

Exercice

ConstraintLayout

Mars-Avril-Mai 2019

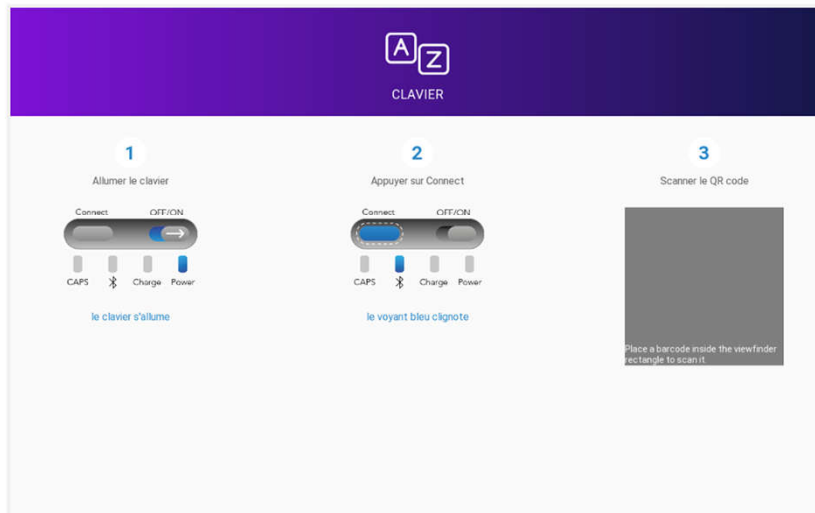
Formation Android – Tristan SALAUN



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

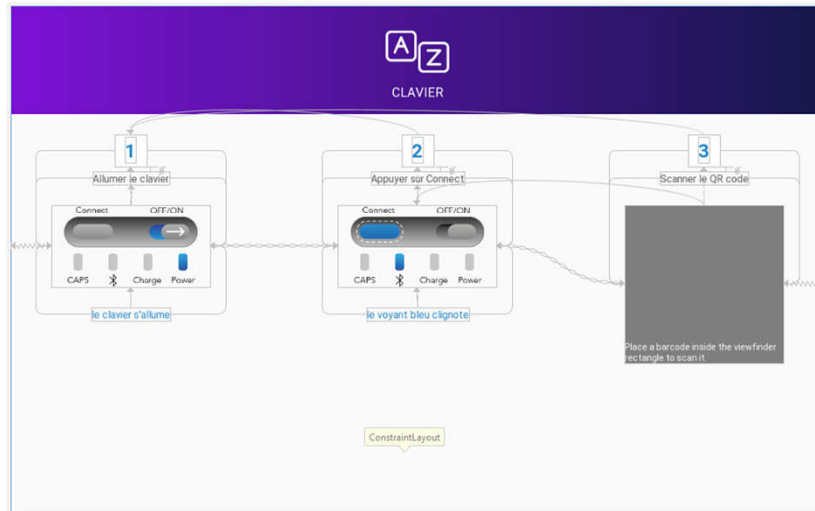


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ynov
AIX-EN-PCE

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_
help_1"

app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageVie
w_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_
help_2"

app:layout_constraintRight_toRightOf="@id/fragment_scan_qr_code_imageVie
w_help_2"

app:layout_constraintTop_toTopOf="@id/fragment_bt_connected_cardView_nu
mber_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_imageVie
w_help_1"

app:layout_constraintTop_toBottomOf="@id/fragment_scan_qr_code_imageVie
w_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_imageVie
w_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_imageVie
w_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>
```