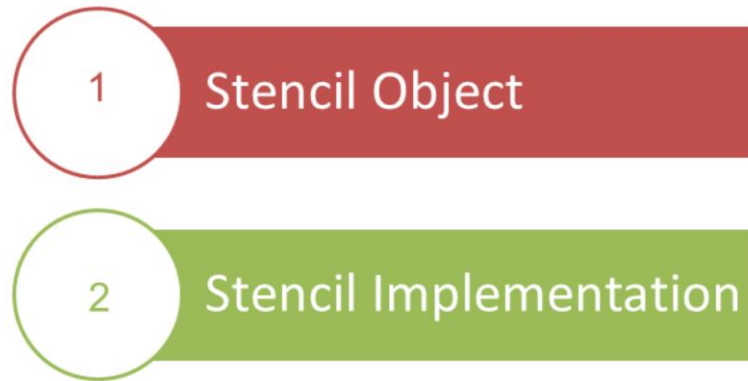




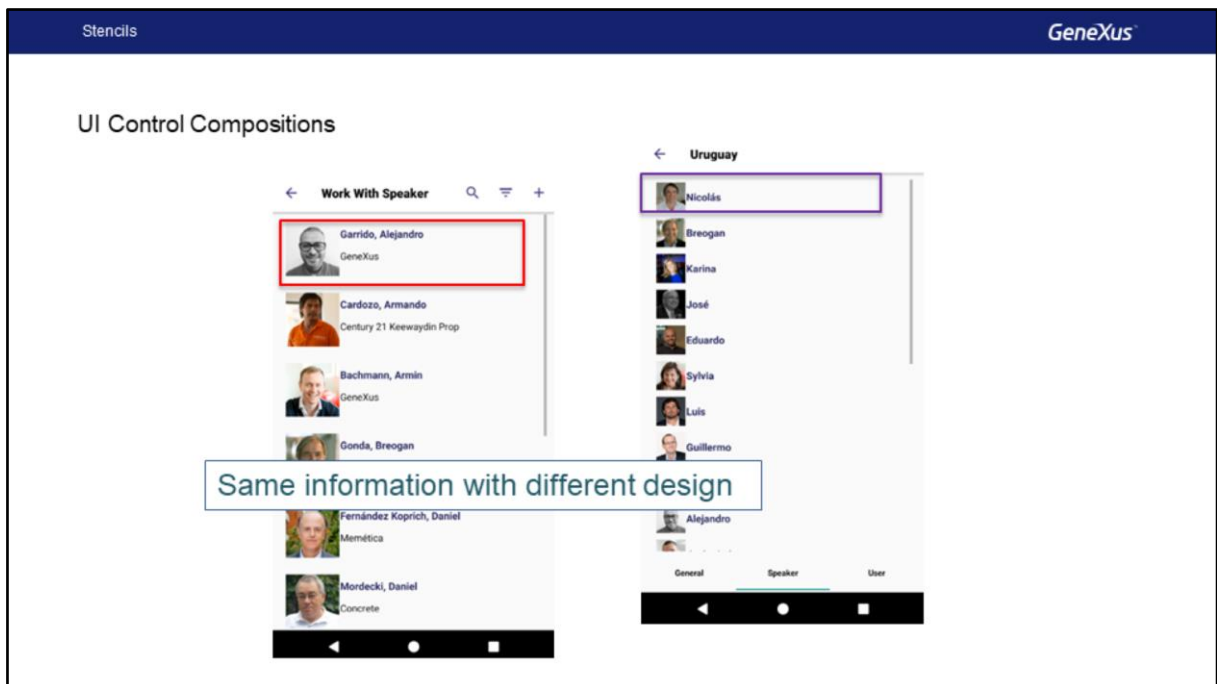
Stencils

User Interface & User Experience

GeneXus 16



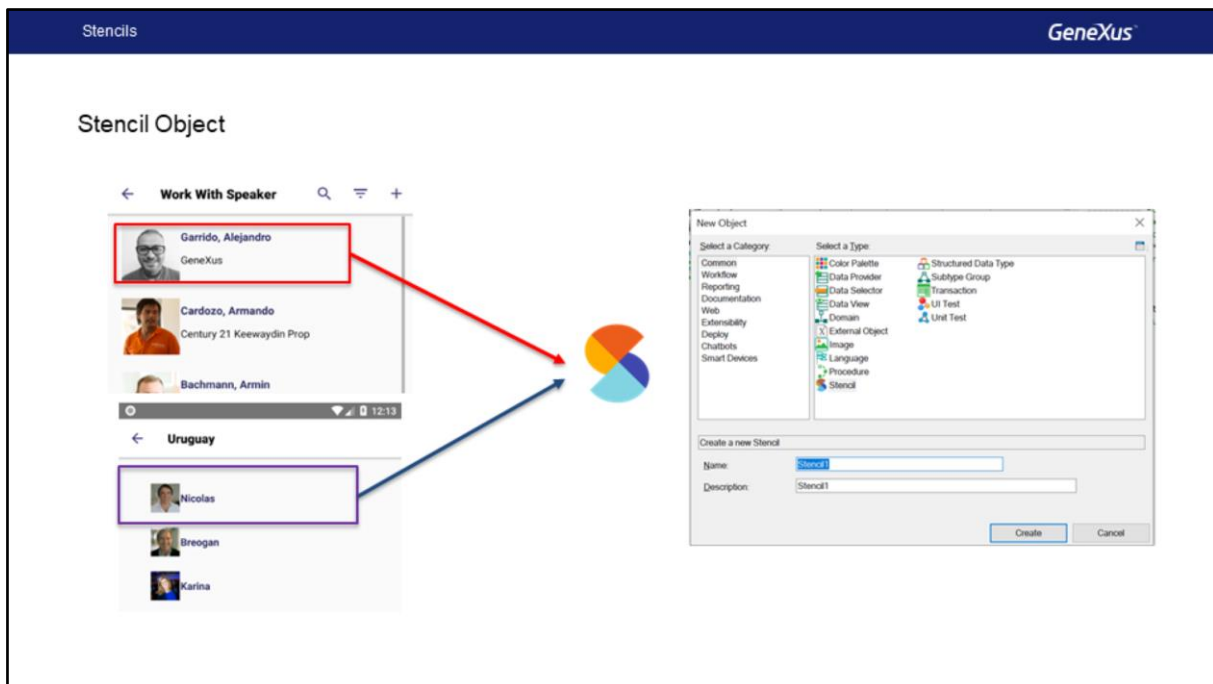
Let's start studying Stencil objects and what they are used for; next, we will see how to apply Stencils to our Knowledge Base.



At development time, usually there are elements repeated in several places; for example, in the event app we're developing, we've seen that a speakers list appears in several places. In the screen on the left we see the List of the Speakers Work With for Smart Devices component, and to the right we have the same list that is shown in the Speakers section of the Detail of the Countries Work With For Smart Devices component.

Also, we frequently want to show the same information using the same design. In these cases, we run the risk that they do not look the same, that they do not have the same design; also, every time we require changes in the way this information is presented we must modify all those places where the design is included.

One of the tasks that designers and developers must do together is to identify these patterns in the application, which we will call UI Control Composition. Once we have identified them, we are going to establish a unique design, so that this composition is displayed everywhere in the same way.

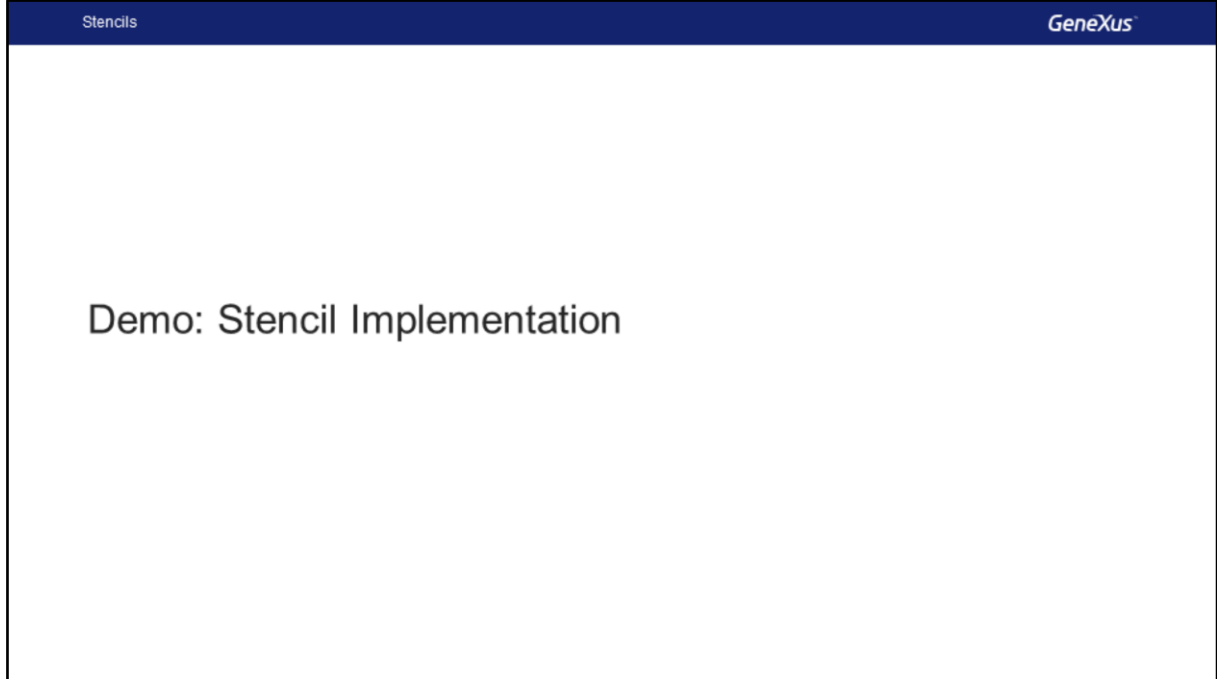


The new Stencil object will allow us to create these UI Control Compositions, defining their design without thinking about the code; these components will be reusable in different objects, and in this way we will maintain application consistency less effortlessly.

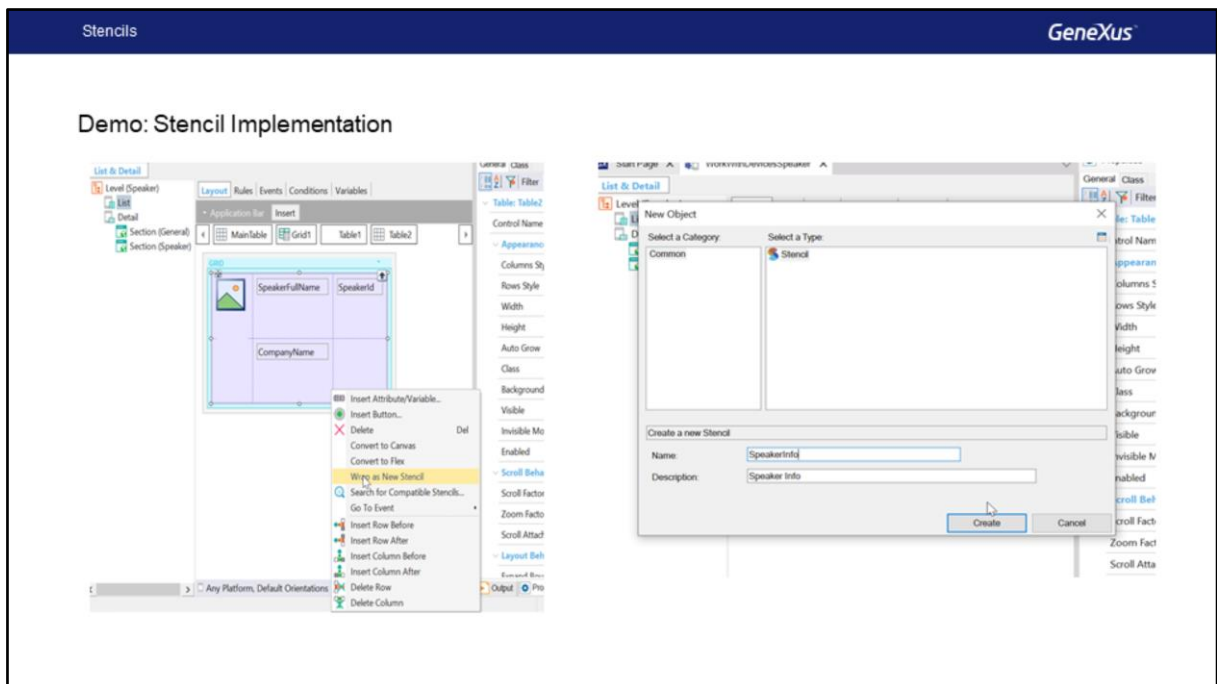
When we want to modify the design we will do it from the Stencil and the changes will be replicated on all the objects that use it.

Because it is an independent object, it will provide all the advantages of these objects; for example, it can be exported to be shared, we can maintain the history of changes that it is undergoing, and we will be able to use a Cross Reference to know where the Stencil is used. When we change it, we will know the impact this change will have.

The Stencil object will be the place where the developers' work will converge with that of the designers in the same object.



Let's see all this we've learned in GeneXus.

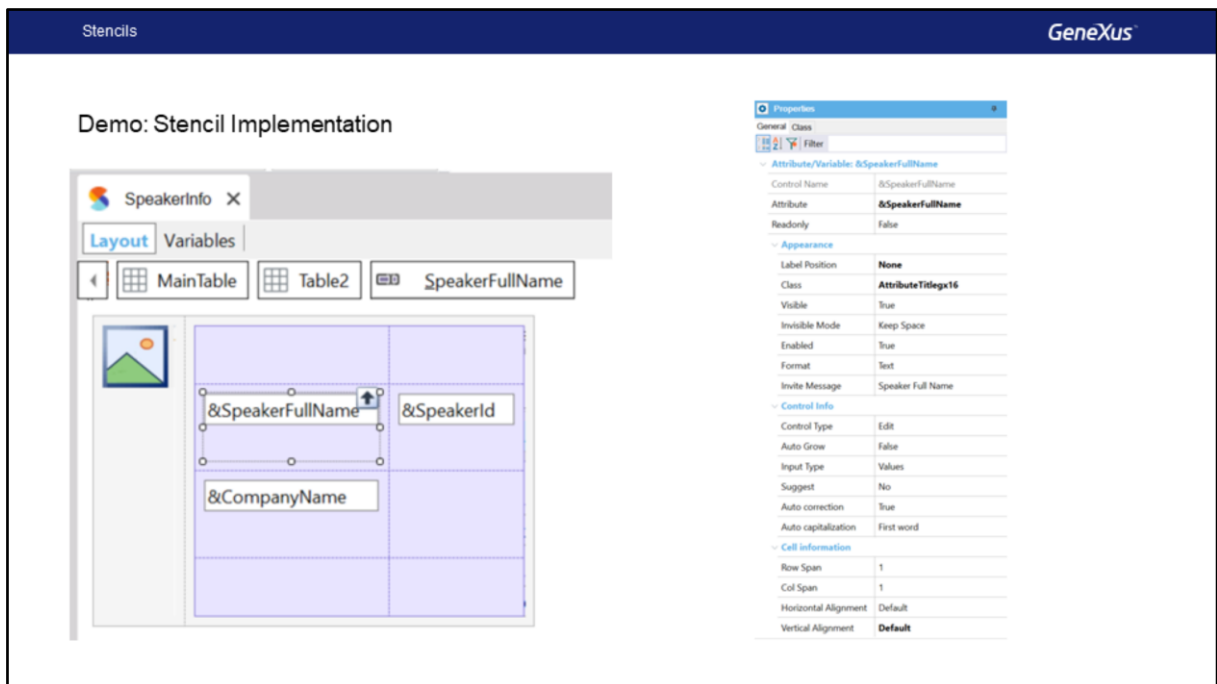


First, let's review the list of Speakers, as we had already seen in the presentation, and also in Countries. Let's see the Speakers of a Country, and note that they are different designs.

We open GeneXus.

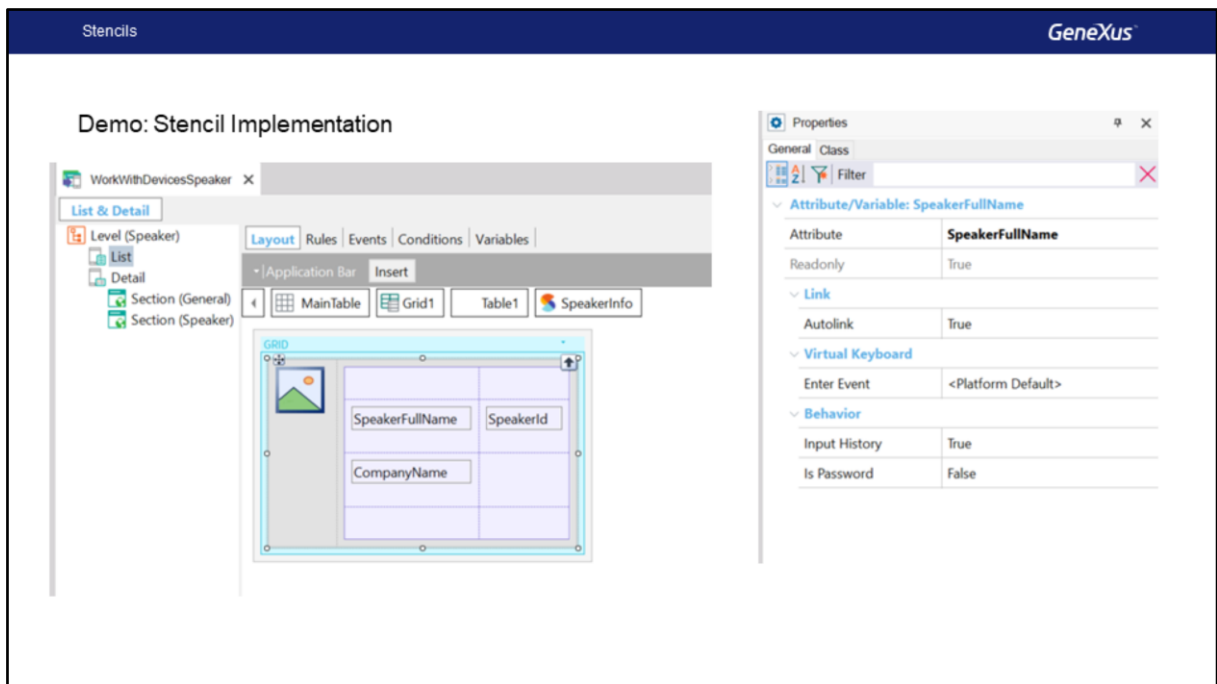
First, we open WorkWithDevicesSpeakers and look at the List. Here is a table that we will turn into a stencil by right-clicking and using the option Wrap As New Stencil.

As a result, the table will be turned into a Stencil, we will call it SpeakerInfo and click on Create.

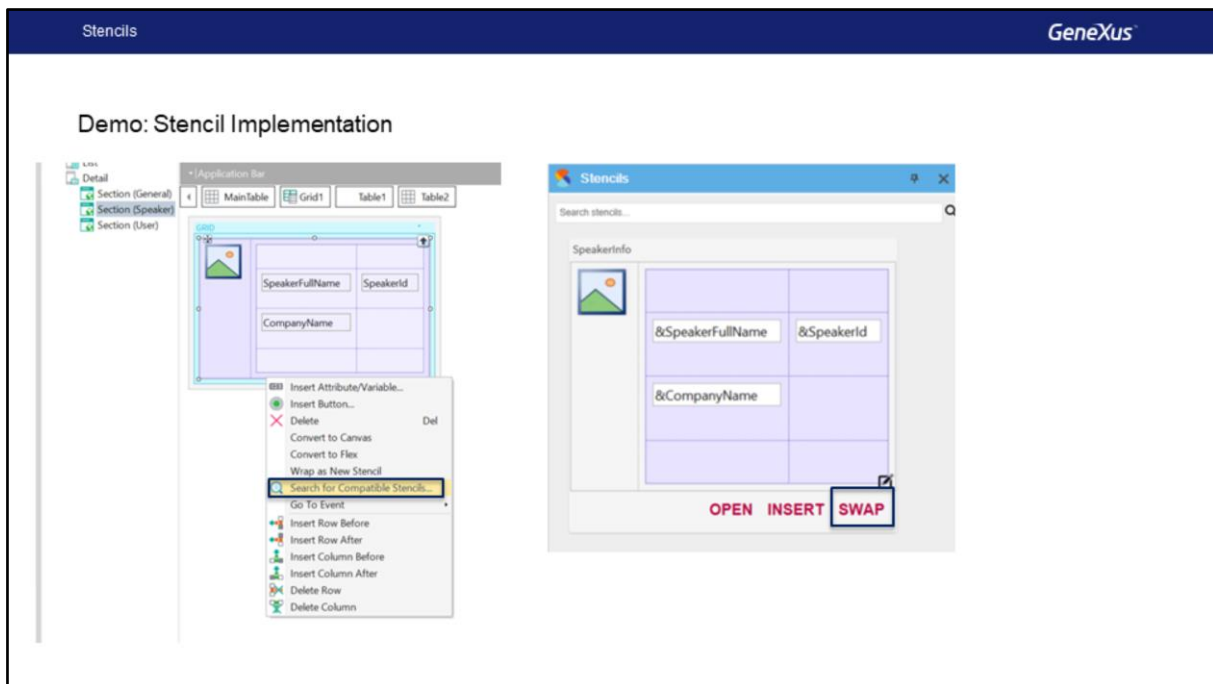


The first thing we are going to see here is that the attributes we had in the grid are now variables; on the other hand, we don't have all the properties available in the Stencil, only those that have to do with its design not with its behavior.

The classes are taken into account, as well as the sizes of the tables we had defined, etc. Note that we only have the Layout and Variables. We don't have Events because the Stencils don't implement any logic. We save the Stencil.



Note that now in WorkWithDevicesSpeaker, in the List, the table has become a Stencil, SpeakerInfo. Also, note that in attribute properties we have fewer properties to configure, because all the properties related to design are on the Stencil side, and here we only have properties related to behavior. The attributes are left as they were originally. For example, we wouldn't be able to move an attribute to another place because everything highlighted in gray within the table or the SpeakerInfo Stencil is ReadOnly. We save this object as well.



Now we will apply the Stencil to WorkWithDevicesCountry, inside the Speakers Section. Note that here we don't have a table, but directly the attributes inside the grid.

We will create a table to turn it into a Stencil, take the attributes inside the table and have the option to turn the table into a Stencil. We will use the option Search for Compatible Stencils, which will open the Stencils tab. Here we only have one for now, but if we had many we would be able to search them by name.

Here are three options, Open, Insert and Swap. Let's look at each one of them.

The Open option will open the Stencil directly; the Insert option will insert the contents of the Stencil in the place where we're positioned in the Layout. Let's give it a try. I'll make the Insert at the end. Note that the entire Stencil table is added with the variables where we were positioned. We delete.

The Swap option is the one we're interested in right now. It will have some intelligent features and will try to search, for each variable in the Layout, a match by data type in the Layout of the Panel where this Stencil is applied.

In this case, the variable &SpeakerImage of the Stencil will find a match with the SpeakerImage attribute, so it will leave the attribute instead of using the variable. Of course, it will apply the style set for the Stencil. For &SpeakerFullName it will look for an attribute or variable of Char type, find SpeakerName, use it and leave SpeakerName; it will not turn it into SpeakerFullName.

For &SpeakerId, it doesn't find a numeric attribute or variable in the Layout, and the same

will happen with &CompanyName. We don't have another attribute, because it has already been mapped (SpeakerName); we don't have a second attribute of Char type, so it will add &CompanyName to the Layout. Let's see it.

We click on Swap and, as expected, we find SpakerImage (Attribute), SpeakerName (Attribute) instead of &SpeakerFullName, &SpeakerId (as a variable) and &CompanyName (as a variable).

We may leave the variables and load them in the Load event. In this case, we're not interested, so we change it so as not to use variables and use the attribute directly.

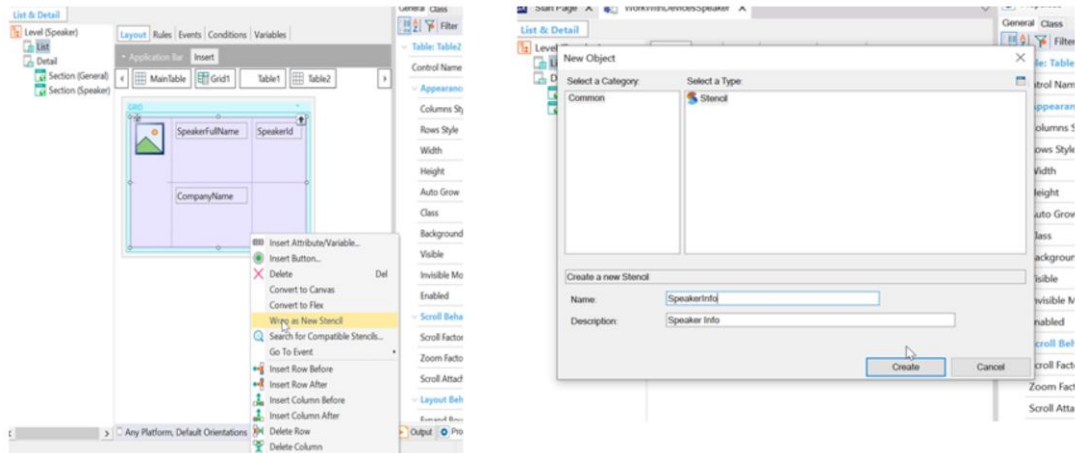
We save.

I forgot to change SpeakerName for SpeakerFullName, so now we save again and run the application.

Let's check how the system looks like; we see the list of Speakers with the design it previously had, only that now it uses and makes reference to the Stencil.

For example, let's see the one we had already seen, Uruguay, in Speakers, and that now it has exactly the same designs in both lists.

Stencil Creation



Let's go over what we've done. First, we turned a Table into a Stencil. We did this for simplification purposes, but we could have created it from scratch like any other GeneXus object.

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