

# Project of Software Development

Lab 1 - 18Feb & 19Feb  
OutSystems Logic tier & Practical Exercise

# Lecture Topic

## OutSystems Logic tier:

- Action and flows

## Exercise:

- OutSify (static)

## Bibliography:

- OutSystems Online Training:

<https://www.outsystems.com/training/courses/125/logic/?LearningPathId=18>



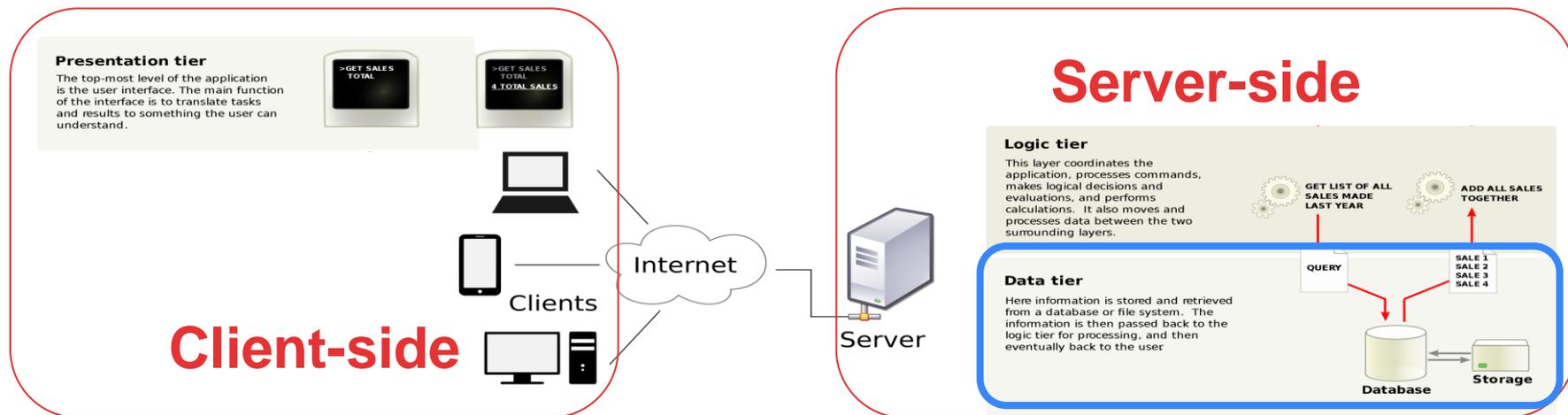
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## OutSystems Online Training: Becoming a Reactive Web Developer

### Short review and Q&A: Logic and Flows & exercise solution



# OutSify - OutSystems Spotify

## Website Architecture

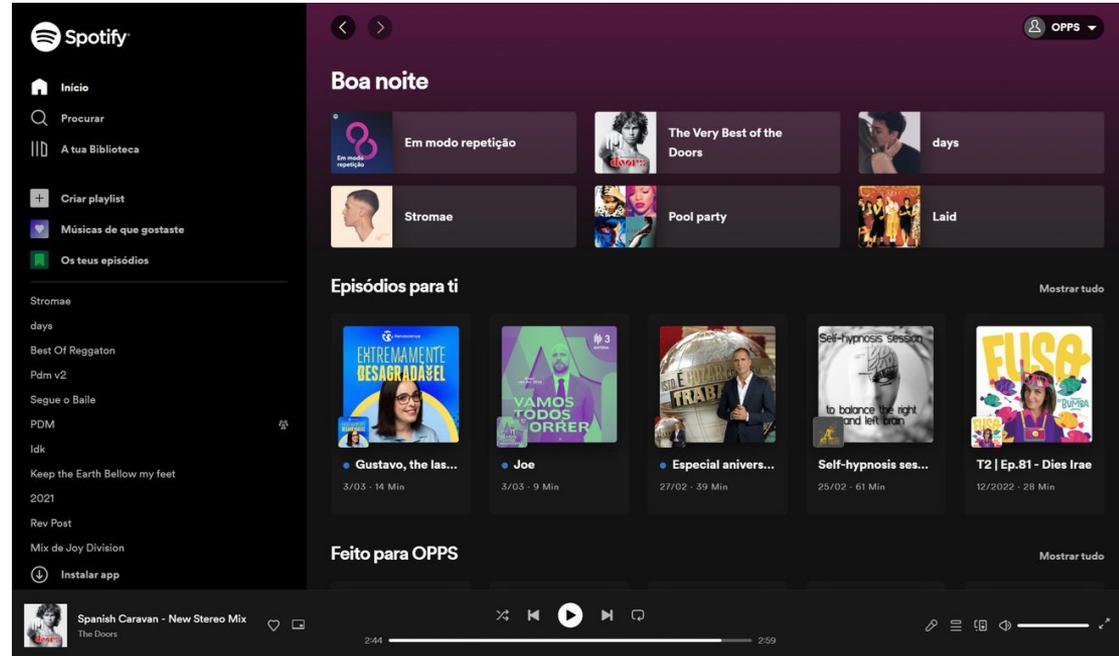
**Functional aspects:** Create a Web Media Player which imitates Spotify:

- Homepage with your playlists
- Detail screen to show and play the playlist content

**Visual appearance:** use the Design Guidelines defined by Spotify

**Technical constraint:** 1 screen for the Homepage and 1 screen for all details page

Dependencies: all in-class content and all homeworks up to and including Lecture 6



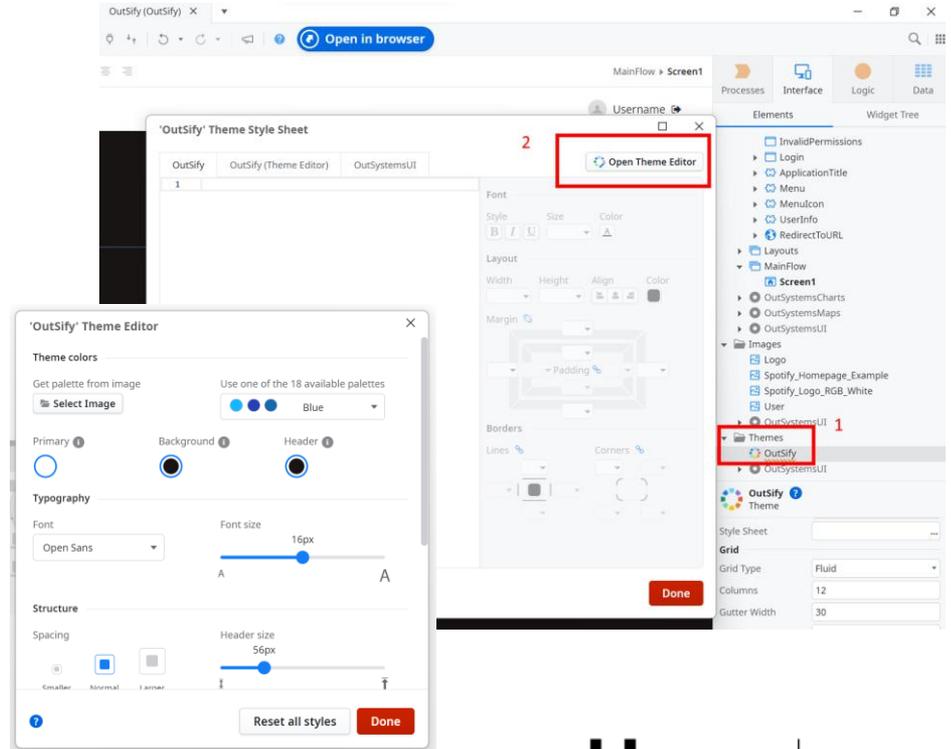
# Step 1 - gather information about Spotify

- Spotify Design Guidelines (logos, colors, fonts):  
<https://developer.spotify.com/documentation/general/design-and-branding/#using-our-colors>
- How to create a Spotify URI:  
<https://community.spotify.com/t5/FAQs/What-s-a-Spotify-URI/ta-p/919201>

Green #1DB954 R30 G215 B96  
White: #FFFFFF R255 G255 B255  
Black: #191414 R25 G20 B20  
Font: Default sans-serif, Helvetica Neue, Helvetica, Arial

# Step 2 - Create a new App and adapt the theme

- Download from [Fenix/SPROJ/Labs Material](#) the file [Lab 1 - Spotify Logos and Icons 02\\_PNG.zip](#) with the icons and logos from Spotify
- Set the new App icon *Spotify\_Icon\_RGB\_Green.png*
- Set the look & feel (theme) according to Spotify's guidelines (see previous slide):
  - Use the Theme Editor
  - Use the color picker to set colors:
    - Primary: it's the font color
    - Background: set Spotify's black
    - Header: set Spotify's black
  - Set the font name
  - Set the font size to 18px



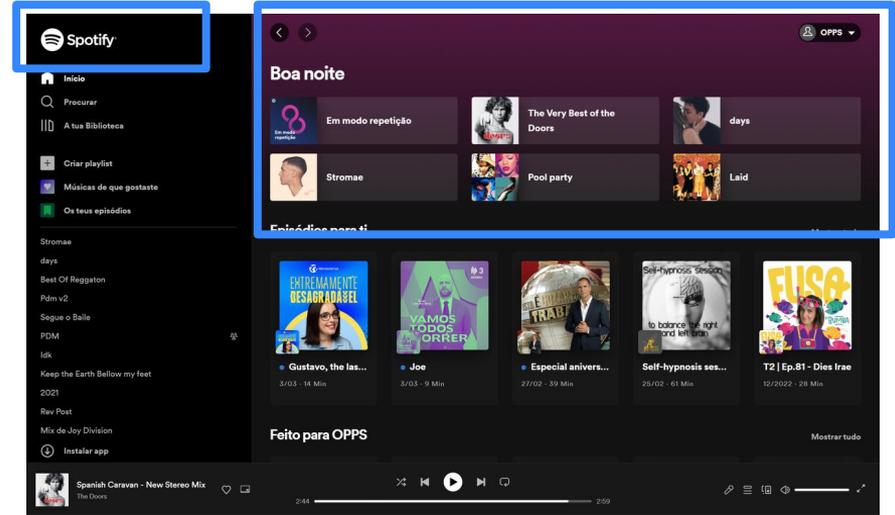
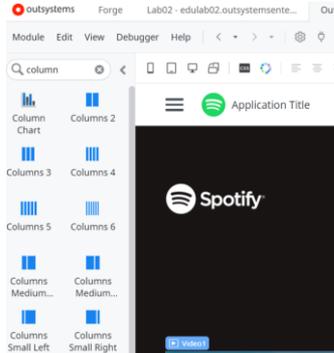
# Step 3 - Create the homepage



Technical constraint: 1 screen for the Homepage.  
Minimum requirements:

- Top-left logo
- 3 playlists
- Page title
- After having implemented the “playlist page”:
  - Highlight the last played playlist in the “3 playlists”
  - Menu option to reset count of plays
  - Link each playlist to its “playlist page”

Tip: try the screen widgets “Column”:



# Step 3 - Create the homepage (solution)



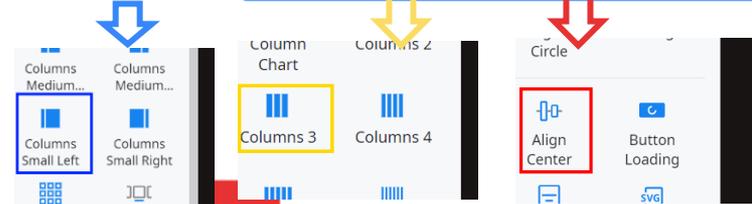
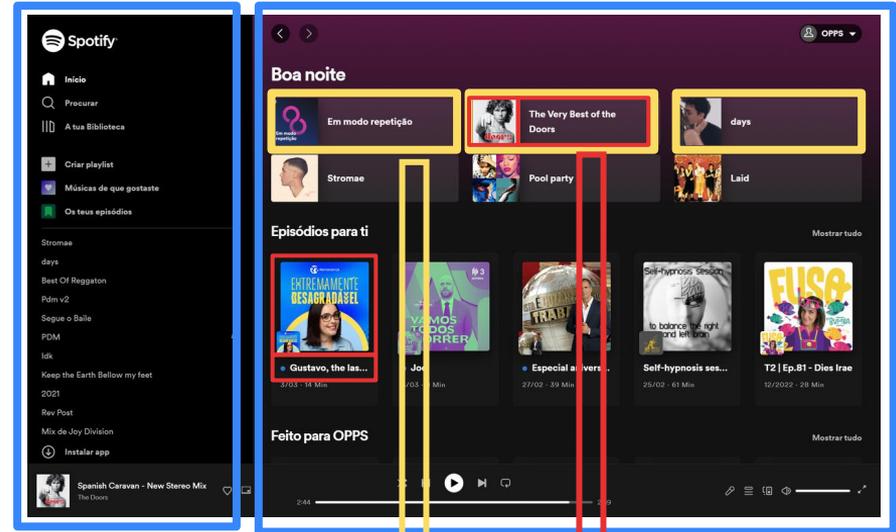
Think about the visual structure (organization) of your page

The menu is on the left side, the content is on the right side (blue)

The playlists are displayed in 3 areas equally sized (yellow)

Each playlist is displayed (red):

- Option 1 (easier and simpler): show an image
- Option 2 (better but harder): with an image at the left, text at the right and vertically centred
- Option 3 (better but harder): with an image at the top, text at the bottom
- Option 4: create your own look & feel!



# Step 3 - Create the homepage (solution)

(from the previous slide):

- Option 1 (easier and simpler): show an image
- Option 2 (better but harder): with an image on the left, text at the right and vertically centred
- Option 3 (better but harder): with an image at the top, text at the bottom
- Option 4: create your own look & feel: check the options in Service Studio at Interface/UI Flows/OutSystemsUI and also online at <https://outsystemsui.outsystems.com/WebStyleGuidePreview/UIPatterns.aspx>



Check the look & feel on your smartphone.



Tip: set the "Column3" and the "ColumnsSmallLeft" properties

The screenshot shows the OutSystems Service Studio interface for creating a homepage. The main canvas displays three design options: Option 1 (Spotify logo), Option 2 (image and text 'Laid'), and Option 3 (image and text 'Post'). The right-hand side shows the 'Widget Tree' with various UI components like 'Adaptive.ColumnsSmallLeft', 'Image', and 'Post' highlighted in yellow. Red circles highlight the 'Interface' tab and the 'Widget Tree' label. Blue arrows point from the 'Option 1', 'Option 2', and 'Option 3' labels to their respective widget tree structures.

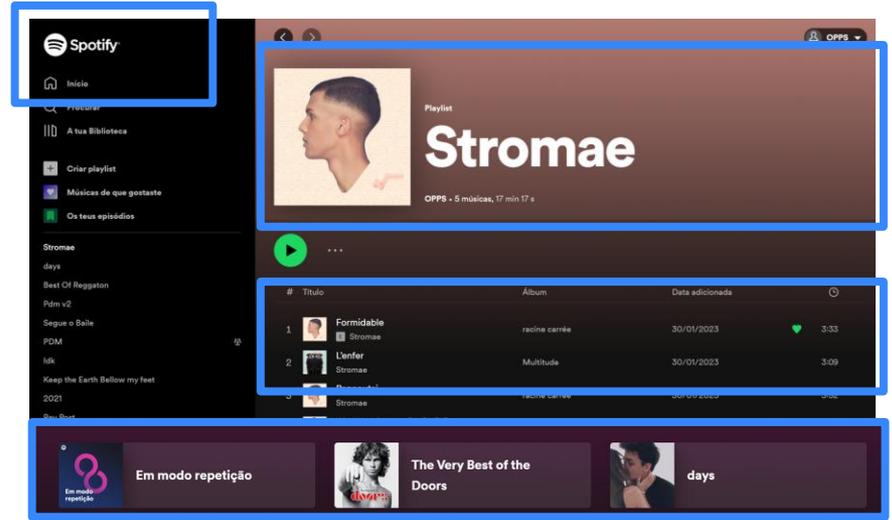
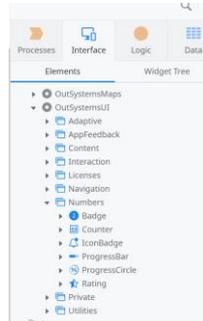
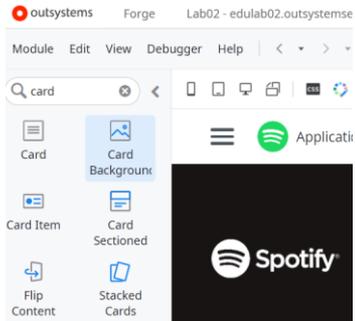
# Step 4 - Create the playlist page



Technical constraint: 1 screen for all details page.  
Minimum requirements:

- Top-left logo
- Link to homepage on the menu
- Link for each song in the playlist (2 songs):
  - a. To Spotify, using the Spotify URI from Step 1
  - b. To Youtube, opening a new page to play the videos
- Page title including the playlist name
- Same 3 playlists from Homepage:
  - a. With a count of how many times each playlist has been played
  - b. Excluding the playlist being played

Tip: try the screen widgets “Card” and “Numbers”



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# Step 4 - Create the playlist page (solution)



Think about the visual structure (organization) of your page

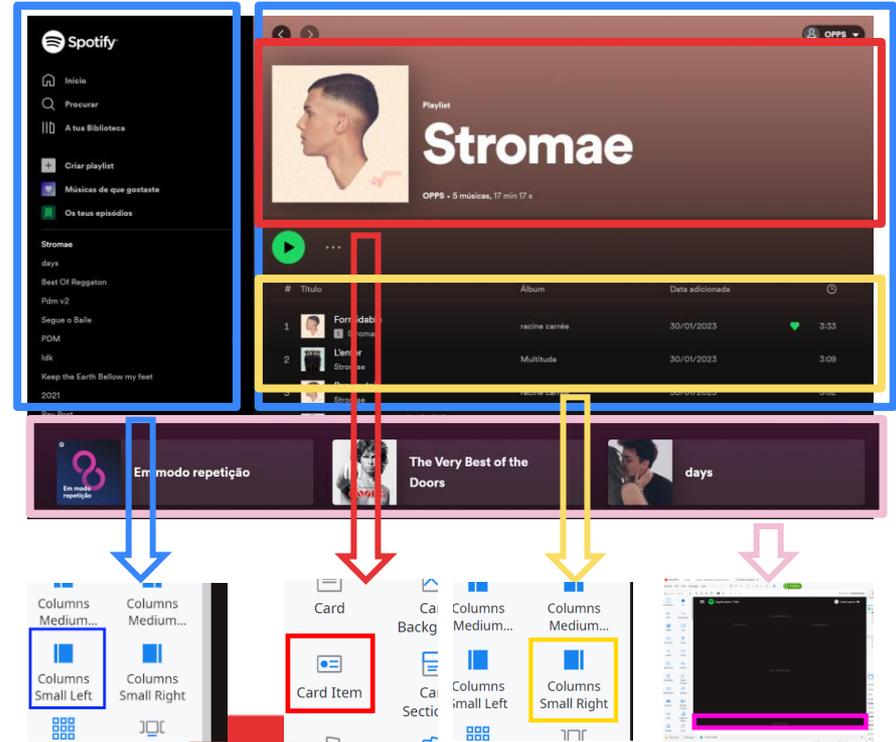
The menu is on the left side, the content is on the right side (blue)

The content is displayed vertically. This means that each of the 3 items in the content (playlist name; playlist songs; same 3 playlists from the Homepage) only need to be placed stacked vertically. This is the natural flow on Web Pages, so nothing needs to be done.

For the playlist name: use a “Card Item” (red)

For the playlist songs: use a “Column Small Right” (yellow)

For the same 3 playlists from Homepage: use the “Footer” area on the screen (pink)



# Step 4 - Create the playlist page (solution)

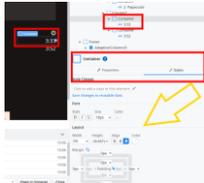
For the playlist name: use a “Card Item” (red)

For the playlist songs: use a “Column Small Right” (yellow)

For the same 3 playlists from the Homepage: use the “Footer” area on the screen (pink)

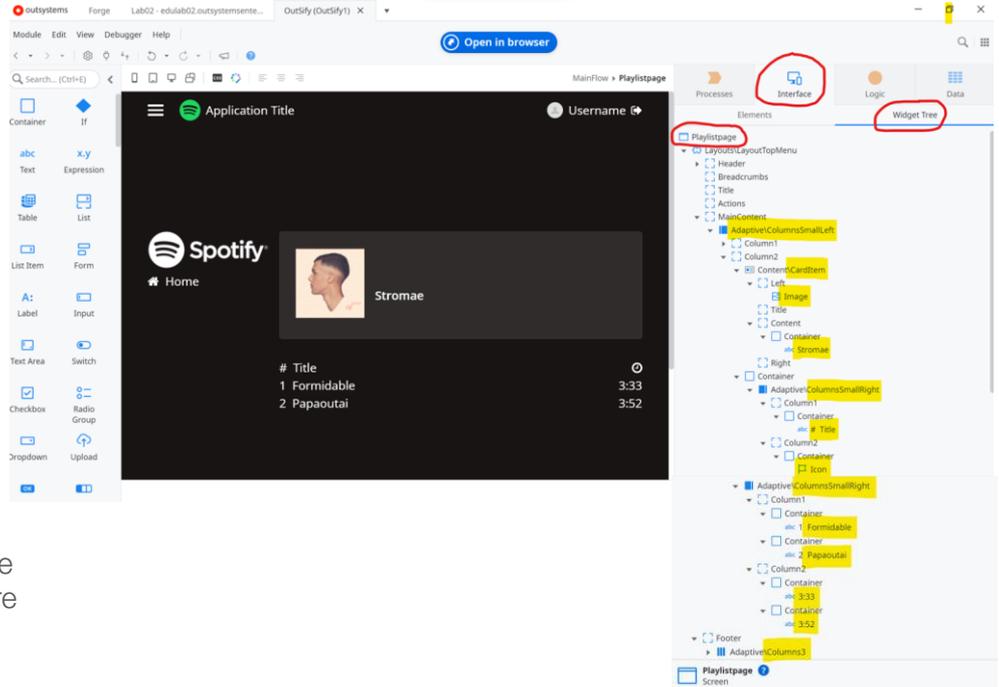
Check the look & feel on your smartphone.

Tip 1: set the “Column3” and the “ColumnsSmallRight” properties



Tip 2: to right-align the text, enclose the text in a container and select the container “Styles” (see image on the left)

ue (to enclose widgets in a container) to set the style of the widgets enclosed. The style is the look & feel, where you define **how** will the information be displayed: size, colour, alignment, margins, and much more!



## Step 5 - Create the playlist page (solution)

Solution for the technical constraint 1 screen for all details page: use an input parameter and use an If for each possible value of your input parameter.

Link to each song in the playlist (2 songs):

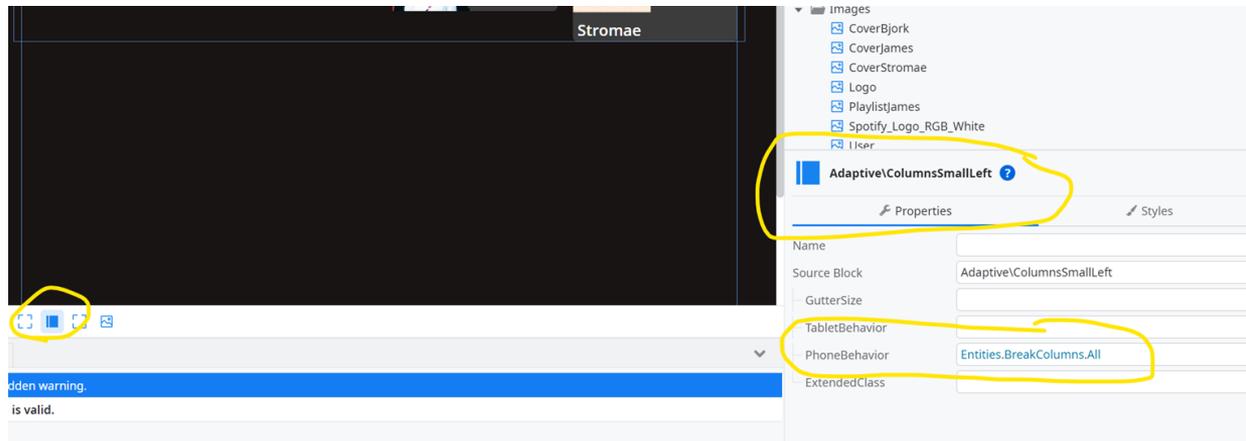
- Option 1: To Spotify, using [Spotify URI](#) from Step 1
- Option 2: To Youtube, opening a new page to play the videos

Solution: same link to an external site as you did in the homework from class #2 (“My first WebApp”), video from Léo Andrade: <https://www.youtube.com/watch?v=tjN2hVv8GTY&list=PLY-9oEzuBhdeqnuD66kykLg-779qOiM3K>)

# Step 6 - Reactive

Now open your WebApp on your browser's mobile phone. Has the content adjusted to the screen size?

Tip: check the properties of the Columns widgets (ColumnsSmallLeft, Columns3, ColumnsSmallRight):



# Learning goals

To understand how and where the Logic tier of a Web Application is defined in OutSystems

Creating a Web Application in OutSystems: Screens and Screen Flow, Screen structure and columns

How to develop a Reactive WebApp with content that adapts to screen size

# Homework outsystems(on Personal Environment)

OutSystems Online Training: Becoming a Web Developer

<https://www.outsystems.com/training/paths/18/becoming-a-reactive-web-developer/>

Aggregates 101 (30 minutes)

<https://learn.outsystems.com/training/journeys/web-developer-662/aggregates-101/o11/36>

Building Screens with Data (30 minutes)

<https://www.outsystems.com/training/courses/127/building-screens-with-data/?LearningPathId=18>

Modeling Data Relationships (30 minutes)

<https://www.outsystems.com/training/courses/128/modeling-data-relationships/?LearningPathId=18>

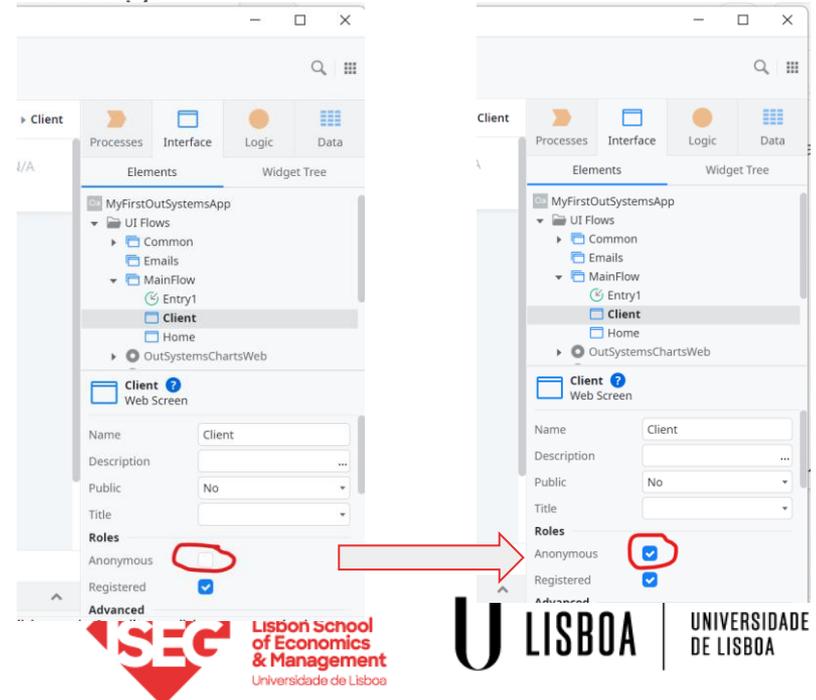
Data Model Integrity (10 minutes)

<https://www.outsystems.com/training/courses/157/data-model-integrity/?LearningPathId=18>

# Homework outsystems(on Personal Environment)

**“Build a List Screen” Exercise only:** After having implemented your exercises as described in the OutSystems training, do the following:

1. Add the “anonymous” role to all your Web Screens:
  - a. Click on the Web Screen (widget tree on the right side)
  - b. The attributes area will open. Click on “Anonymous”
  - c. Repeat (a) and (b) for each Web Screen you created
  - d. Publish and test
2. Submit the address of your Web Application by following up on the email



# Homework outsystems

- Please ensure you read **by next Lab** the bibliography from Lecture 6, specifically: [Hoffer], chapter 4, “Introduction to normalization”, pages 176-185
- Finish your OutSify (Static) exercise:
  - Don’t forget to test on both your laptop and smartphone. The expected result shall be similar to <https://edulab02.outsystemsenterprise.com/OutSify/Homepage>
  - Add the “anonymous” role to all your Web Screens:
    - Click on the Web Screen (widget tree on the right side)
    - The attributes area will open. Click on “Anonymous”
    - Repeat (a) and (b) for each Web Screen you created
    - Publish and test
  - Submit the address of your Web Application by following up on the email

**Delivery date: next Lab**

**Expected total effort: 180 to 240 minutes**