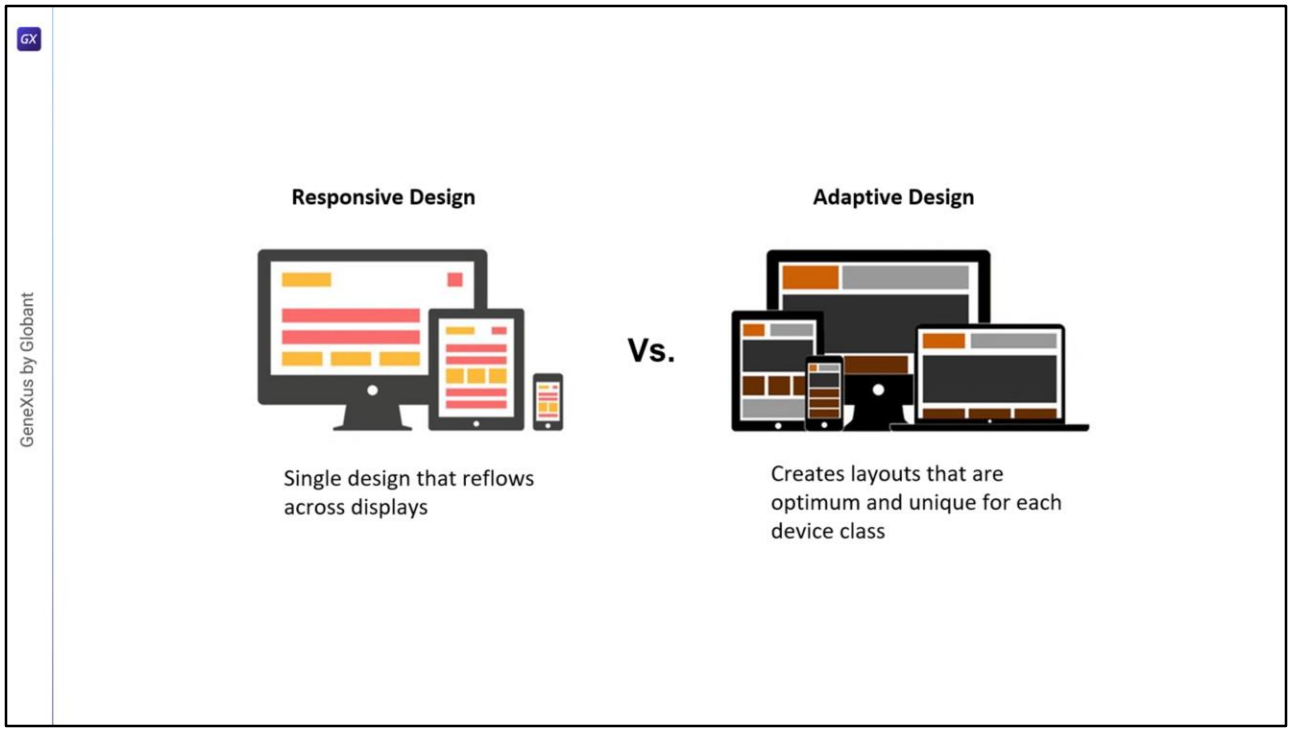
GeneXus by Globant
GeneXus™
by Globant
training.genexus.com

GeneXus by Globant

Multiple Layouts for a Panel

Vanesa Fernández

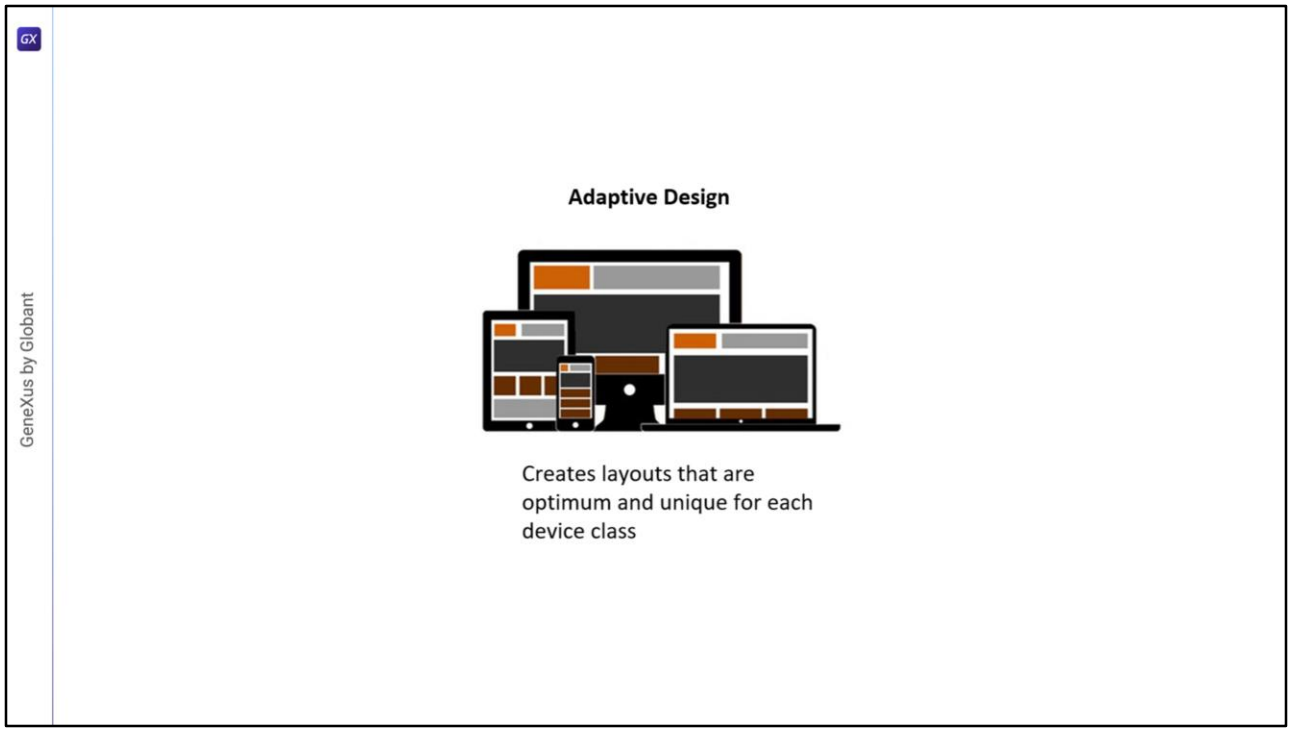
A high-quality design that provides a positive user experience must optimize the available space on the screen, which means that the amount of information and the way it is displayed must be different on a small-screen mobile device, such as a phone, compared to a tablet, a desktop computer, or a big-screen monitor. Let's learn more about these concepts.



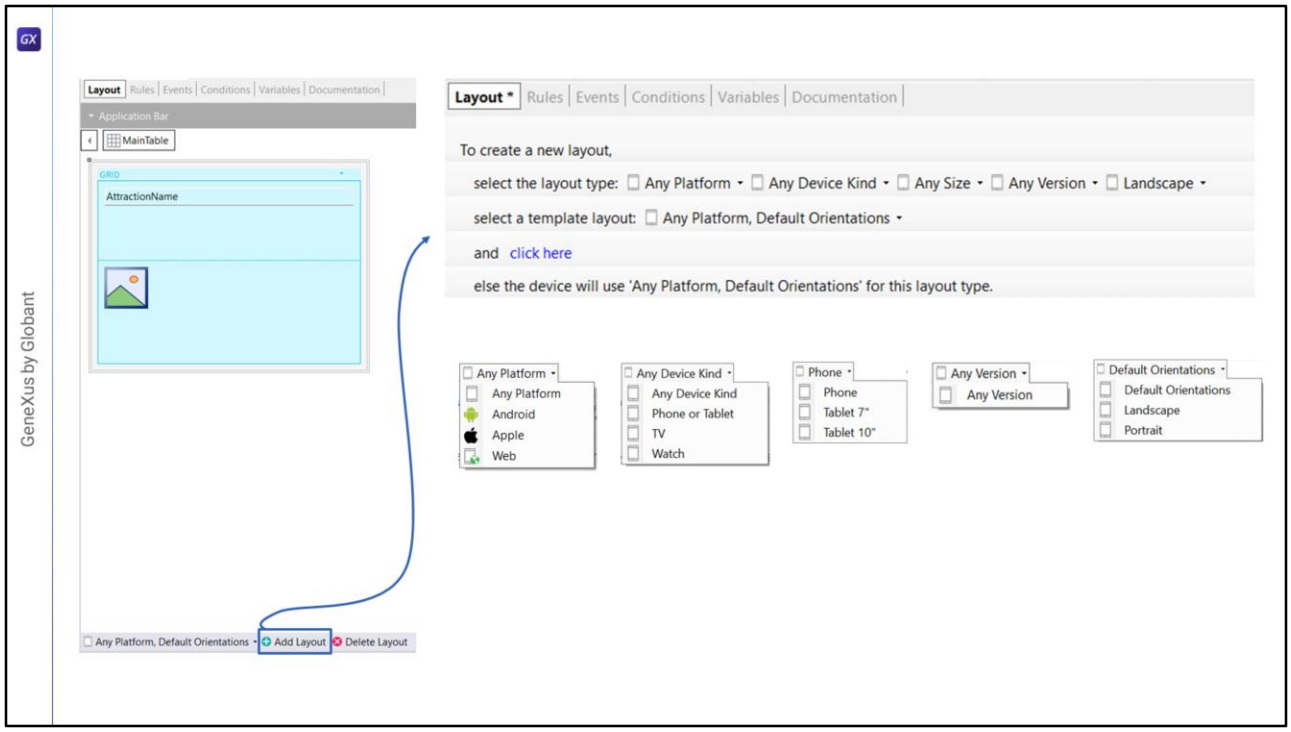
To design applications that are optimally designed for different screen sizes, there are two possible approaches.

One is responsive design, which uses a single design and adjusts the content, navigation, and page elements to fit the user's screen, using percentages for table sizes and controls. Responsive design will rearrange all design elements, regardless of whether they are displayed on a big screen, desktop computer, laptop, tablet, or cell phone.

Another approach is adaptive design, in which different fixed designs are created for every screen size. Unlike the automatic adaptation approach, adaptive design uses several layouts with an optimal design for each screen, which are automatically run according to the platform detected. When designing a responsive design, all screens and devices on which a user can view the application must be taken into account. Certain elements may work and align very well on a large desktop view, but if smaller screen sizes are not taken into account, the design may not scale properly to their size.
With adaptive design, the application will detect the user's device type and use the layout designed to fit that screen. While designing for each type of device requires more effort, the benefit is that the designer can have more control over the design elements and achieve a better user experience.



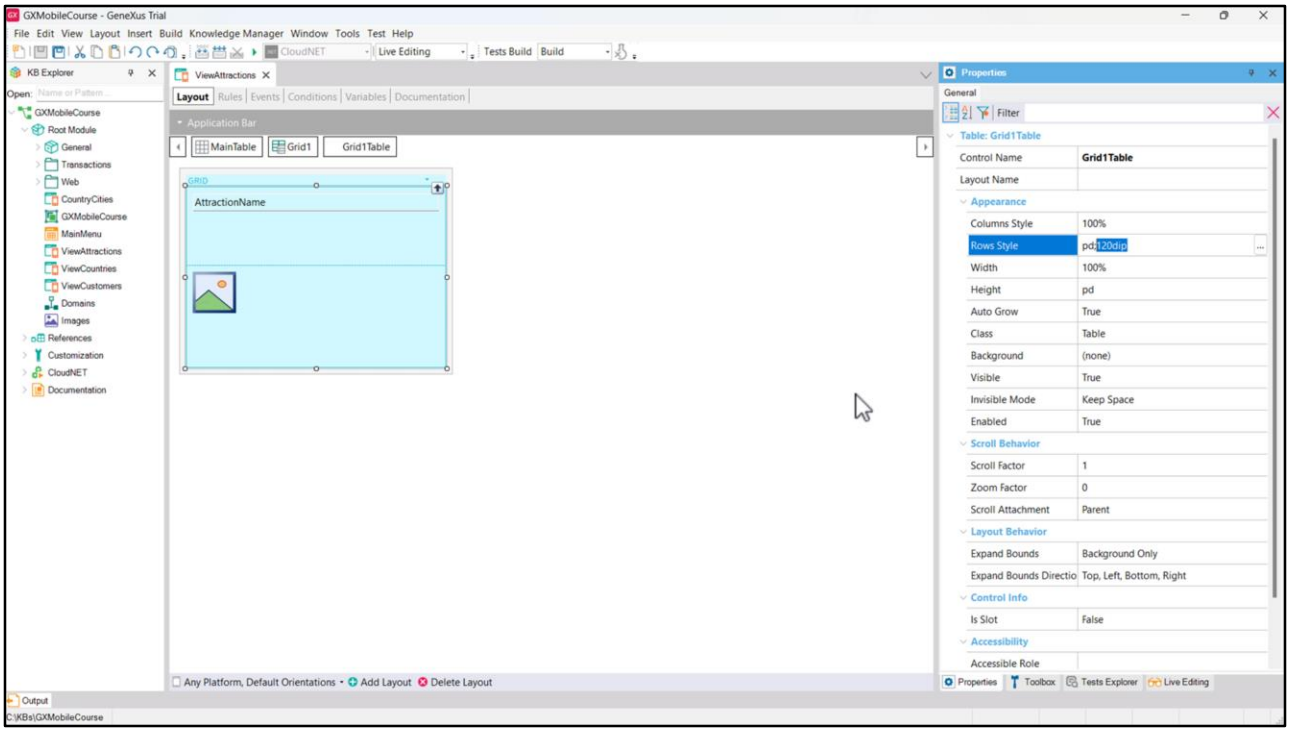
GeneXus allows us to implement applications with both design approaches, but now we will focus on adaptive design, creating multiple layouts for the same object.



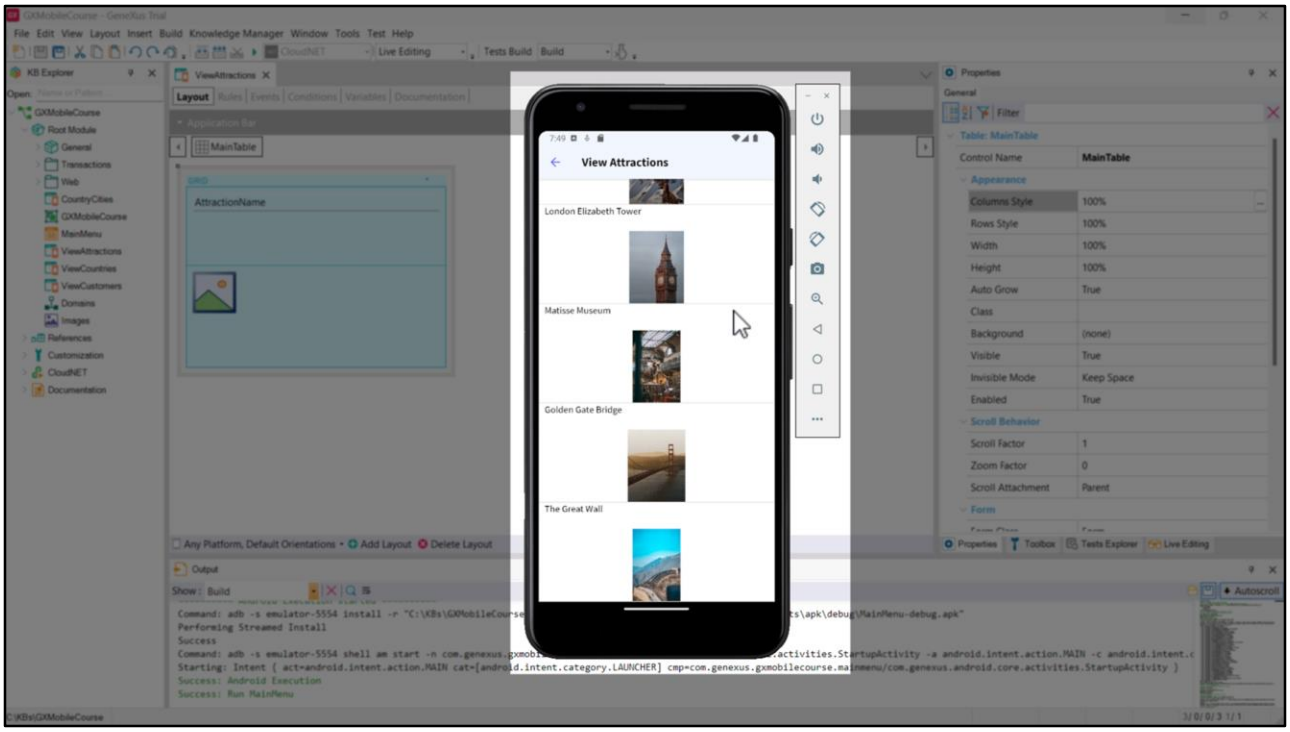
When we create a panel, a default layout is already created, which is the one we have used so far. To create more than one layout for the same Panel object, there is a toolbar at the bottom of the layout, consisting of a combo box and two buttons, one to add a layout and one to delete it. The combo box by default gives the option for the layout to be created to fit any platform and for the default orientation. However, pressing the Add Layout button opens a dialog box that allows selecting the following:

- Platform: to choose whether it will be for any platform or only for Android, Apple, or Web.
- Device Kind: to choose whether it will be for any type of device or for a phone or tablet, TV, or watch.
- Size: whose options vary according to the selected device type, offering the values Phone, Tablet 7” and Tablet 10” when the device kind is Phone or Tablet, and the value Any Size for the rest.
- Version: with the value Any Version and which, depending on the case, allows us to select the platform version.
- Orientation: with the values Default Orientation, Landscape, and Portrait.

After choosing the values for each option, we click on Click Here and the selected layout will be created.
In this video, we will try an example of multiple layouts created in a Panel object, and will see that the corresponding one will be automatically executed according to the screen size and device type.

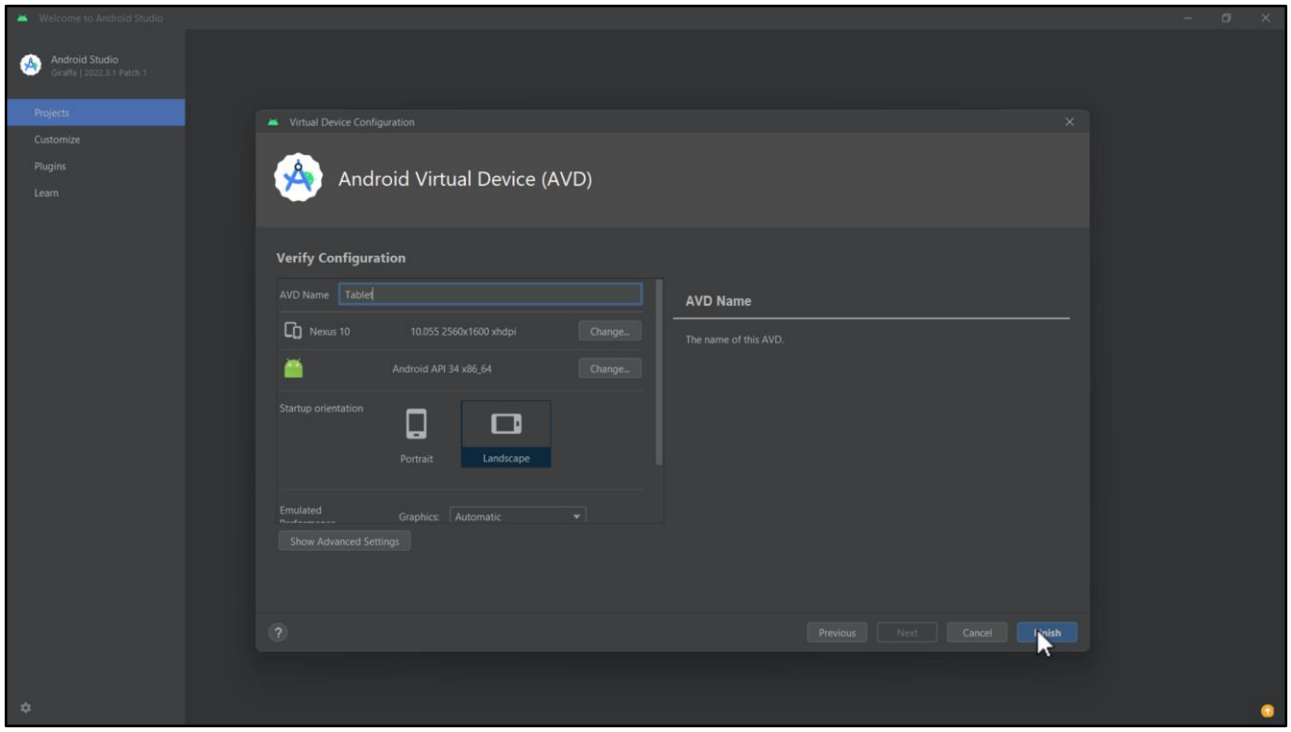


We will work with the ViewAttractions Panel, which has a Grid with the attributes AttractionName and AttractionPhoto, and the second row, corresponding to the image of the attraction, which takes 120 dips.



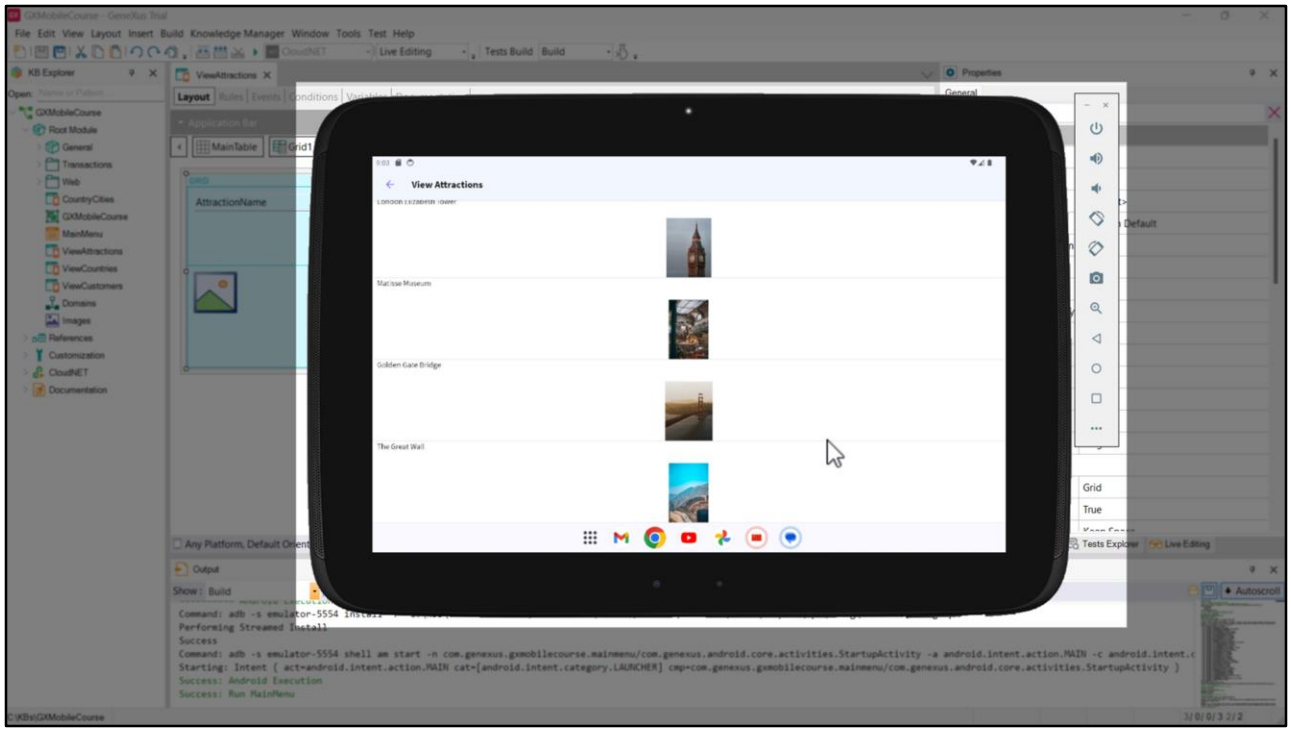
Let's run it to see how this screen will be displayed in our default emulator, corresponding to a mobile device.

This layout would be quite suitable if our application ran on devices of a similar size to this one. But, what if, for example, we need it to be displayed correctly on a 10” Tablet? In that case, we can assume that it would look a bit small. Let's try it and see what happens.

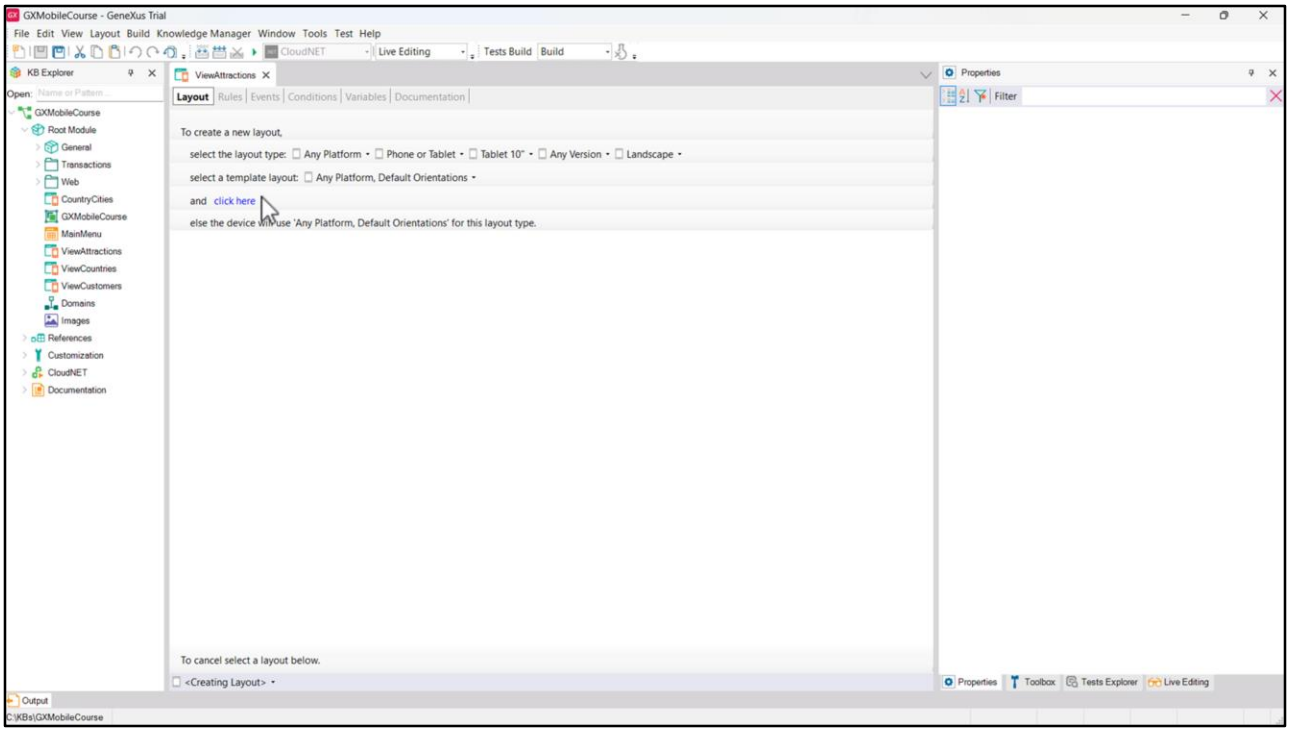


We close this emulator and go to the Device Manager in Android Studio to create another one that resembles a 10" Tablet.

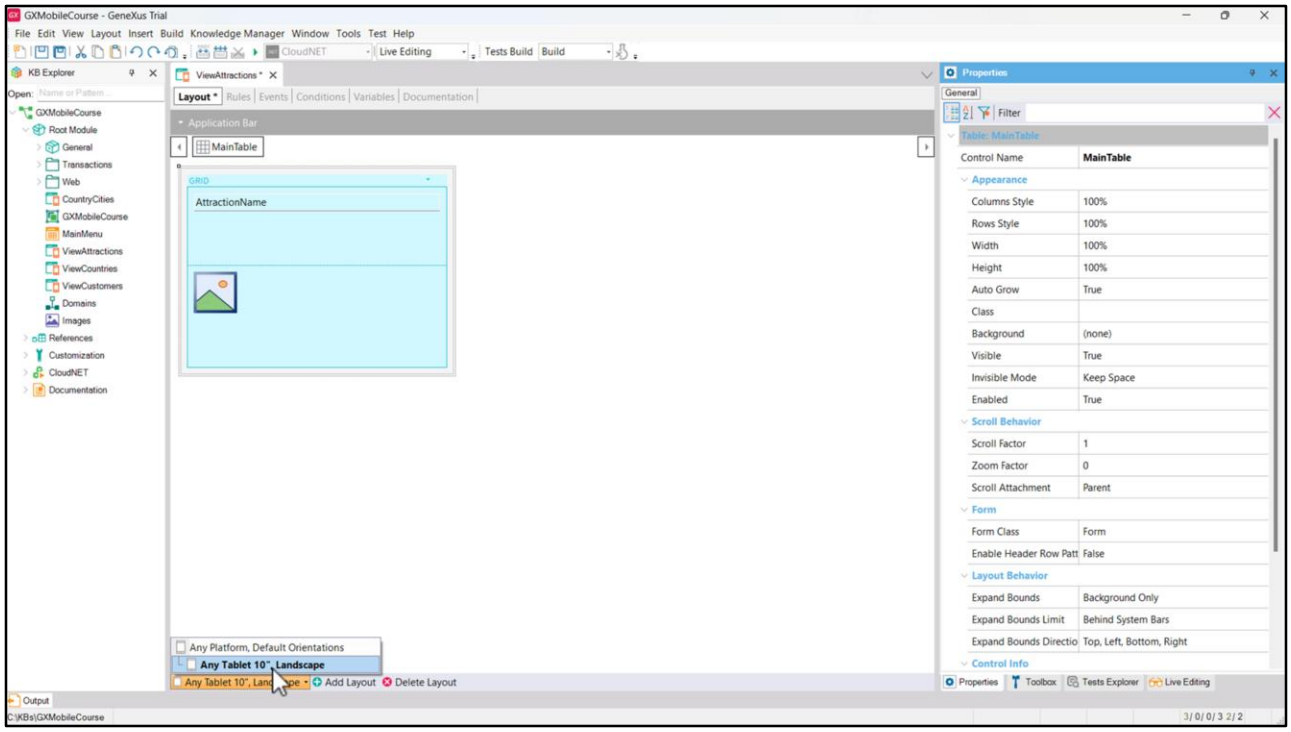
To do so, we click on the *Create Device* button, select *Tablet*, choose for example *Nexus 10*, which is the size we want to emulate, and click on *Next* –here we leave the default selection by clicking on *Next* again. Lastly, we change the emulator name to "*Tablet*" and click on *Finish*. We open it, and everything is ready to start testing.



Let’s go back to GeneXus and run it. Indeed, not all the available space on the tablet screen is being used, neither horizontally nor vertically, so it is appropriate to create new layouts to distribute the elements more efficiently.



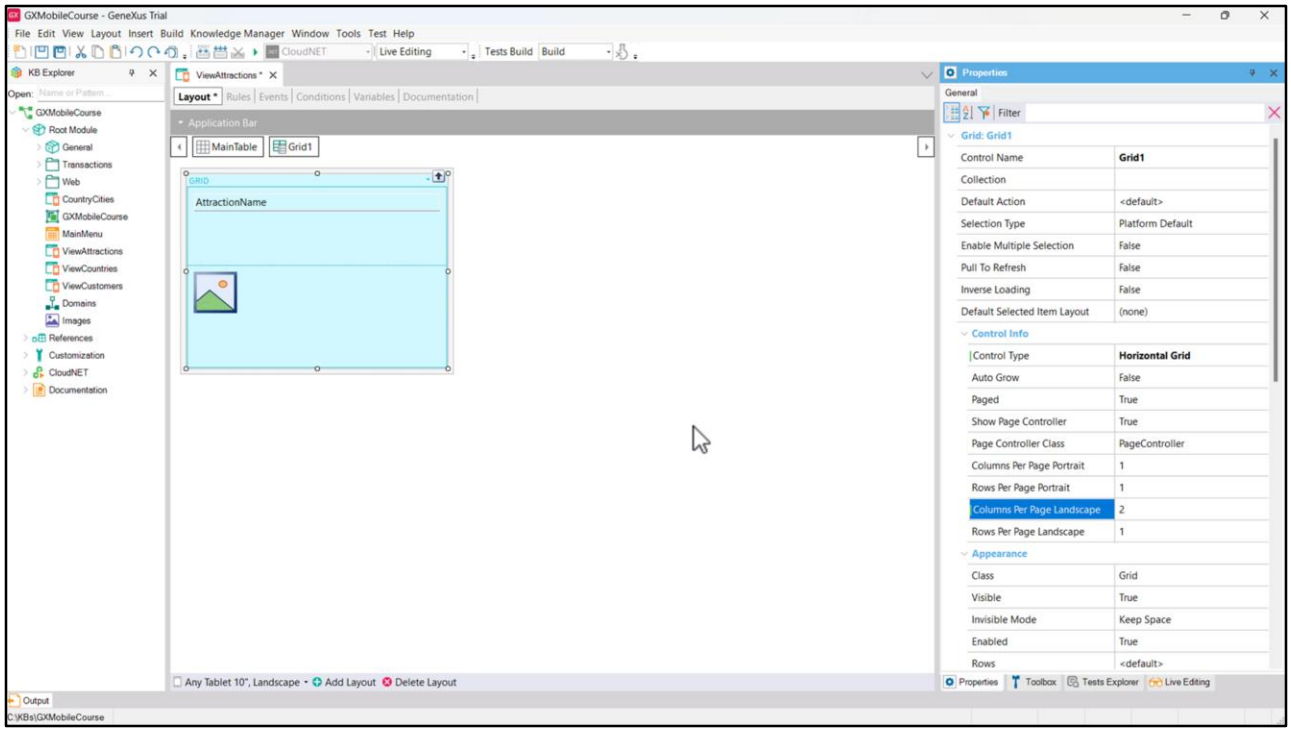
Let's start by creating the layout for Landscape orientation. We press the Add Layout button and in the device type we choose “Phone or Tablet” and in the combo next to it we choose “Tablet 10””. For orientation, we choose Landscape, and select “click here”.



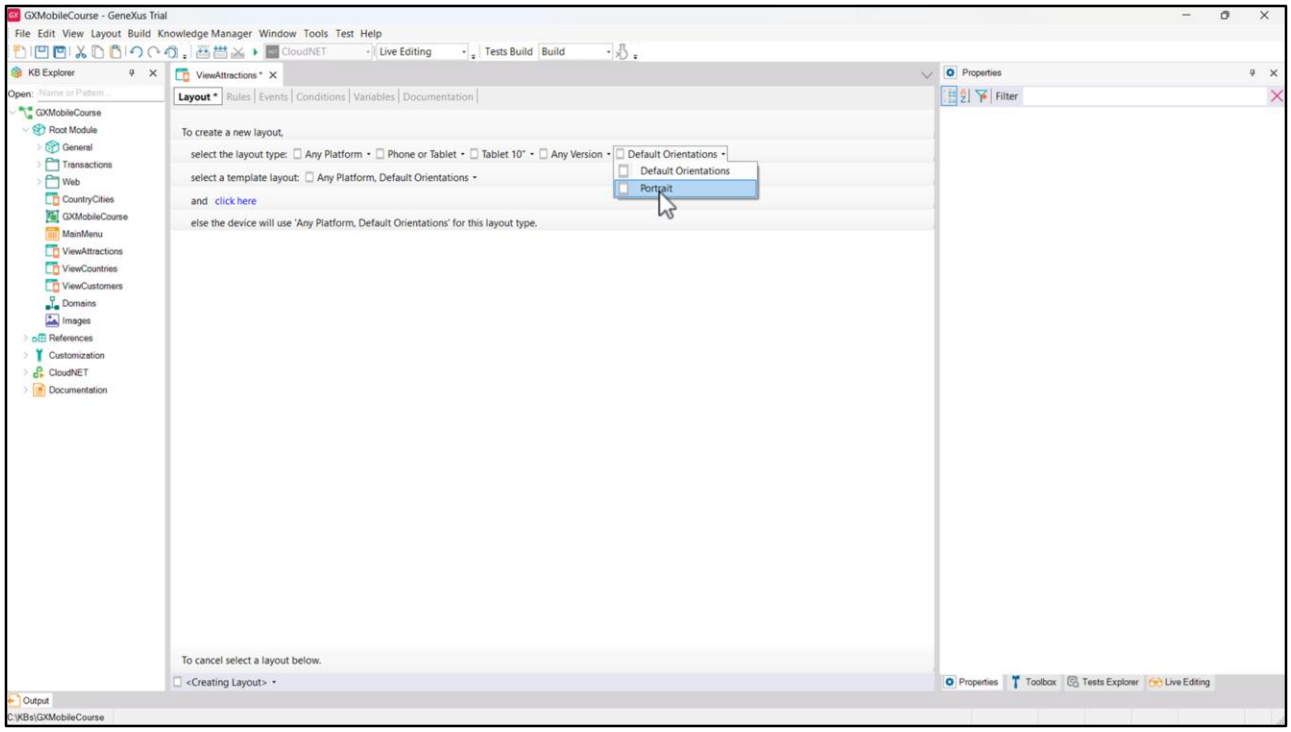
We see that the layout we defined is created and here we can make the design changes we consider convenient to optimize how the Panel information is displayed, which will not affect the other layout we had before.

If we click on the combo arrow, we see that now there are 2 layouts defined: the default Any Platform, Default Orientation, and Any Tablet 10", Landscape that we have just created and is displayed below and to the right of the first layout. You can see that a hierarchy is going to be established, since the layouts are shown as a tree. This means that if we are running on a tablet, this layout will be chosen and if we are running on another device, the first one (Any Platform) will be chosen.

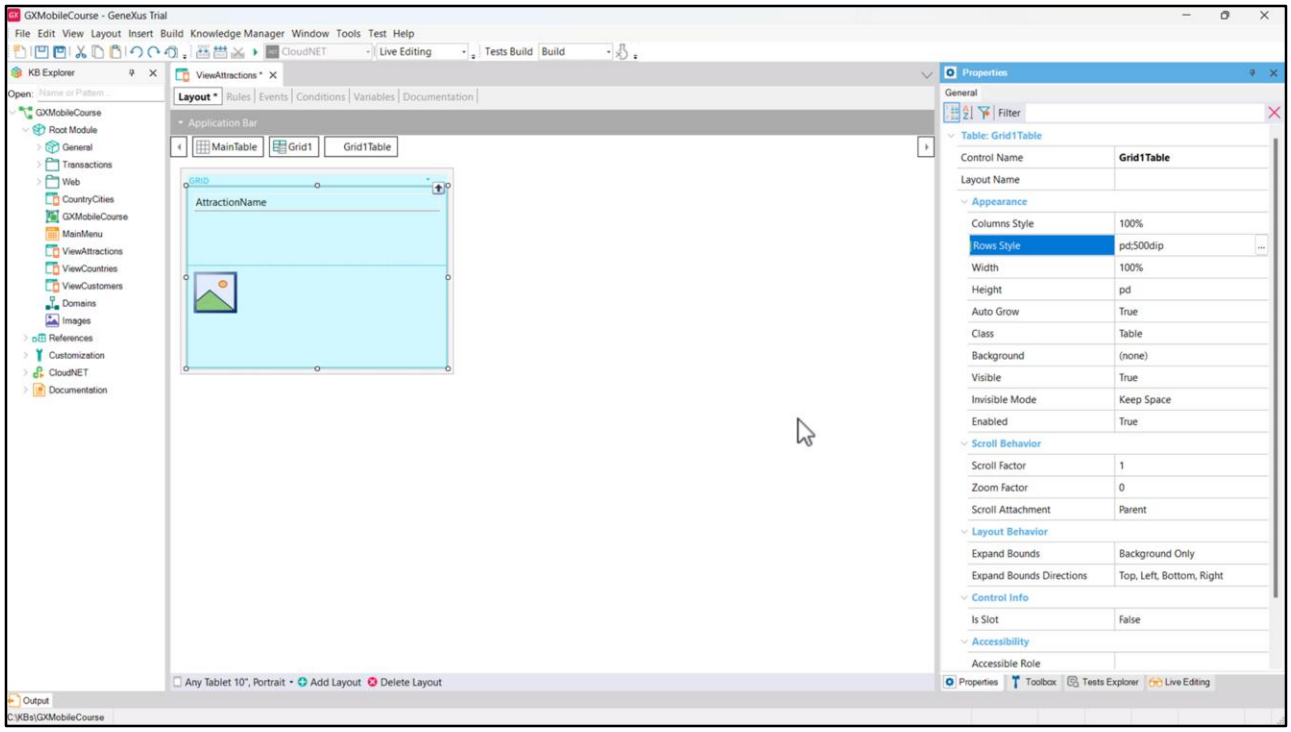
That is to say, there is a level of precedence: the closest to the platform we are executing will be the one applied. Otherwise, the layout that is highest in the hierarchy will be applied.



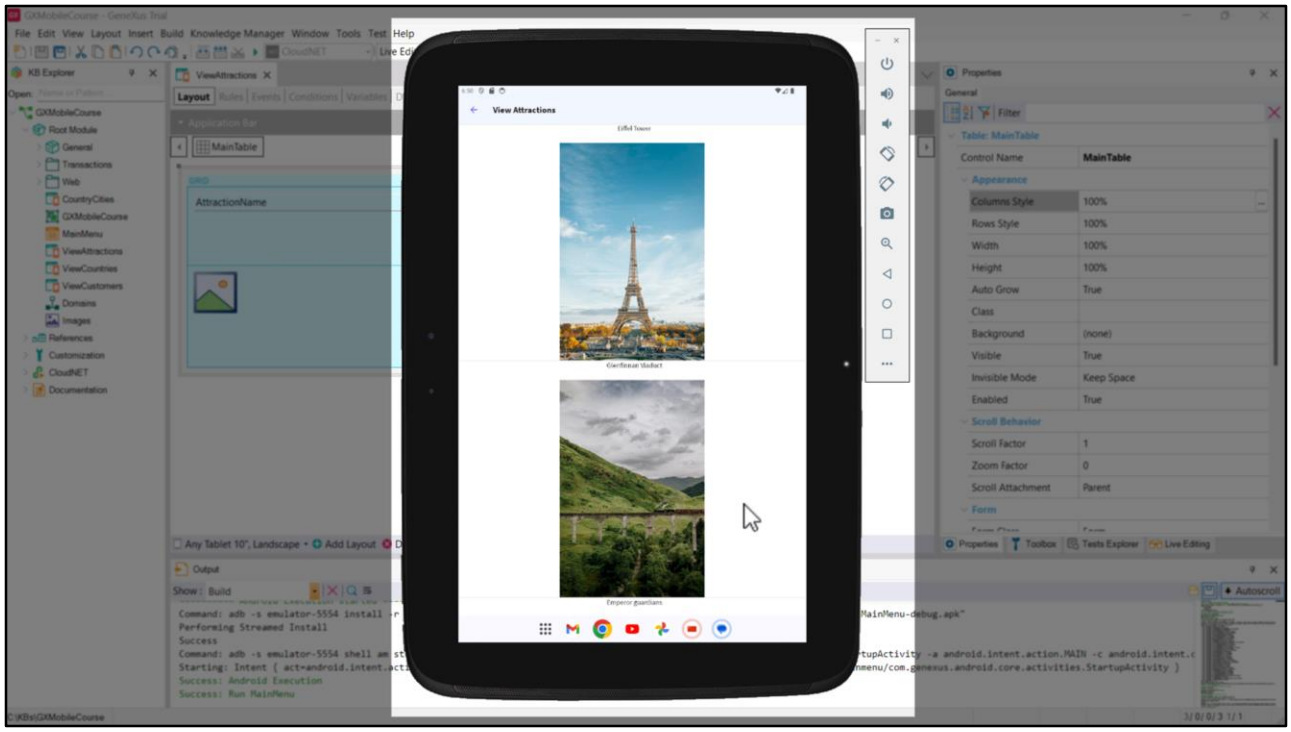
In this design, we change the control type to Horizontal Grid and set the value 2 in its Column Per Page Landscape property to view two attractions at a time and page to the right to see the rest. We select the Grid table to change the value of the second column to 700 dips so that the image fills the screen space.



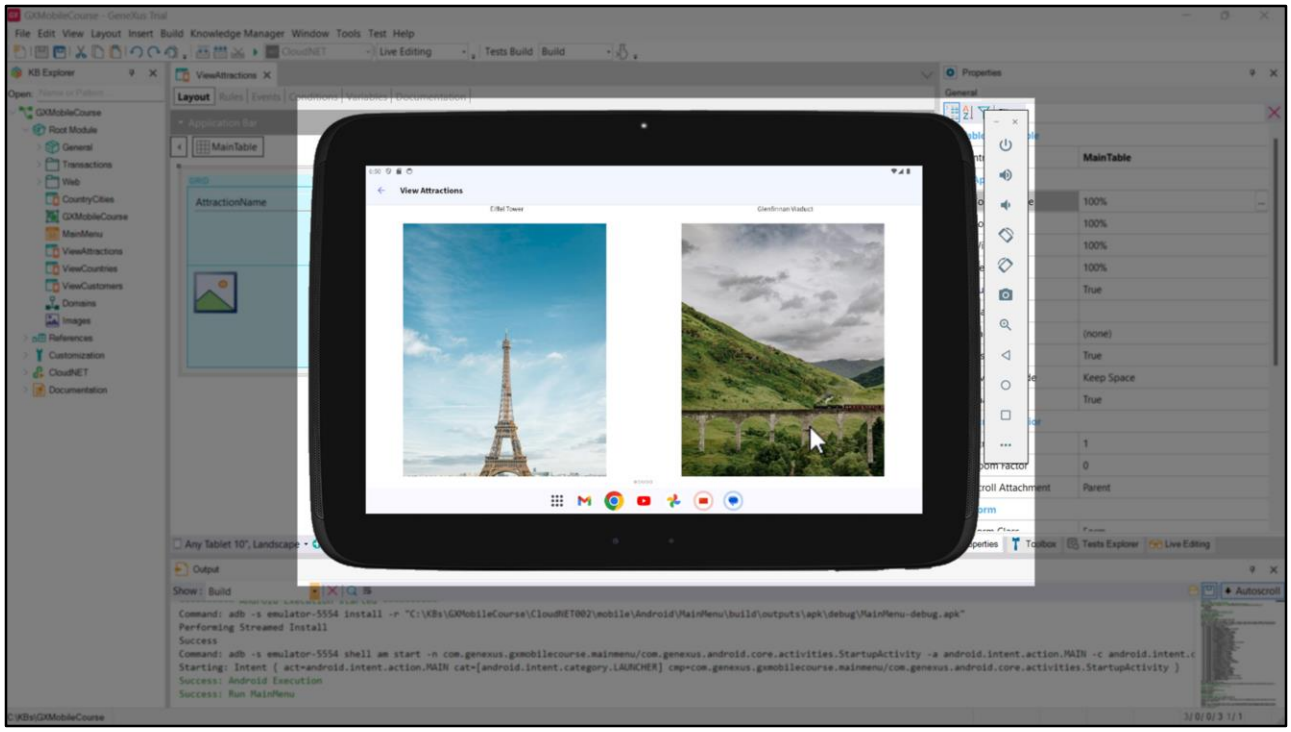
Now, let's create another layout for when the orientation type is Portrait. We repeat the steps we did before, but now we select Portrait in the combo box corresponding to the orientation. Note that the Landscape option is no longer displayed because GeneXus detects that our Panel already has a layout with the characteristics we have just selected in that orientation. We choose Portrait and “click here”.



Let's change the value of the second column of the Grid table to 500 dips to ensure that the image is displayed correctly and run to test what we did.

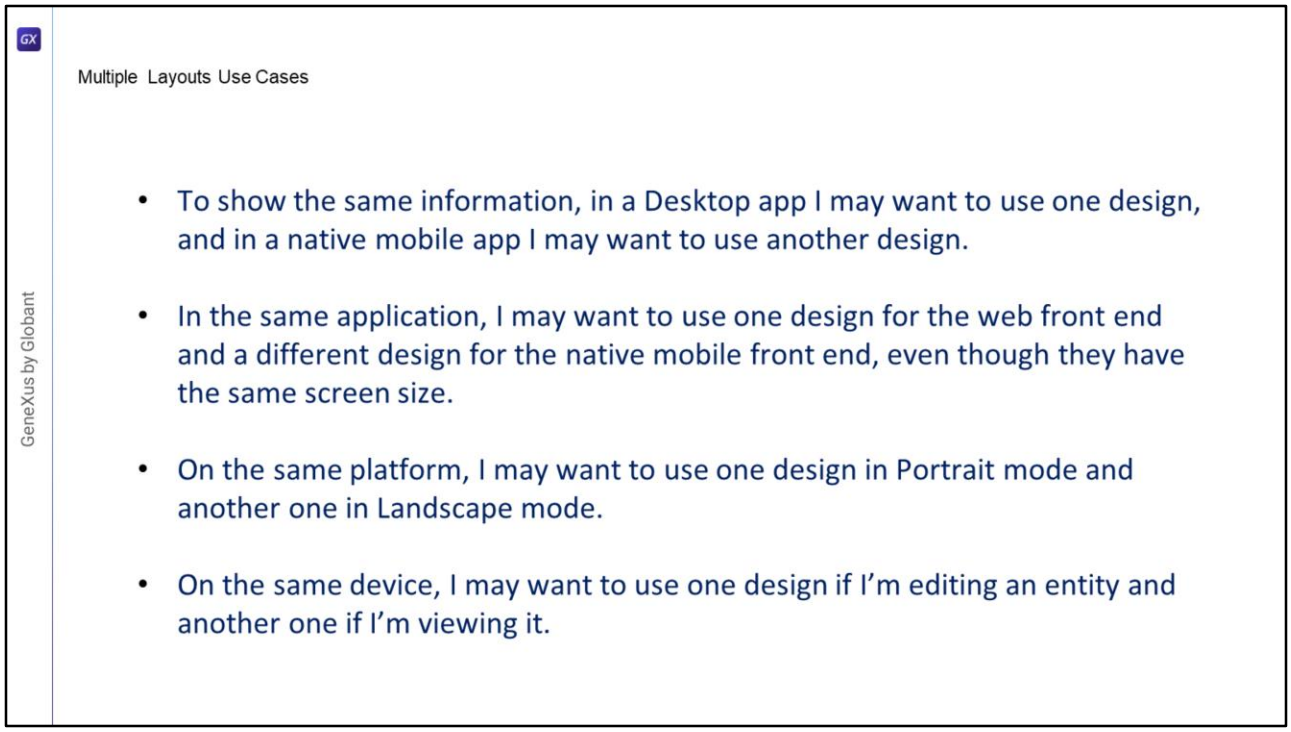


When we open the ViewAttractions Panel, we see that it takes the layout design for tablet with Portrait orientation, showing all the attractions one below the other in a column.



If we change the orientation of the emulator to Landscape, it takes the design of the layout we created for this orientation, showing two attractions at a time with the largest image in the Horizontal Grid.

In this way, we've seen how we can have multiple layouts for the same object and customize the way we want each layout to be displayed. GeneXus will use the design best suited to the platform where the application is being deployed.



To end this topic, we will see some situations where we should use different layouts:

- For the same information, in a desktop application I want to use one design and in a mobile application I want to use a different one.
- In the same application, I want to use one design for the web front end and a different one for the native mobile front end, even if they have the same screen size.
- On the same platform, I want to use one design in portrait mode and another in landscape mode.
- On the same device, I want to use one design if I'm editing an entity and another if I'm viewing it.

In this video, we saw how GeneXus allows us to use an adaptive design approach and have different screen designs as needed. In future videos, we will discuss more design concepts for our application.

GeneXus by Globant
GeneXus™
by Globant
training.genexus.com