More than one layout in a Panel object

GeneXus™

The best design for the platform
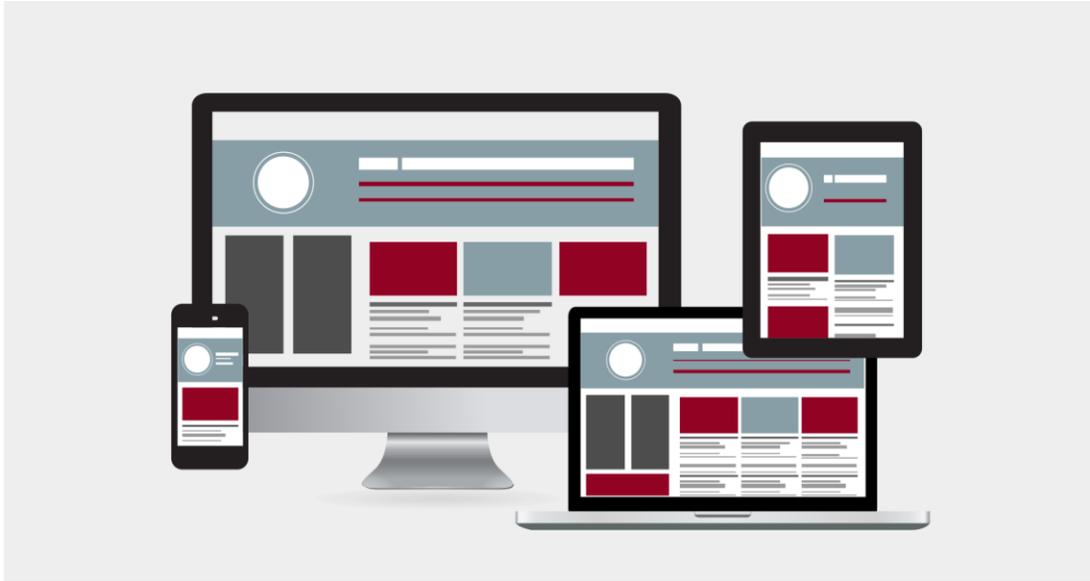
We have already mentioned that an adequate design providing a good user experience must make the best use of the space available in the user interface.

This implies that the amount of information and how it is displayed must be different on a small screen mobile device such as a phone, compared to a desktop computer or a big screen monitor.

Let's learn more about these concepts.

Responsive Web Design (RWD) vs. Adaptive Web Design (AWD)

Responsive Web Design

Adaptive Web Design

Single design that adapts
to the screen

Optimal and unique designs
are created for each type of
device

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

One is responsive web design which uses a single design and adjusts the content, navigation, and page elements to fit the user's screen. Responsive design will rearrange all design elements, which can be viewed on a big screen, desktop, laptop, tablet, or cell phone.

Another approach is adaptive design, in which different fixed designs are created for each screen size of the users. 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 in 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 website 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.

For this reason, most new websites now use adaptive design.

GeneXus allows us to implement applications with both design approaches, using web panels when we want to make a responsive web design and using panels for an adaptive design.

Now we will focus on adaptive design, creating multiple layouts for the same panel 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
Device Kind
Size: Any Size, and only when we select in Device Kind a Phone or Tablet, the values Phone, Tablet 7" and Tablet 10".
Version: with the value Any Version and which, depending on the case, allows us to select the platform version.
Orientation: Default Orientation, Landscape, and Portrait.
Mode: When we are in a WorkWith pattern detail screen, we can choose the mode: Any Mode, View, or Edit.

After choosing the values for each option, we click on Click Here and the selected layout will be created.
Note that if we don't choose any option from the combos, Any Platform and Default Orientation will be used for the layout to be created.

Here is an example of multiple layouts created in a panel object. The corresponding one will be automatically executed according to the screen size and device type.

When running the View_Attractions_MoreInfo panel, we have a horizontal grid that shows 5 attractions at a time, and if we move to the right we see the rest.

This is because we had defined the panel grid as an Horizontal Grid with the property Column Per Page Portrait set to 5.

This view is fine, but let's look at a case where a different design is needed.

Creating a new layout for the panel

Suppose the travel agency wants a 65-inch TV in its office to display the attractions in a horizontal grid, so that more attractions can be seen at the same time.

When we implemented the panel, we saw that Any Platform is used by default and it works. However, if we want to create a specific layout for web and optimized for a browser that runs on a certain screen size—such as a large screen with landscape orientation–we could do it too.

Let's create a layout with these characteristics for our View_AttractionsMoreInfo panel. We click on the Add Layout button and choose Web platform. Then in the device type we leave the default option Any Device Kind (since it will not be a Tablet or a phone); in size we choose Big Screen, in version we leave Any Version, and in orientation we choose Landscape.
Finally, we click on "click here."

The layout we defined is created and here we can make the design changes we want to optimize the way the panel information is displayed, which will not affect the other layout we had before.
If we press the combo arrow we see that now there are 2 layouts defined: Any Platform, Default Orientation that was the default value, and the Web, Big Screen, Landscape that we are creating now, which appears 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 Big Screen it will choose that layout, and if we are running on another device it will choose the first one (Any Platform).

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 eliminate the filters and the total number of trips. In the grid properties, we leave the horizontal grid but change the columns per page to 10.

We run it to see what we did.

Note that we no longer get 5 attractions but 10, and that we no longer get the filters or the total number of trips. This means that the big screen layout design we created is being used. Why is that, if we don't have a 65-inch screen?

To find out the answer, let's go to the defined platforms and see how the big screen platform is set.

Platforms
- Any Platform
- Any Phone
- Any Tablet 7"
- Any Tablet 10"
- Any TV
- Any Watch
- Any Android
- Android Phone
- Android Tablet 7"
- Android Tablet 10"
- Any iOS
- iPad
- iPhone
- iPhone 3.5"
- iPhone 4"
- iPhone 4.7"
- iPhone 5.5"
- iPhone 5.8"
- iPhone 6.5"
- Apple TV
- Apple Watch
- Apple Watch 38mm
- Apple Watch 42mm
- Apple Watch 40mm
- Apple Watch 44mm
- Any Web
- Web Phone
- Web Small
- Web Desktop
- Web Big Screen
- Any WeChat
- WeChat Phone
- WeChat Tablet

Platform: Web Big Screen

Name	Web Big Screen
OS	Web
Version	
Device Kind	All
Size	Large
Style	CarmineWeb
Additional Styles	(none)
Navigation Style	Default
Default Layout Orientation	Any
Bounds Name	Web Big Screen
Minimum Longest Bound	1200
Maximum Longest Bound	0

We go to Customization / Platforms and to the Web Big Screen properties.

We can see that the Minimum Longest Bound property is set to 1200 dips, which in Angular is the equivalent to 1200 pixels.

If specified, this property determines the minimum width or height, in dips, applied to the platform.

Since my notebook is full HD, meaning it has 1920 x 1080 pixels, the value of 1200 is exceeded, so GeneXus assumed that my notebook is a big screen and used the specific design we created for that type of screen.
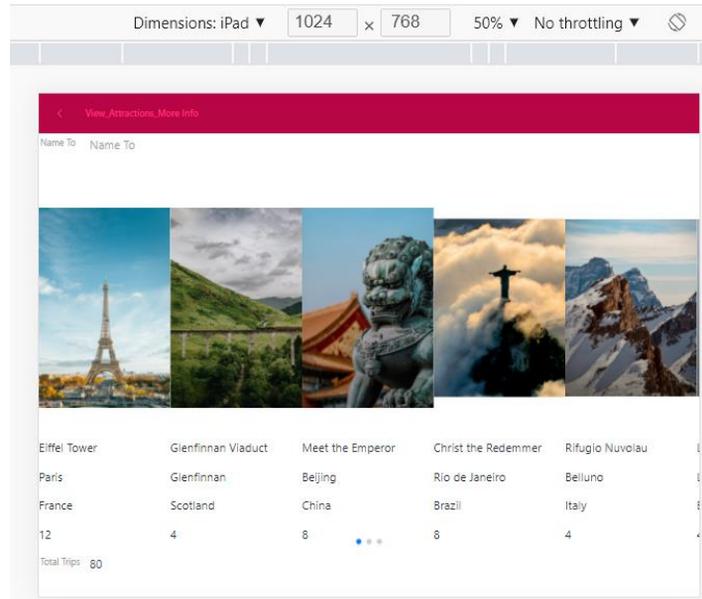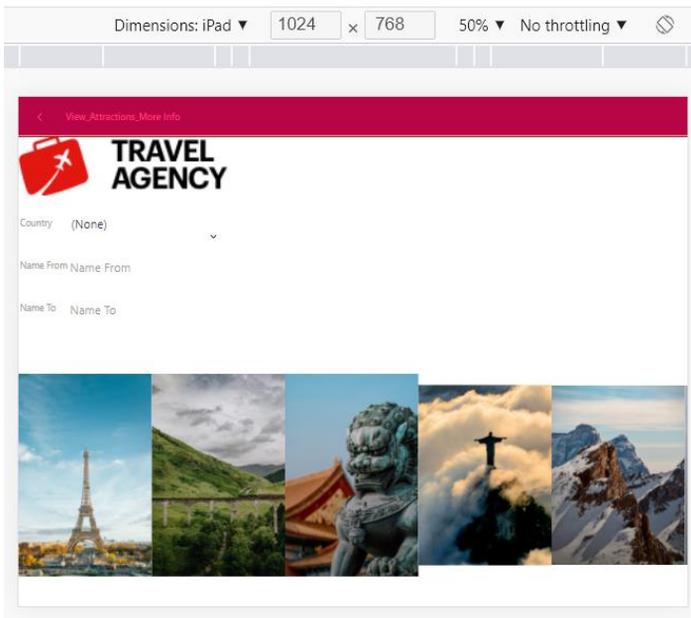
To check what would happen if we had a smaller screen, let's press F12 and select the size of an iPad with 1024 x 768 screen.

Note that the previous design appears, which includes the filters and the total number of trips. Remember that this design was set to Any Platform, Default Orientations, which means it is valid for any screen size less than 1200 pixels in height or width.

We've seen how we can have multiple layouts for the same object and customize the way each layout is displayed.

GeneXus will use the design best suited to the platform where the application is being deployed.

Use cases for using multiple layouts

- To display the same information, in a desktop application I want to use one design and in the mobile application I want to use a different one.

- In the same application, I may 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.

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 may 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 layout 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.

training.genexus.com
wiki.genexus.com
training.genexus.com/certifications