

Exercice

ConstraintLayout

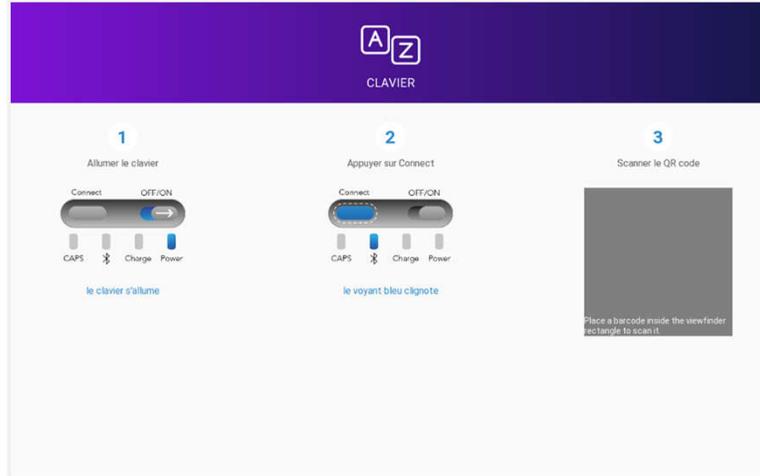
Novembre 2019

Formation Android – Tristan SALAUN

Objectif

- Réaliser l'écran suivant avec les contraintes suivantes :
 - Pas de layout imbriqué : un seul niveau de layout.
 - Affichage adapté pour un écran en paysage.
 - Affichage adapté a plusieurs résolutions d'écrans.

Résultat à obtenir

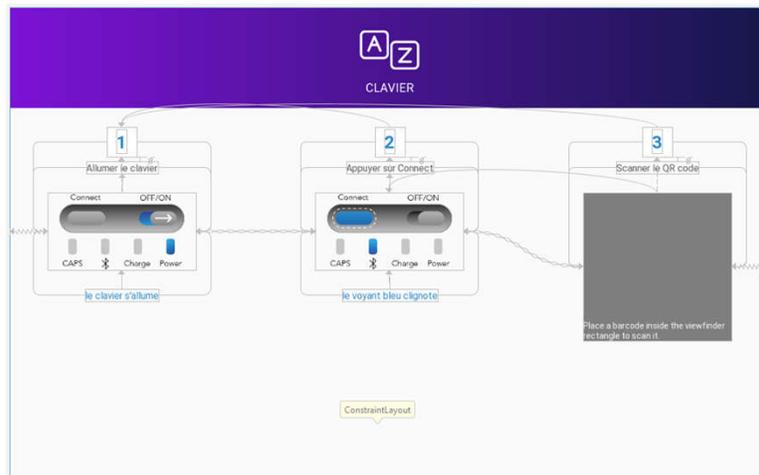


Mars-Avril-Mai 2019

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ynov
AIX-EN-PCE

Contraintes



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Le layout principal :

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
android:layout_width="match_parent"
android:layout_height="match_parent">

<!--Include the header without unneeded viewgroup-->
<include layout="@layout/header"/>

<ImageView
    android:id="@+id/fragment_scan_qr_code_imageView_help_1"
    android:layout_width="@dimen/images_help_size_width"
    android:layout_height="@dimen/images_help_size_height"
    android:layout_marginVertical="@dimen/margin_vertical"
    android:layout_marginLeft="@dimen/margin_horizontal"
    android:src="@drawable/clavier_1"

app:layout_constraintEnd_toStartOf="@id/fragment_scan_qr_code_imageView_
```

```

help_2"
    app:layout_constraintHorizontal_chainStyle="spread_inside"
    app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_textView_label_1" />

<ImageView
    android:id="@+id/fragment_scan_qr_code_imageView_help_2"
    android:layout_width="@dimen/images_help_size_width"
    android:layout_height="@dimen/images_help_size_height"
    android:layout_marginVertical="@dimen/margin_vertical"
    android:src="@drawable/clavier_2"

app:layout_constraintEnd_toStartOf="@id/fragment_scan_qr_code_decoratedBarcodeView_help_3"

app:layout_constraintStart_toEndOf="@id/fragment_scan_qr_code_imageView_help_1"

app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_textView_number_label_2" />

<com.journeyapps.barcodescanner.DecoratedBarcodeView
    android:id="@+id/fragment_scan_qr_code_decoratedBarcodeView_help_3"
    android:layout_width="@dimen/images_help_size_width"
    android:layout_height="@dimen/images_help_size_width"
    android:layout_marginRight="@dimen/margin_horizontal"
    app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toEndOf="@id/fragment_scan_qr_code_imageView_help_2"

app:layout_constraintTop_toTopOf="@id/fragment_scan_qr_code_imageView_help_2"
    app:zxing_preview_scaling_strategy="centerCrop"
    app:zxing_use_texture_view="false" />

<androidx.cardview.widget.CardView
    android:id="@+id/fragment_bt_connected_cardView_number_header_1"

```

```

        android:layout_width="@dimen/header_number_round_size"
        android:layout_height="@dimen/header_number_round_size"
        android:layout_marginTop="@dimen/margin_vertical"
        app:cardCornerRadius="@dimen/header_number_round_radius"
        app:cardElevation="@dimen/header_number_round_elevation"

app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_imageView_hel
p_1"

app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageView_
help_1"
        app:layout_constraintTop_toBottomOf="@+id/guideline_header">

        <TextView
            style="@style/Number"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:text="1" />
    </androidx.cardview.widget.CardView>

    <androidx.cardview.widget.CardView
        android:id="@+id/fragment_scan_qr_code_cardView_number_header_2"
        android:layout_width="@dimen/header_number_round_size"
        android:layout_height="@dimen/header_number_round_size"
        app:cardCornerRadius="@dimen/header_number_round_radius"
        app:cardElevation="@dimen/header_number_round_elevation"

app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_imageView_hel
p_2"

app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageView_
help_2"

app:layout_constraintTop_toTopOf="@id/fragment_bt_connected_cardView_numb
er_header_1">

        <TextView
            style="@style/Number"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"

```

```
        android:layout_gravity="center"
        android:text="2" />
</androidx.cardview.widget.CardView>
```

```
<androidx.cardview.widget.CardView
    android:id="@+id/fragment_scan_qr_code_cardView_number_header_3"
    android:layout_width="@dimen/header_number_round_size"
    android:layout_height="@dimen/header_number_round_size"
    app:cardCornerRadius="@dimen/header_number_round_radius"
    app:cardElevation="@dimen/header_number_round_elevation"
```

```
app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_decoratedBarcodeView_help_3"
```

```
app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_decoratedBarcodeView_help_3"
```

```
app:layout_constraintTop_toTopOf="@id/fragment_bt_connected_cardView_number_header_1">
```

```
    <TextView
        android:id="@+id/fragment_scan_qr_code_textView_number_header_3"
        style="@style/Number"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="3" />
```

```
</androidx.cardview.widget.CardView>
```

```
<TextView
    android:id="@+id/fragment_scan_qr_code_textView_label_1"
    style="@style/Label"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="@dimen/margin_vertical_small"
    android:text="@string/scan_qr_code_to_connect_step1"
```

```
app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_imageView_help_1"
```

```
app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageView_
```

help_1"

```
app:layout_constraintTop_toBottomOf="@id/fragment_bt_connected_cardView_number_header_1" />
```

```
<TextView
```

```
    android:id="@+id/fragment_scan_qr_code_textView_detail_1"  
    style="@style/Detail"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginVertical="@dimen/margin_vertical"  
    android:text="@string/scan_qr_code_to_connect_step1_details"
```

```
app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_imageView_help_1"
```

```
app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageView_help_1"
```

```
app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_imageView_help_1" />
```

```
<TextView
```

```
    android:id="@+id/fragment_scan_qr_code_textView_number_label_2"  
    style="@style/Label"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="@dimen/margin_vertical_small"  
    android:text="@string/scan_qr_code_to_connect_step2"
```

```
app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_imageView_help_2"
```

```
app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageView_help_2"
```

```
app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_cardView_number_header_2" />
```

```
<TextView
    android:id="@+id/fragment_scan_qr_code_textView_detail_2"
    style="@style/Detail"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginVertical="@dimen/margin_vertical"
    android:text="@string/scan_qr_code_to_connect_step2_details"
```

```
app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_imageView_help_2"
```

```
app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageView_help_2"
```

```
app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_imageView_help_2" />
```

```
<TextView
    android:id="@+id/fragment_scan_qr_code_textView_number_label_3"
    style="@style/Label"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="@dimen/margin_vertical_small"
    android:text="@string/scan_qr_code_to_connect_step3"
```

```
app:layout_constraintLeft_toLeftOf="@id/fragment_scan_qr_code_decoratedBarcodeView_help_3"
```

```
app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_decoratedBarcodeView_help_3"
```

```
app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_cardView_number_header_3" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

Le header :

```
<?xml version="1.0" encoding="utf-8"?>
```

```

<merge xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto">

  <View
    android:id="@+id/header_view_header_background"
    android:layout_width="0dp"
    android:layout_height="0dp"
    android:background="@drawable/header_background"
    app:layout_constraintBottom_toBottomOf="@+id/guideline_header"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

  <ImageView
    android:id="@+id/header_imageView_header_logo"
    android:layout_width="@dimen/logo_header_size"
    android:layout_height="@dimen/logo_header_size"
    android:src="@drawable/ic_logo_header"
    app:layout_constraintBottom_toTopOf="@+id/header_textView_header"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_chainStyle="packed" />

  <TextView
    android:id="@+id/header_textView_header"
    style="@style/Header"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/app_name"
    app:layout_constraintBottom_toBottomOf="@+id/guideline_header"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toBottomOf="@+id/header_imageView_header_logo" />

  <androidx.constraintlayout.widget.Guideline
    android:id="@+id/guideline_header"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"

```

```
    app:layout_constraintGuide_begin="@dimen/header_size" />
</merge>
```

Les styles :

```
<style name="Header" parent="AppTheme">
    <item name="android:textAllCaps">true</item>
    <item name="android:textSize">@dimen/header_text_size</item>
    <item name="android:textColor">@color/header_text</item>
</style>
```

```
<style name="Number" parent="AppTheme">
    <item name="android:textStyle">bold</item>
    <item name="android:textSize">@dimen/header_number_text_size</item>
    <item name="android:textColor">@color/header_number</item>
</style>
```

```
<style name="Label" parent="AppTheme">
    <item name="android:textSize">@dimen/label_text_size</item>
    <item name="android:gravity">center_horizontal</item>
    <item name="android:textColor">@color/label</item>
</style>
```

```
<style name="Detail" parent="AppTheme">
    <item name="android:gravity">center_horizontal</item>
    <item name="android:textSize">@dimen/label_detail_text_size</item>
    <item name="android:textColor">@color/label_detail</item>
</style>
```

Colors :

```
<color name="header_end">#141749</color>
<color name="header_start">#7b12d4</color>
<color name="header_text">#ffffff</color>
<color name="header_number">#2989ca</color>
<color name="label">#5b5b5b</color>
<color name="label_detail">#2989ca</color>
```

Drawable : **@drawable/header_background**

```
<?xml version="1.0" encoding="UTF-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android"
```

```
android:shape="rectangle">
```

```
<gradient
```

```
    android:angle="0"
```

```
    android:endColor="@color/header_end"
```

```
    android:startColor="@color/header_start"
```

```
    android:type="linear" />
```

```
<corners android:radius="0dp" />
```

```
</shape>
```

Dimens :

```
<dimen name="header_size">170dp</dimen>
```

```
<dimen name="logo_header_size">100dp</dimen>
```

```
<dimen name="images_help_size_width">250dp</dimen>
```

```
<dimen name="images_help_size_height">130dp</dimen>
```

```
<dimen name="header_text_size">20sp</dimen>
```

```
<dimen name="header_number_round_size">50dp</dimen>
```

```
<!--Should be half the previous size-->
```

```
<dimen name="header_number_round_radius">25dp</dimen>
```

```
<dimen name="header_number_round_elevation">4dp</dimen>
```

```
<dimen name="header_number_text_size">30sp</dimen>
```

```
<dimen name="label_text_size">16sp</dimen>
```

```
<dimen name="label_detail_text_size">16sp</dimen>
```

```
<dimen name="label_detail_big_text_size">18sp</dimen>
```

```
<dimen name="margin_vertical">32dp</dimen>
```

```
<dimen name="margin_vertical_small">8dp</dimen>
```

```
<dimen name="margin_horizontal">64dp</dimen>
```