

# **Exercise Session 4**

30.09.2018 Lists & Adapters

# Are you set up?

In case you need any help, don't be shy, there's plenty of mentors around you!

For references, feel free to look in the presentation slides!

Also, feel free to look at the git project Exercise #4 branch of the lecture from this link on GitHub:

https://github.com/android-academy-minsk/fundamentals-2019-excercise/tree/ex-4-lists-and-adapters



#### **Overview**

- 1. We will create a new Activity (MoviesActivity).
- 2. You will get the data that you need to show (local data for now).
- 3. Create XML files with your desired design (activity layout and list item layout).
- Create a RecyclerView and set its LayoutManager.
- 5. Create a custom RecyclerView.Adapter
- 6. Set the adapter to your RecyclerView
- 7. Bonus open a details screen when item clicked!

### **Step 1 - Create a new Activity!**

Create a new Activity (MoviesActivity) in Android Studio

### Step 2 - Add our data!

we're aiming to this end result...

So you'll need movies title, poster, overview etc.

(You can also create your own if you wish)



#### **Academy Minsk Movies**



Jurassic World - Fallen Kingdom

Three years after the demise of Jurassic World, a volcanic eruption threatens the remaining dinosaurs on the isla Nublar, so Claire Dearing, the former park manager, recruits Owen Grady...



The Meg

A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed to be extinct



The First Purge

To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night in one isol...



Deadpool 2

Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life



Black Panther

King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that ...



Ocean's Eight

Debbie Ocean, a criminal mastermind, gathers a crew of female thieves to pull off the heist of

#### **▽** 🎽 🗓 15:31

#### **Academy Minsk Movies**



Jurassic World - Fallen Kingdom

Three years after the demise of Jurassic World, a volcanic eruption threatens the remaining dinosaurs on the isla Nublar, so Claire Dearing, the former park manager, recruits Owen Grady...



The Mea

A deep sea submersible pilot revisits his past fears in the Mariana Trench, and accidentally unleashes the seventy foot ancestor of the Great White Shark believed to be extinct



The First Purae

To push the crime rate below one percent for the rest of the year, the New Founding Fathers of America test a sociological theory that vents aggression for one night in one isol...



Deadpool 2

Wisecracking mercenary Deadpool battles the evil and powerful Cable and other bad guys to save a boy's life



Black Panther

King T'Challa returns home from America to the reclusive, technologically advanced African nation of Wakanda to serve as his country's new leader. However, T'Challa soon finds that ...



Ocean's Eight

Debbie Ocean, a criminal mastermind, gathers



of female thieves to null off

# Step 3 - Create your XML file

Our row has three objects: name, image and overview.

Create an XML file for our row.

You may use any layout you want:

Constraint, Relative, Linear etc...

Place your text views inside the layout relative to the image, customize them the way you see fit (textSize, textColor, textStyle and so on)

Bonus

Use the resources files in our xml to store the values you're using!

# Step 4 - Create a RecyclerView

Create your RecyclerView.

\*\* Give your RecyclerView an id so you can access it from your Activity code.

# Step 5 - Create a custom RecyclerView.Adapter

Create a new class and give it your custom name.

Extend RecyclerView.Adapter<ViewHolder> and implement the required methods.

Create a class that extend RecyclerView.ViewHolder and use it as the type of the generic Adapter (RecyclerView.Adapter<YOUR\_CLASS>)

# Step 6 - Set the adapter to the RecyclerView

In your code, simply set the Adapter to your RecyclerView.

### Step 7 (Bonus) - Add a click listener

- 1. Add a callback property to your RecyclerView.Adapter that provides an Int as position.
- 2. In your RecyclerView.ViewHolder you get an instance of a view, use it to set callback.
- 3. In your onClick method call the relevant callback of you interface.
- 4. Use getAdapterPosition() function of RecyclerView.ViewHolder to get the position of the clicked item in the list.

### Step 8 (Bonus) - Open Movie details screen

- 1. Add helper method to DetailsActivity that creates an Intent.
- 2. Call startActivity() with an Intent for a specific movie
- 3. Update DetailsActivity onCreate() method to get a movie from Intent and update views with the actual data.
- 4. You may want to update its layout as well to use @tools.

### **Summary**

A ListView is a good tool for simple things such as showing simple views in an AlertDialog, Spinner and such widgets.

For more complex views it is recommended to use a RecyclerView!

What you did in this exercise is just the tip of the power of The RecyclerView!

#### Resources

#### RecyclerView docs:

https://developer.android.com/reference/androidx/recyclerview/widget/RecyclerView https://developer.android.com/guide/topics/ui/layout/recyclerview

#### RecyclerView.Adapter docs:

https://developer.android.com/reference/androidx/recyclerview/widget/RecyclerView.Adapter.html

#### RecyclerView.ViewHolder docs:

https://developer.android.com/reference/androidx/recyclerview/widget/RecyclerView.ViewHolder.html

#### Movies images:

Jurassic World, The Meg, The First Purge, Deadpool 2, Black Panther, Ocean's Eight, Interstellar, Thor-Ragnarok, Guardians of the Galaxy.

#### Kudos!!

You're all done with exercise 4!

See you next time!

