override  
public View getView(int position, View convertView, Vie
```



# Vues à adaptateur personnalisé

## 3.c. Redéfinir la méthode `getView()`

/java/CountryAdapter.java

```
Activity activity;
List<Country> items;
int itemResId;

@Override
public View getView(int position, View convertView, View
    layout = convertView;
    if (convertView == null){
        LayoutInflator inflater = activity.getLayoutInflator();
        layout = inflater.inflate(itemResId, parent, false);
    }
}
```

Obtenir  
le layout



# Vues à adaptateur personnalisé

## 3.c. Redéfinir la méthode `getView()`

/java/CountryAdapter.java

```
Activity activity;
List<Country> items;
int itemResId;

@Override
public View getView(int position, View convertView, View
    Obtenir layout = convertView;
    if (convertView == null){
        LayoutInflator inflater = activity.getLayoutInflator();
        layout = inflater.inflate(itemResourceId, parent, false);
    }
}
```

```
Récupérer les vues {
    TextView nameTV = layout.findViewById(R.id.tv_name);
    ImageView flagIV = layout.findViewById(R.id.iv_flag);
}
```



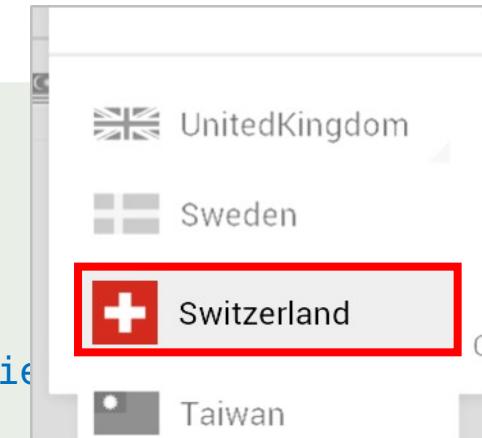
# Vues à adaptateur personnalisé

## 3.c. Redéfinir la méthode `getView()`

/java/CountryAdapter.java

```
Activity activity;
List<Country> items;
int itemResId;

@Override
public View getView(int position, View convertView, View
    Obtenir layout = convertView;
    if (convertView == null){
        LayoutInflator inflater = activity.getLayoutInflator();
        layout = inflater.inflate(itemResourceId, parent, false);
    }
    Récupérer les vues {
        TextView nameTV = layout.findViewById(R.id.tv_name);
        ImageView flagIV = layout.findViewById(R.id.iv_flag);
    }
    Remplir les vues {
        nameTV.setText(items.get(position).name);
        flagIV.setImageResource(items.get(position).flagResourceId);
        return layout;
    }
}
```



# Vues à adaptateur personnalisé

## 4. Associer l'adaptateur au Spinner

/res/layout/activity\_main.xml

```
<Spinner  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:id="@+id/sp_country"/>
```

/java/MainActivity.java

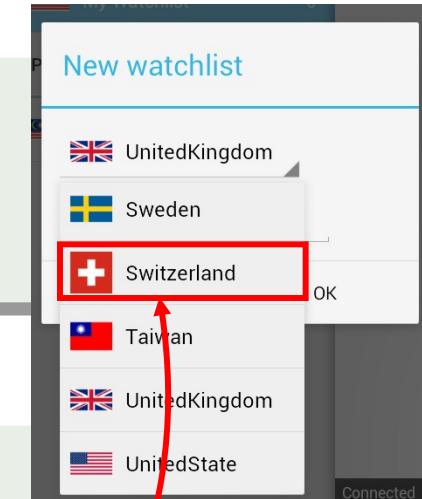
```
Spinner countrySP = findViewById(R.id.sp_country);
```

```
...  
List<Country> items = new ArrayList<>();  
items.add(new Country(R.drawable.flag_sweden, "Sweden")); ...
```

```
CountryAdapter adapter =  
    new CountryAdapter(MainActivity.this,  
        R.layout.item_country,  
        items);
```

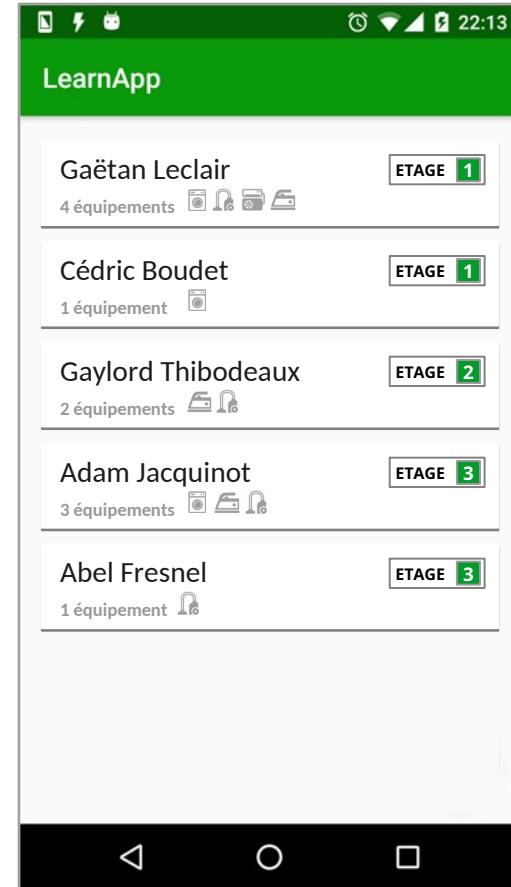
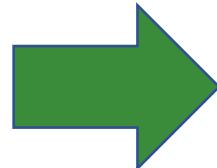
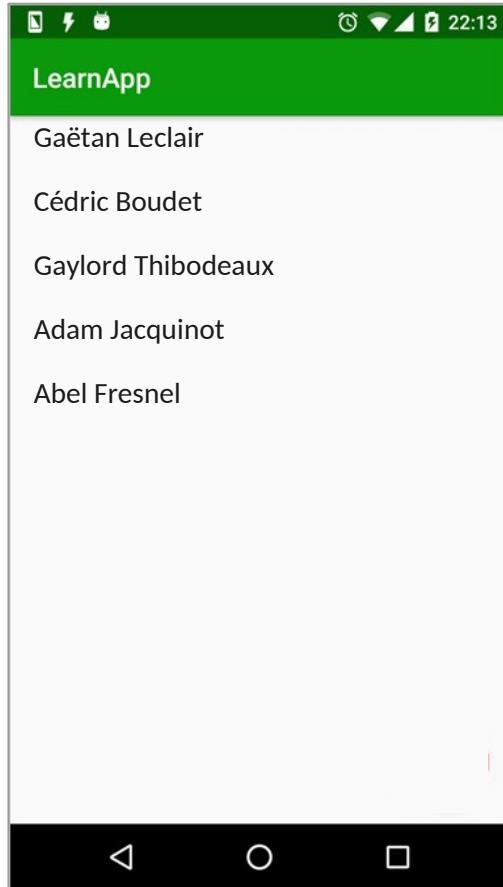
```
countrySP.setAdapter(adapter);
```

```
...
```



# Liste à adaptateur

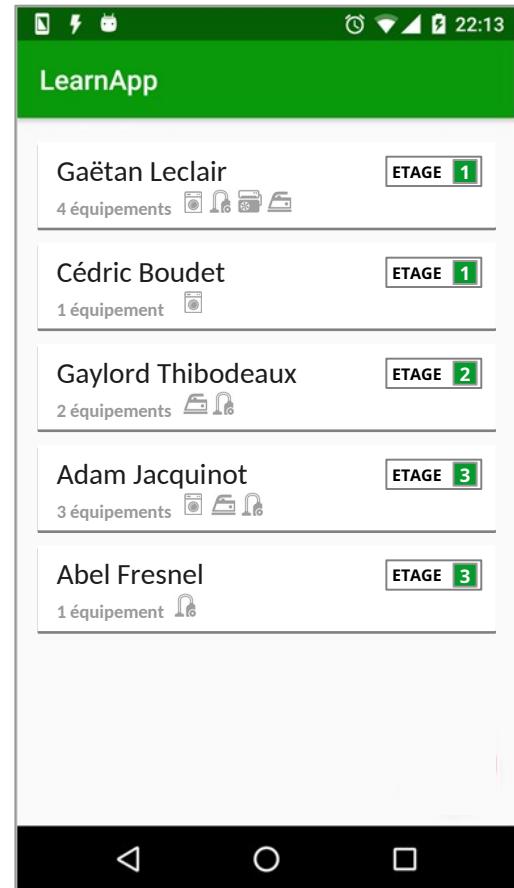
Standard **vs.** personnalisé



# TP3b : Liste des habitants (1/2)

## Modification de l'activité **HabitatActivity**

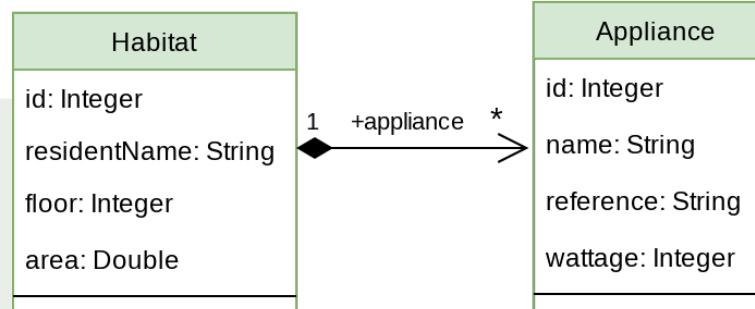
- Un **ListView** pour afficher les habitats
- Crédation de l'entité **Habitat** qui contient les informations de chaque habitat
- Crédation de la vue de chaque élément **item\_habitat**
- Crédation de **HabitatAdapter** dérivant de **ArrayAdapter<Habitat>**
- En cliquant sur chaque élément de la **ListView**  
→ Afficher le nom du résident dans un **Toast**



# TP3b : Liste des habitants (2/2)

/java/Habitat.java

```
public class Habitat {  
    int id;  
    String residentName;  
    int floor;  
    double area;  
    List<Appliance> appliances;  
    ...  
    public Habitat(int id, ...){  
        this.id = id;  
        ...  
    }  
}
```



/res/layout/item\_habitat.xml

Gaëtan Leclair  
4 équipements

ETAGE 1

/java/HabitatAdapter.java

...