Activities

Fit or flab

Create New Project

New Project
Android Studio

Configure your new project

Application name: Fit or Flab

Company domain: at.htl

Package name: htl.at.fitorflab Edit

Include C++ support

Project location: /Users/stuetz/Dropbox/htl/skripten/themen/android/udemyAndroidN/03FitOrFlab/FitOrFlab ...

Cancel Previous Next Finish

Create New Project

Target Android Devices

Select the form factors your app will run on

Different platforms may require separate SDKs

- [x] Phone and Tablet
  - Minimum SDK: API 23: Android 6.0 (Marshmallow)
  - Lower API levels target more devices, but have fewer features available.
  - By targeting API 23 and later, your app will run on approximately **4.7%** of the devices that are active on the Google Play Store.
  - Help me choose
- [ ] Wear
  - Minimum SDK: API 21: Android 5.0 (Lollipop)
- [ ] TV
  - Minimum SDK: API 21: Android 5.0 (Lollipop)
- [ ] Android Auto

Cancel | Previous | Next | Finish

Create New Project

Add an Activity to Mobile

Add No Activity

Basic Activity

Bottom Navigation Activity

Empty Activity

Cancel | Previous | Next | Finish

Create New Project

Customize the Activity

Creates a new empty activity

Activity Name: MainActivity

Generate Layout File

Layout Name: activity_main

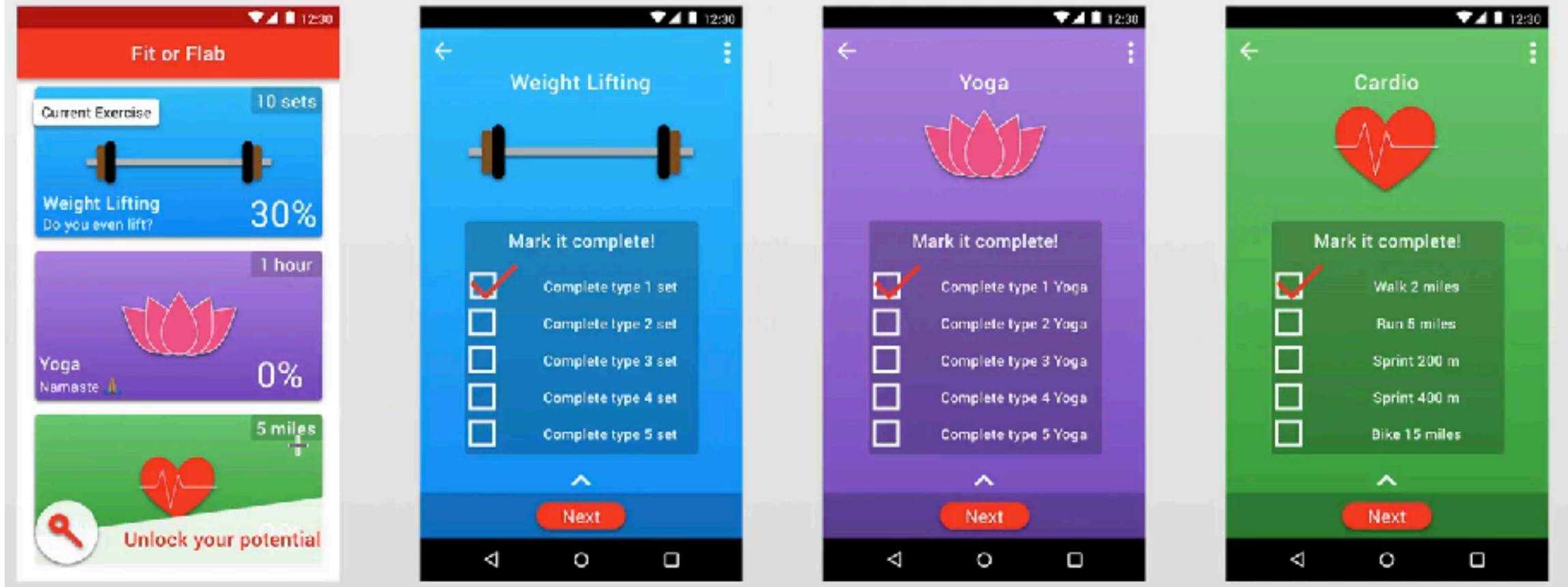
Backwards Compatibility (AppCompat)

Empty Activity

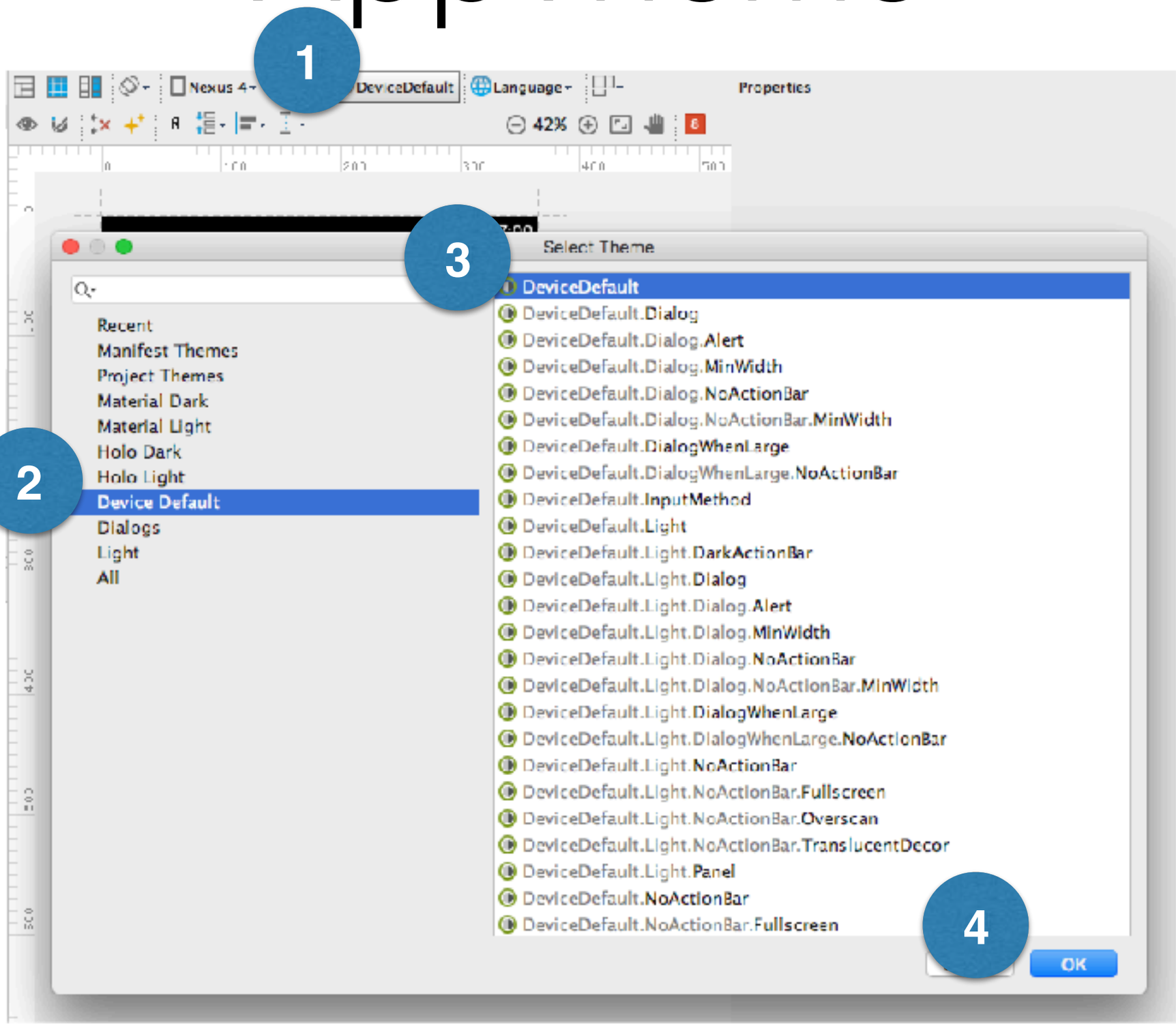
The name of the activity class to create

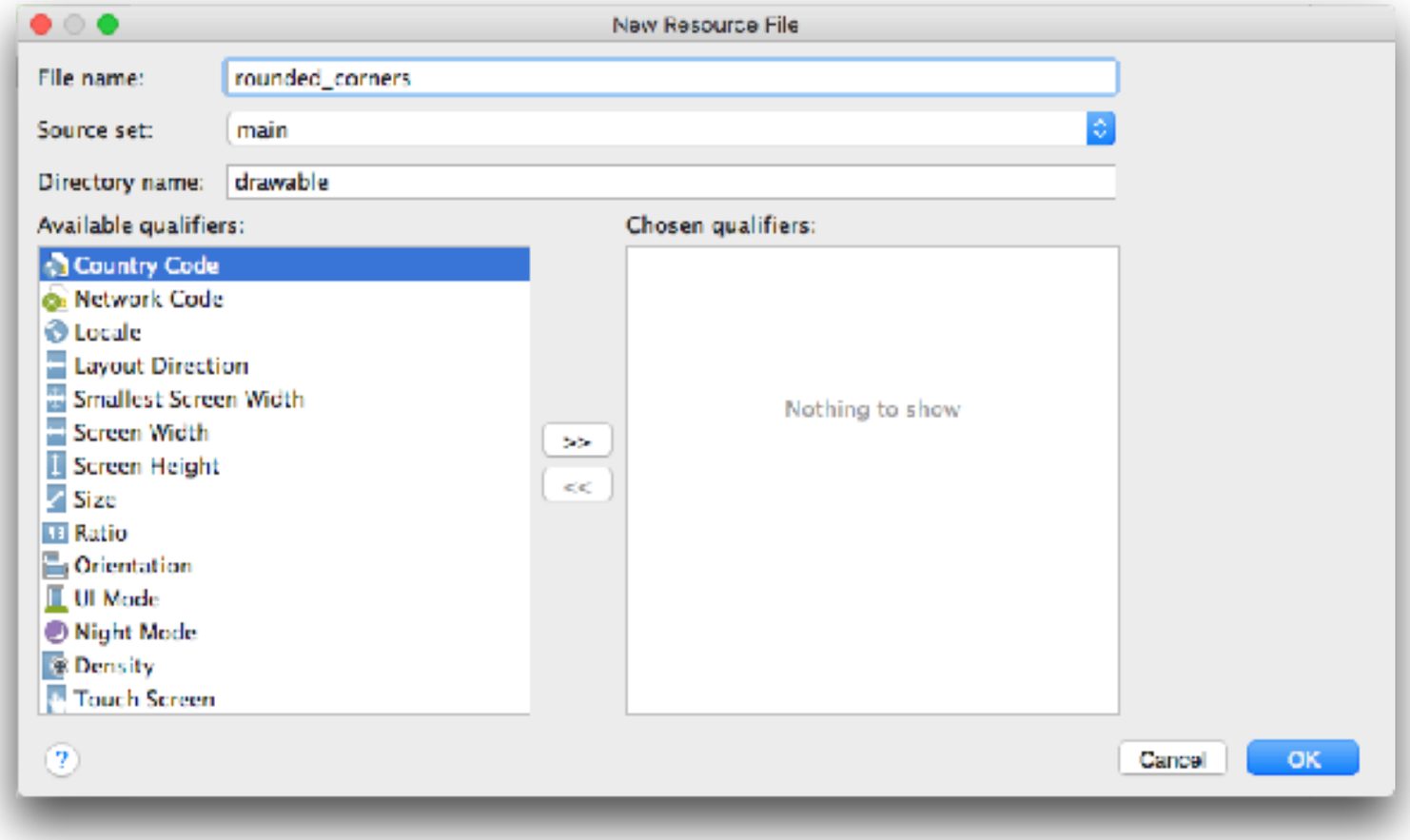
Cancel Previous Next Finish

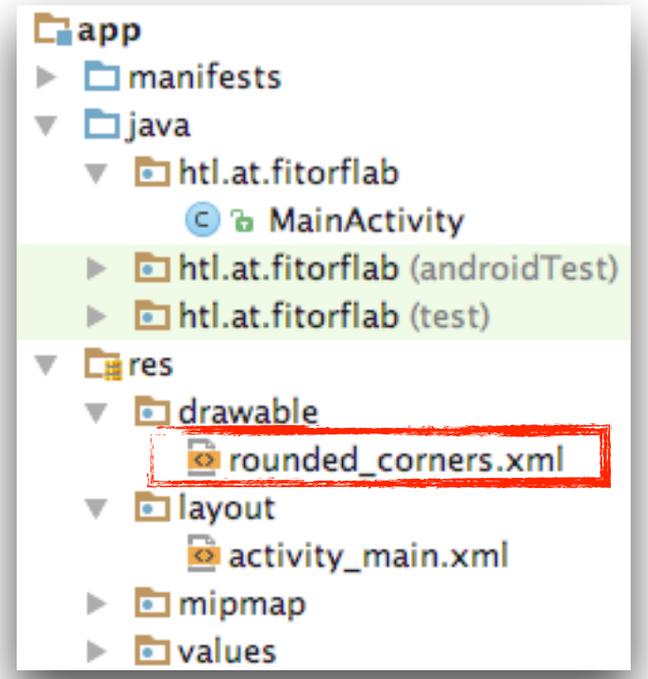
Fit or Flab


Fit or Flab
Current Exercise
10 sets
Weight Lifting
Do you even lift?
30%
1 hour
Yoga
Namaste
0%
5 miles
Unlock your potential
Weight Lifting
Mark it complete!
Complete type 1 set
Complete type 2 set
Complete type 3 set
Complete type 4 set
Complete type 5 set
Next
Yoga
Mark it complete!
Complete type 1 Yoga
Complete type 2 Yoga
Complete type 3 Yoga
Complete type 4 Yoga
Complete type 5 Yoga
Next
Cardio
Mark it complete!
Walk 2 miles
Run 5 miles
Sprint 200 m
Sprint 400 m
Bike 15 miles
Next

AppTheme


1
Nexus 4
DeviceDefault
Language
Properties
42%
2
3
4
Select Theme
Recent
Manifest Themes
Project Themes
Material Dark
Material Light
Holo Dark
Holo Light
Device Default
Dialogs
Light
All
DeviceDefault
DeviceDefault.Dialog
DeviceDefault.Dialog.Alert
DeviceDefault.Dialog.MinWidth
DeviceDefault.Dialog.NoActionBar
DeviceDefault.Dialog.NoActionBar.MinWidth
DeviceDefault.DialogWhenLarge
DeviceDefault.DialogWhenLarge.NoActionBar
DeviceDefault.InputMethod
DeviceDefault.Light
DeviceDefault.Light.DarkActionBar
DeviceDefault.Light.Dialog
DeviceDefault.Light.Dialog.Alert
DeviceDefault.Light.Dialog.MinWidth
DeviceDefault.Light.Dialog.NoActionBar
DeviceDefault.Light.Dialog.NoActionBar.MinWidth
DeviceDefault.Light.DialogWhenLarge
DeviceDefault.Light.DialogWhenLarge.NoActionBar
DeviceDefault.Light.NoActionBar
DeviceDefault.Light.NoActionBar.Fullscreen
DeviceDefault.Light.NoActionBar.Overscan
DeviceDefault.Light.NoActionBar.TranslucentDecor
DeviceDefault.Light.Panel
DeviceDefault.NoActionBar
DeviceDefault.NoActionBar.Fullscreen
OK






```xml
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android">
    <corners android:radius="5dp" />
</shape>
```

activity_main.xml | rounded_corners.xml | MainActivity.java

Palette

Widgets
Text
Layouts
Containers
Images
Date
Transitions
Advanced
Google
Design
AppCompat

ImageButton
ImageView
VideoView

Nexus 4 | 25 | AppTheme | Language | 42%

7:00
Fit or Flab

Properties

id	
layout_width	368dp
layout_height	495dp
Constraints	
Layout_Margin	[?, ?, ?, ?, ?]
Padding	[?, ?, ?, ?, ?]
Theme	
elevation	
background	#2ca5f5

2

Click the … - Button

Resources

Search

Drawable
Color
ID
String
Sty

Project
heart
ic_launcher
ic_launcher_round
lotus
rounded_corners
weight

android
alert_dark_frame
alert_light_frame

Name: rounded_corners

Def

1

ImageView

nt Tree

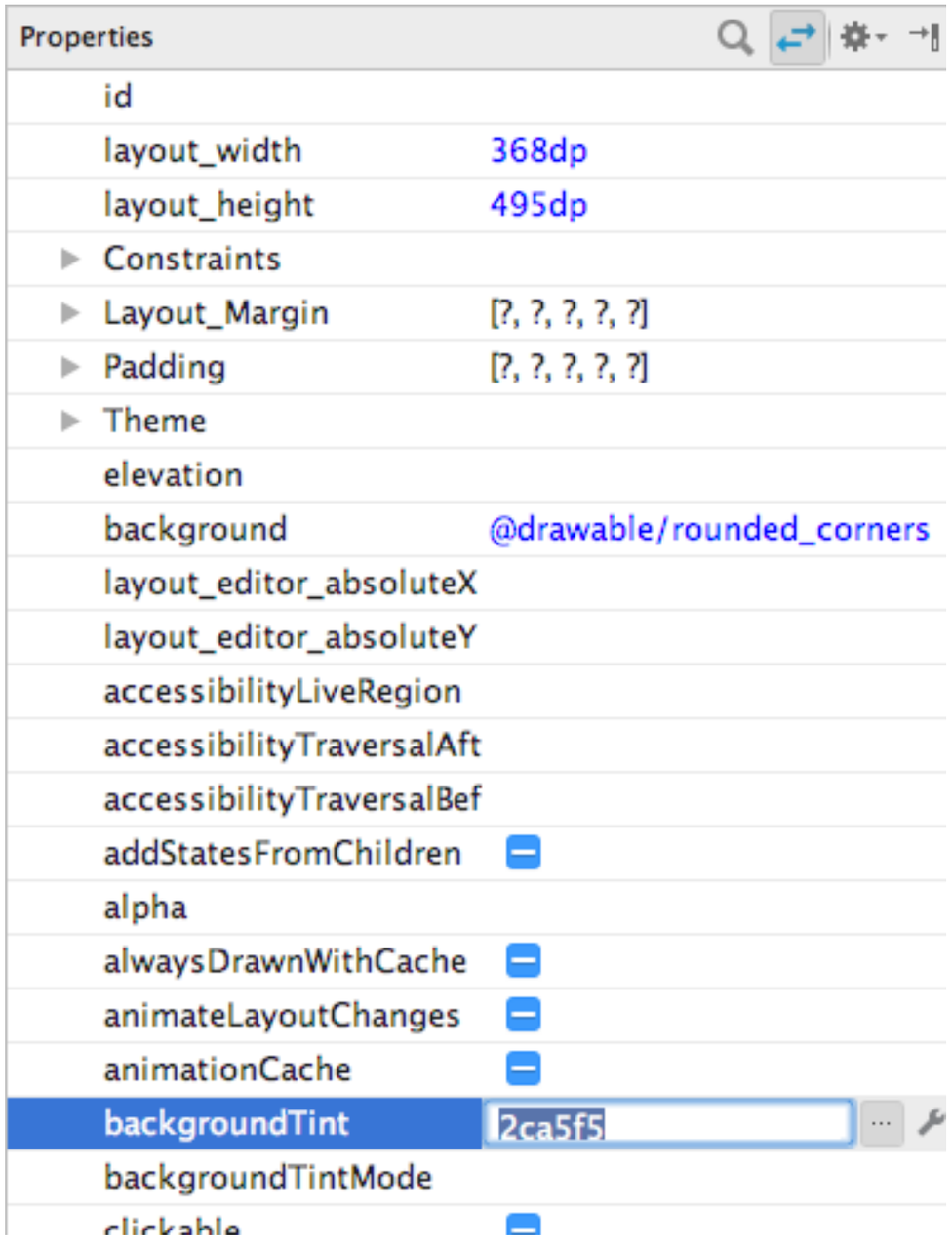
ConstraintLayout
ConstraintLayout

3

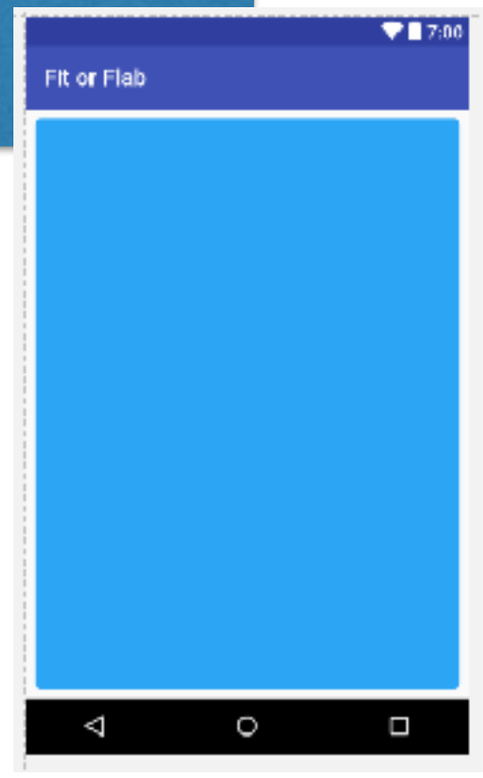
4

OK

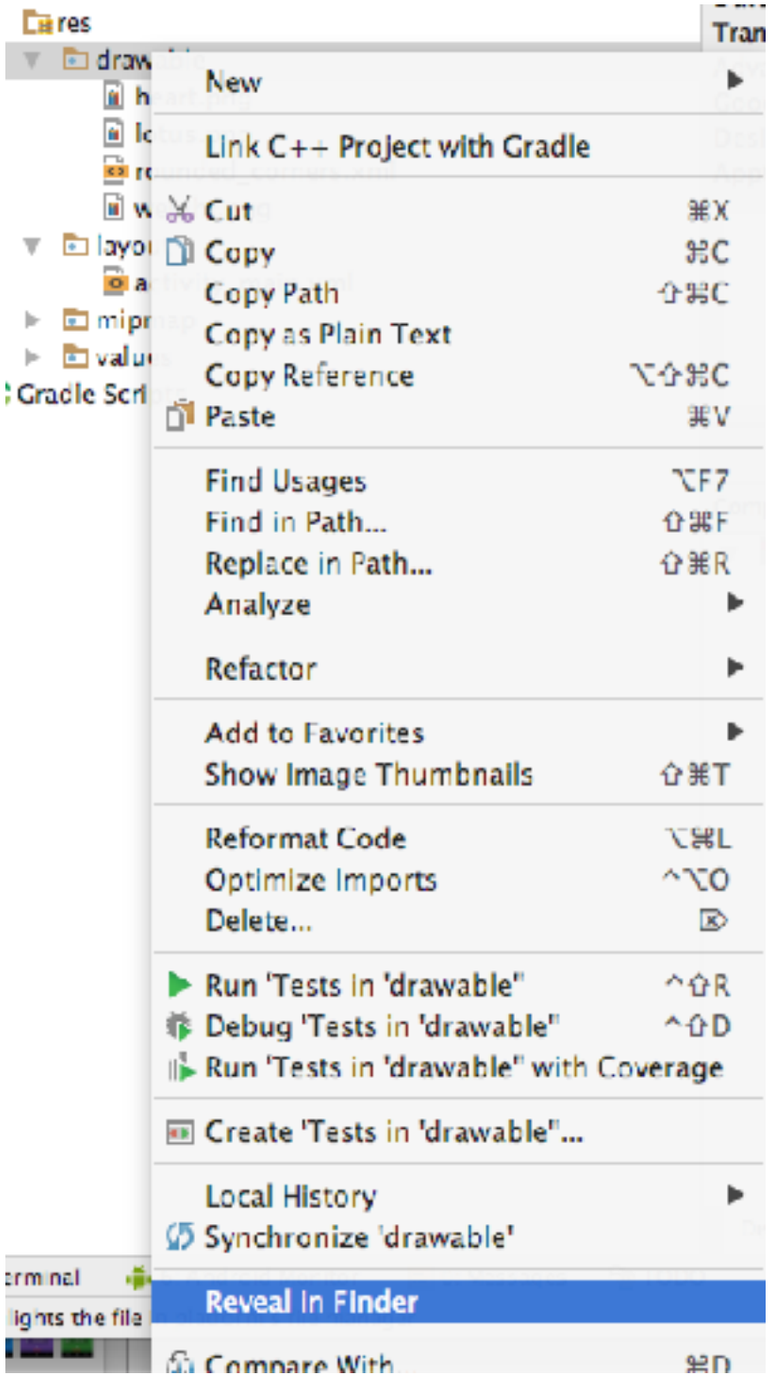
Design | Text

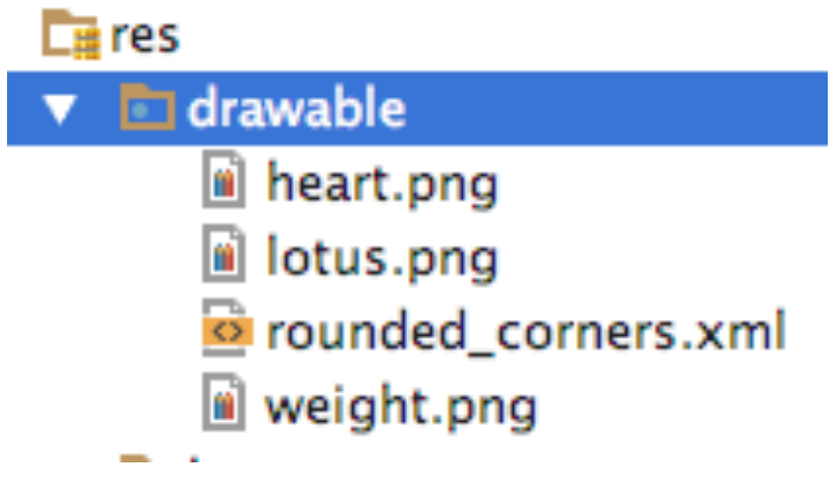


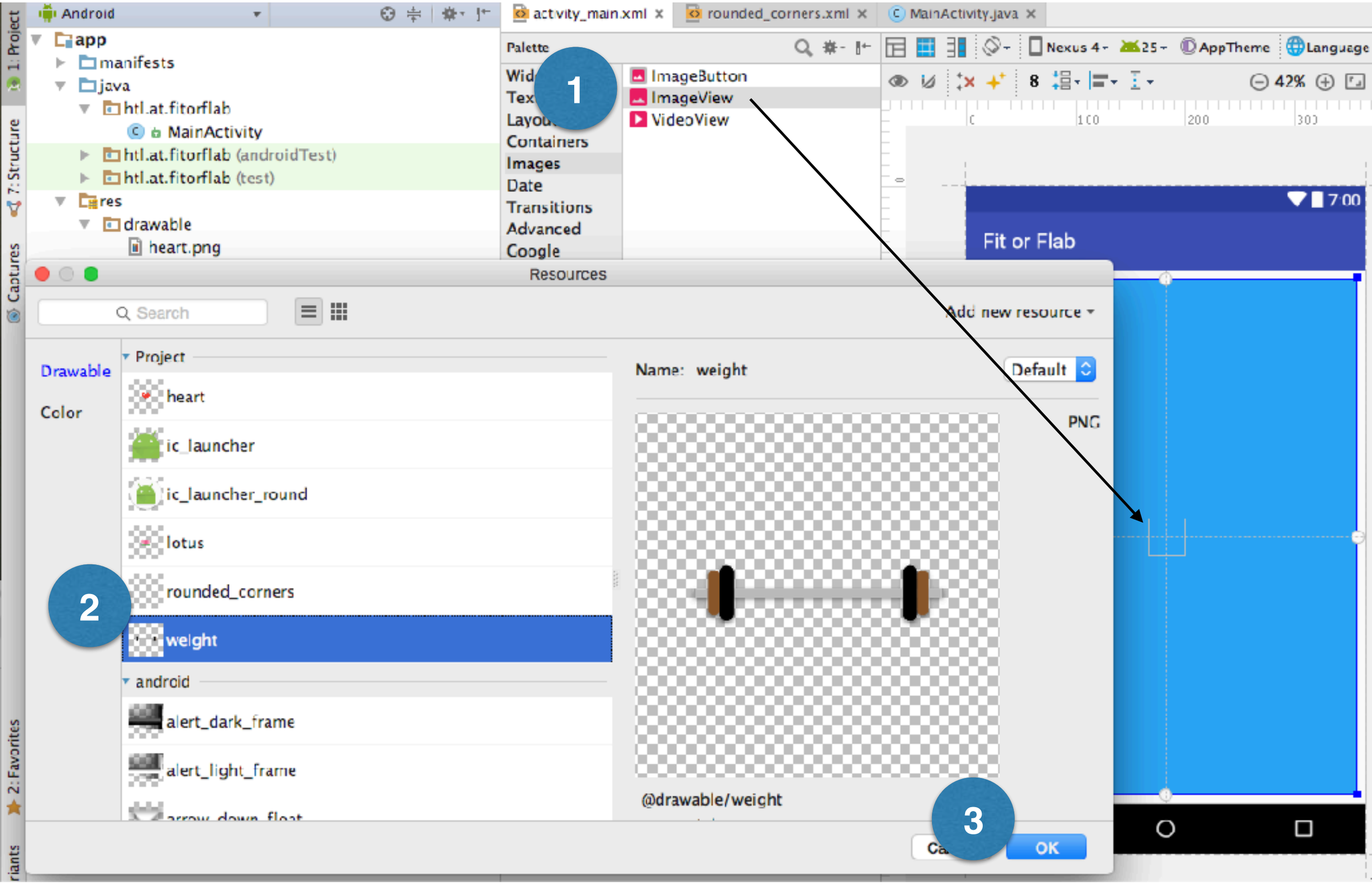
Nachdem der Property „background“ das custom-drawable „roundend_corners“ zugewiesen wurde, ist die Farbe in backgroundTint einzutragen: #2ca5f5

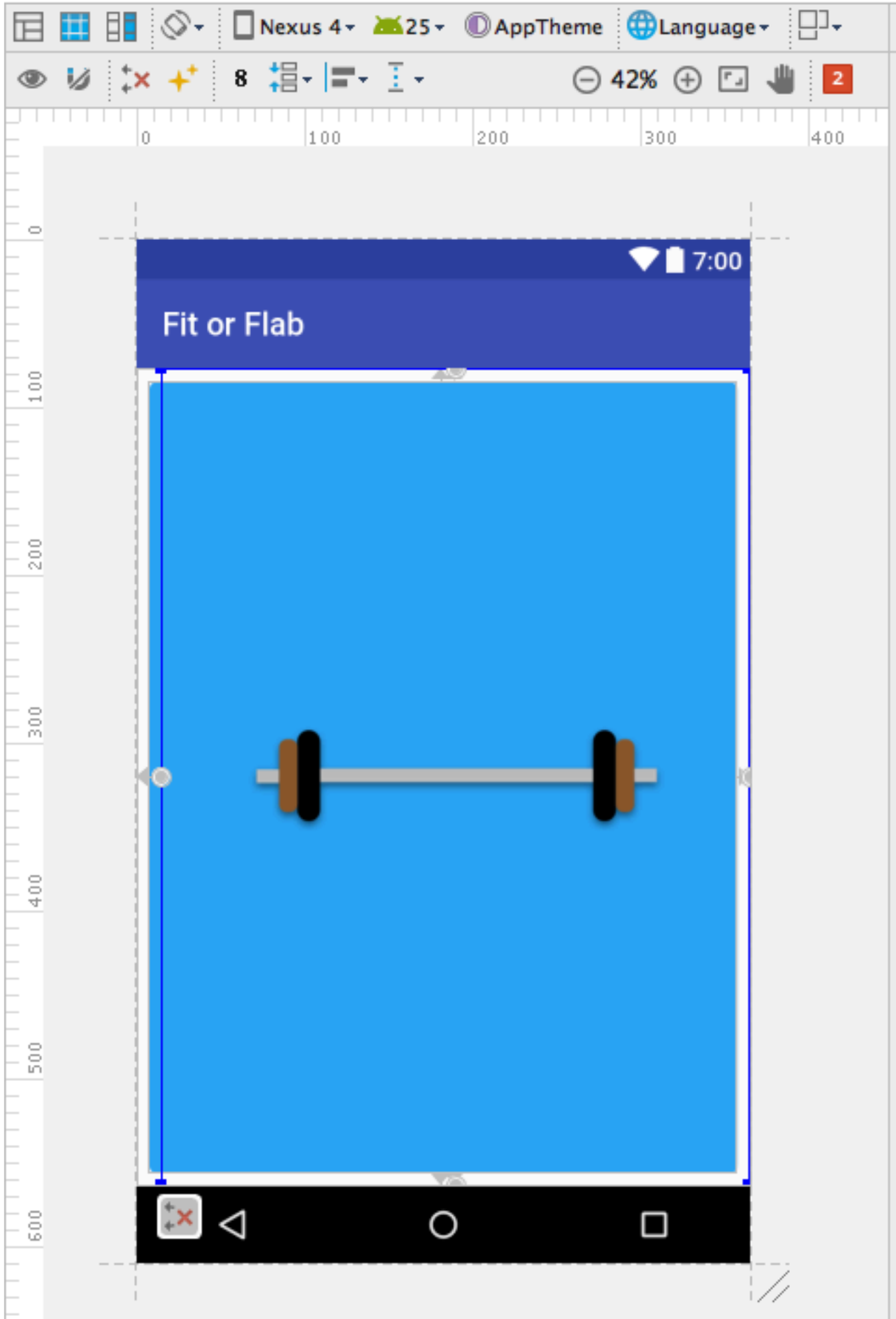


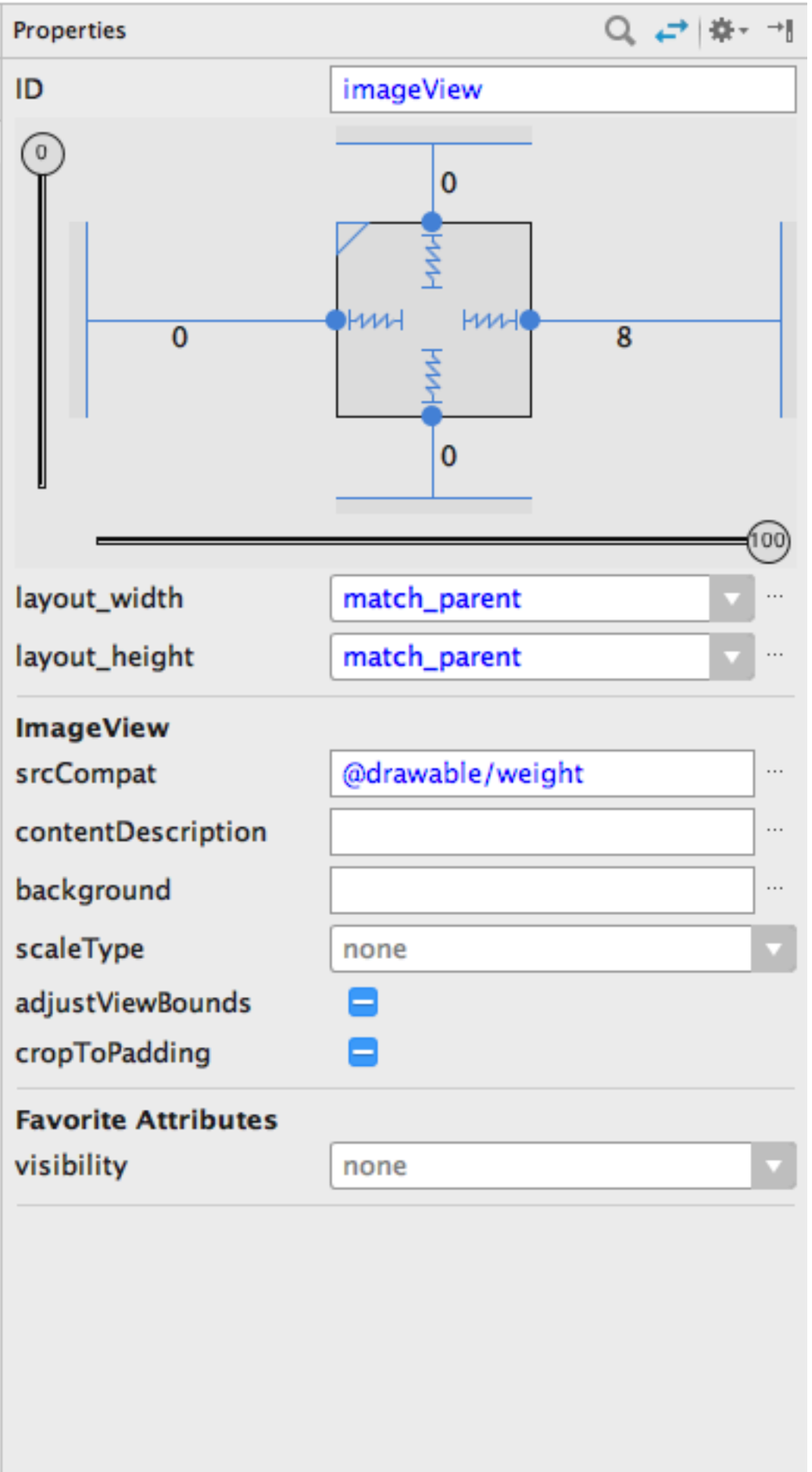
Images importeren





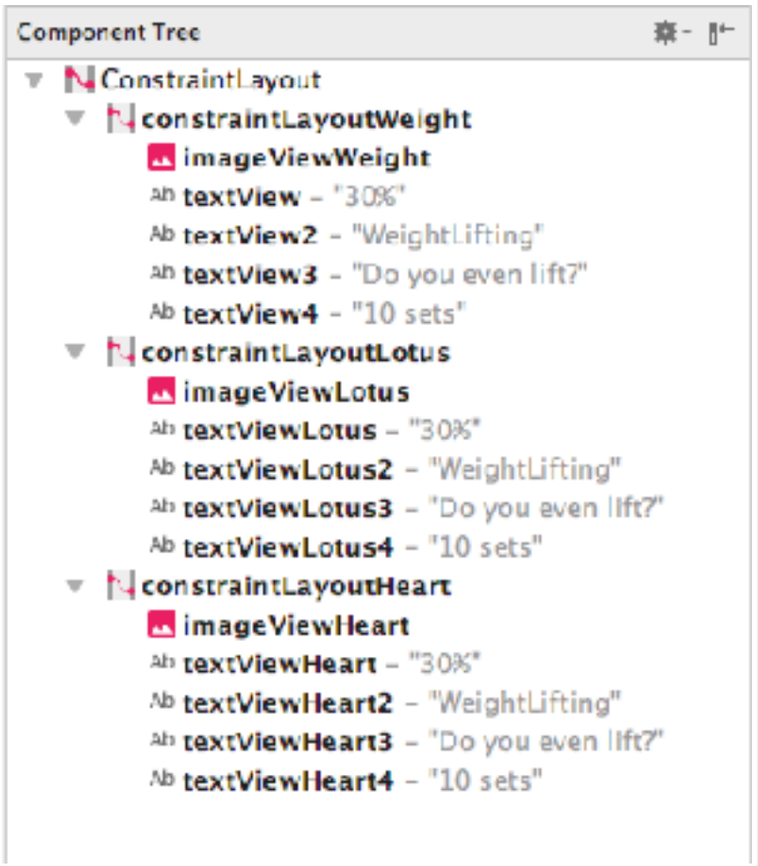

Android
app
manifests
java
htl.at.fitorflab
MainActivity
htl.at.fitorflab (androidTest)
htl.at.fitorflab (test)
res
drawable
heart.png
activity_main.xml
rounded_corners.xml
MainActivity.java
Palette
1
ImageButton
ImageView
VideoView
Containers
Images
Date
Transitions
Advanced
Google
Nexus 4
25
AppTheme
Language
42%
7:00
Fit or Flab
Resources
Search
Add new resource
Drawable
Color
Project
heart
ic_launcher
ic_launcher_round
lotus
rounded_corners
weight
android
alert_dark_frame
alert_light_frame
Name: weight
Default
PNG
@drawable/weight
2
3
OK
1: Project
7: Structure
Captures
2: Favorites

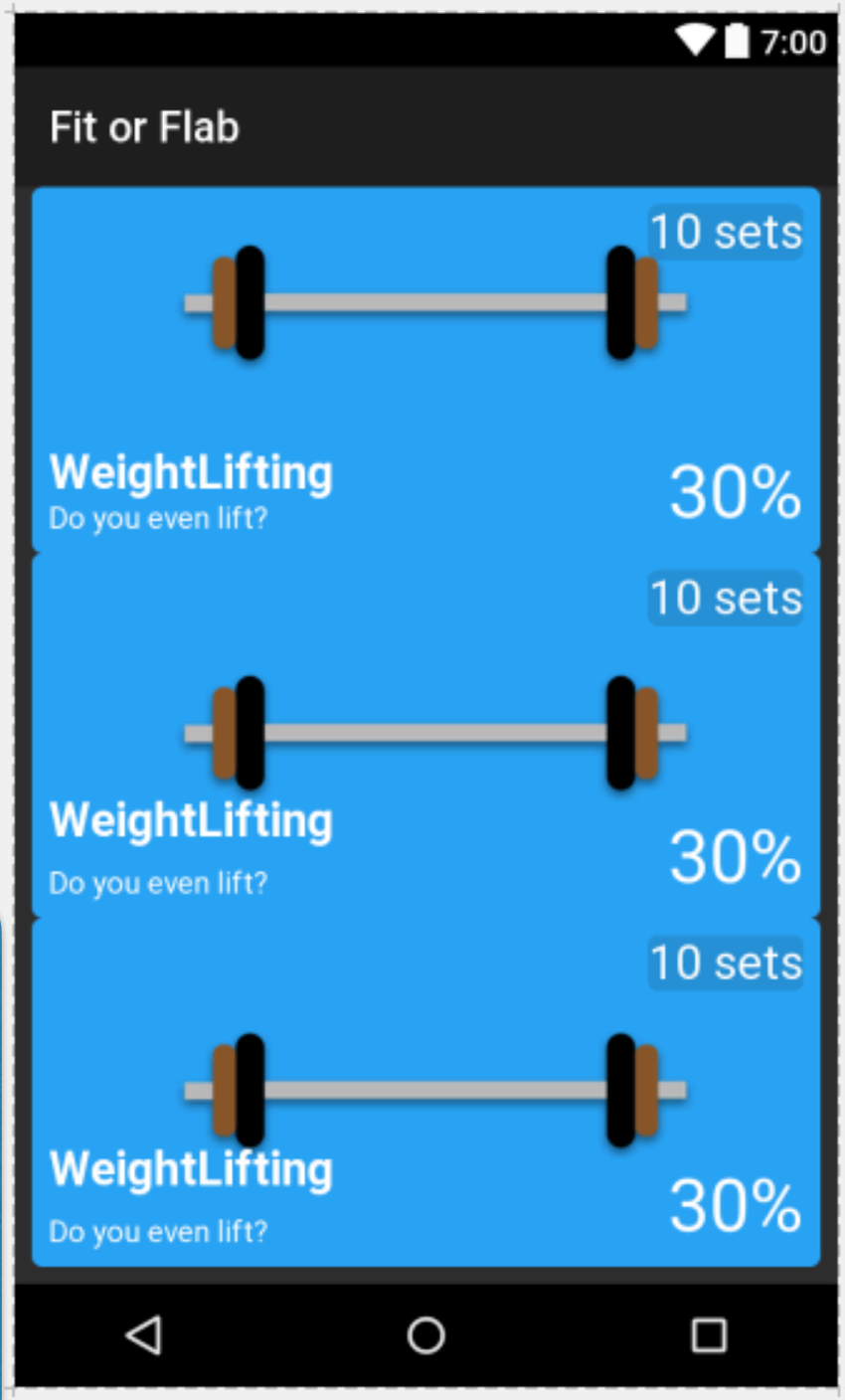

Nexus 4
25
AppTheme
Language
8
42%
2
0
100
200
300
400
7:00
Fit or Flab

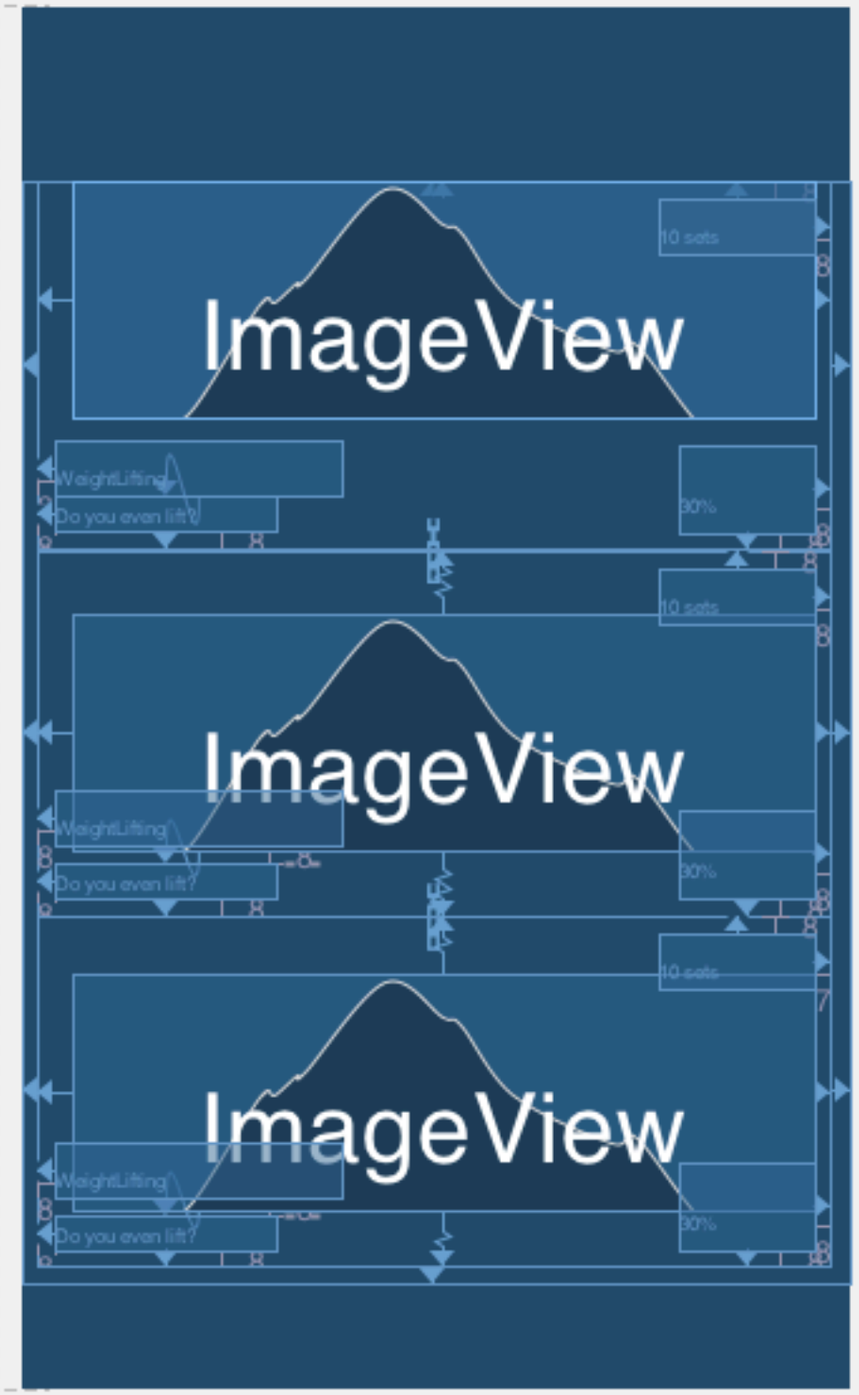

Properties
ID
imageView
0
0
0
8
0
100
layout_width
match_parent
layout_height
match_parent
ImageView
srcCompat
@drawable/weight
contentDescription
background
scaleType
none
adjustViewBounds
cropToPadding
Favorite Attributes
visibility
none
View all properties

```
<android.support.constraint.ConstraintLayout
    android:id="@+id/constraintLayoutWeight"
    android:layout_width="0dp"
    android:layout_height="0dp"
    android:layout_marginEnd="8dp"
    android:layout_marginLeft="0dp"
    android:layout_marginRight="0dp"
    android:layout_marginStart="8dp"
    android:background="@drawable/rounded_corners"
    android:backgroundTint="#2ca5f5"
    app:layout_constraintBottom_toTopOf="@id/constraintLayoutLotus"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_weight="1">

    <ImageView
        android:id="@+id/imageViewWeight"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginEnd="8dp"
        android:layout_marginRight="8dp"
        android:layout_marginStart="16dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_weight="1"
        app:srcCompat="@drawable/weight"
        tools:layout_constraintBottom_creator="1"
        tools:layout_constraintLeft_creator="1"
        tools:layout_constraintTop_creator="1" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="8dp"
        android:layout_marginRight="8dp"
        android:text="30%"
        android:textAppearance="@android:style/TextAppearance.Material.Display1"
        android:textColor="#ffffff"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintRight_toRightOf="parent" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="0dp"
        android:layout_marginLeft="8dp"
        android:text="WeightLifting"
        android:textAppearance="@android:style/TextAppearance.Material.Large"
        android:textStyle="bold"
        app:layout_constraintBottom_toTopOf="@+id/textView3"
        app:layout_constraintLeft_toLeftOf="parent" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="8dp"
        android:layout_marginLeft="8dp"
        android:text="Do you even lift?"
        android:textColor="#ffffff"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent" />

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginRight="8dp"
        android:layout_marginTop="8dp"
        android:background="@drawable/rounded_corners"
        android:backgroundTint="#20000000"
        android:text="10 sets"
        android:textAppearance="@android:style/TextAppearance.Material.Large"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</android.support.constraint.ConstraintLayout>
```

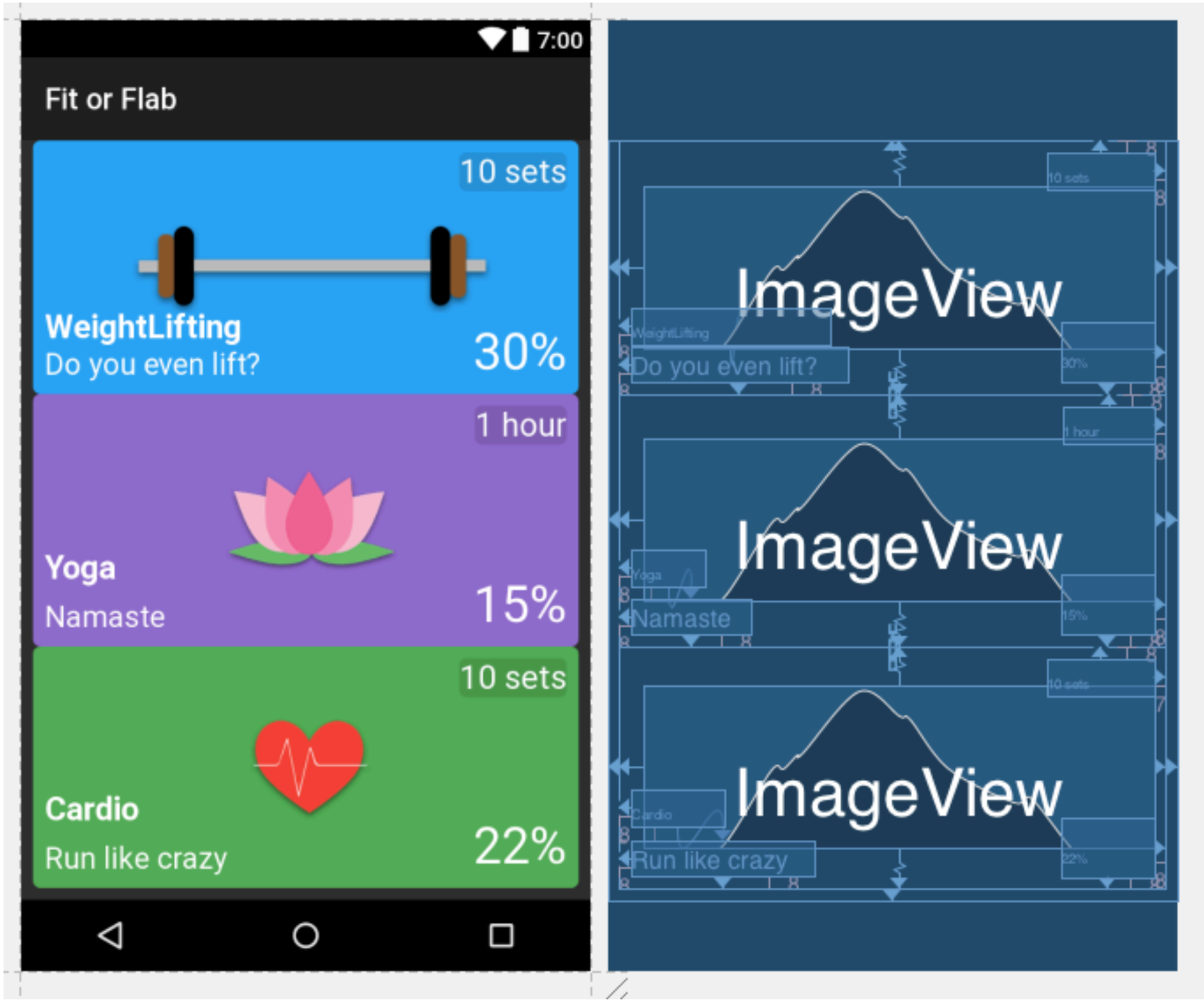
Die ersten beiden Stellen geben die Transparenz an



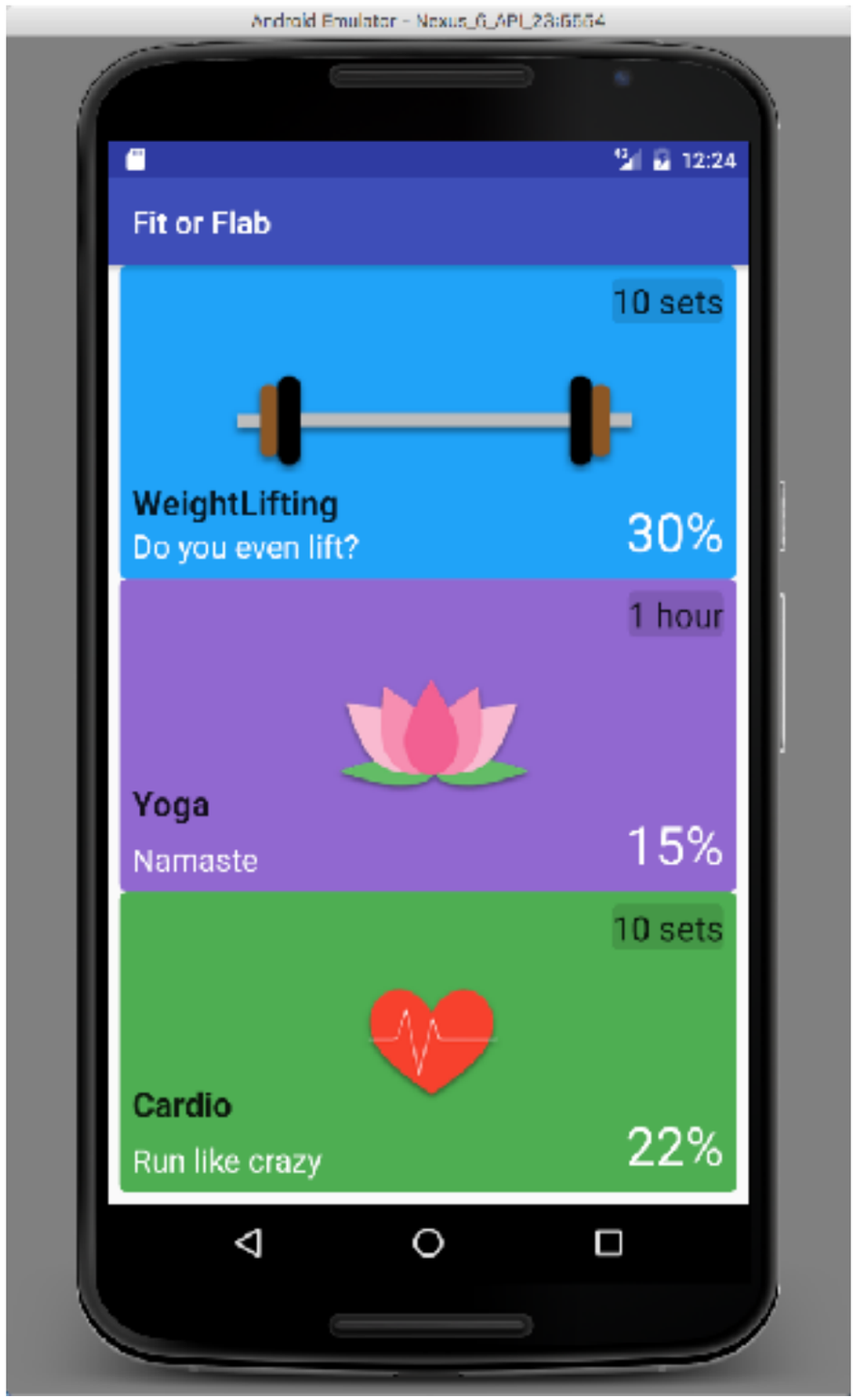




1. Das oberste Contraint 2x kopieren
2. Die Views umbenennen
3. Die Contraints entsprechend setzen
4. Nicht vergessen: verticalWeight = 1

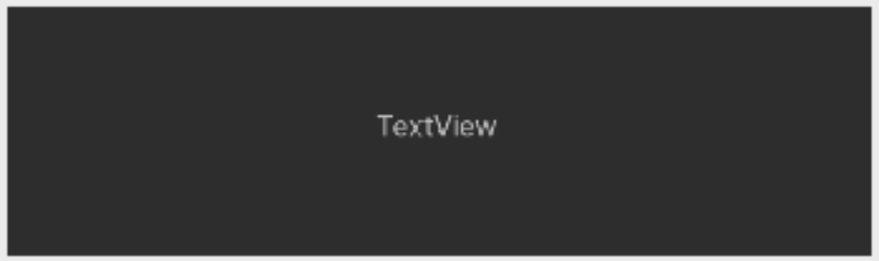

7:00
Fit or Flab
10 sets
WeightLifting
Do you even lift?
30%
1 hour
Yoga
Namaste
15%
10 sets
Cardio
Run like crazy
22%
ImageView
ImageView
ImageView

Problem im Emulator



Palette

Widgets	TextView
Text	Button
Layouts	ToggleButton
Containers	CheckBox
Images	RadioButton
Date	CheckedTextView
Transitions	Spinner
Advanced	ProgressBar



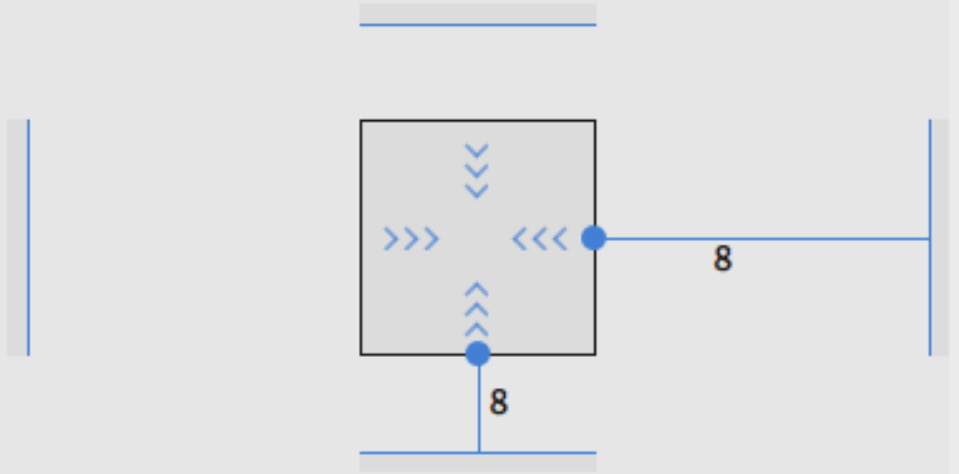
TextView

Component Tree

- ConstraintLayout
  - constraintLayoutWeight
    - imageViewWeight
    - textView – "30%"
    - textView2 – "WeightLifting"
    - textView3 – "Do you even lift?"
    - textView4 – "10 sets"
  - constraintLayoutLotus
    - imageViewLotus
    - textViewLotus – "15%"
    - textViewLotus2 – "Yoga"
    - textViewLotus3 – "Namaste"
    - textViewLotus4 – "1 hour"
  - constraintLayoutHeart
    - imageViewHeart
    - textViewHeart – "22%"
    - textViewHeart2 – "Cardio"
    - textViewHeart3 – "Run like crazy"
    - textViewHeart4 – "10 sets"

Properties

ID



layout_width	wrap_content
layout_height	wrap_content

TextView

text	
text	
contentDescription	
textAppearance	DeviceDefault.Small
fontFamily	none
typeface	none
textSize	none
lineSpacingExtra	none
textColor	#FFF
textStyle	B I Tт
textAlignment	

Favorite Attributes

visibility	none

Theme ändern

alt

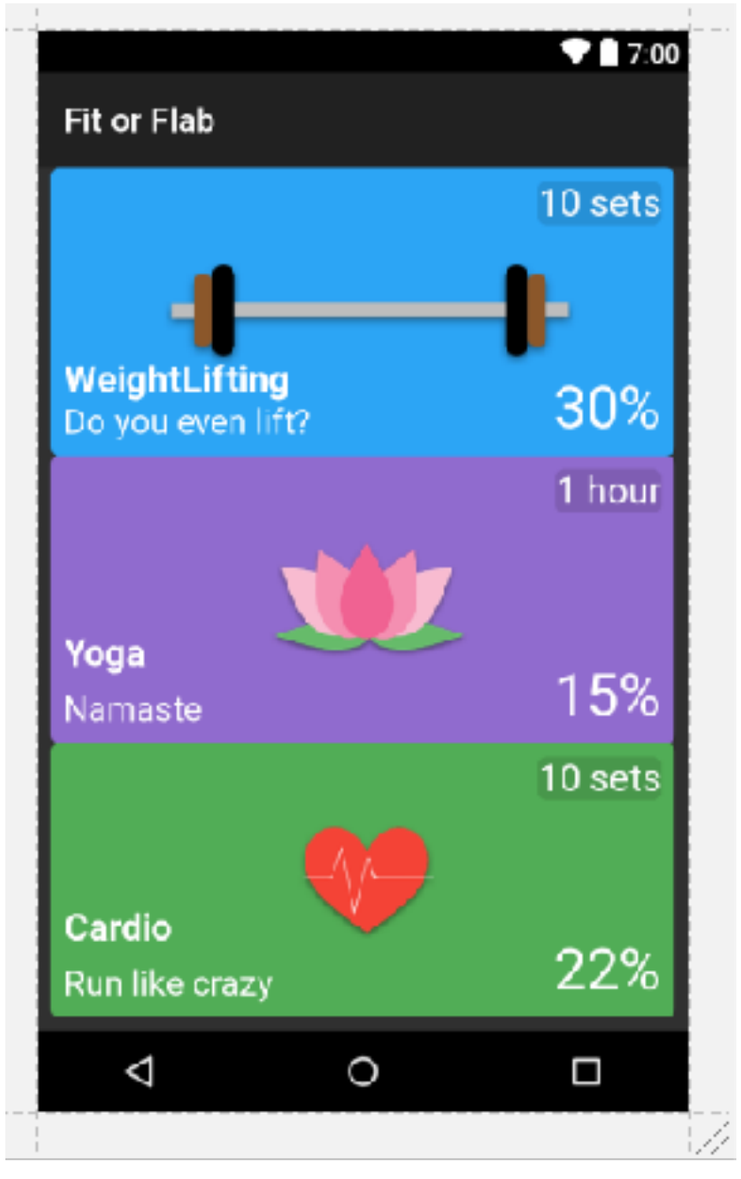
colors.xml

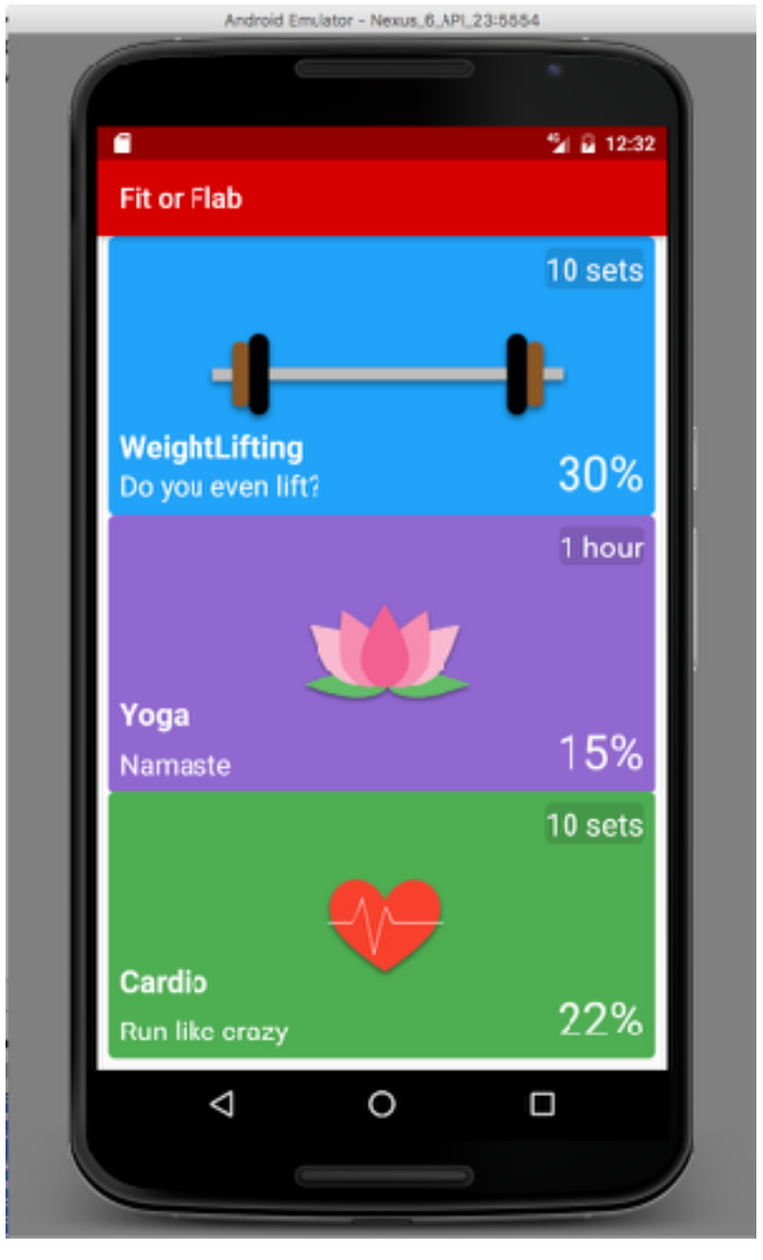
```
1  <?xml version="1.0" encoding="utf-8"?>
2  <resources>
3      <color name="colorPrimary">#3F51B5</color>
4      <color name="colorPrimaryDark">#303F9F</color>
5      <color name="colorAccent">#FF4081</color>
6  </resources>
7
```

neu

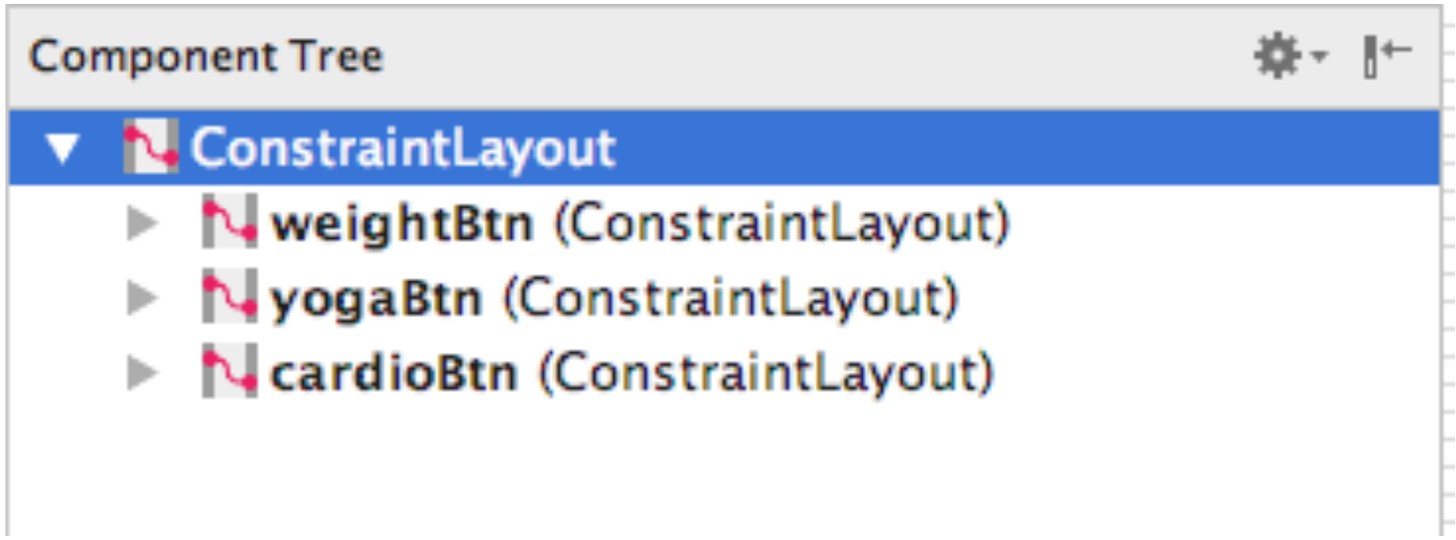
```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#d40007</color>
    <color name="colorPrimaryDark">#910000</color>
    <color name="colorAccent">#FF4081</color>
</resources>
```

Unterschied Editor - Emulator





Umbenennen der Contraints



MainActivity.java

```java
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        ConstraintLayout weightBtn = (ConstraintLayout) findViewById(R.id.weightBtn);
        ConstraintLayout yogaBtn = (ConstraintLayout) findViewById(R.id.yogaBtn);
        ConstraintLayout cardioBtn = (ConstraintLayout) findViewById(R.id.cardioBtn);

        weightBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

            }
        });
        yogaBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

            }
        });

        cardioBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

            }
        });

    }
}
```

```java
public class MainActivity extends AppCompatActivity {

    public static final String EXERCISE_WEIGHTS = "Weight lifting";
    public static final String EXERCISE_YOGA = "Yoga";
    public static final String EXERCISE_CARDIO = "Cardio";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        ConstraintLayout weightBtn = (ConstraintLayout) findViewById(R.id.weightBtn);
        ConstraintLayout yogaBtn = (ConstraintLayout) findViewById(R.id.yogaBtn);
        ConstraintLayout cardioBtn = (ConstraintLayout) findViewById(R.id.cardioBtn);

        weightBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadDetailActivity(MainActivity.EXERCISE_WEIGHTS);
            }
        });
        yogaBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadDetailActivity(MainActivity.EXERCISE_YOGA);
            }
        });

        cardioBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadDetailActivity(MainActivity.EXERCISE_CARDIO);
            }
        });

    }

    private void loadDetailActivity(String exercisetitle) {

    }
}
```

MainActivity.java - FitOrFlab - [~/Dropbox/htl/skripten/themen/android/udemyAndroidN/03FitOrFlab/

FitOrFlab › app › src › main › java › htl › at › fitorflab

Android

app
- manifests
- java
  - htl.at.fitorflab
    - Mai
  - htl.at.fito
  - htl.at.fito
- res
  - drawable
    - heart.p
    - lotus.p
    - rounde
    - weight
  - layout
    - activity
  - mipmap
  - values
    - colors.
    - strings
    - styles.
- Gradle Scripts

activity_main.xml | MainActivity.java

```
package htl.at.fitorflab;

import
```

```
mpatActivity {

E_WEIGHTS = "Weight lifting";
E_YOGA = "Yoga";
E_CARDIO = "Cardio";

edInstanceState) {
ate);
ty_main);

onstraintLayout) findViewById(R.id.weightBtn);
nstraintLayout) findViewById(R.id.yogaBtn);
onstraintLayout) findViewById(R.id.cardioBtn);

v) → {
nActivity.EXERCISE_WEIGHTS);

→ {
nActivity.EXERCISE_YOGA);
```

New
- Java Class
- Android resource file
- Android resource directory
- File
- Package
- C++ Class
- C/C++ Source File
- C/C++ Header File
- Image Asset
- Vector Asset
- Singleton
- Edit File Templates...
- AIDL
- Activity
- Android Auto
- Folder
- Fragment
- Google
- Other
- Service
- UI Component
- Wear
- Widget
- XML
- Resource Bundle

Activity
- Gallery...
- Always On Wear Activity
- Android TV Activity
- Basic Activity
- Blank Wear Activity
- Bottom Navigation Activity
- Empty Activity
- Fullscreen Activity
- Login Activity
- Master/Detail Flow
- Navigation Drawer Activity
- Scrolling Activity
- Settings Activity
- Tabbed Activity

Link C++ Project with Gradle

Cut ⌘X
Copy ⌘C
Copy Path ⇧⌘C
Copy as Plain Text
Copy Reference ⌥⇧⌘C
Paste ⌘V

Find Usages ⌥F7
Find in Path... ⇧⌘F
Replace in Path... ⇧⌘R
Analyze

Refactor

Add to Favorites
Show Image Thumbnails ⇧⌘T

Reformat Code ⌥⌘L
Optimize Imports ^⌥O
Delete... ⌦

Run 'Tests in 'htl.at.fitorflab'' ^⇧R
Debug 'Tests in 'htl.at.fitorflab'' ^⇧D
Run 'Tests in 'htl.at.fitorflab'' with Coverage

Create 'Tests in 'htl.at.fitorflab''...

Local History
Synchronize 'fitorflab'

Reveal in Finder

Compare With... ⌘D

Create Gist...

1: Project | Z: Structure | Captures | 2: Favorites | Build Variants

Terminal | 6: An

New Android Activity

Configure Activity

Android Studio

Creates a new empty activity

Activity Name: DetailsActivity

Generate Layout File

Layout Name: activity_details

Launcher Activity

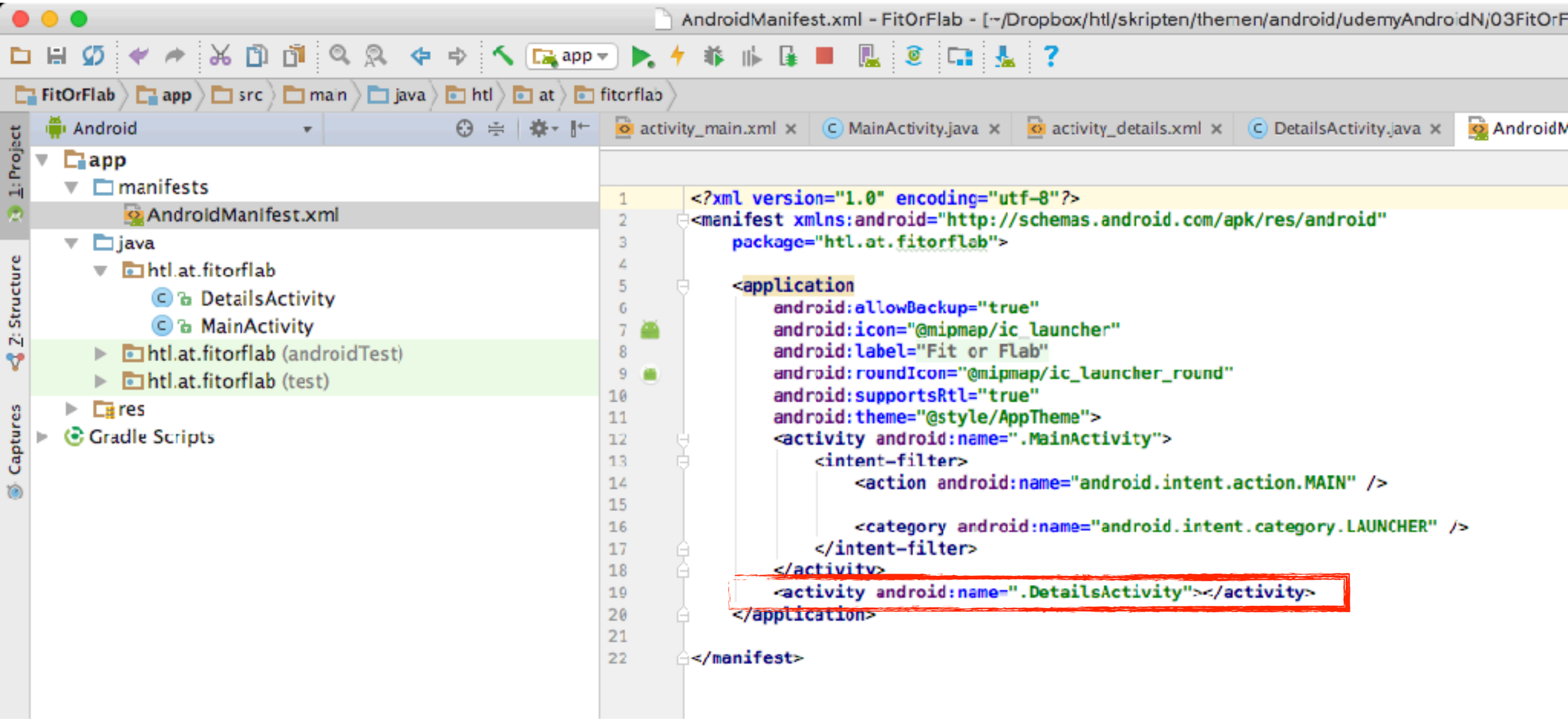
Backwards Compatibility (AppCompat)

Package name: htl.at.fitorflab

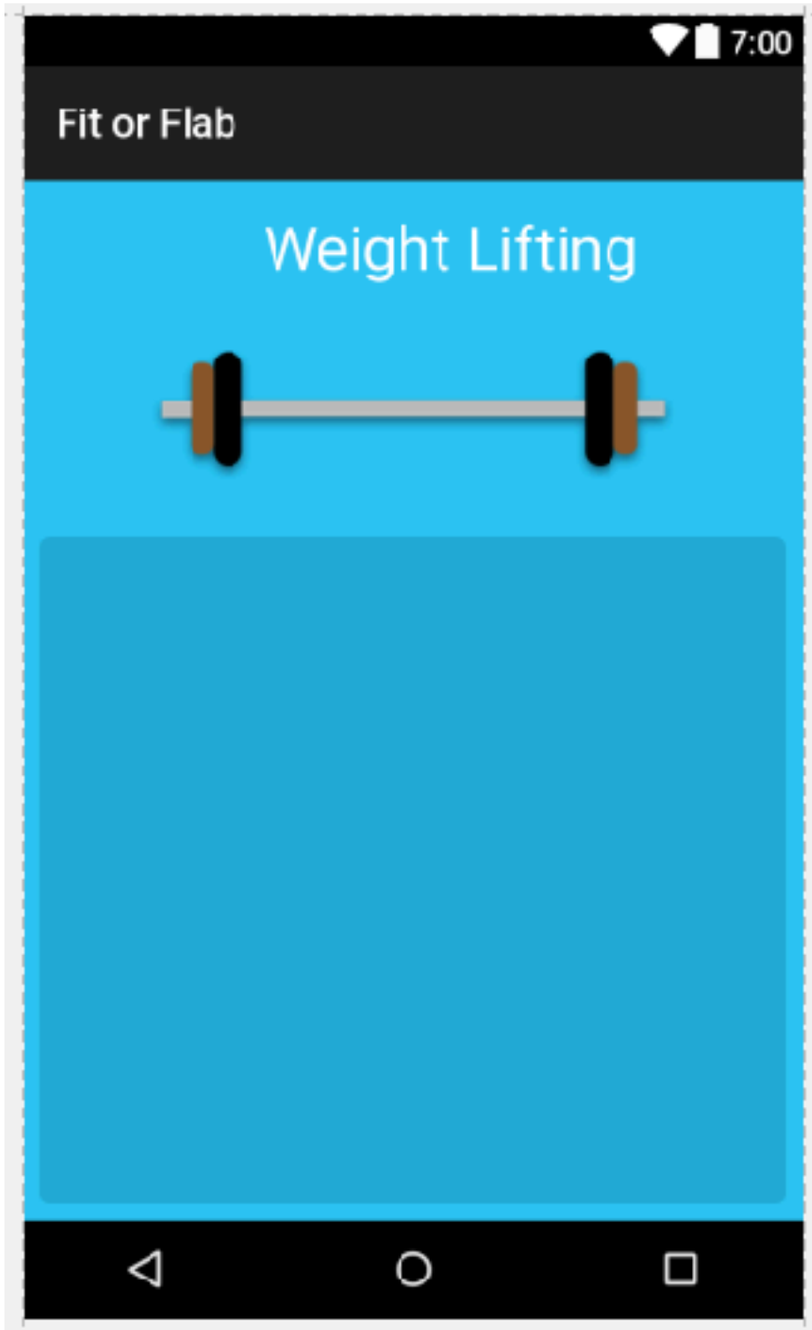
The name of the activity class to create

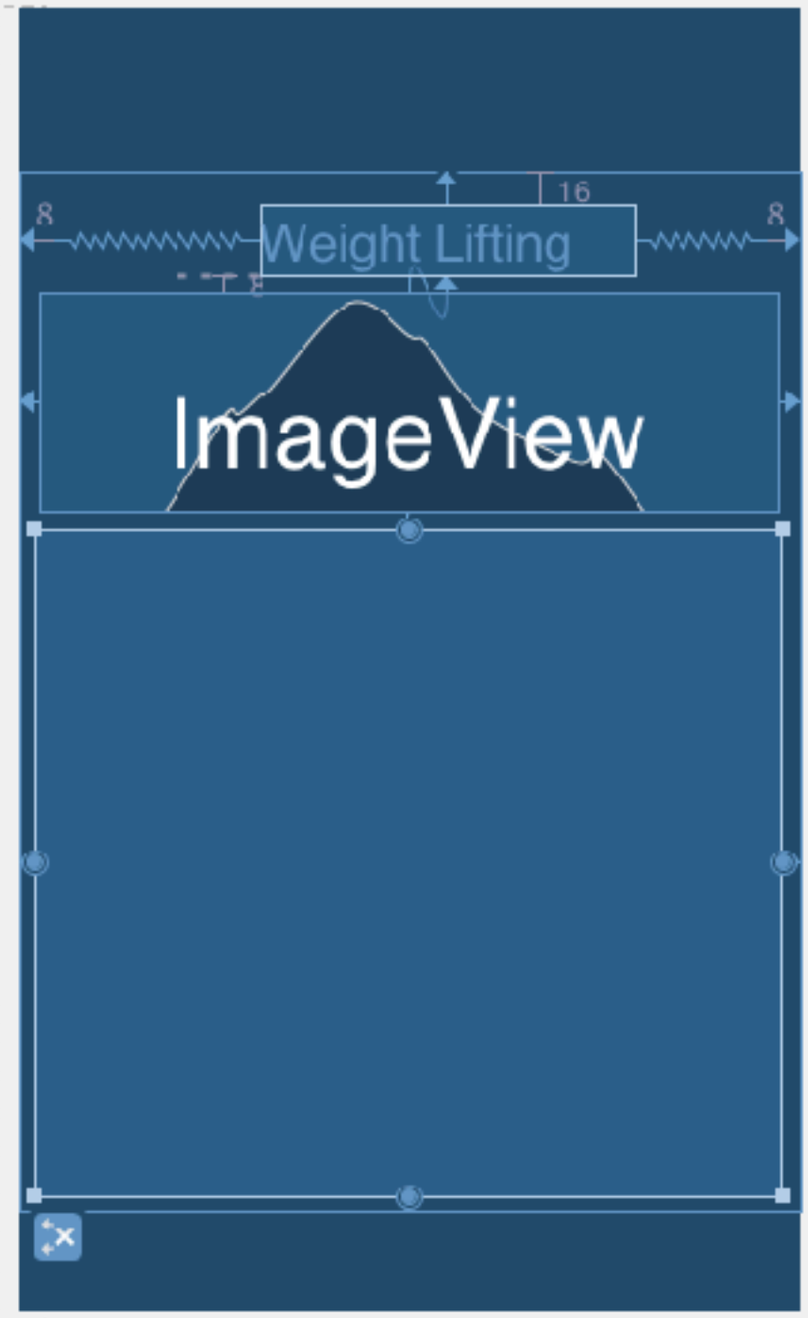
Cancel Previous Next Finish

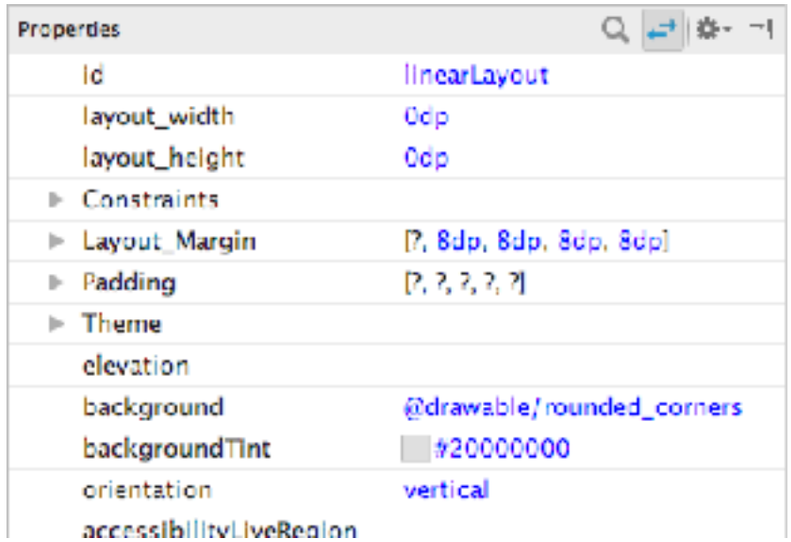
AndroidManifest.xml

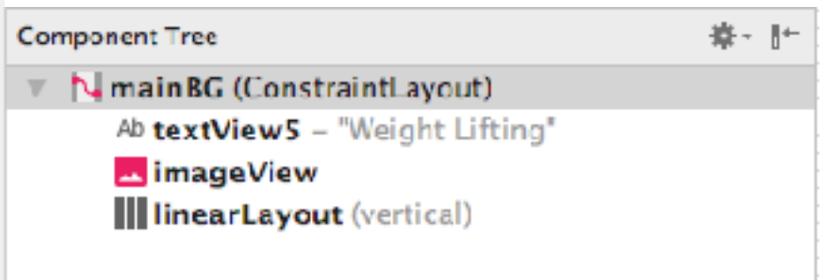


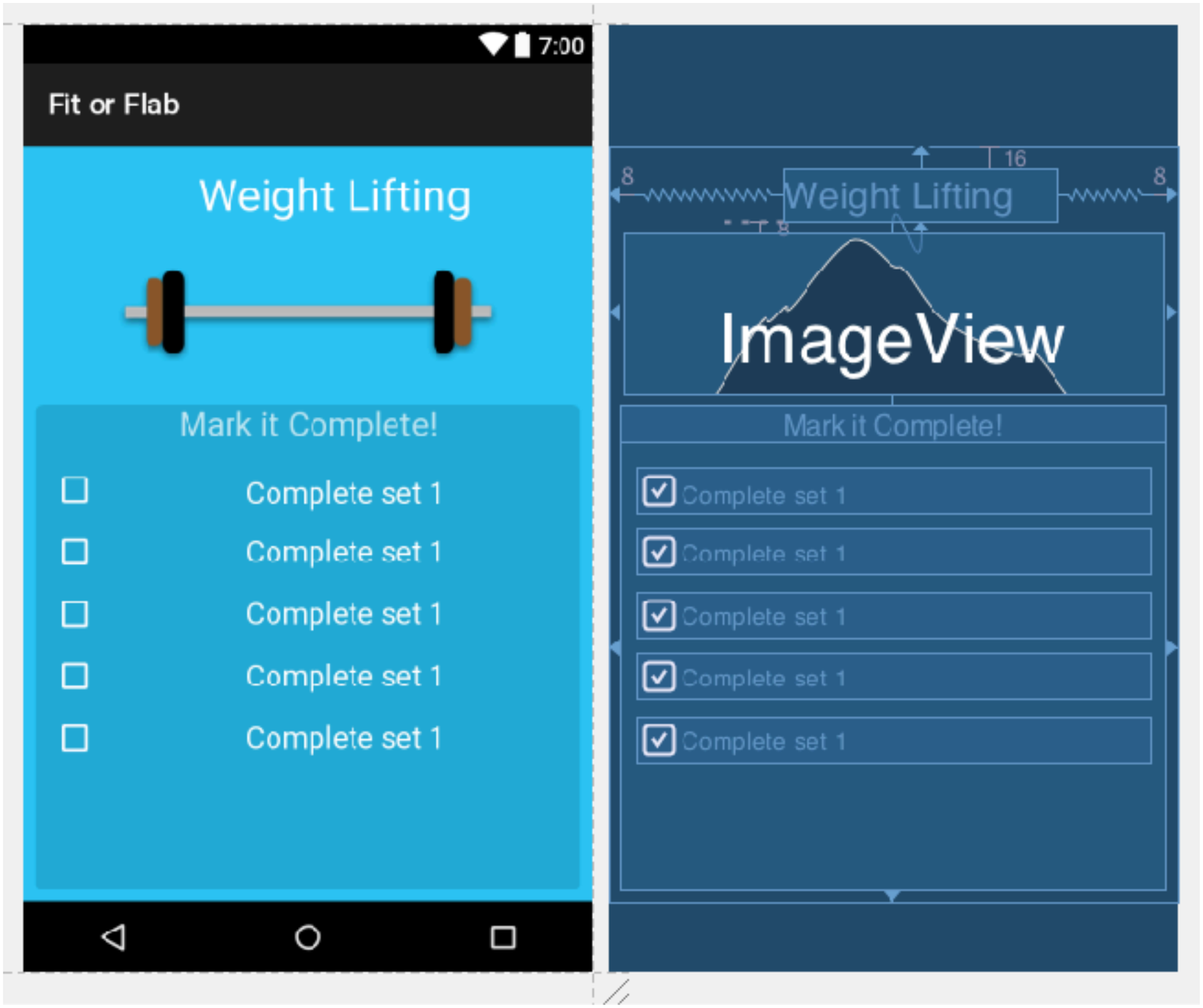
DetailsActivity

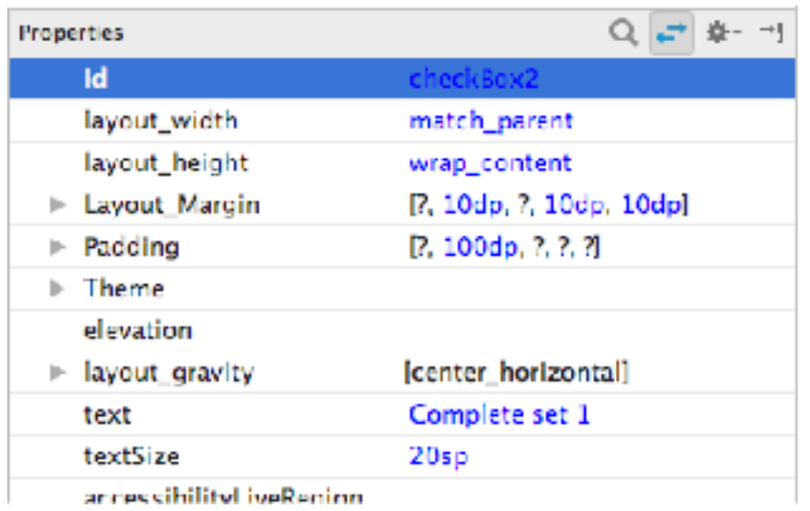









7:00
Fit or Flab
Weight Lifting
Mark it Complete!
Complete set 1
Complete set 1
Complete set 1
Complete set 1
Complete set 1
16
8
8
Weight Lifting
ImageView
Mark it Complete!
Complete set 1
Complete set 1
Complete set 1
Complete set 1
Complete set 1


Properties
id
checkBox2
layout_width
match_parent
layout_height
wrap_content
Layout_Margin
[?, 10dp, ?, 10dp, 10dp]
Padding
[?, 100dp, ?, ?, ?]
Theme
elevation
layout_gravity
[center_horizontal]
text
Complete set 1
textSize
20sp

Palette

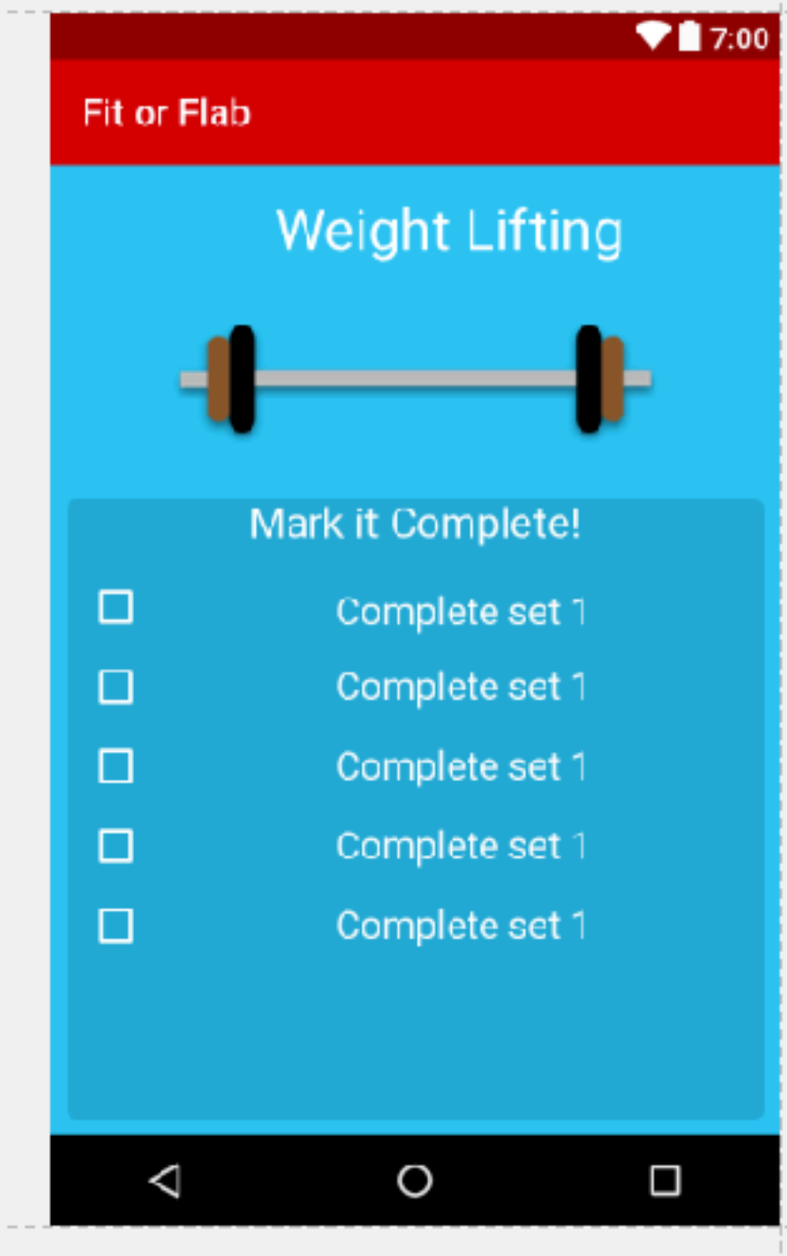
- All
- Widgets
- Text
- Layouts
- Containers
- Images
- Date
- Transitions
- Advanced
- Google
- Design

- TextView
- Button
- ToggleButton
- CheckBox
- RadioButton
- CheckedTextView
- Spinner
- ProgressBar
- ProgressBar (Horizontal)
- SeekBar
- SeekBar (Discrete)

Component Tree

- mainBG (ConstraintLayout)
  - exerciseTitle (TextView) – "Weight Lif
  - exerciseImage (ImageView)
  - linearLayout (vertical)
    - textView6 – "Mark It Complete!"
    - checkBox – 'Complete set 1"
    - checkBox2 – "Complete set 1"
    - checkBox3 – "Complete set 1"
    - checkBox4 – "Complete set 1"
    - checkBox5 – "Complete set 1"

Nexus 4 · 25 · AppTheme · Language · 42%



Palette

- All
- Widgets
- Text
- Layouts
- Containers
- Images
- Date
- Transitions
- Advanced
- Google
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Component Tree

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  - **exerciseImage** (ImageView)
  - **linearLayout** (vertical)
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    - **checkBox3** – "Complete set 1"
    - **checkBox4** – "Complete set 1"
    - **checkBox5** – "Complete set 1"

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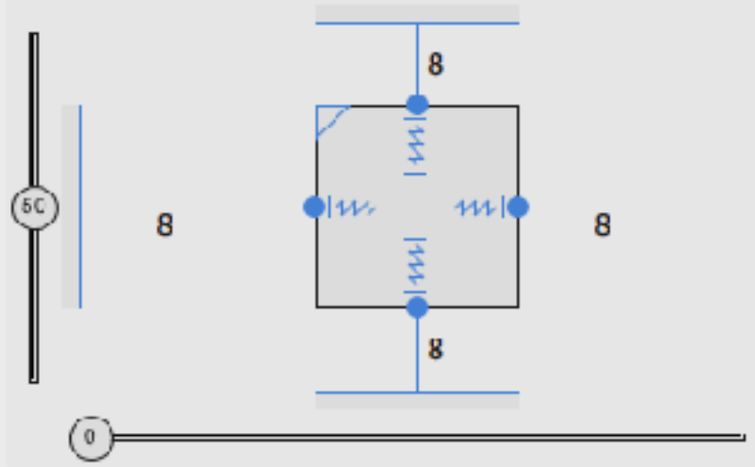
Properties

ID: linearLayout



layout_width: 0dp

layout_height: 0dp

LinearLayout

orientation: vertical

Favorite Attributes

visibility: none

View all properties

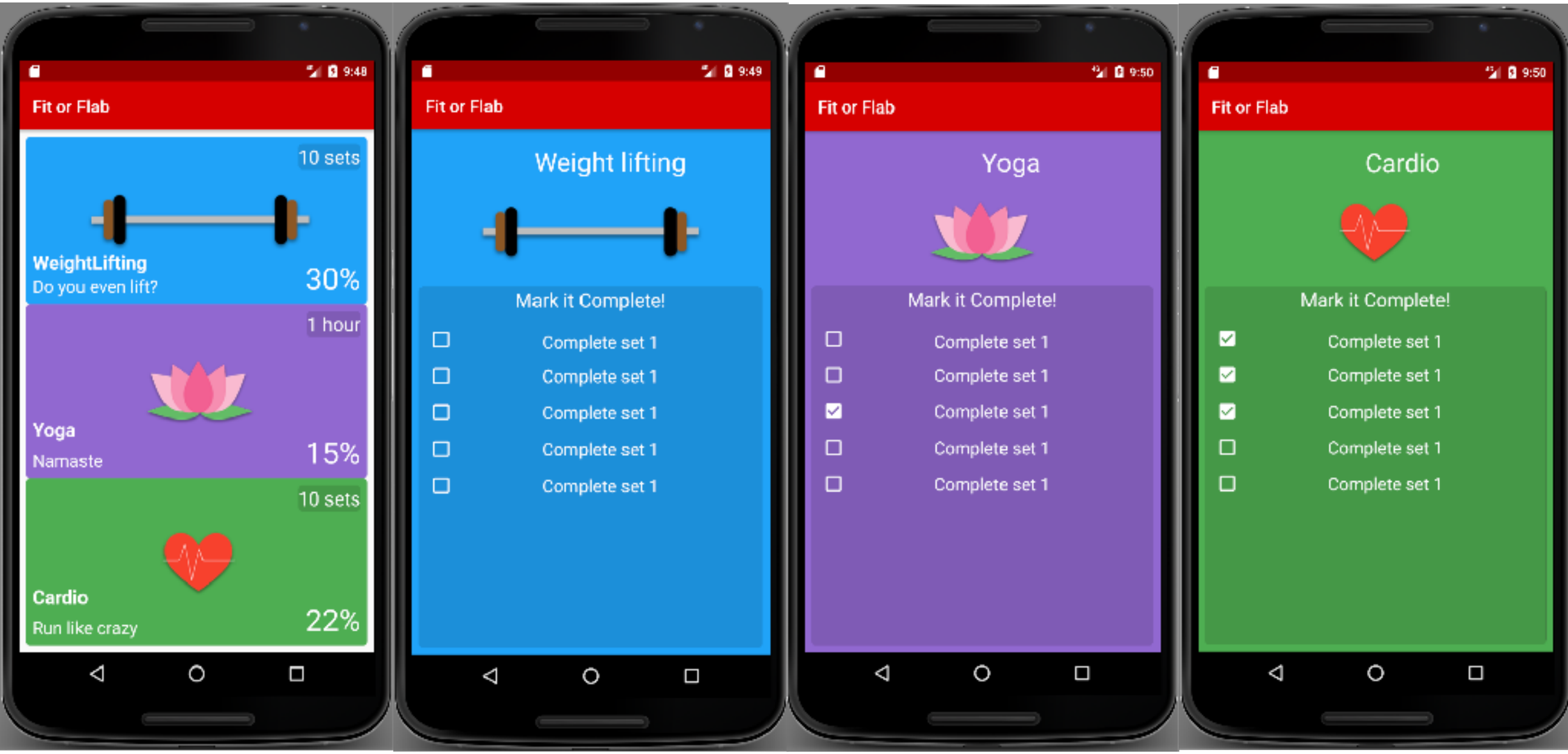
DetailsActivity.java

```
public class DetailsActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_details);

        TextView exerciseText = (TextView) findViewById(R.id.exerciseTitle);
        ImageView exerciseImg = (ImageView) findViewById(R.id.exerciseImage);
        LinearLayout mainBG = (LinearLayout) findViewById(R.id.mainBG);
    }
}
```

MainActivity.java

```
public class MainActivity extends AppCompatActivity {

    public static final String EXERCISE_EXTRA_ITEM_TITLE = "extra.item.title";
    public static final String EXERCISE_WEIGHTS = "weight lifting";
    public static final String EXERCISE_YOGA = "Yoga";
    public static final String EXERCISE_CARDIO = "Cardio";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        ConstraintLayout weightBtn = (ConstraintLayout) findViewById(R.id.weightBtn);
        ConstraintLayout yogaBtn = (ConstraintLayout) findViewById(R.id.yogaBtn);
        ConstraintLayout cardioBtn = (ConstraintLayout) findViewById(R.id.cardioBtn);

        weightBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadDetailActivity(MainActivity.EXERCISE_WEIGHTS);
            }
        });
        yogaBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadDetailActivity(MainActivity.EXERCISE_YOGA);
            }
        });

        cardioBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadDetailActivity(MainActivity.EXERCISE_CARDIO);
            }
        });

    }

    private void loadDetailActivity(String exercisetitle) {
        Intent intent = new Intent(MainActivity.this, DetailsActivity.class);
        intent.putExtra(MainActivity.EXERCISE_EXTRA_ITEM_TITLE, exercisetitle);
        startActivity(intent);
    }
}
```

Die fertige Applikation



Zusatzaufgabe

Android Exercise - Another Activity

19 MARCH 2017 by Mark Price

Requirements

1. Create a 3rd activity called *SettingsActivity* that can be accessed from the MainActivity (maybe with a gear icon)
2. There will be a checkbox called *Night Mode*
3. If the user turns on Night Mode all of the background colors in the MainActivity and the DetailsActivity turn dark grey

http://blog.devslopes.com/p/43919f9c-c155-4c71-9a0e-97190a99d7b2/

Noch Fragen?