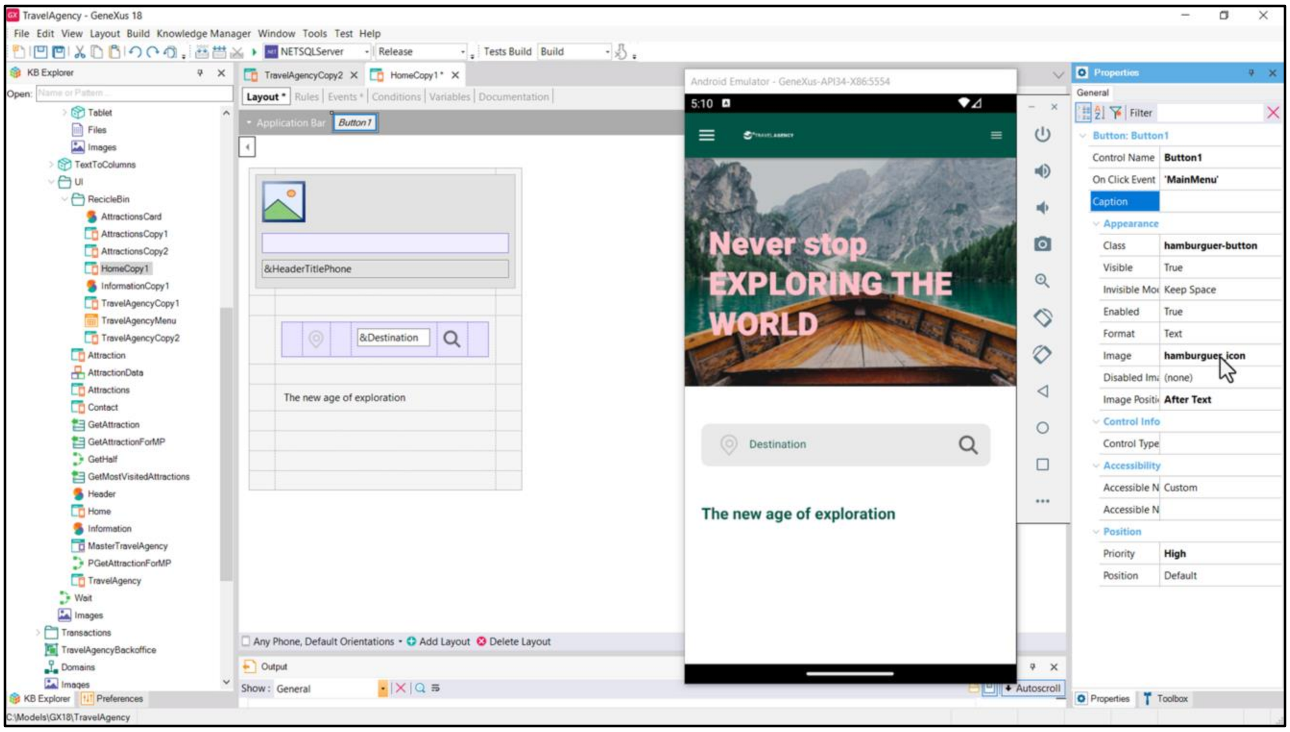
GeneXus by Globant

From Travel Agency Web to Native Mobile (part 3)

Cecilia Fernández

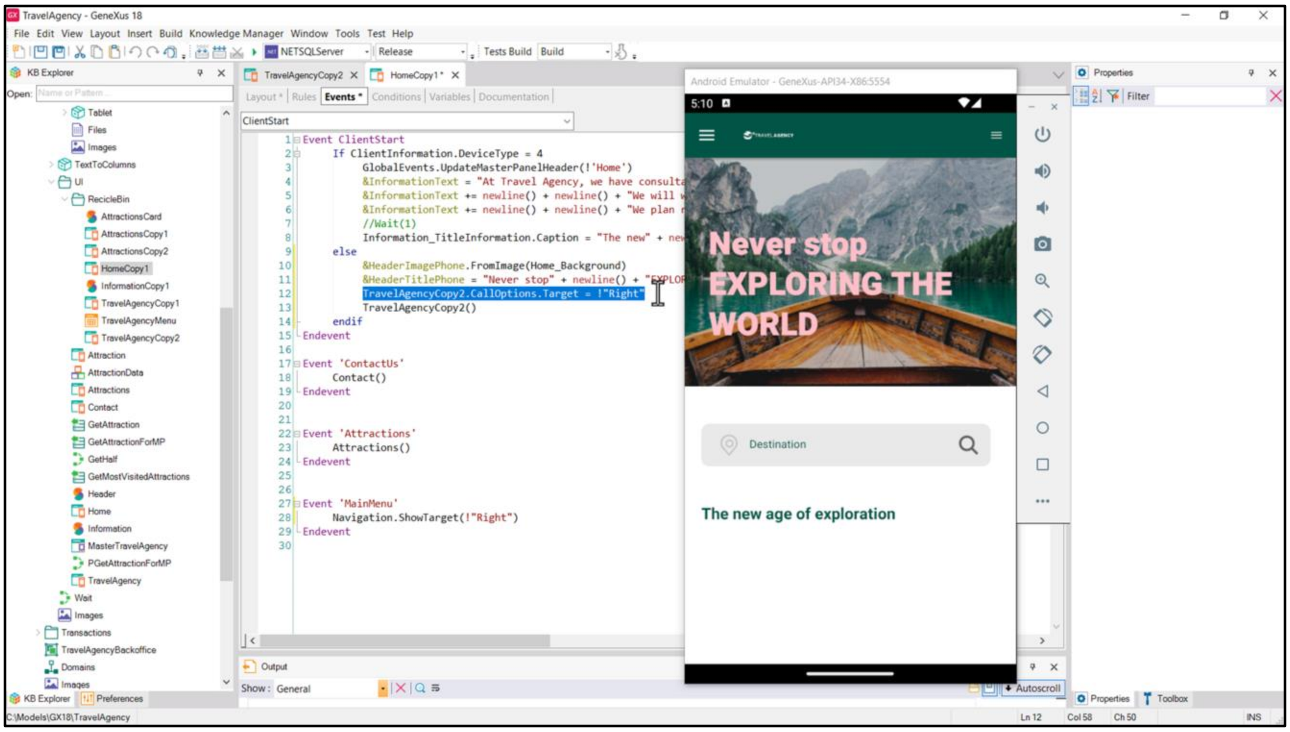
Let's pick up where we left off in the previous video.



TravelAgency - GeneXus 18
Application Bar
Button1
Never stop EXPLORING THE WORLD
Destination
The new age of exploration

Control Name	Button1
On Click Event	'MainMenu'
Caption	
Class	hamburguer-button
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Image	hamburguer_icon
Disabled Image	(none)
Image Position	After Text
Control Type	
Accessible Name	Custom
Priority	High
Position	Default

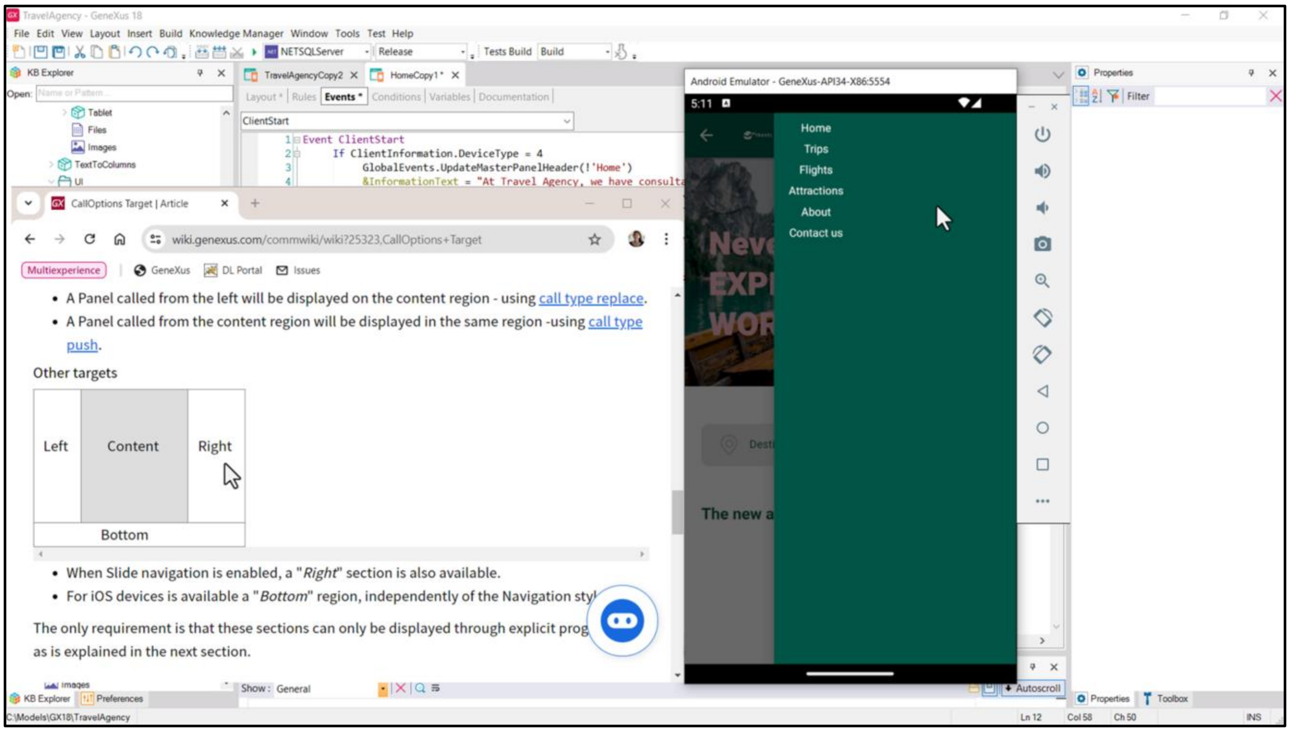
See what happens if I place a button on the Application Bar on this copy of the Home panel, from which I removed the Caption because I assigned it the hamburger image I downloaded from Figma.



```
Event ClientStart
    If ClientInformation.DeviceType = 4
        GlobalEvents.UpdateMasterPanelHeader(!'Home')
        &InformationText = "At Travel Agency, we have consulta
        &InformationText += newline() + newline() + "We will w
        &InformationText += newline() + newline() + "We plan r
        //Wait(1)
        Information_TitleInformation.Caption = "The new" + new
    else
        &HeaderImagePhone.FromImage(Home_Background)
        &HeaderTitlePhone = "Never stop" + newline() + "EXPLOR
        TravelAgencyCopy2.CallOptions.Target = !"Right"
        TravelAgencyCopy2()
    endif
Endevent

Event 'ContactUs'
    Contact()
Endevent


Event 'Attractions'
    Attractions()
Endevent


Event 'MainMenu'
    Navigation.ShowTarget(!"Right")
Endevent
```

And what I do in the ClientStart is to invoke the menu (this copy of the menu, which is identical to the menu we had, but now it invokes the copy of Home and not Home).

But note that before invoking the menu I indicate that its **target** will not be the central one, the default one, but the one on the **right**.


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
KB Explorer
Tablet
Files
Images
TextToColumns
TravelAgencyCopy2
HomeCopy1 *
Layout * | Rules | Events * | Conditions | Variables | Documentation
ClientStart
CallOptions Target | Article
wiki.genexus.com/commwiki/wiki?25323,CallOptions+Target
Android Emulator - GeneXus-API34-X86:5554
Home
Trips
Flights
Attractions
About
Contact us
Properties
Toolbox
Autoscroll
C:\Models\GX18\TravelAgency
Ln 12
Col 58
Ch 50
INS

```
Event ClientStart
	If ClientInformation.DeviceType = 4
		GlobalEvents.UpdateMasterPanelHeader(!'Home')
		&InformationText = "At Travel Agency, we have consulta
```

- A Panel called from the left will be displayed on the content region - using call type replace.
- A Panel called from the content region will be displayed in the same region -using call type push.

Other targets

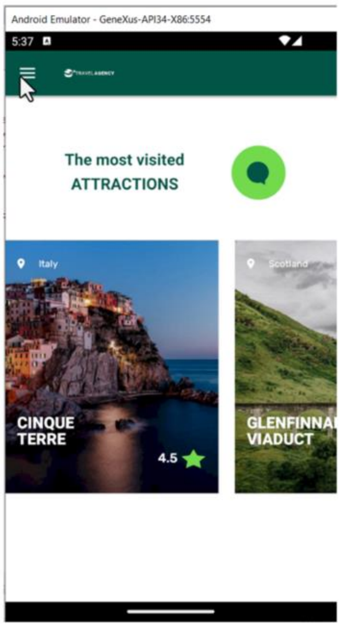
Left	Content	Right
Bottom		

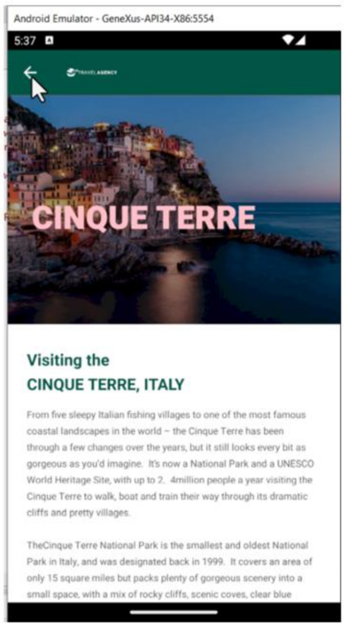
- When Slide navigation is enabled, a "*Right*" section is also available.
- For iOS devices is available a "*Bottom*" region, independently of the Navigation styl

The only requirement is that these sections can only be displayed through explicit prog
as is explained in the next section.

When the navigation style is **Slide** for an Android phone, we will have two mandatory targets: the one on the left, which is the hamburger menu, and the central one, which is where every panel will be loaded by default.

Here we want to use a target on the right, for which, to have it displayed, we have to use the **Navigation** external object, which is in the GeneXus module.





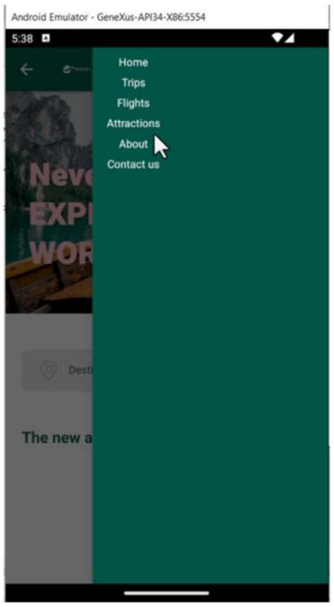
Visiting the
CINQUE TERRE, ITALY

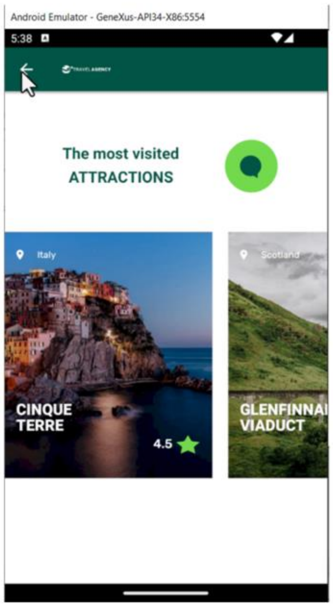
From five sleepy Italian fishing villages to one of the most famous coastal landscapes in the world – the Cinque Terre has been through a few changes over the years, but it still looks every bit as gorgeous as you'd imagine. It's now a National Park and a UNESCO World Heritage Site, with up to 2. 4million people a year visiting the Cinque Terre to walk, boat and train their way through its dramatic cliffs and pretty villages.

TheCinque Terre National Park is the smallest and oldest National Park in Italy, and was designated back in 1999. It covers an area of only 15 square miles but packs plenty of gorgeous scenery into a small space, with a mix of rocky cliffs, scenic coves, clear blue

However, implementing the hamburger menu is not as easy as it may seem at first glance.

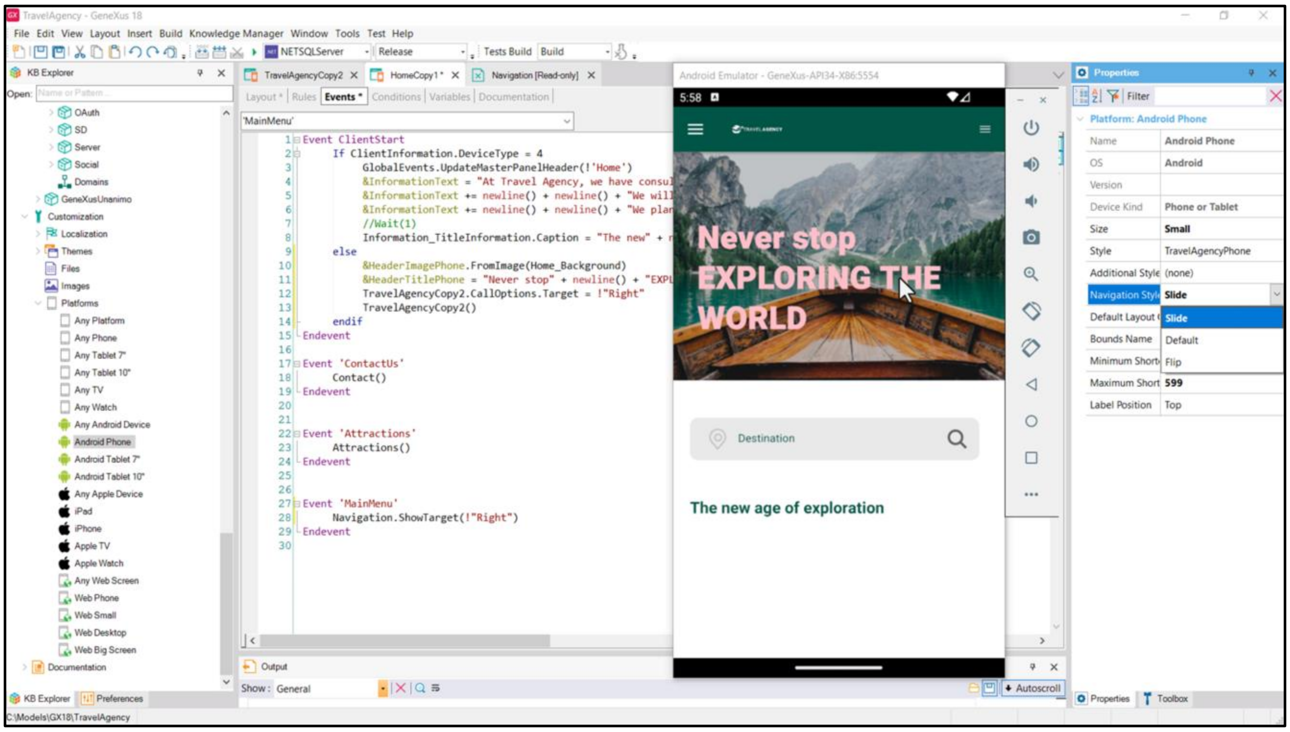
I'm not going to go into details here, but it's enough to see that, while if I use the platform's own menu, when I choose Attactions the hamburger menu appears again and only if I go deeper into this other screen does the back button appear to return to the caller, and there I get the hamburger menu back...





... if I go this other way, that of the manual menu, actually here I'm in a panel that doesn't have the semantics of the menu. It's a panel like any other, which is in the same stack of invocations, so when I call Attractions, we see that the back button already appears there (of course if I go deeper this also happens; but note that I click back to Attractions and in the following back it takes me to the panel from which I started).

I'd have to do a few more things here to emulate the hamburger menu, like invoking CallOptions Type Replace. We're not going to see it.

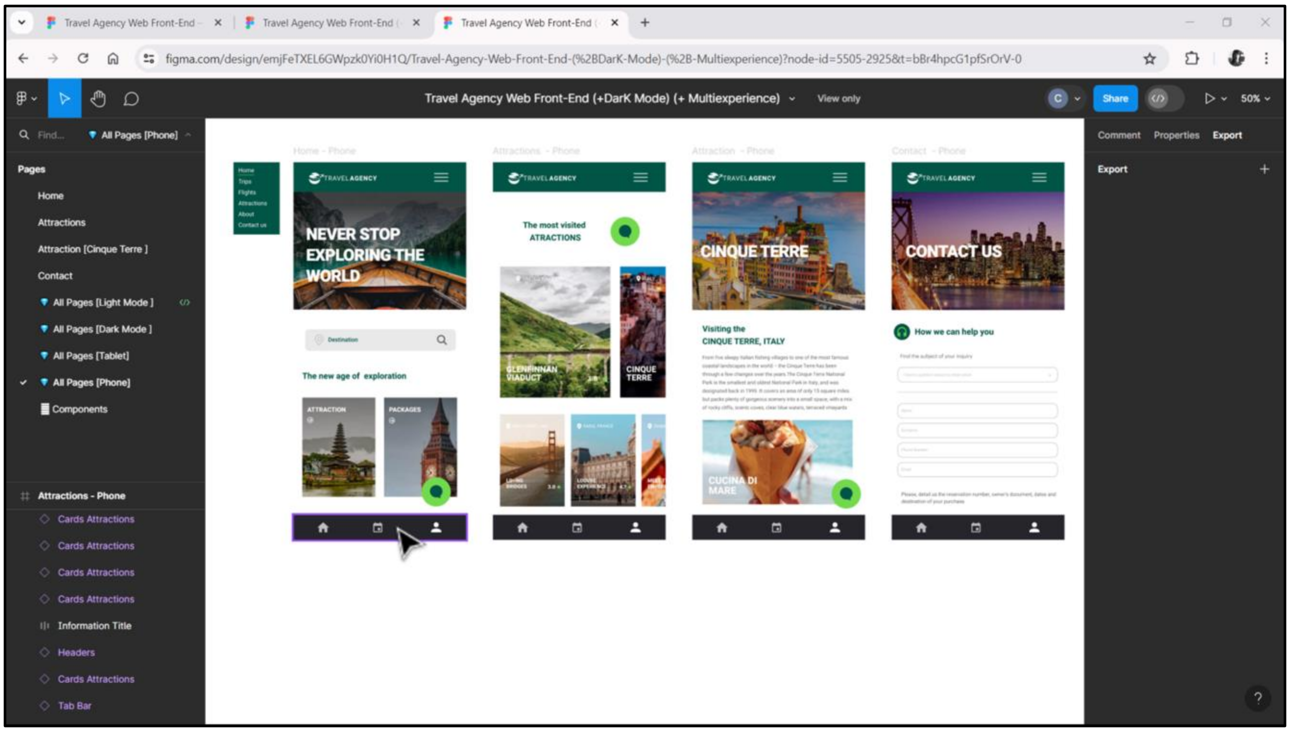


```
Event ClientStart
     If ClientInformation.DeviceType = 4
          GlobalEvents.UpdateMasterPanelHeader(!'Home')
          &InformationText = "At Travel Agency, we have consul
          &InformationText += newline() + newline() + "We will
          &InformationText += newline() + newline() + "We plan
          //Wait(1)
          Information_TitleInformation.Caption = "The new" + n
     else
          &HeaderImagePhone.FromImage(Home_Background)
          &HeaderTitlePhone = "Never stop" + newline() + "EXPL
          TravelAgencyCopy2.CallOptions.Target = !"Right"
          TravelAgencyCopy2()
     endif
Endevent

Event 'ContactUs'
     Contact()
Endevent


Event 'Attractions'
     Attractions()
Endevent


Event 'MainMenu'
     Navigation.ShowTarget(!"Right")
Endevent
```

Platform: Android Phone	
Name	Android Phone
OS	Android
Version	
Device Kind	Phone or Tablet
Size	Small
Style	TravelAgencyPhone
Additional Style	(none)
Navigation Style	Slide
Default Layout	Slide / Default / Flip
Bounds Name	
Minimum Short	
Maximum Short	599
Label Position	Top

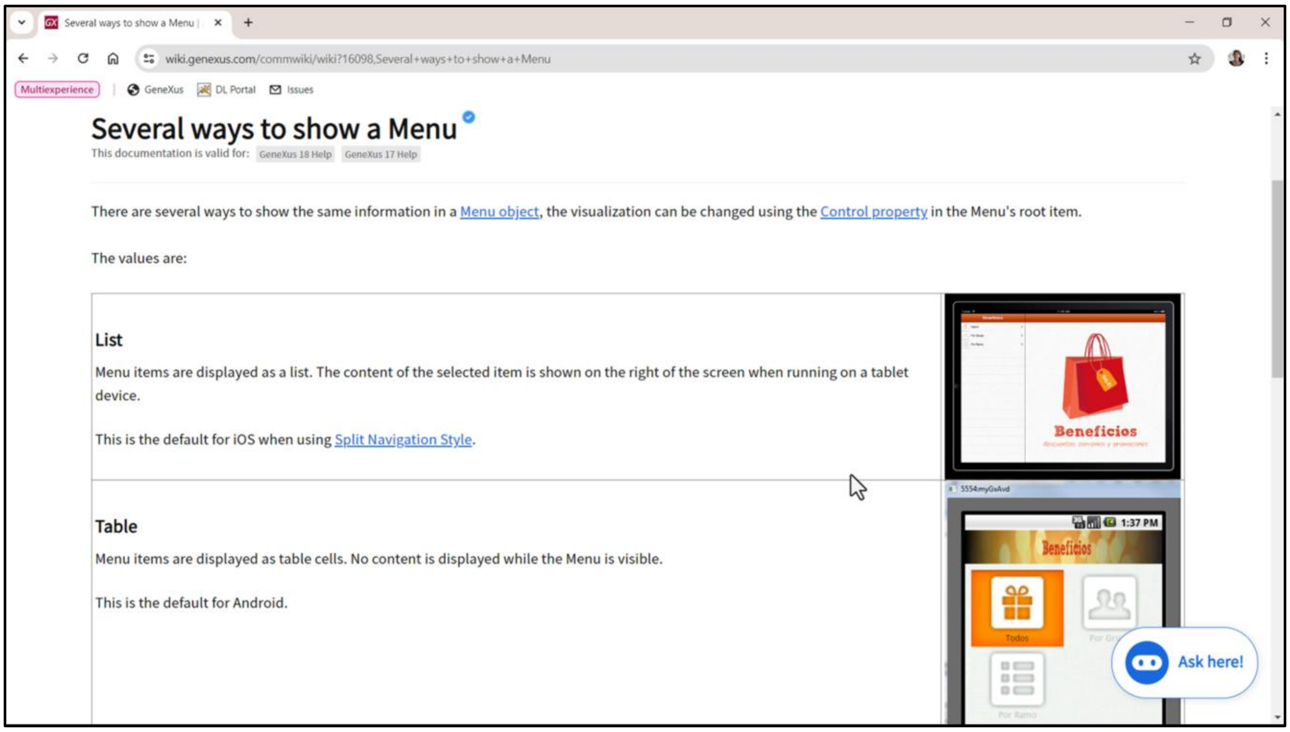
Because even if we solve it, the solution will not work when we remove the **Slide** Navigation style. Note that in this solution we have a duplication: the automatic solution, with **Slide Navigation**, and the manual one, opening the panel on the **right target**. We would then like to remove the Slide style so that it no longer places the hamburger menu on the left. However, at the moment **right target** only works with split-screen navigation styles. **Flip** is not one of those.

So if it is essential to have the hamburger menu on the right, against Android conventions, we will have to find another solution.



To stay on the subject of menus:

Note that in the Figma design we have a double menu of the application. We have the hamburger, and this other menu in the form of **tabs**, which invokes objects that we haven't even designed yet, but that will exist. This tabbed menu is not typical of web applications, but of native ones.



Several ways to show a Menu

This documentation is valid for: GeneXus 18 Help GeneXus 17 Help

There are several ways to show the same information in a Menu object, the visualization can be changed using the Control property in the Menu's root item.

The values are:

List

Menu items are displayed as a list. The content of the selected item is shown on the right of the screen when running on a tablet device.

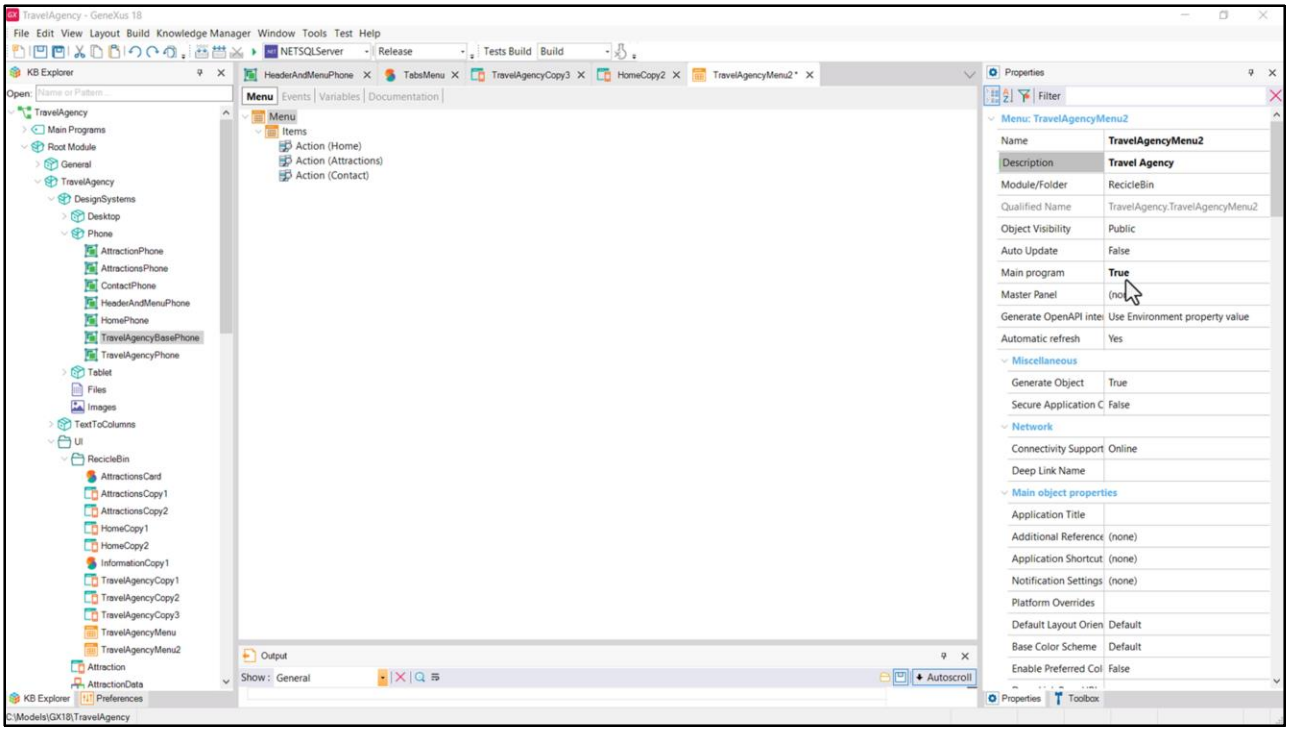
This is the default for iOS when using Split Navigation Style.

Table

Menu items are displayed as table cells. No content is displayed while the Menu is visible.

This is the default for Android.

I had mentioned a while ago the Menu object, which used to exist only for mobile applications, but it has been extended and now it is also valid for Angular.



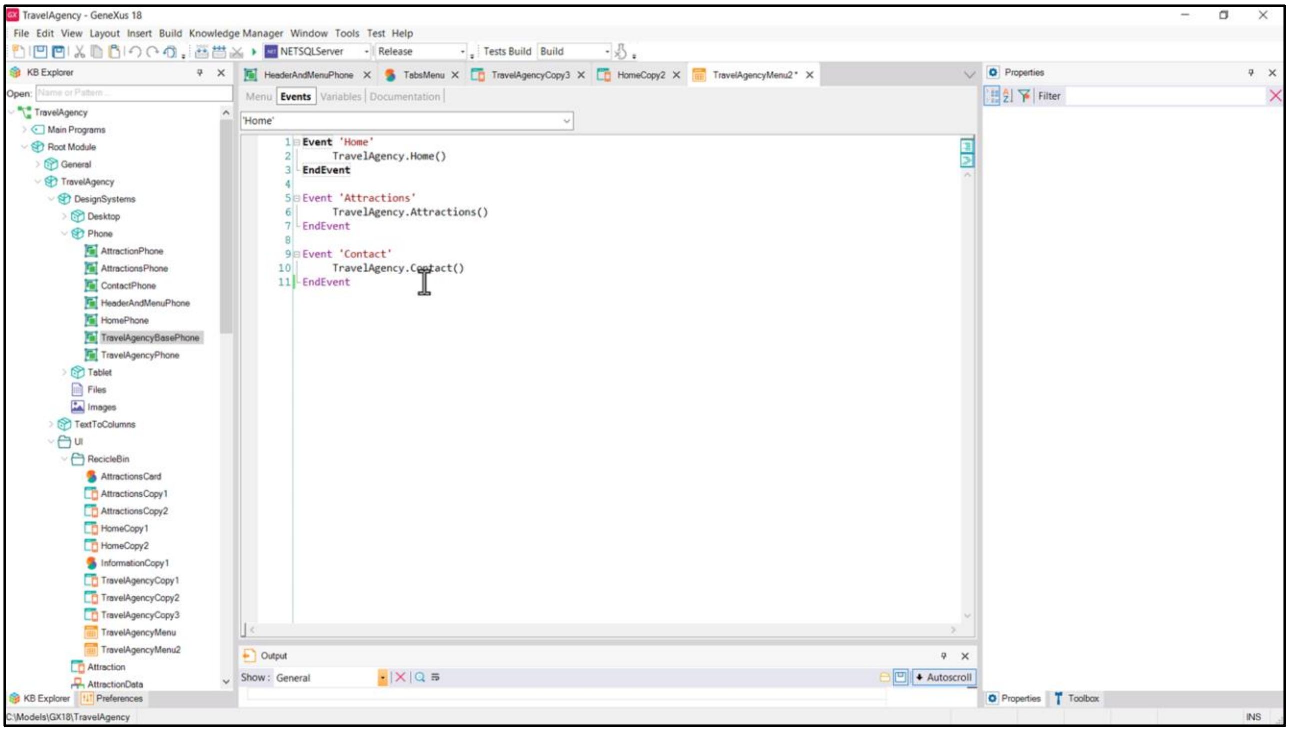
```
Menu
  Items
    Action (Home)
    Action (Attractions)
    Action (Contact)
```

Menu: TravelAgencyMenu2

Name	TravelAgencyMenu2
Description	Travel Agency
Module/Folder	RecicleBin
Qualified Name	TravelAgency.TravelAgencyMenu2
Object Visibility	Public
Auto Update	False
Main program	True
Master Panel	(no
Generate OpenAPI inte	Use Environment property value
Automatic refresh	Yes
Miscellaneous	
Generate Object	True
Secure Application C	False
Network	
Connectivity Support	Online
Deep Link Name	
Main object properties	
Application Title	
Additional Referenc	(none)
Application Shortcut	(none)
Notification Settings	(none)
Platform Overrides	
Default Layout Orien	Default
Base Color Scheme	Default
Enable Preferred Col	False

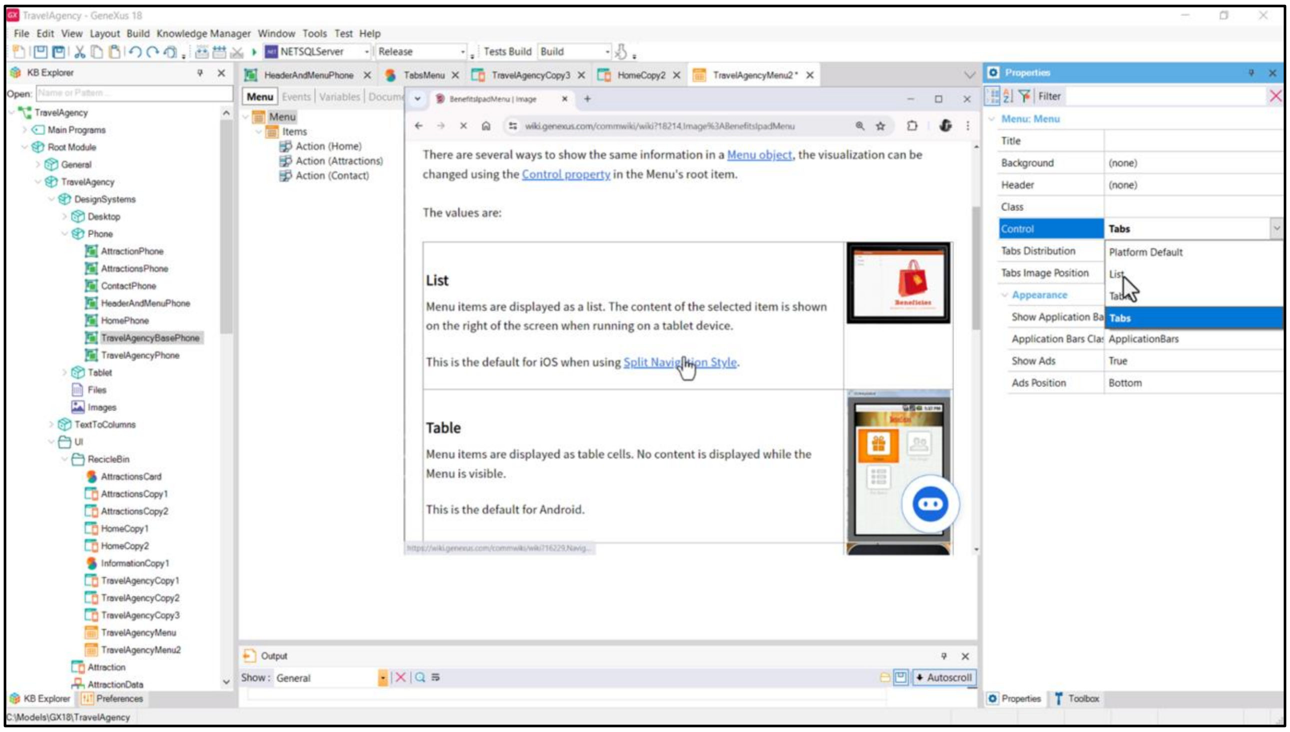
The **menu object** is very specific: it implements a menu of actions and that's why it has the **Main Program** property set to **True** by default, because it is assumed that a menu will be the entry point of the application. Through that menu and its navigations, it will be possible to reach all the screens of the application.

Here I added three actions, which will correspond (just to test it)...



```
Event 'Home'
    TravelAgency.Home()
EndEvent

Event 'Attractions'
    TravelAgency.Attractions()
EndEvent

Event 'Contact'
    TravelAgency.Contact()
EndEvent
```

...to call these three panels. And when the menu is executed, the first item specified will be invoked by default.



There are several ways to show the same information in a Menu object, the visualization can be changed using the Control property in the Menu's root item.

The values are:

List

Menu items are displayed as a list. The content of the selected item is shown on the right of the screen when running on a tablet device.

This is the default for iOS when using Split Navigation Style.

Table

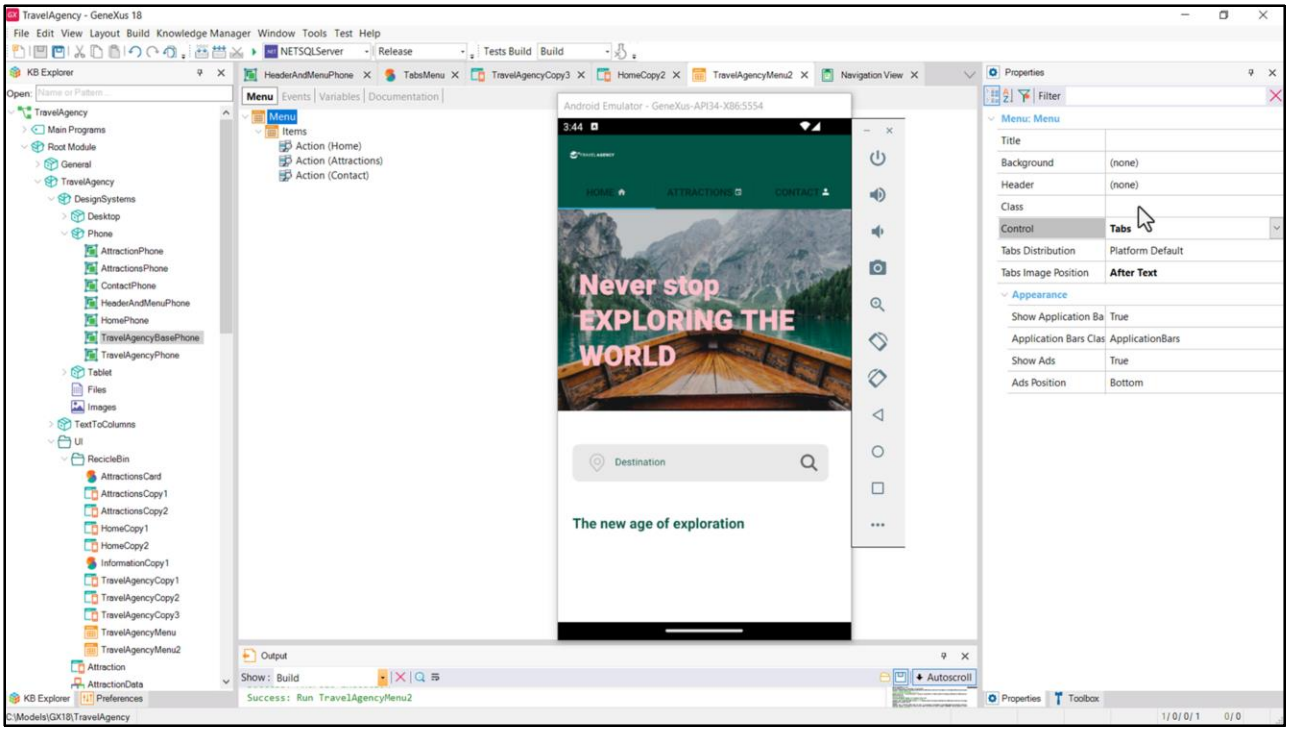
Menu items are displayed as table cells. No content is displayed while the Menu is visible.

This is the default for Android.

Title	
Background	(none)
Header	(none)
Class	
Control	Tabs
Tabs Distribution	Platform Default
Tabs Image Position	List
Appearance	Table
Show Application Bar	Tabs
Application Bars Class	ApplicationBars
Show Ads	True
Ads Position	Bottom

But let's also see that it offers three ways to display those items: either as a **list** of items, which is similar to the one we had implemented in the panel (here we have this copy), as a **table** of items, or as **tabs**.

And in each case, it uses the platform's native way of displaying them.


TravelAgency - GeneXus 18
KB Explorer
TravelAgencyMenu2
Android Emulator - GeneXus-API34-X86:5554
HOME
ATTRACTIONS
CONTACT
Never stop EXPLORING THE WORLD
Destination
The new age of exploration
Properties

```
Menu
  Items
    Action (Home)
    Action (Attractions)
    Action (Contact)
```

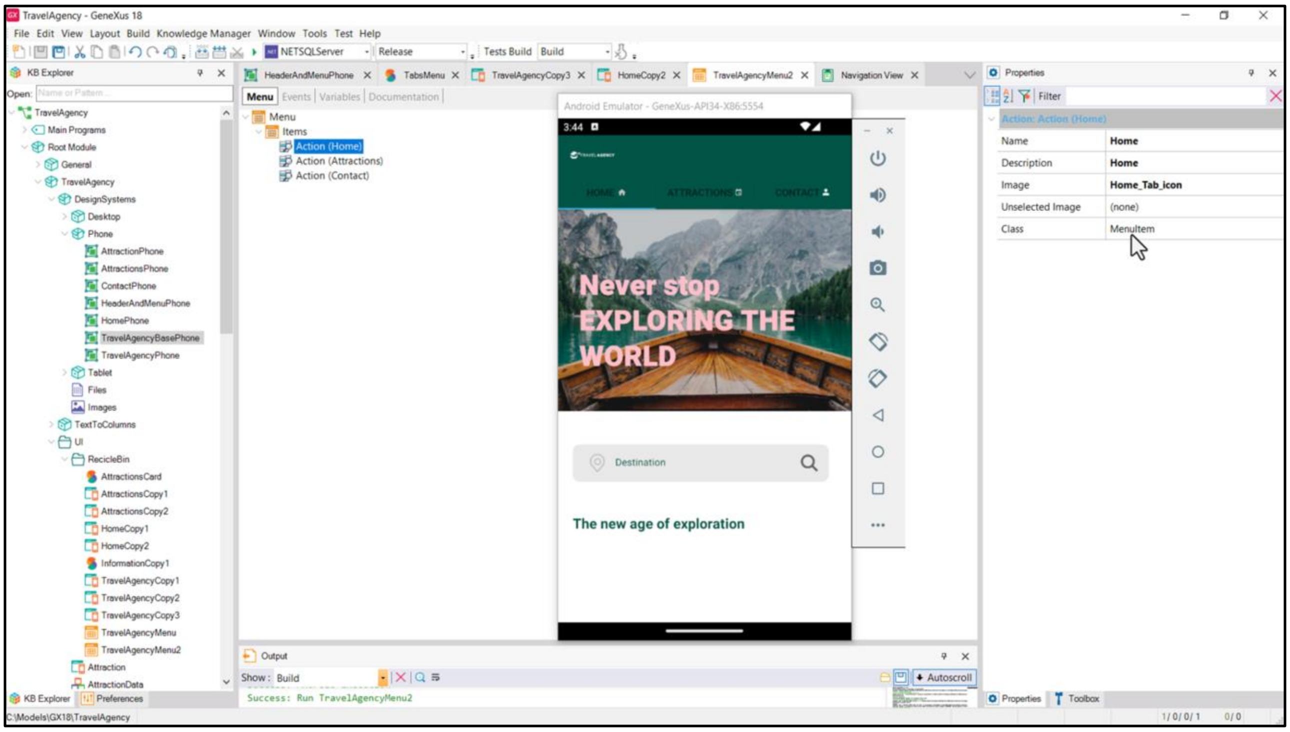
Menu: Menu

Title	
Background	(none)
Header	(none)
Class	
Control	Tabs
Tabs Distribution	Platform Default
Tabs Image Position	After Text
Appearance	
Show Application Ba	True
Application Bars Clas	ApplicationBars
Show Ads	True
Ads Position	Bottom

```
Success: Run TravelAgencyMenu2
```

For example, in the case of Android the tabs are shown above.

Of course we will have classes to style the menu items: the set...



Action: Action (Home)

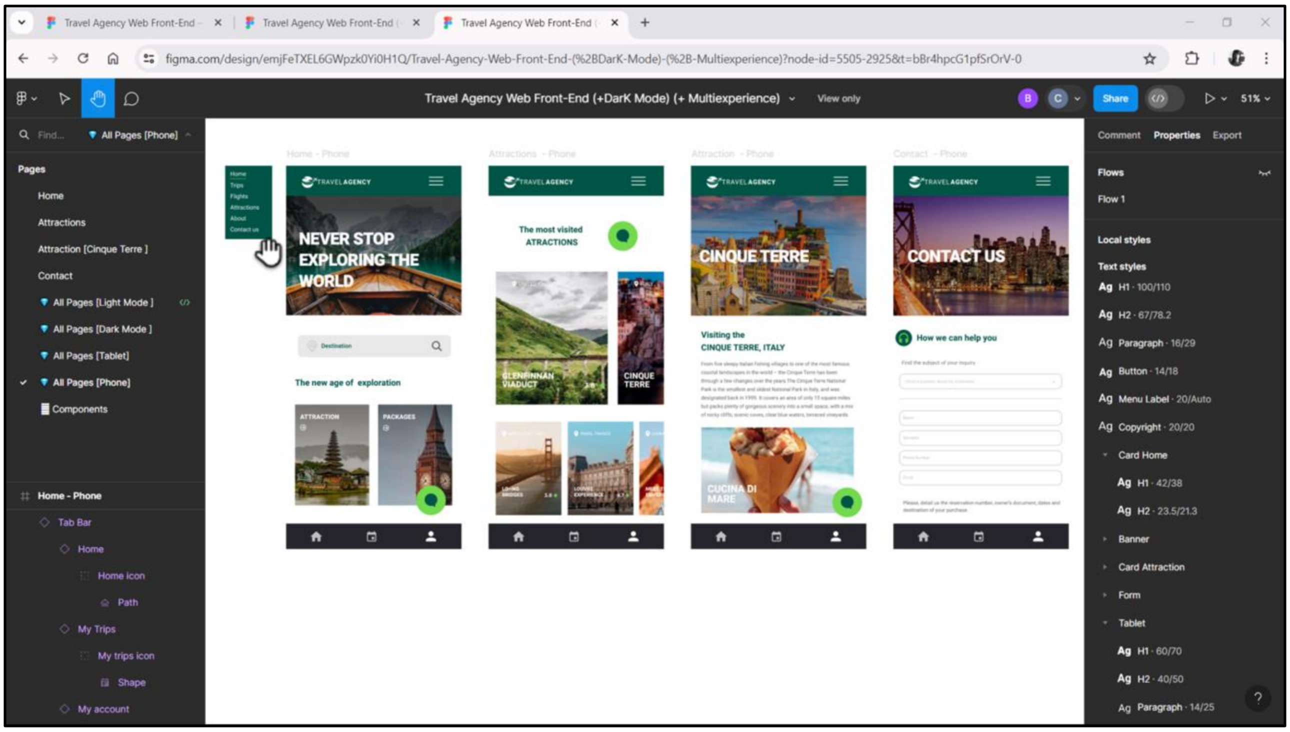
Name	Home
Description	Home
Image	Home_Tab_icon
Unselected Image	(none)
Class	MenuItem

Show: Build

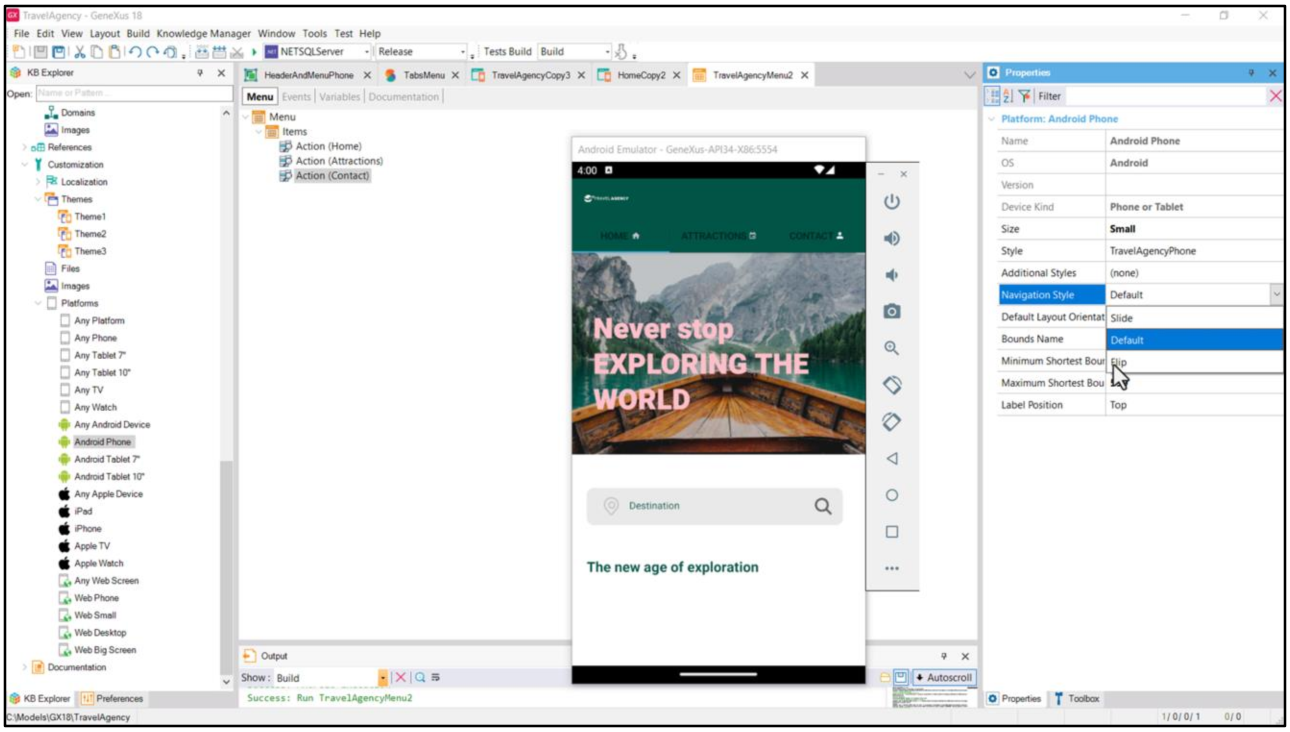
```
Success: Run TravelAgencyMenu2
```

...and each item.

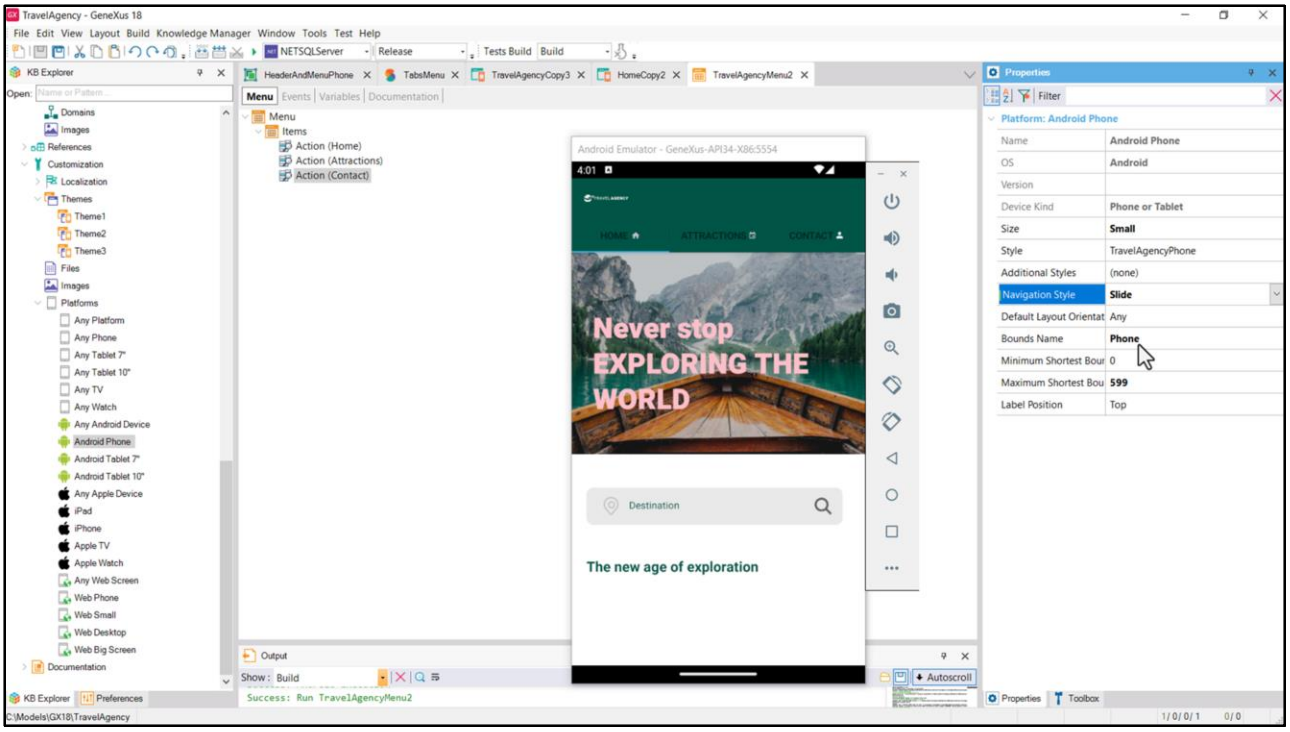
Also note that I associated an image with each item, which, as you can imagine, I downloaded from Figma and added to the KB.



We will have to choose whether this tabbed menu will be the entry point of the application or whether the hamburger menu will be the entry point, because, at least for the moment, we can't have both at the same time automatically.



So, if we choose to have **tabs**, then the navigation style will not be **Slide**, and this will be our main object, the entry point. Here we will have to manually implement the hamburger menu (to open from the left).


TravelAgency - GeneXus 18
File Edit View Layout Build Knowledge Manager Window Tools Test Help
KB Explorer
Menu Events Variables Documentation
Android Emulator - GeneXus-API34-X86:5554
HOME ATTRACTIONS CONTACT
Never stop EXPLORING THE WORLD
Destination
The new age of exploration
Properties
Output

```
Menu
  Items
    Action (Home)
    Action (Attractions)
    Action (Contact)
```

Platform: Android Phone

Name	Android Phone
OS	Android
Version	
Device Kind	Phone or Tablet
Size	Small
Style	TravelAgencyPhone
Additional Styles	(none)
Navigation Style	Slide
Default Layout Orientat	Any
Bounds Name	Phone
Minimum Shortest Bour	0
Maximum Shortest Bou	599
Label Position	Top

```
Success: Run TravelAgencyMenu2
```

If, on the other hand, we choose the <u>hamburger</u> as the entry point, then we will leave **Slide** as the navigation style and we will have to <u>manually</u> implement the **tabs**.

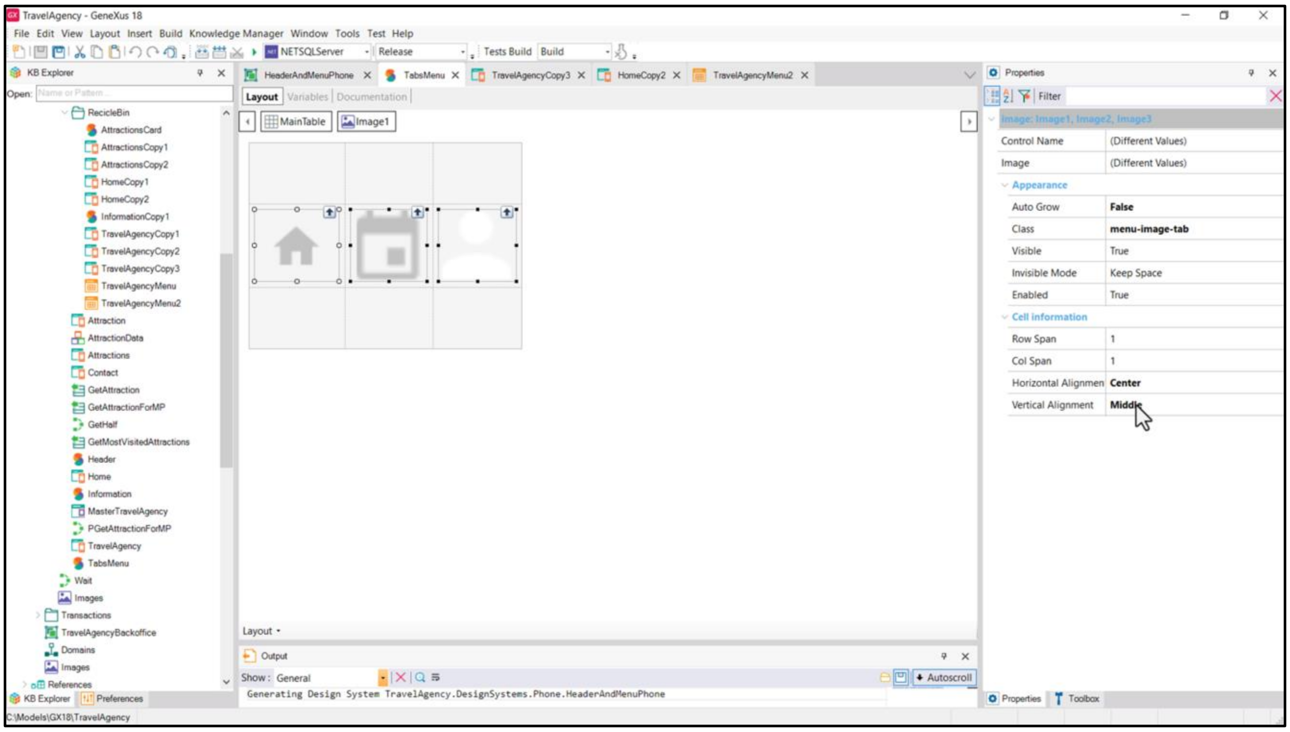
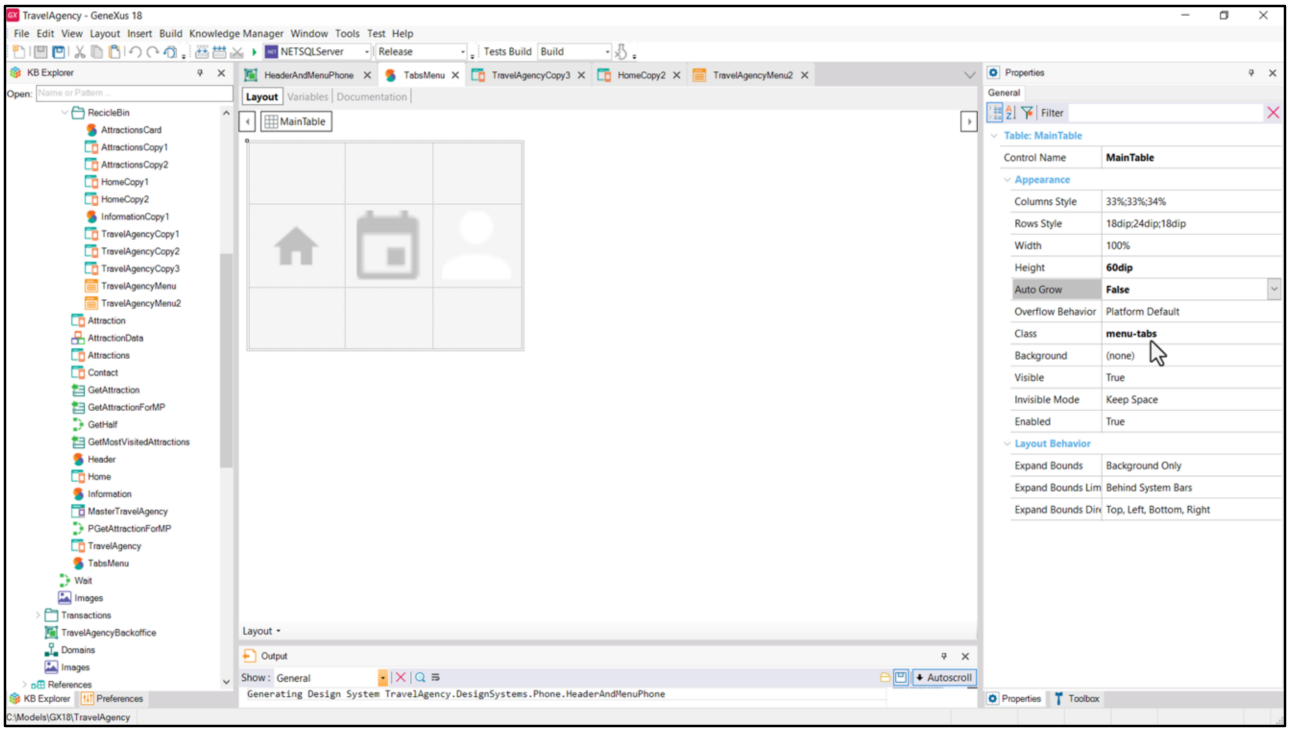


Image: Image1, Image2, Image3

Control Name	(Different Values)
Image	(Different Values)
Appearance	
Auto Grow	False
Class	menu-image-tab
Visible	True
Invisible Mode	Keep Space
Enabled	True
Cell information	
Row Span	1
Col Span	1
Horizontal Alignmen	Center
Vertical Alignment	Middle

```
Generating Design System TravelAgency.DesignSystems.Phone.HeaderAndMenuPhone
```

For example... as we will need them in all the panels, I created a Stencil where I inserted the 3 images, centering them and giving them the dimensions I took from Figma, as we already know how to do...


TravelAgency - GeneXus 18

File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help

NETSQLServer | Release | Tests Build | Build

KB Explorer

- ReciclеBin
  - AttractionsCard
  - AttractionsCopy1
  - AttractionsCopy2
  - HomeCopy1
  - HomeCopy2
  - InformationCopy1
  - TravelAgencyCopy1
  - TravelAgencyCopy2
  - TravelAgencyCopy3
  - TravelAgencyMenu
  - TravelAgencyMenu2
- Attraction
- AttractionData
- Attractions
- Contact
- GetAttraction
- GetAttractionForMP
- GetHalf
- GetMostVisitedAttractions
- Header
- Home
- Information
- MasterTravelAgency
- PGetAttractionForMP
- TravelAgency
- TabsMenu
- Wait
- Images
- Transactions
- TravelAgencyBackoffice
- Domains
- Images
- References

HeaderAndMenuPhone | TabsMenu | TravelAgencyCopy3 | HomeCopy2 | TravelAgencyMenu2

Layout | Variables | Documentation

MainTable

Properties

Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	33%;33%;34%
Rows Style	18dip;24dip;18dip
Width	100%
Height	60dip
Auto Grow	False
Overflow Behavior	Platform Default
Class	menu-tabs
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Lim	Behind System Bars
Expand Bounds Dir	Top, Left, Bottom, Right

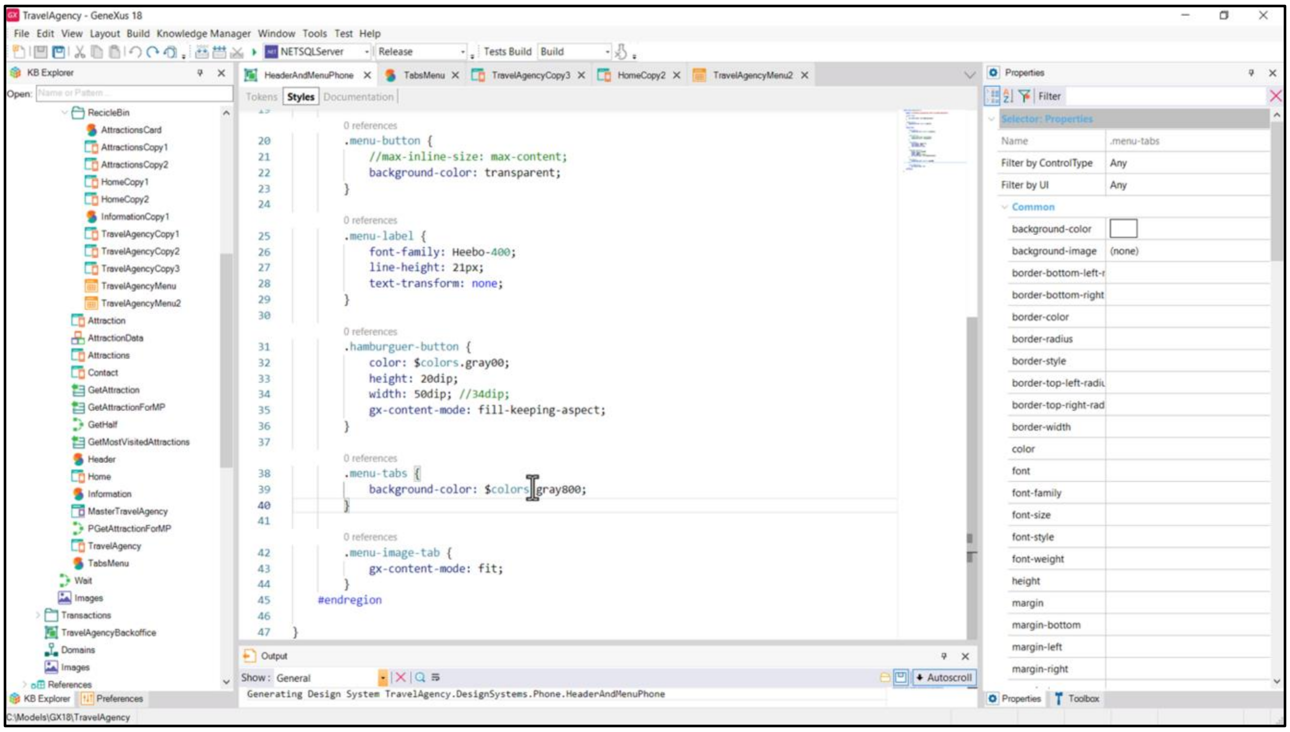
Output

Show: General

```
Generating Design System TravelAgency.DesignSystems.Phone.HeaderAndMenuPhone
```

C:\Models\GX18\TravelAgency

I assigned it this class…



```
    0 references
    .menu-button {
        //max-inline-size: max-content;
        background-color: transparent;
    }

    0 references
    .menu-label {
        font-family: Heebo-400;
        line-height: 21px;
        text-transform: none;
    }

    0 references
    .hamburguer-button {
        color: $colors.gray00;
        height: 20dip;
        width: 50dip; //34dip;
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .menu-tabs {
        background-color: $colors.gray800;
    }

    0 references
    .menu-image-tab {
        gx-content-mode: fit;
    }
  #endregion

}
```

Name	.menu-tabs
Filter by ControlType	Any
Filter by UI	Any
background-color	
background-image	(none)

```
Generating Design System TravelAgency.DesignSystems.Phone.HeaderAndMenuPhone
```

...where I assign the background color that I took also from Figma... and then I would have to insert the Stencil in all the panels.

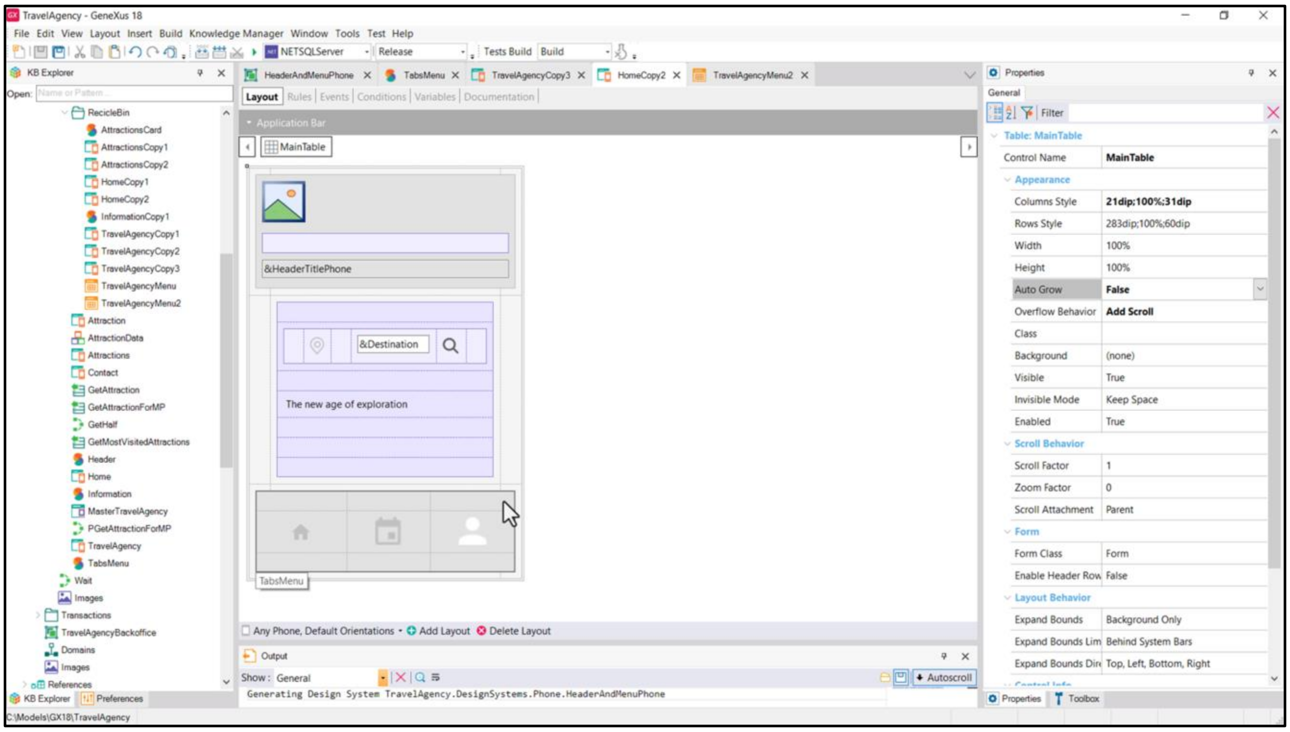
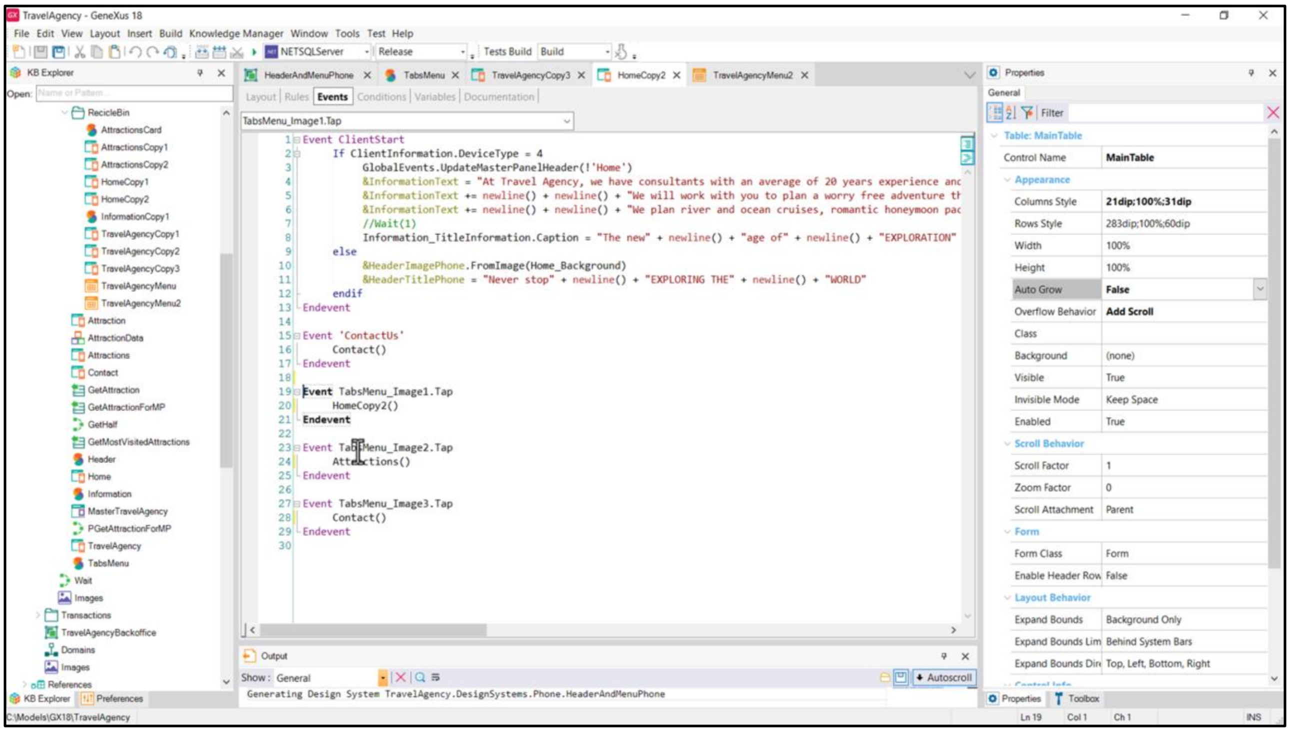


Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	21dip;100%;31dip
Rows Style	283dip;100%;60dip
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Add Scroll
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Lim	Behind System Bars
Expand Bounds Dir	Top, Left, Bottom, Right

```
Generating Design System TravelAgency.DesignSystems.Phone.HeaderAndMenuPhone
```

Here I tried only with this copy of the Home, where you can see that I rearranged the layout controls and left the main table with the Header stencil in the first row, and the stencil with the imitation of the tabs in the last one, both with fixed height, and the middle one with variable height.

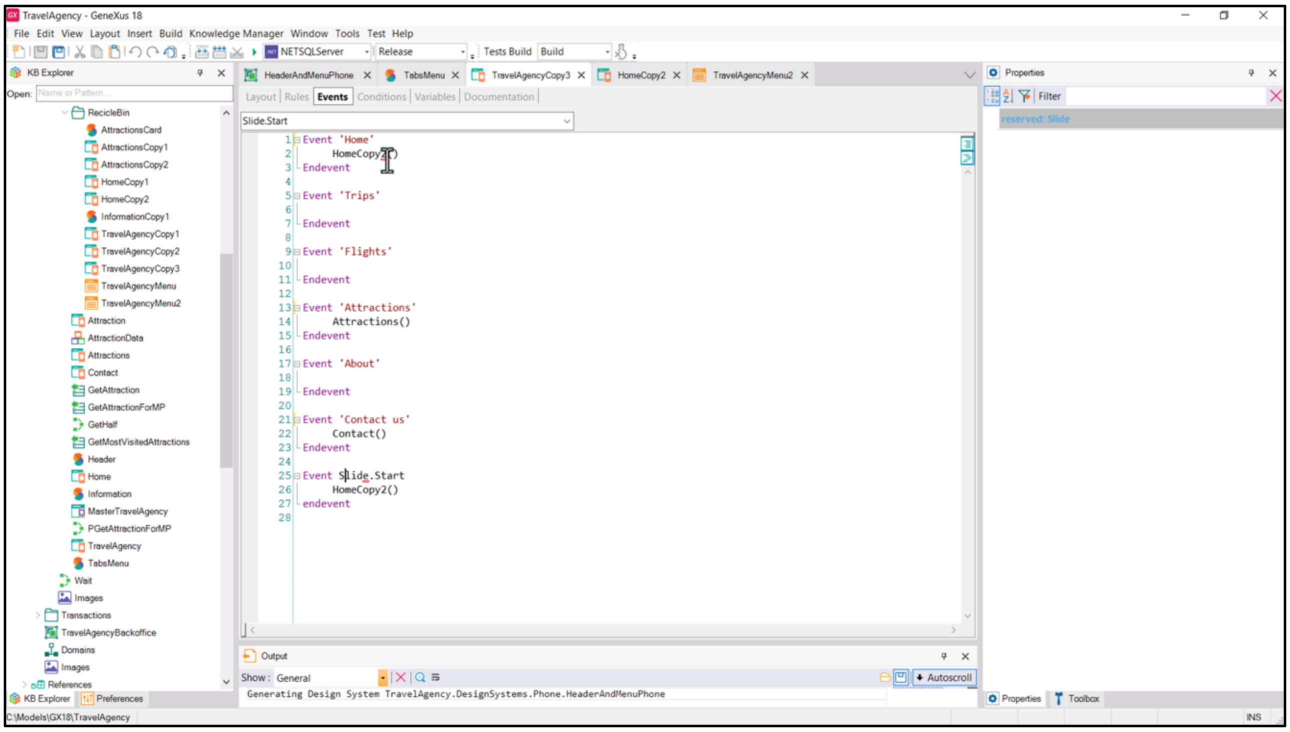


```
Event ClientStart
    If ClientInformation.DeviceType = 4
        GlobalEvents.UpdateMasterPanelHeader(!'Home')
        &InformationText = "At Travel Agency, we have consultants with an average of 20 years experience anc
        &InformationText += newline() + newline() + "We will work with you to plan a worry free adventure th
        &InformationText += newline() + newline() + "We plan river and ocean cruises, romantic honeymoon pac
        //Wait(1)
        Information_TitleInformation.Caption = "The new" + newline() + "age of" + newline() + "EXPLORATION"
    else
        &HeaderImagePhone.FromImage(Home_Background)
        &HeaderTitlePhone = "Never stop" + newline() + "EXPLORING THE" + newline() + "WORLD"
    endif
Endevent

Event 'ContactUs'
    Contact()
Endevent

Event TabsMenu_Image1.Tap
    HomeCopy2()
Endevent

Event TabsMenu_Image2.Tap
    Attractions()
Endevent

Event TabsMenu_Image3.Tap
    Contact()
Endevent
```

Table: MainTable	
Control Name	MainTable
Appearance	
Columns Style	21dip;100%;31dip
Rows Style	283dip;100%;60dip
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Add Scroll
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Lim	Behind System Bars
Expand Bounds Dir	Top, Left, Bottom, Right

```
Generating Design System TravelAgency.DesignSystems.Phone.HeaderAndMenuPhone
```

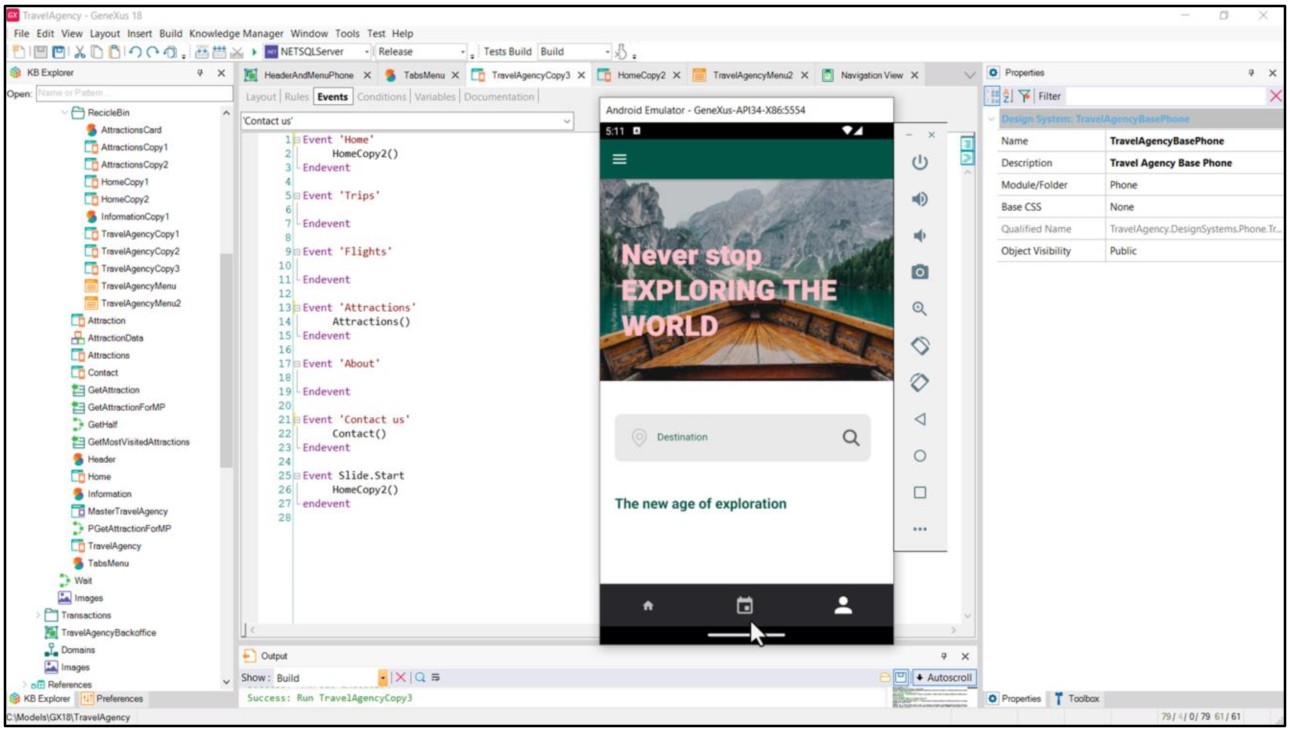
And just to try it, in the tap event associated with each of the images I invoke the only panels I have at the moment.



```
Event 'Home'
     HomeCopy2()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
     Attractions()
Endevent

Event 'About'

Endevent

Event 'Contact us'
     Contact()
Endevent

Event Slide.Start
     HomeCopy2()
endevent
```

```
Generating Design System TravelAgency.DesignSystems.Phone.HeaderAndMenuPhone
```

The main object of my application will now be this copy of the menu, which will act as a hamburger, where I invoke this copy of the Home... And so, if we try...



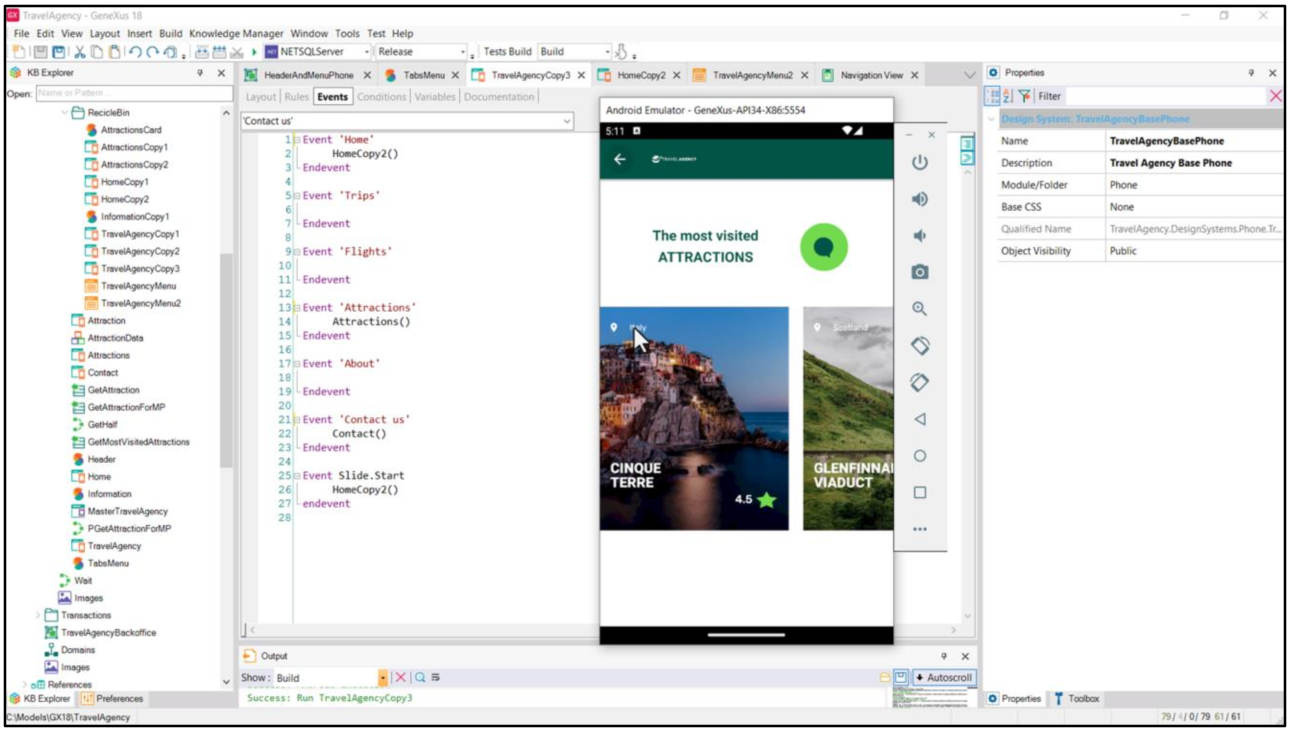
```
Event 'Home'
	HomeCopy2()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
	Attractions()
Endevent

Event 'About'

Endevent

Event 'Contact us'
	Contact()
Endevent

Event Slide.Start
	HomeCopy2()
endevent
```

Design System: TravelAgencyBasePhone

Name	TravelAgencyBasePhone
Description	Travel Agency Base Phone
Module/Folder	Phone
Base CSS	None
Qualified Name	TravelAgency.DesignSystems.Phone.Tr...
Object Visibility	Public

```
Show: Build
Success: Run TravelAgencyCopy3
```

We have the automatic hamburger menu and here the manual tabs menu...

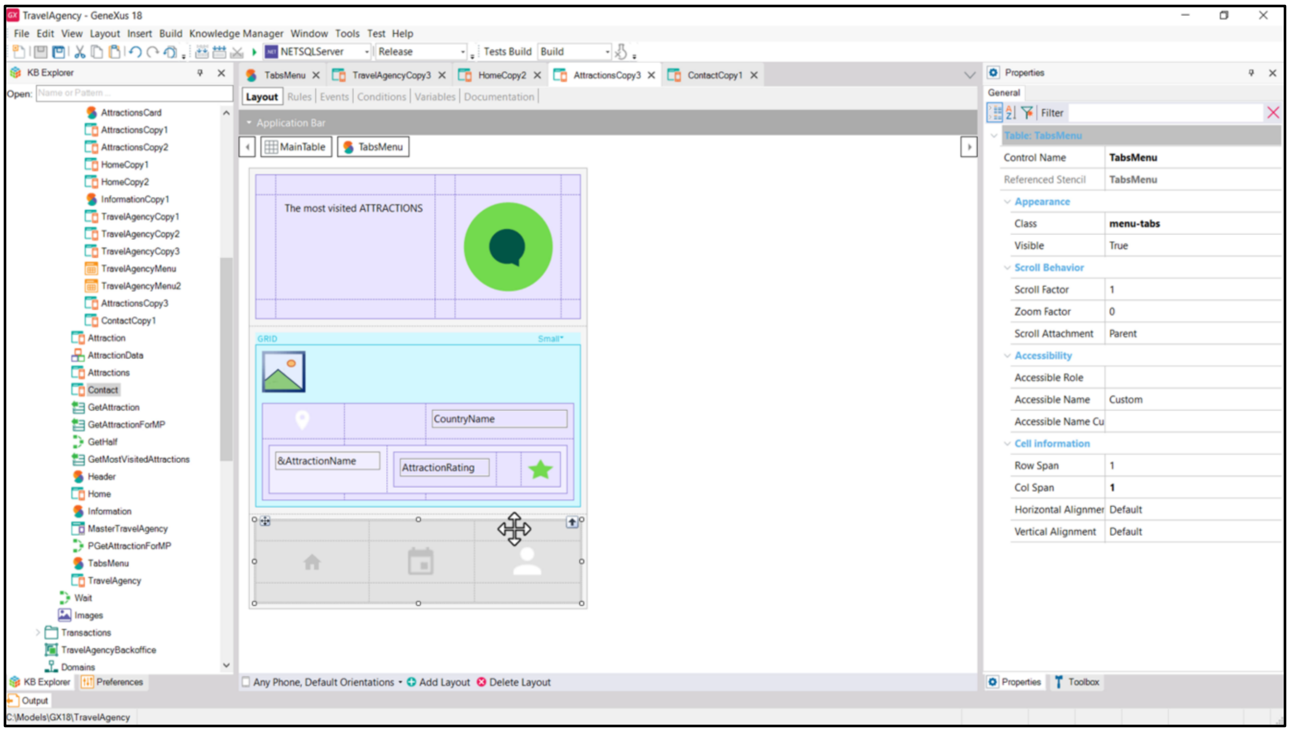

TravelAgency - GeneXus 18
KB Explorer
Properties
Android Emulator - GeneXus-API34-X86:5554
The most visited ATTRACTIONS
CINQUE TERRE
GLENFINNAN VIADUCT

```
Event 'Home'
	HomeCopy2()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
	Attractions()
Endevent

Event 'About'

Endevent

Event 'Contact us'
	Contact()
Endevent

Event Slide.Start
	HomeCopy2()
endevent
```

Name	TravelAgencyBasePhone
Description	Travel Agency Base Phone
Module/Folder	Phone
Base CSS	None
Qualified Name	TravelAgency.DesignSystems.Phone.Tr...
Object Visibility	Public

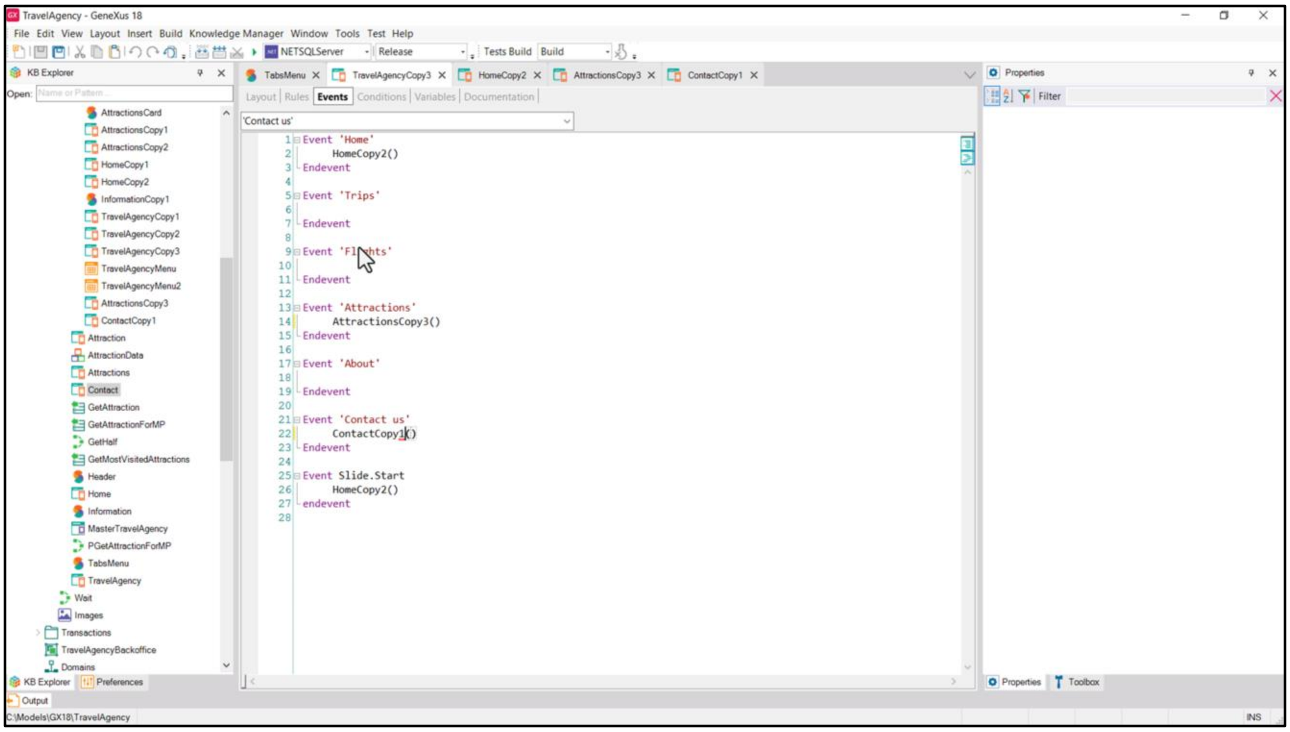
```
Success: Run TravelAgencyCopy3
```

Here I don't have the menu because I haven't added the stencil to the Attractions panel yet... and I haven't added it to the Contact panel either.



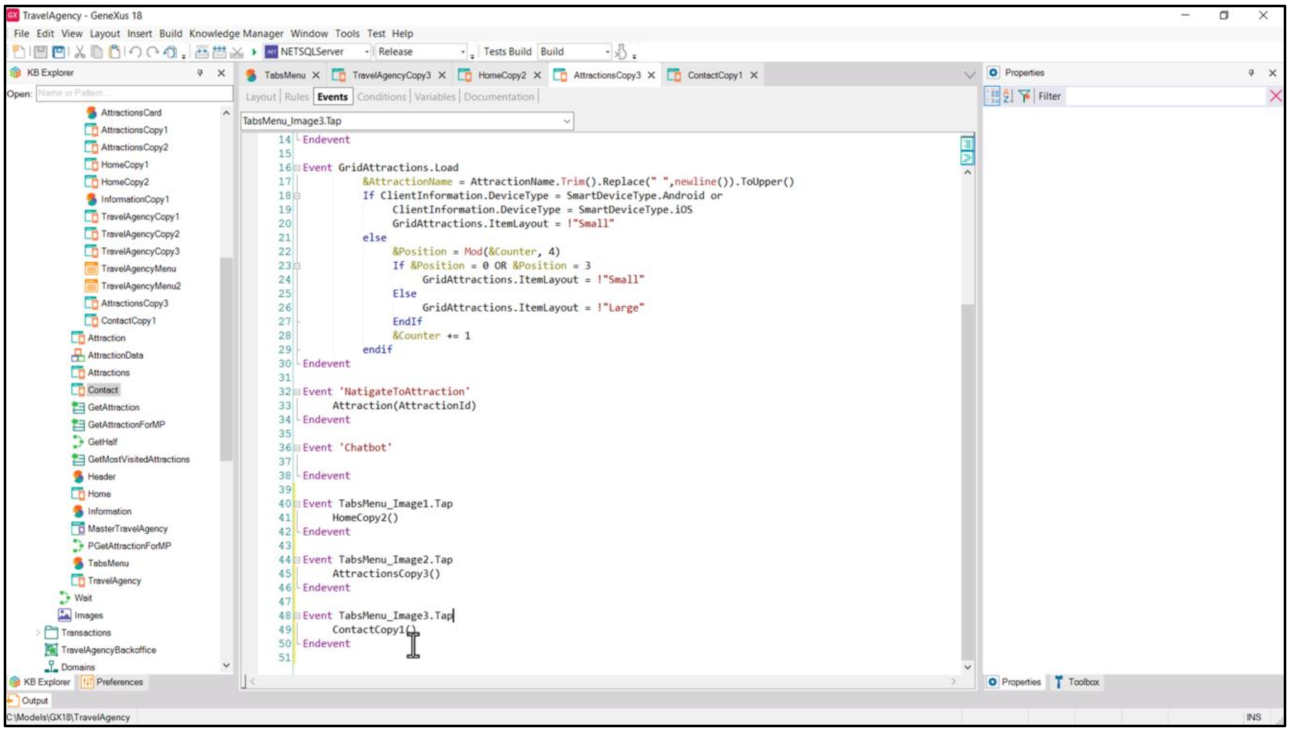
Control Name	TabsMenu
Referenced Stencil	TabsMenu
Appearance	
Class	menu-tabs
Visible	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Accessibility	
Accessible Role	
Accessible Name	Custom
Accessible Name Cu	
Cell information	
Row Span	1
Col Span	1
Horizontal Alignmer	Default
Vertical Alignment	Default

Here I made copies of those two (so that the evolution of the objects can't be identified in the xpz that I include as material) and now I've added them...



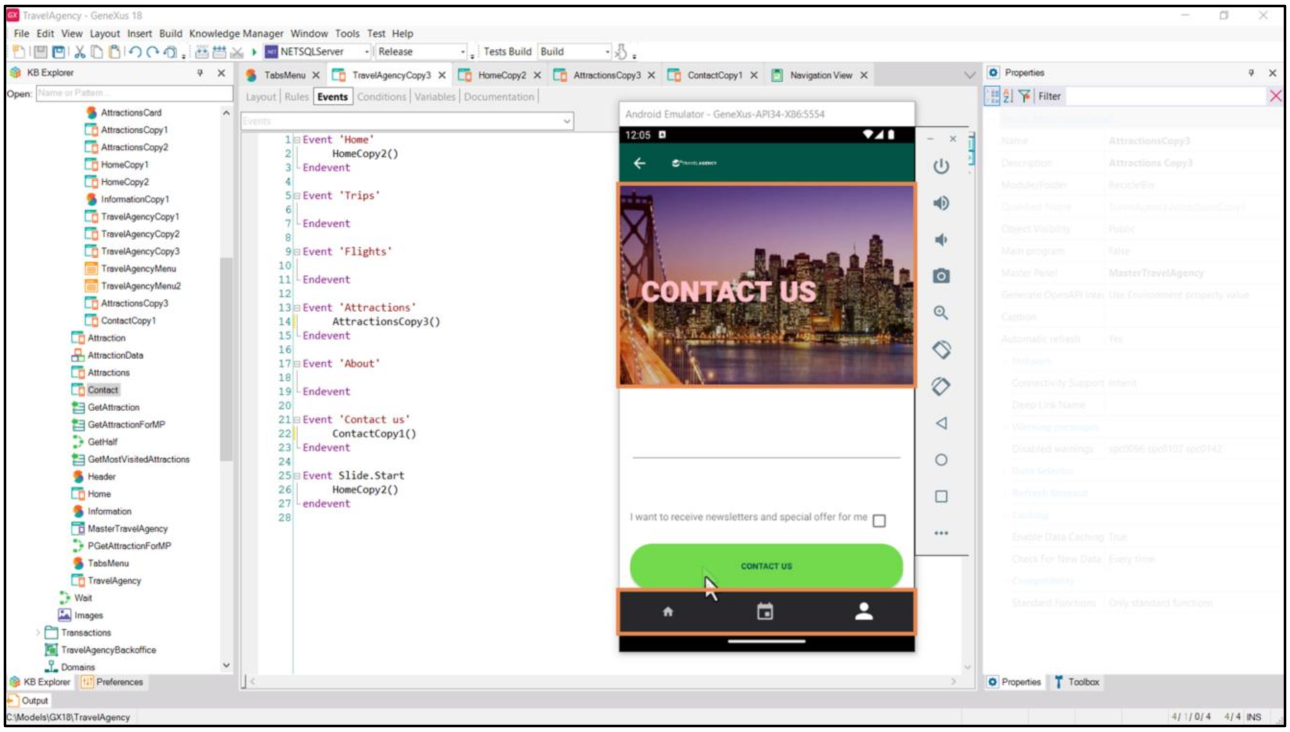
```
Event 'Home'
    HomeCopy2()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
    AttractionsCopy3()
Endevent

Event 'About'

Endevent

Event 'Contact us'
    ContactCopy1()
Endevent

Event Slide.Start
    HomeCopy2()
endevent
```

...and I changed the Menu to invoke them...


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer Release Tests Build Build
KB Explorer
TabsMenu TravelAgencyCopy3 HomeCopy2 AttractionsCopy3 ContactCopy1
Layout Rules Events Conditions Variables Documentation
TabsMenu_Image3.Tap
Properties Toolbox

```
Endevent

Event GridAttractions.Load
        &AttractionName = AttractionName.Trim().Replace(" ",newline()).ToUpper()
        If ClientInformation.DeviceType = SmartDeviceType.Android or
            ClientInformation.DeviceType = SmartDeviceType.iOS
            GridAttractions.ItemLayout = !"Small"
        else
            &Position = Mod(&Counter, 4)
            If &Position = 0 OR &Position = 3
                GridAttractions.ItemLayout = !"Small"
            Else
                GridAttractions.ItemLayout = !"Large"
            EndIf
            &Counter += 1
        endif
Endevent

Event 'NatigateToAttraction'
    Attraction(AttractionId)
Endevent

Event 'Chatbot'

Endevent

Event TabsMenu_Image1.Tap
    HomeCopy2()
Endevent

Event TabsMenu_Image2.Tap
    AttractionsCopy3()
Endevent

Event TabsMenu_Image3.Tap
    ContactCopy1()
Endevent
```

...and also from the tabs options I invoke these objects.


TravelAgency - GeneXus 18
KB Explorer
TabsMenu
TravelAgencyCopy3
HomeCopy2
AttractionsCopy3
ContactCopy1
Navigation View
Layout | Rules | Events | Conditions | Variables | Documentation
Android Emulator - GeneXus-API34-X86:5554
CONTACT US
I want to receive newsletters and special offer for me
CONTACT US
Properties
Toolbox
Output

```
Event 'Home'
	HomeCopy2()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
	AttractionsCopy3()
Endevent

Event 'About'

Endevent

Event 'Contact us'
	ContactCopy1()
Endevent

Event Slide.Start
	HomeCopy2()
endevent
```

And now this is how we see the screens.

Something I had overlooked before and now I had to take care of: I need the Header and tabs to be fixed at the top and bottom and the scrollable content to be in the middle. How did I do it?

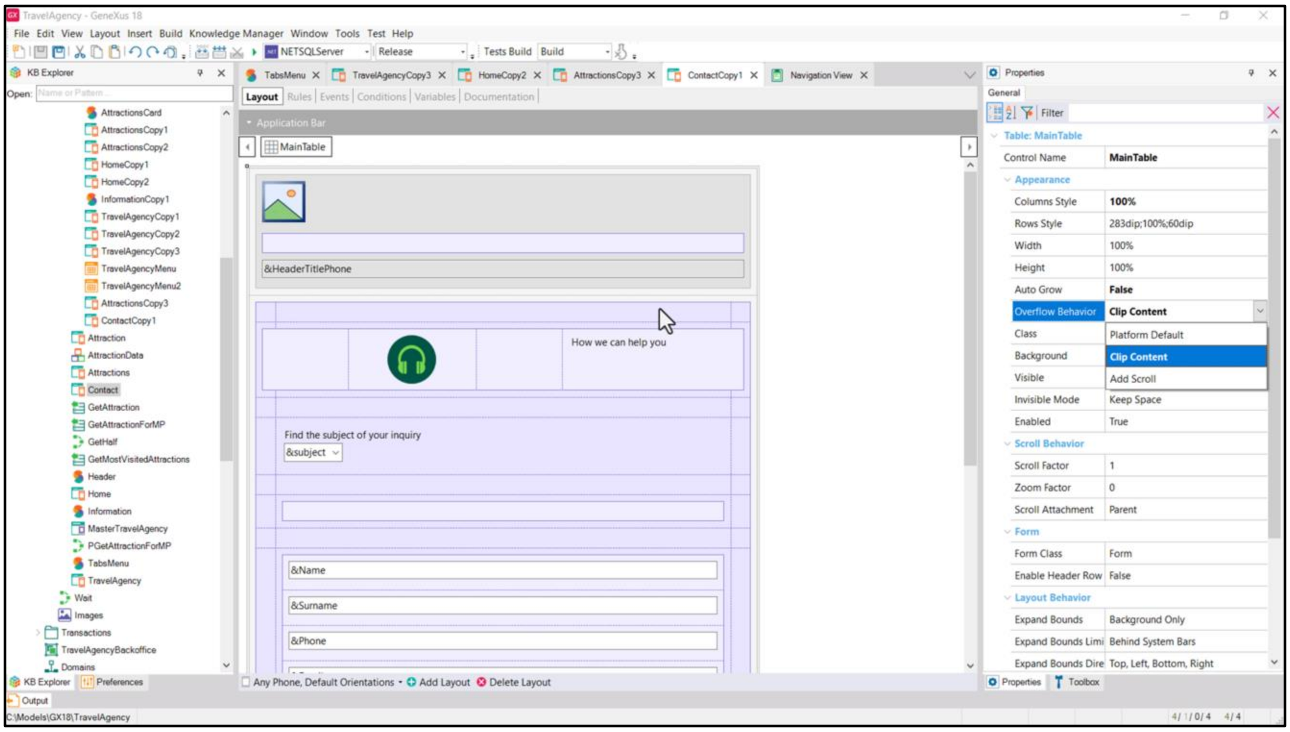


Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	100%
Rows Style	283dip;100%;60dip
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Clip Content
Class	Platform Default
Background	Clip Content
Visible	Add Scroll
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Limi	Behind System Bars
Expand Bounds Dire	Top, Left, Bottom, Right

By setting Auto Grow in the main table to False and the behavior when the entire content doesn't fit on the screen: in this way instead of scrollable.

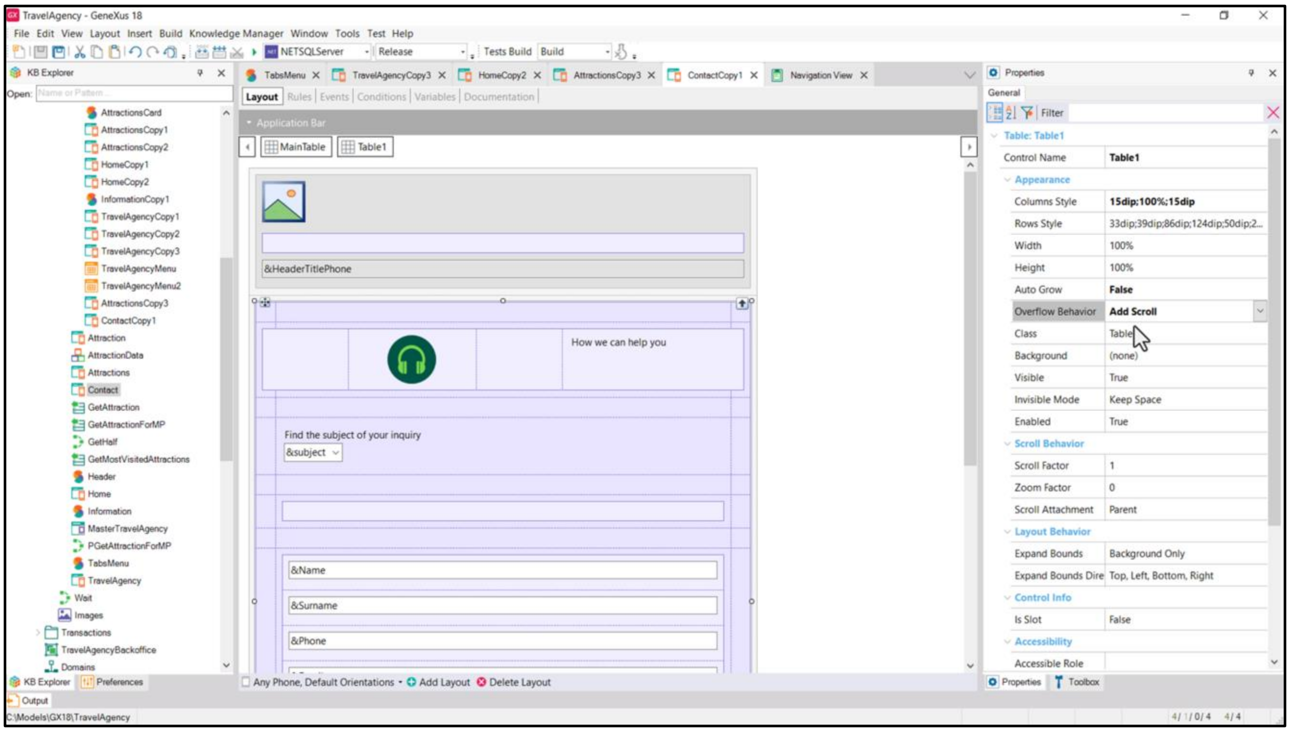


Table: Table1

Control Name	Table1
Appearance	
Columns Style	15dip;100%;15dip
Rows Style	33dip;39dip;86dip;124dip;50dip;2...
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Add Scroll
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Dire	Top, Left, Bottom, Right
Control Info	
Is Slot	False
Accessibility	
Accessible Role	

And, on the other hand, for the internal table we set Auto Grow also to False, but with Scroll.

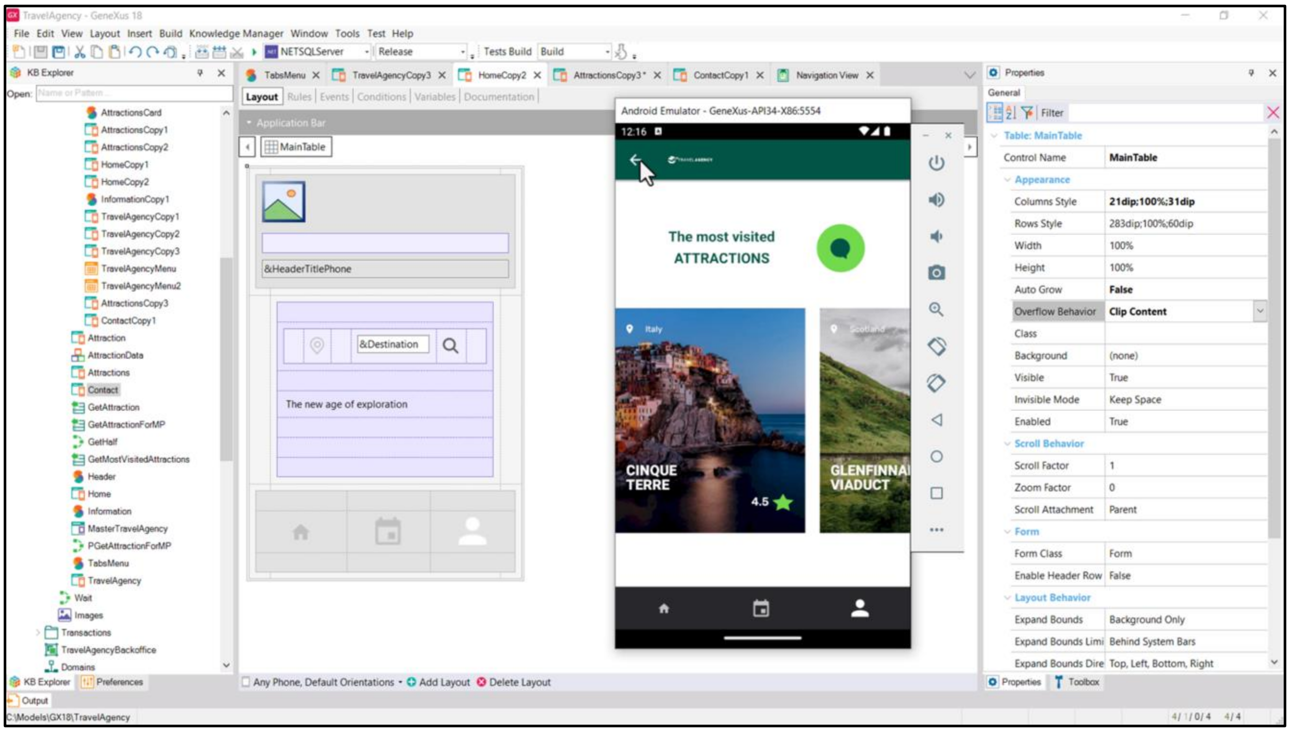


Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	21dip;100%;31dip
Rows Style	283dip;100%;60dip
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Clip Content
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Limi	Behind System Bars
Expand Bounds Dire	Top, Left, Bottom, Right

On the other hand, a consequence of this being an imitation of the tabs menu and not the application menu itself, is that when an object is called from it, the back button appears. We don't want this, we want it to behave just like the hamburger menu...

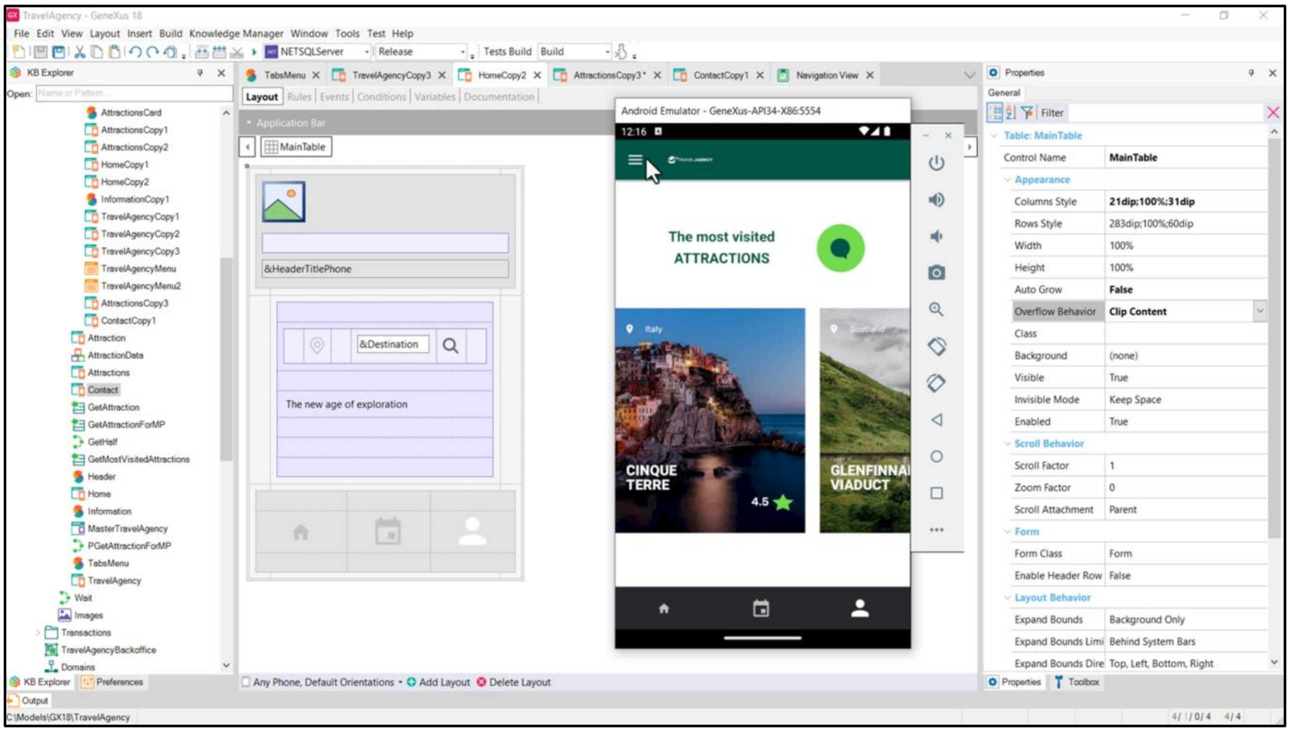
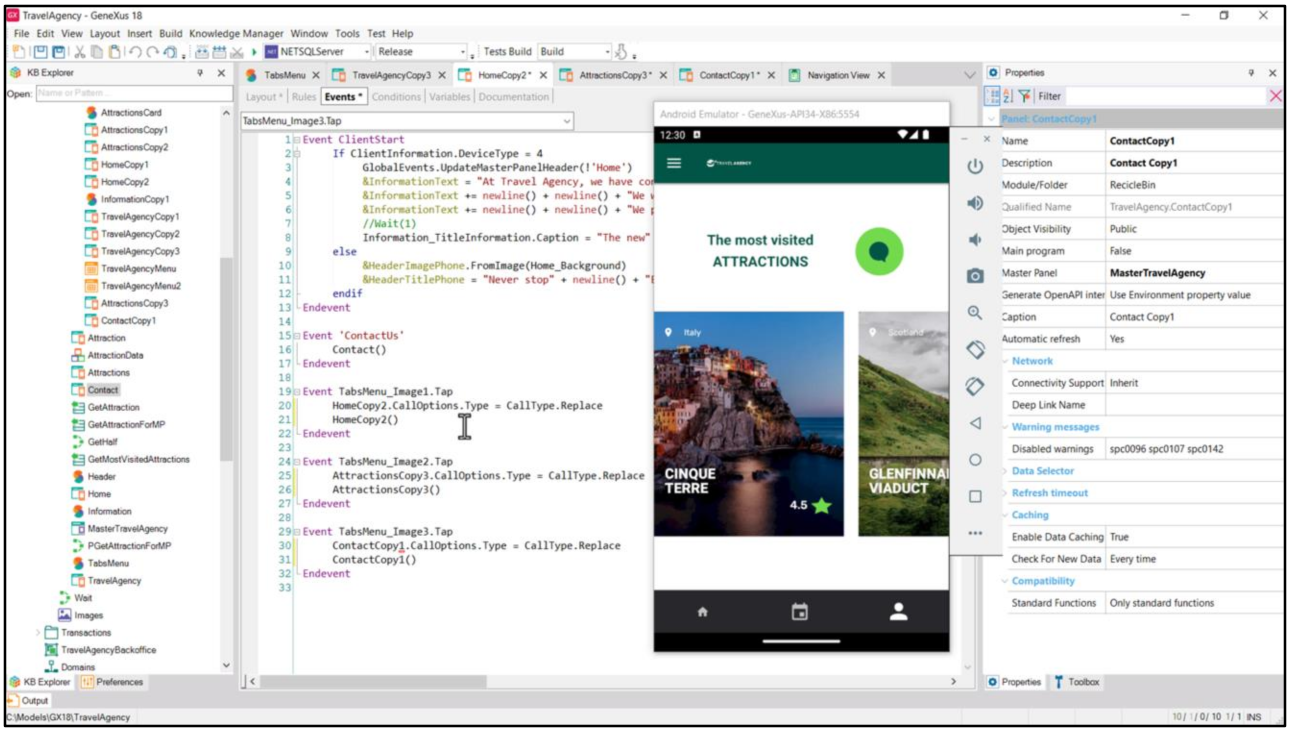


Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	21dip;100%;31dip
Rows Style	283dip;100%;60dip
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Clip Content
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Limi	Behind System Bars
Expand Bounds Dire	Top, Left, Bottom, Right

...which is the application menu, and for that reason when invoking objects from the menu the back button is not displayed.

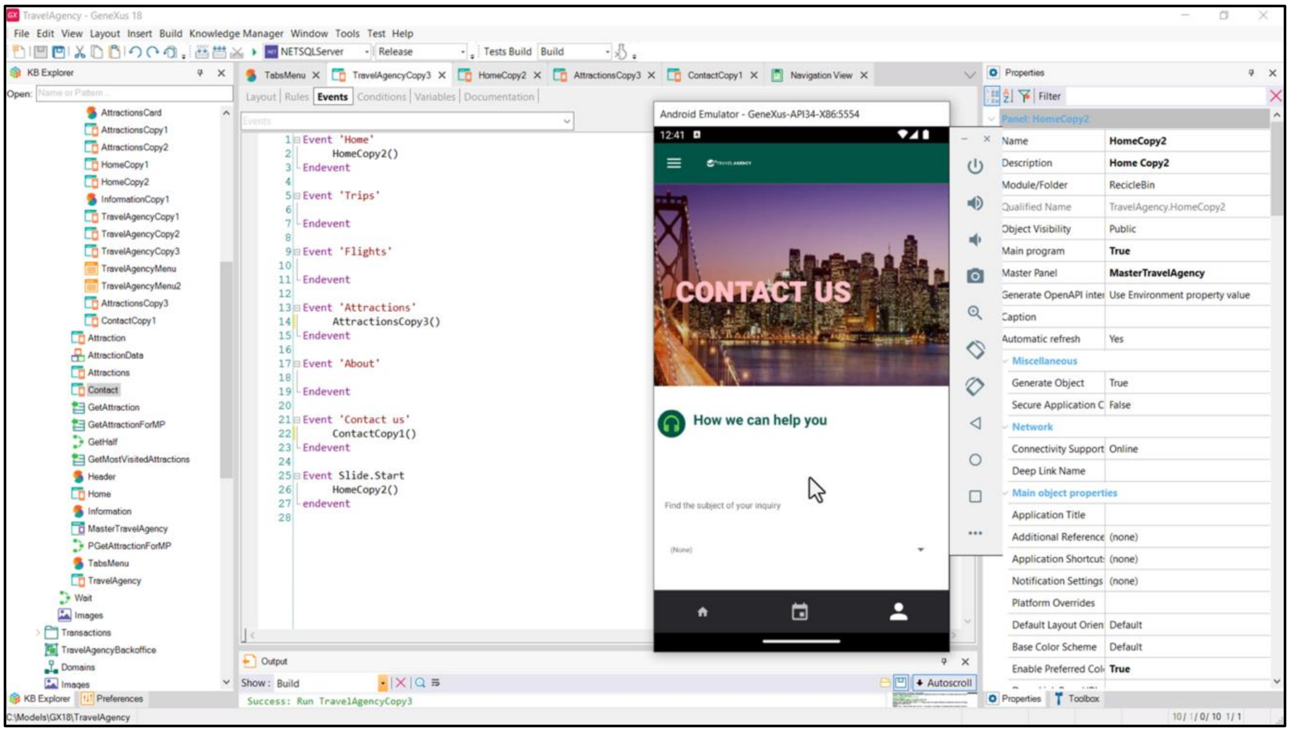


```
Event ClientStart
    If ClientInformation.DeviceType = 4
        GlobalEvents.UpdateMasterPanelHeader(!'Home')
        &InformationText = "At Travel Agency, we have co
        &InformationText += newline() + newline() + "We
        &InformationText += newline() + newline() + "We
        //Wait(1)
        Information_TitleInformation.Caption = "The new"
    else
        &HeaderImagePhone.FromImage(Home_Background)
        &HeaderTitlePhone = "Never stop" + newline() + "
    endif
Endevent

Event 'ContactUs'
    Contact()
Endevent

Event TabsMenu_Image1.Tap
    HomeCopy2.CallOptions.Type = CallType.Replace
    HomeCopy2()
Endevent

Event TabsMenu_Image2.Tap
    AttractionsCopy3.CallOptions.Type = CallType.Replace
    AttractionsCopy3()
Endevent

Event TabsMenu_Image3.Tap
    ContactCopy1.CallOptions.Type = CallType.Replace
    ContactCopy1()
Endevent
```

Name	ContactCopy1
Description	Contact Copy1
Module/Folder	RecicleBin
Qualified Name	TravelAgency.ContactCopy1
Object Visibility	Public
Main program	False
Master Panel	MasterTravelAgency
Generate OpenAPI inter	Use Environment property value
Caption	Contact Copy1
Automatic refresh	Yes
Connectivity Support	Inherit
Deep Link Name	
Disabled warnings	spc0096 spc0107 spc0142
Enable Data Caching	True
Check For New Data	Every time
Standard Functions	Only standard functions

To imitate this we invoke with **CallOptions Replace**. That is to say, before invoking the object, we instruct it to replace the current one in the invocation stack.

And so we do it for the three panels.



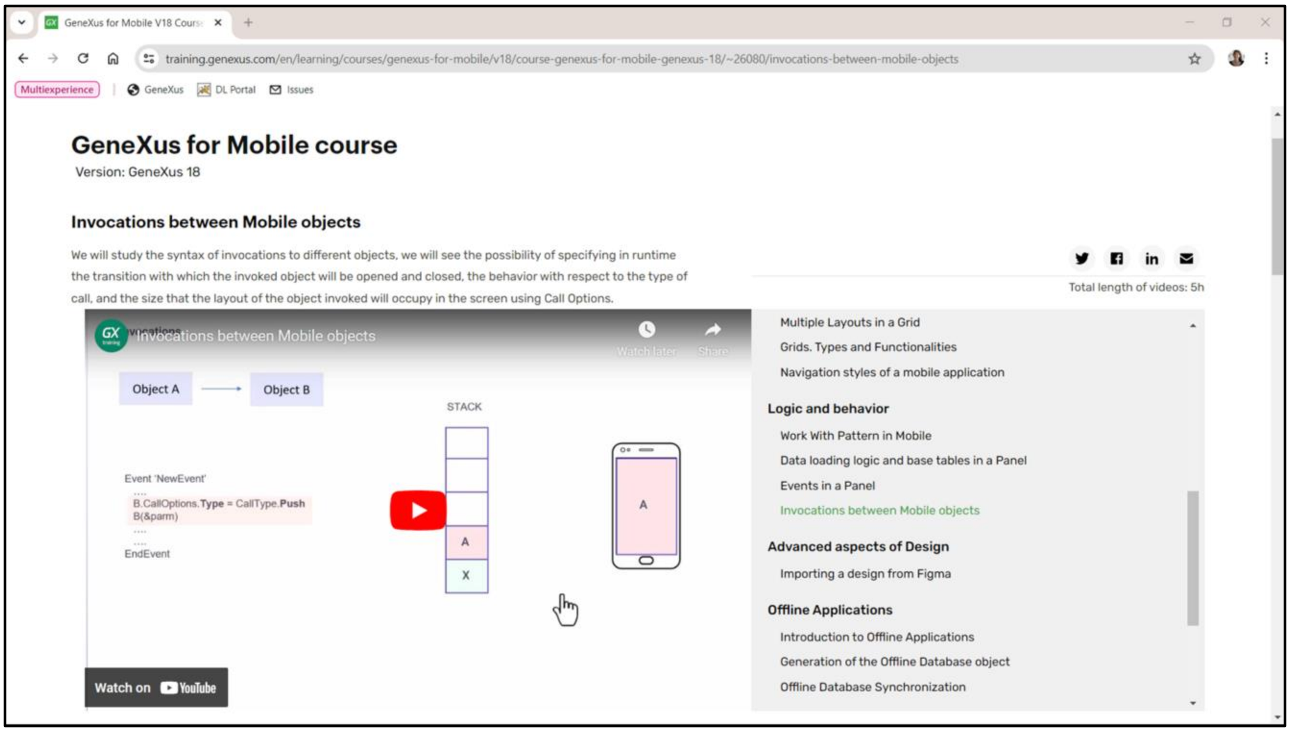
```
Event 'Home'
	HomeCopy2()
Endevent

Event 'Trips'

Endevent

Event 'Flights'

Endevent

Event 'Attractions'
	AttractionsCopy3()
Endevent

Event 'About'

Endevent

Event 'Contact us'
	ContactCopy1()
Endevent

Event Slide.Start
	HomeCopy2()
endevent
```

Name	HomeCopy2
Description	Home Copy2
Module/Folder	RecicleBin
Qualified Name	TravelAgency.HomeCopy2
Object Visibility	Public
Main program	True
Master Panel	MasterTravelAgency
Generate OpenAPI inter	Use Environment property value
Caption	
Automatic refresh	Yes
Generate Object	True
Secure Application C	False
Connectivity Support	Online
Deep Link Name	
Application Title	
Additional Reference	(none)
Application Shortcut	(none)
Notification Settings	(none)
Platform Overrides	
Default Layout Orien	Default
Base Color Scheme	Default
Enable Preferred Col	True

```
Success: Run TravelAgencyCopy3
```

In this way we never lose the hamburger menu.

Of course, if we go deep we're going to have the back button.


GeneXus for Mobile V18 Course

training.genexus.com/en/learning/courses/genexus-for-mobile/v18/course-genexus-for-mobile-genexus-18/~26080/invocations-between-mobile-objects

Multiexperience | GeneXus DL Portal Issues

GeneXus for Mobile course

Version: GeneXus 18

Invocations between Mobile objects

We will study the syntax of invocations to different objects, we will see the possibility of specifying in runtime the transition with which the invoked object will be opened and closed, the behavior with respect to the type of call, and the size that the layout of the object invoked will occupy in the screen using Call Options.

Total length of videos: 5h

Multiple Layouts in a Grid
Grids. Types and Functionalities
Navigation styles of a mobile application

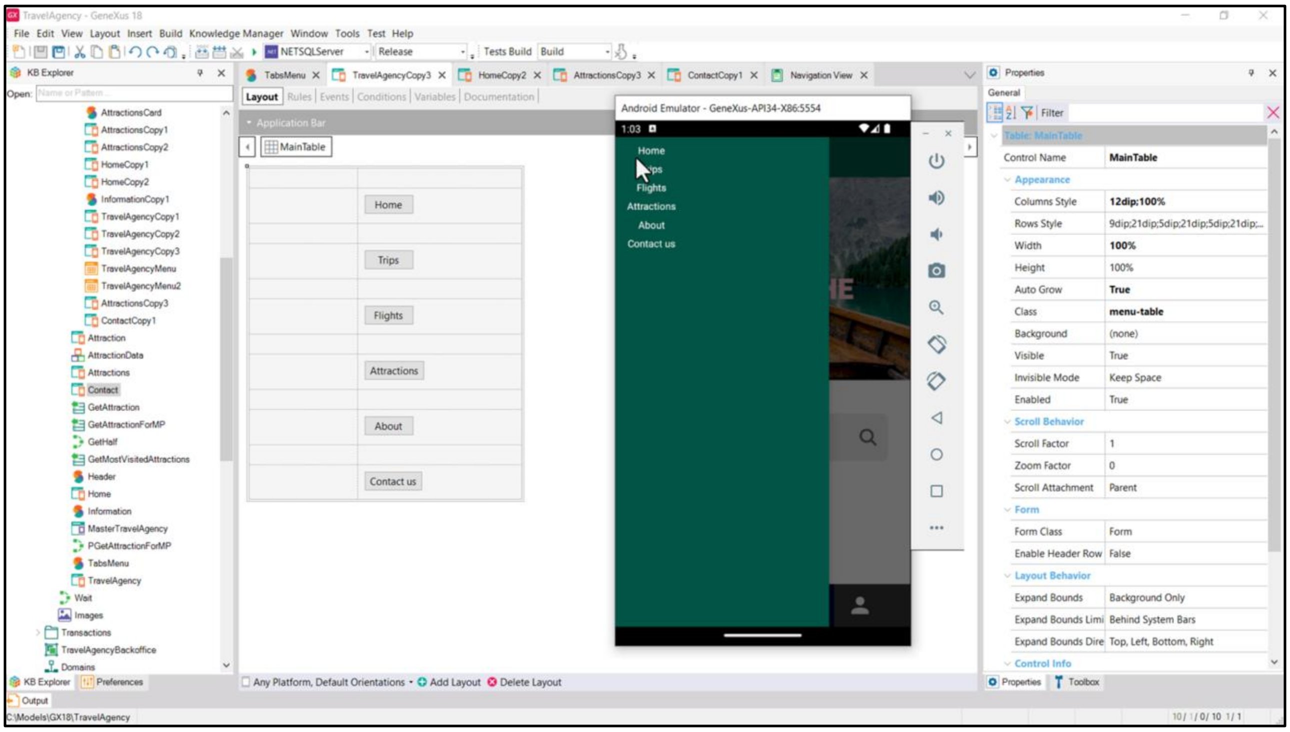
Logic and behavior
Work With Pattern in Mobile
Data loading logic and base tables in a Panel
Events in a Panel
Invocations between Mobile objects

Advanced aspects of Design
Importing a design from Figma

Offline Applications
Introduction to Offline Applications
Generation of the Offline Database object
Offline Database Synchronization

```
Event 'NewEvent'
   ....
   B.CallOptions.Type = CallType.Push
   B(&parm)
   ....
EndEvent
```

I recommend again to watch this video to understand it thoroughly.



Control Name	MainTable
Appearance	
Columns Style	12dip;100%
Rows Style	9dip;21dip;5dip;21dip;5dip;21dip;...
Width	100%
Height	100%
Auto Grow	True
Class	menu-table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Limi	Behind System Bars
Expand Bounds Dire	Top, Left, Bottom, Right
Control Info	

In short: for this solution we chose we have this object as the entry point of the application, automatic hamburger menu (because of the Slide navigation style)...

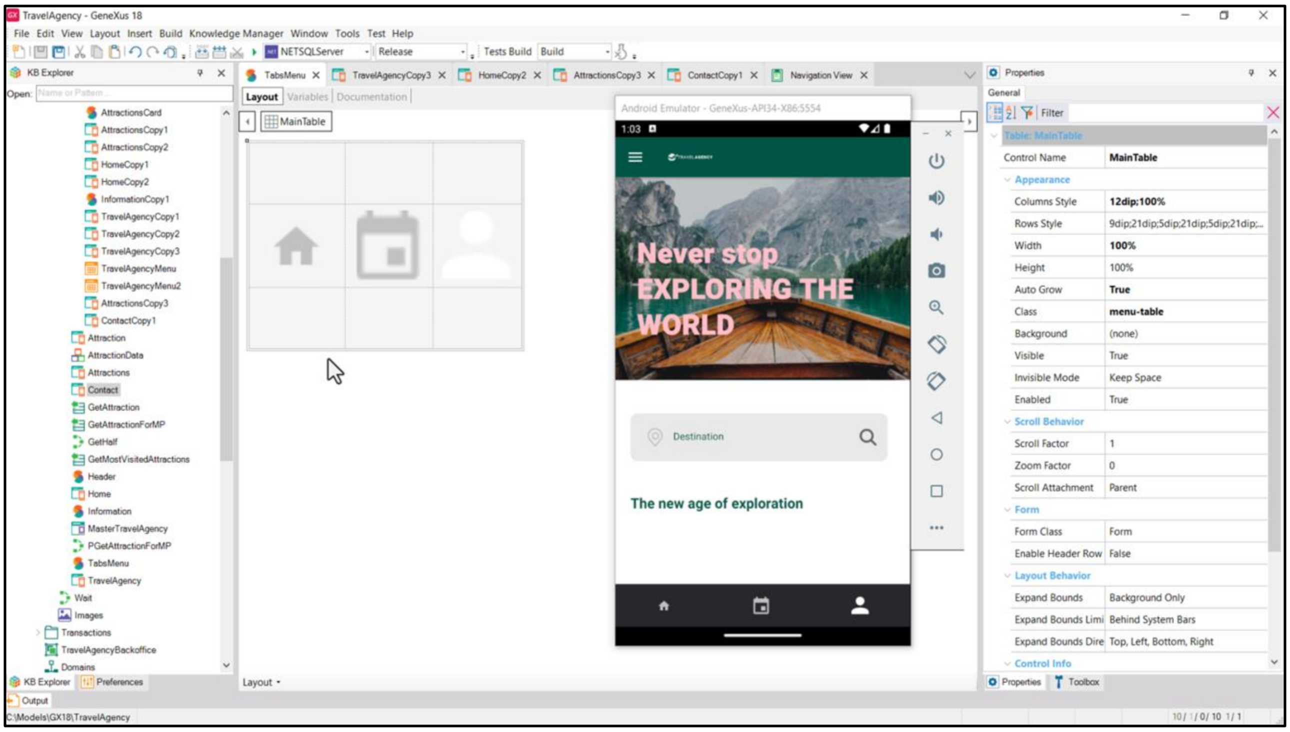
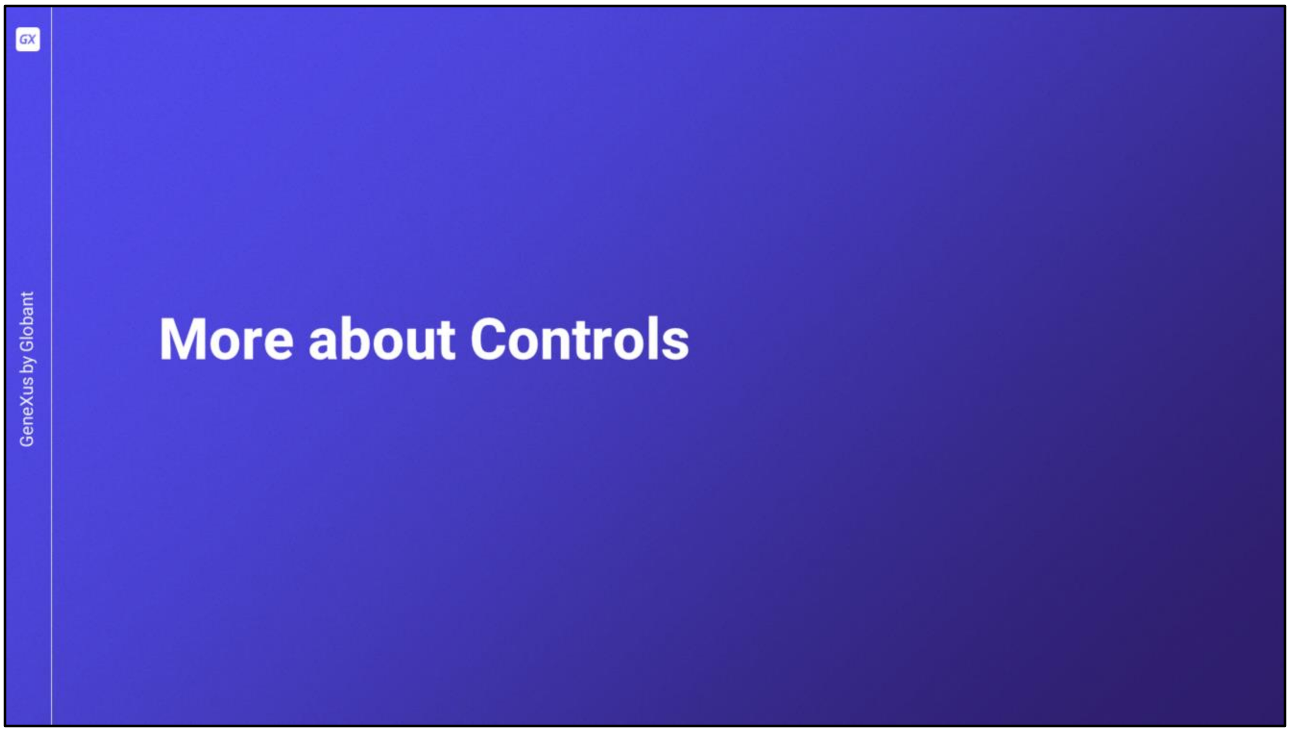

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
KB Explorer
TabsMenu
TravelAgencyCopy3
HomeCopy2
AttractionsCopy3
ContactCopy1
Navigation View
Layout
Variables
Documentation
MainTable
Android Emulator - GeneXus-API34-X86:5554
1:03
Never stop EXPLORING THE WORLD
Destination
The new age of exploration
Properties
Toolbox
Output
C:\Models\GX18\TravelAgency

Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	12dip;100%
Rows Style	9dip;21dip;5dip;21dip;5dip;21dip;...
Width	100%
Height	100%
Auto Grow	True
Class	menu-table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Limi	Behind System Bars
Expand Bounds Dire	Top, Left, Bottom, Right
Control Info	

...and the manually programmed and designed tabs menu.



More about Controls

GeneXus by Globant

I'll show you some aspects for you to explore because I don't want to go that far.

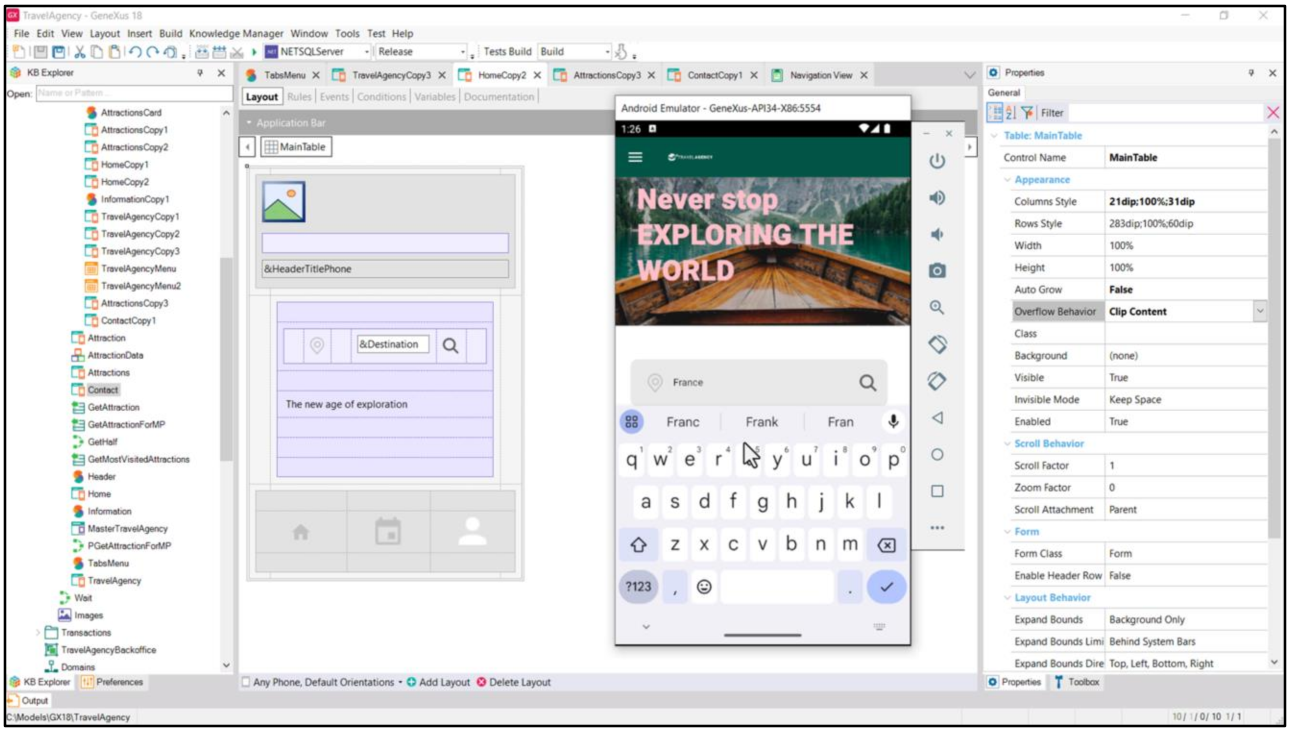
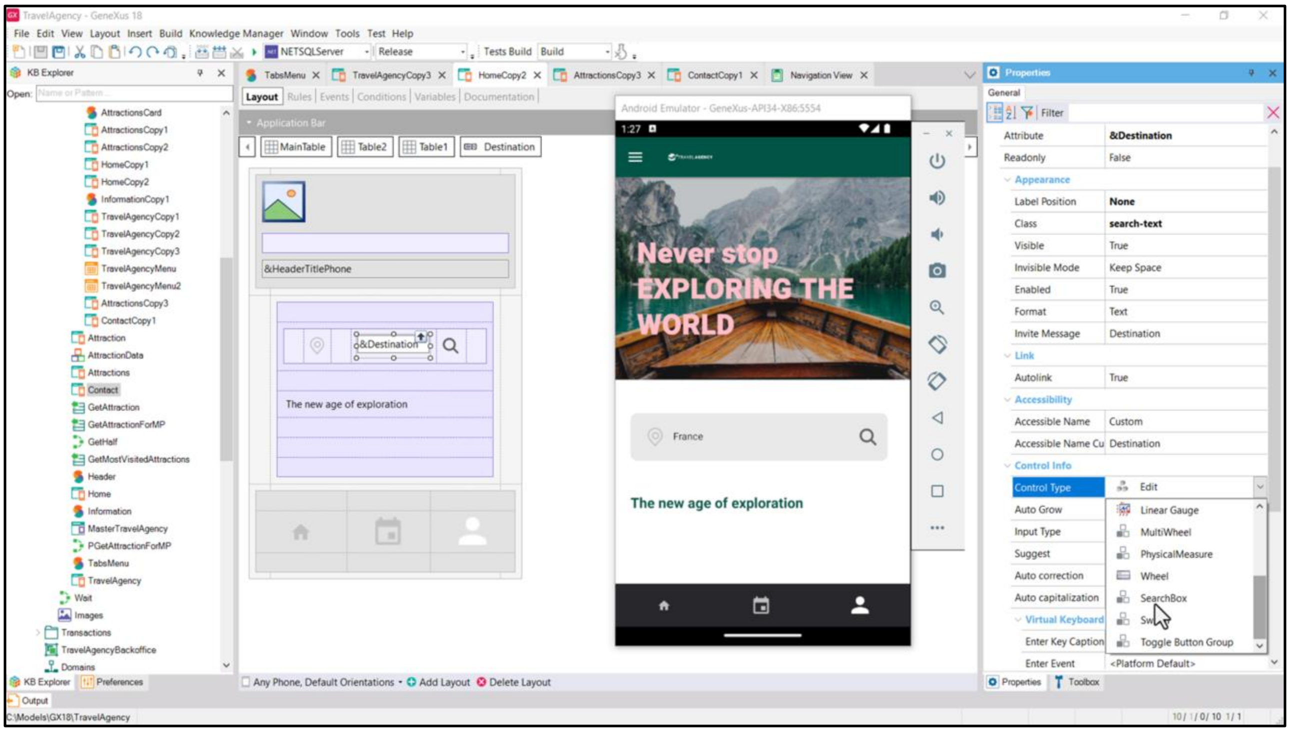


Table: MainTable

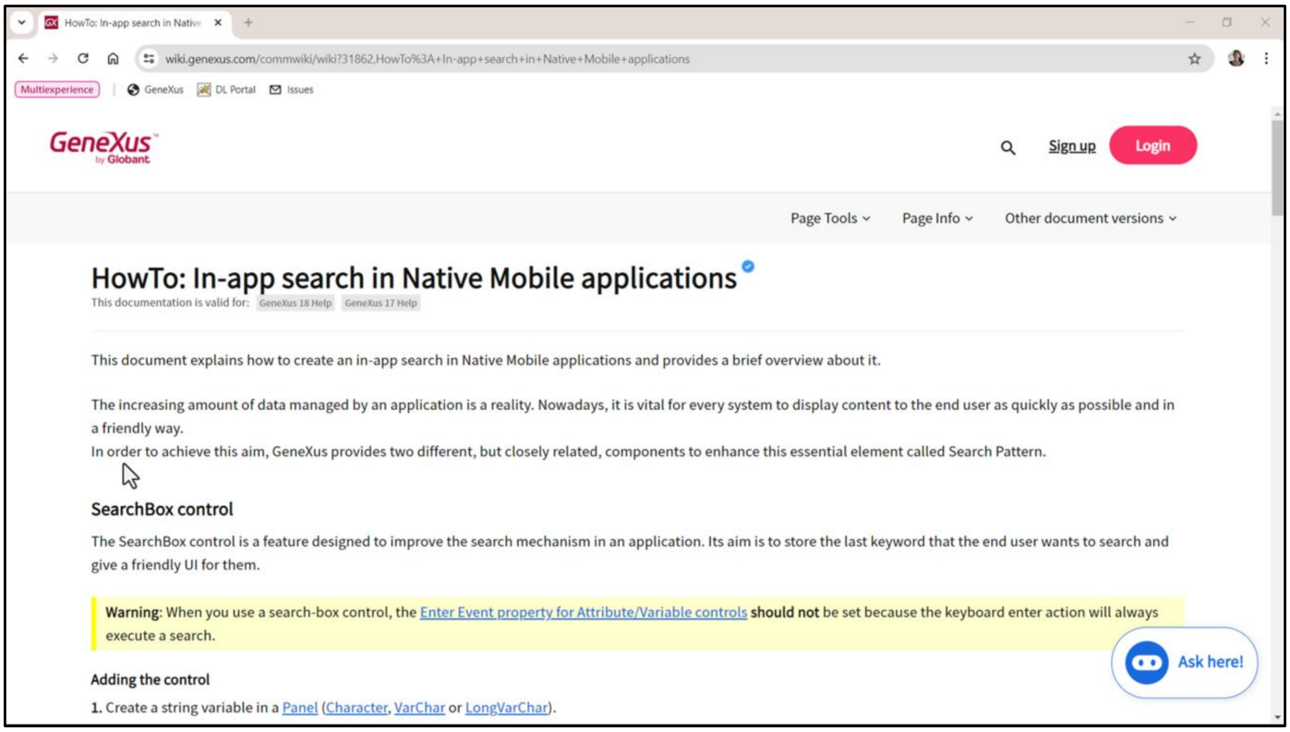
Control Name	MainTable
Appearance	
Columns Style	21dip;100%;31dip
Rows Style	283dip;100%;60dip
Width	100%
Height	100%
Auto Grow	False
Overflow Behavior	Clip Content
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachment	Parent
Form	
Form Class	Form
Enable Header Row	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds Limi	Behind System Bars
Expand Bounds Dire	Top, Left, Bottom, Right

For example, note that in this field I would enter the destination I would like to go to and I would expect it to take me to a screen showing its information (tourist attractions and so on). I don't have that screen implemented, but I want you to see that this feature is built into GeneXus.


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
KB Explorer
TabsMenu
TravelAgencyCopy3
HomeCopy2
AttractionsCopy3
ContactCopy1
Navigation View
Layout Rules Events Conditions Variables Documentation
Android Emulator - GeneXus-API34-X86:5554
Never stop EXPLORING THE WORLD
France
The new age of exploration
&HeaderTitlePhone
&Destination
Linear Gauge
MultiWheel
PhysicalMeasure
Wheel
SearchBox
Toggle Button Group

Attribute	&Destination
Readonly	False
Appearance	
Label Position	None
Class	search-text
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Invite Message	Destination
Link	
Autolink	True
Accessibility	
Accessible Name	Custom
Accessible Name Cu	Destination
Control Info	
Control Type	Edit
Enter Event	<Platform Default>

It can be found through Control Type by choosing Search-Box.


HowTo: In-app search in Native
wiki.genexus.com/commwiki/wiki?31862,HowTo%3A+In-app+search+in+Native+Mobile+applications
Multiexperience
GeneXus
DL Portal
Issues
Sign up
Login
Page Tools
Page Info
Other document versions
Ask here!

HowTo: In-app search in Native Mobile applications

This documentation is valid for: GeneXus 18 Help GeneXus 17 Help

This document explains how to create an in-app search in Native Mobile applications and provides a brief overview about it.

The increasing amount of data managed by an application is a reality. Nowadays, it is vital for every system to display content to the end user as quickly as possible and in a friendly way.
In order to achieve this aim, GeneXus provides two different, but closely related, components to enhance this essential element called Search Pattern.

SearchBox control

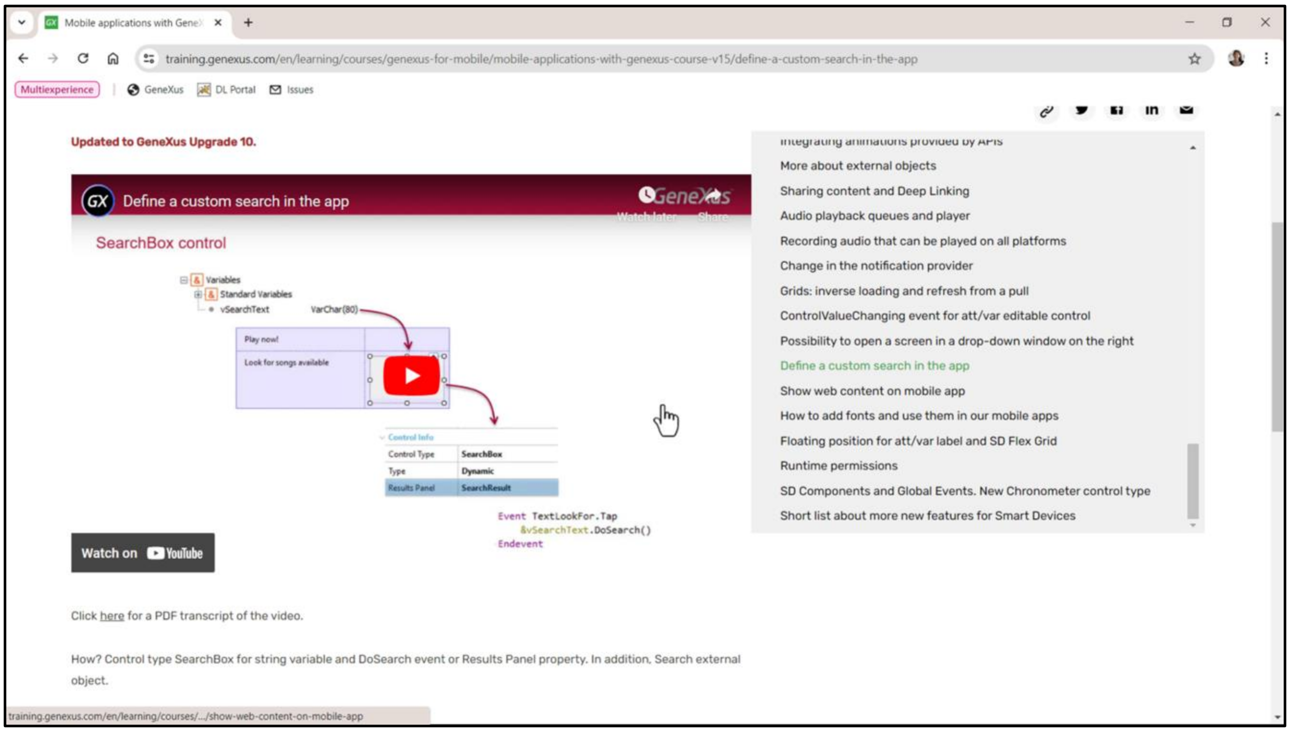
The SearchBox control is a feature designed to improve the search mechanism in an application. Its aim is to store the last keyword that the end user wants to search and give a friendly UI for them.

Warning: When you use a search-box control, the Enter Event property for Attribute/Variable controls **should not** be set because the keyboard enter action will always execute a search.

Adding the control

1. Create a string variable in a Panel (Character, VarChar or LongVarChar).

Here is this wiki page to look into it...


Mobile applications with GeneXus

training.genexus.com/en/learning/courses/genexus-for-mobile/mobile-applications-with-genexus-course-v15/define-a-custom-search-in-the-app

Multiexperience | GeneXus | DL Portal | Issues

Updated to GeneXus Upgrade 10.

Define a custom search in the app

SearchBox control

```
Event TextLookFor.Tap
    &vSearchText.DoSearch()
Endevent
```

Control Info	
Control Type	SearchBox
Type	Dynamic
Results Panel	SearchResult

Watch on YouTube

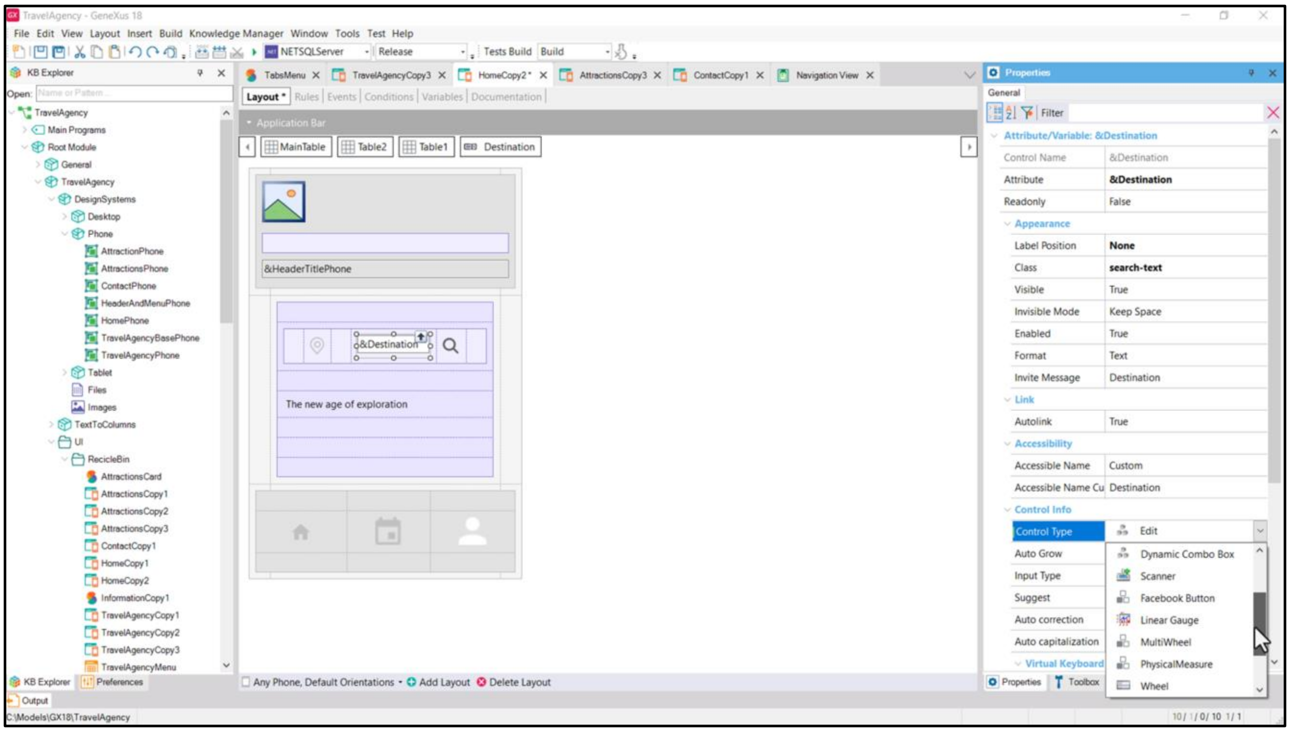
Click here for a PDF transcript of the video.

How? Control type SearchBox for string variable and DoSearch event or Results Panel property. In addition, Search external object.

- Integrating animations provided by APIs
- More about external objects
- Sharing content and Deep Linking
- Audio playback queues and player
- Recording audio that can be played on all platforms
- Change in the notification provider
- Grids: inverse loading and refresh from a pull
- ControlValueChanging event for att/var editable control
- Possibility to open a screen in a drop-down window on the right
- Define a custom search in the app
- Show web content on mobile app
- How to add fonts and use them in our mobile apps
- Floating position for att/var label and SD Flex Grid
- Runtime permissions
- SD Components and Global Events. New Chronometer control type
- Short list about more new features for Smart Devices

training.genexus.com/en/learning/courses/.../show-web-content-on-mobile-app

...and also this video.



Properties — General

Attribute/Variable: &Destination

Control Name	&Destination
Attribute	&Destination
Readonly	False
Appearance	
Label Position	None
Class	search-text
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Invite Message	Destination
Link	
Autolink	True
Accessibility	
Accessible Name	Custom
Accessible Name Cu	Destination
Control Info	
Control Type	Edit
Auto Grow	
Input Type	
Suggest	
Auto correction	
Auto capitalization	
Virtual Keyboard	

Note that for each control of Attribute/Variable type that by default is of Edit type, it can not only be a ComboBox, a Radio Button, a Check box, or a dynamic combo, but all these other options as well.

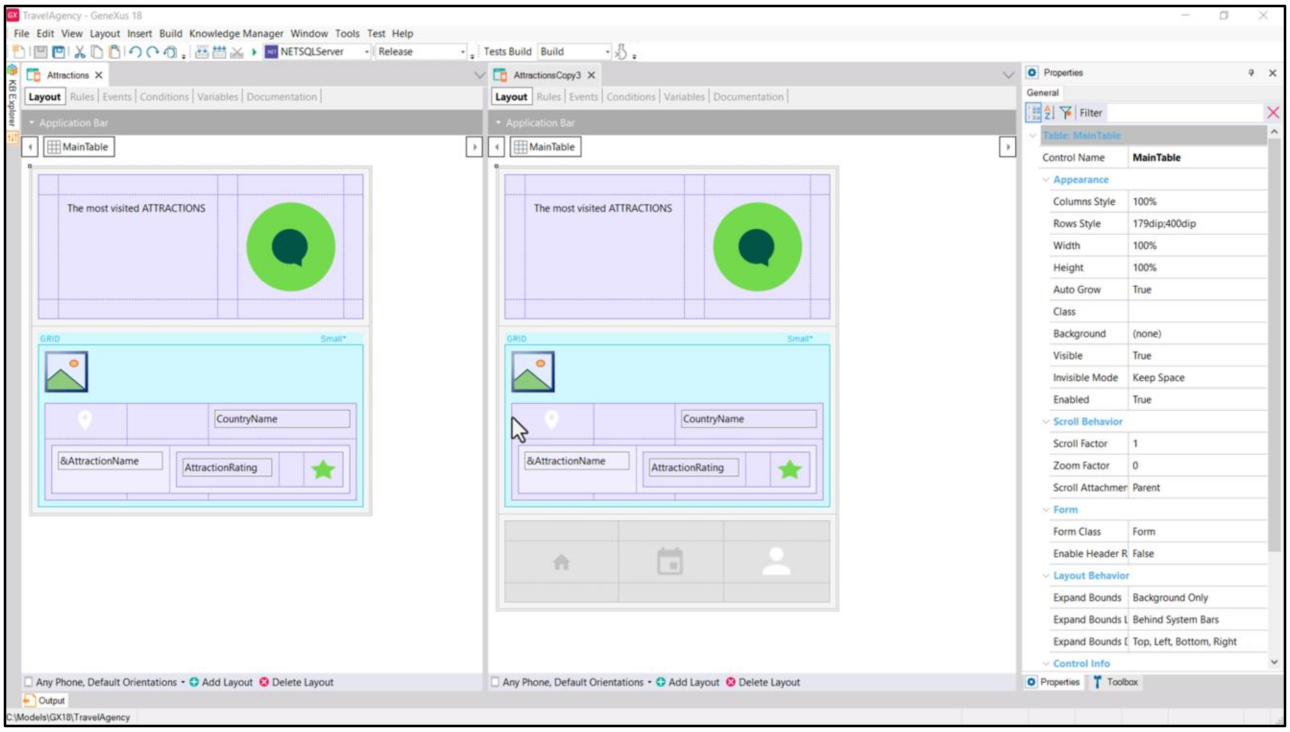

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
Attractions
AttractionsCopy3
Layout | Rules | Events | Conditions | Variables | Documentation
Application Bar
MainTable
The most visited ATTRACTIONS
GRID
Small*
CountryName
&AttractionName
AttractionRating
Any Phone, Default Orientations
Add Layout
Delete Layout
Output
C:\Models\GX18\TravelAgency
Properties
General
Filter
Properties
Toolbox

Table: MainTable

Control Name	MainTable
Appearance	
Columns Style	100%
Rows Style	179dip;400dip
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachmen	Parent
Form	
Form Class	Form
Enable Header R	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds L	Behind System Bars
Expand Bounds [	Top, Left, Bottom, Right
Control Info	

In addition, I don't want to leave out the case of the Grid.

Here I have the Attractions panel and here the copy from which I started to add the tabs. The grid is identical in both for this layout.

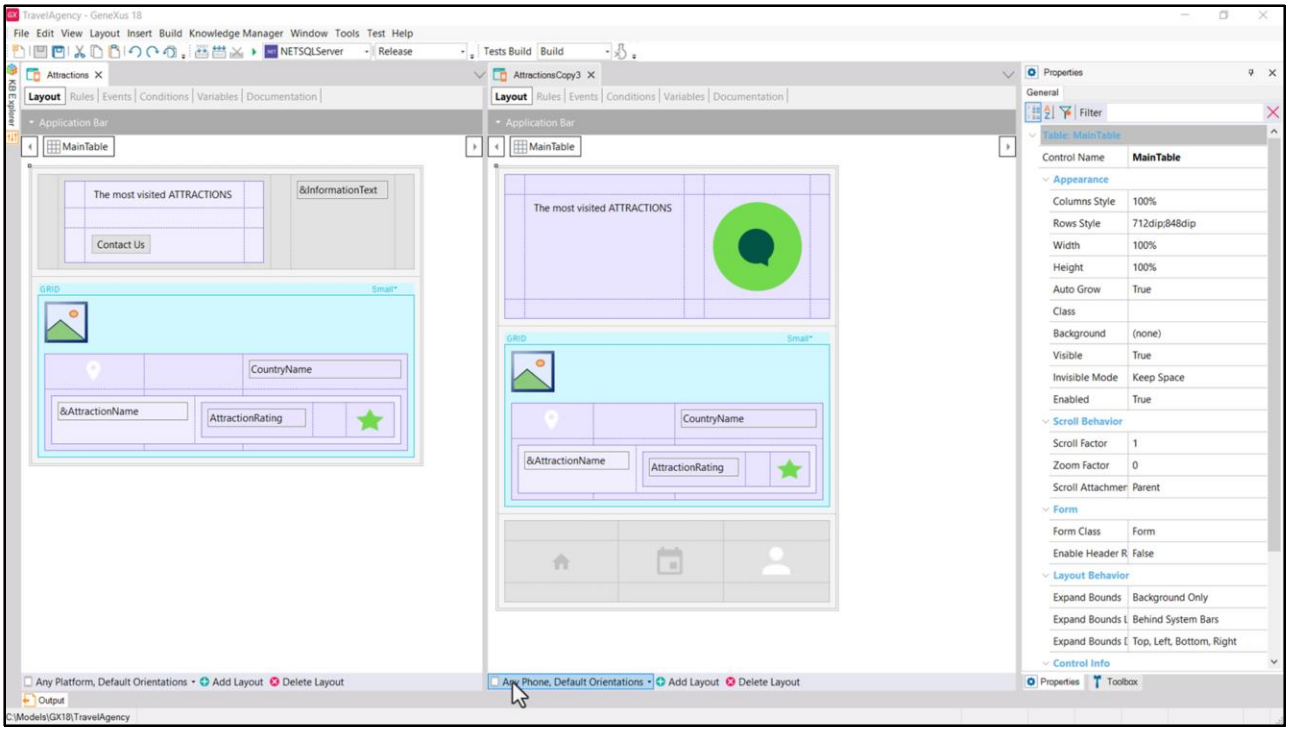
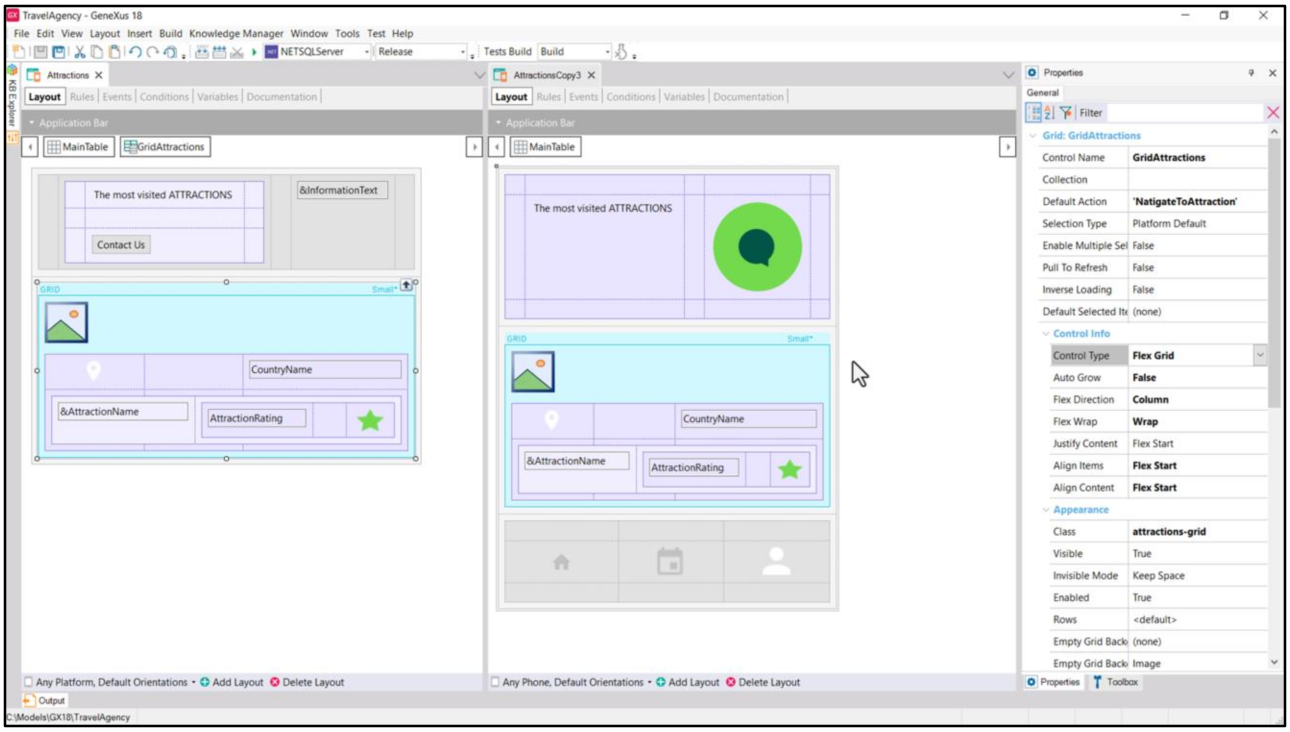

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
Attractions
AttractionsCopy3
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
Small
CountryName
&AttractionName
AttractionRating
Any Platform, Default Orientations
Any Phone, Default Orientations
Add Layout
Delete Layout
Output
C:\Models\GX18\TravelAgency
Properties
General
Filter
Toolbox

Table: MainTable	
Control Name	MainTable
Appearance	
Columns Style	100%
Rows Style	712dip;848dip
Width	100%
Height	100%
Auto Grow	True
Class	
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachmen	Parent
Form	
Form Class	Form
Enable Header R	False
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds L	Behind System Bars
Expand Bounds [	Top, Left, Bottom, Right
Control Info	

What I did when I created the layout for Any Phone was to initialize it with the layout for Any Platform, which was the one we implemented in the previous modules of the course, for Angular Desktop size.

I'm going to leave that layout on this side, and here the Any Phone layout, for this copy, so we can easily compare them.


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build Build
Attractions
AttractionsCopy3
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
GridAttractions
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
Small
CountryName
&AttractionName
AttractionRating
Any Platform, Default Orientations • Add Layout Delete Layout
Any Phone, Default Orientations • Add Layout Delete Layout
Output
C:\Models\GX18\TravelAgency
Properties
General
Filter
Properties Toolbox

Grid: GridAttractions

Control Name	GridAttractions
Collection	
Default Action	'NatigateToAttraction'
Selection Type	Platform Default
Enable Multiple Sel	False
Pull To Refresh	False
Inverse Loading	False
Default Selected Ite	(none)

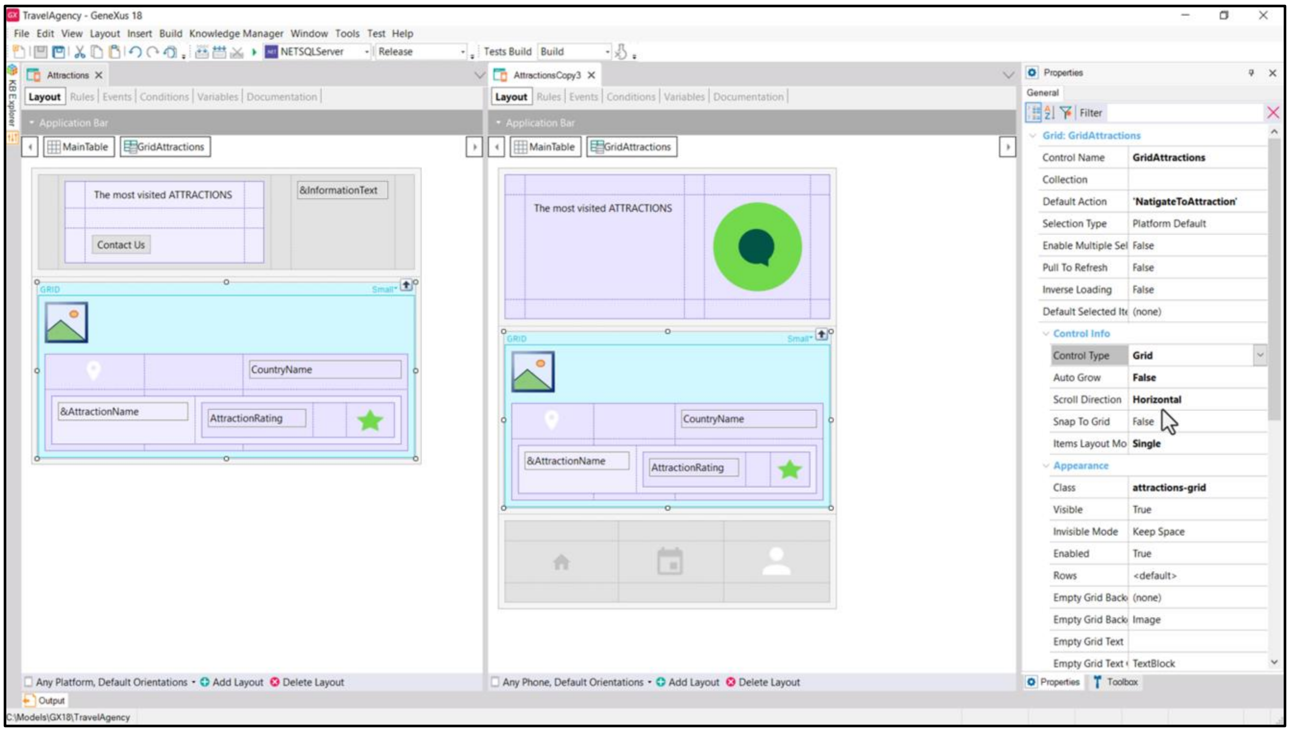
Control Info

Control Type	Flex Grid
Auto Grow	False
Flex Direction	Column
Flex Wrap	Wrap
Justify Content	Flex Start
Align Items	Flex Start
Align Content	Flex Start

Appearance

Class	attractions-grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Backg	(none)
Empty Grid Backg	Image

So what I did in order to quickly show you a nice looking panel for Android Phone was to simply change the type of Flex grid...


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
Attractions
AttractionsCopy3
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
GridAttractions
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
Small
CountryName
&AttractionName
AttractionRating
Any Platform, Default Orientations
Add Layout
Delete Layout
Any Phone, Default Orientations
Output
C:\Models\GX18\TravelAgency
Properties
General
Filter
Toolbox

Grid: GridAttractions

Control Name	GridAttractions
Collection	
Default Action	'NatigateToAttraction'
Selection Type	Platform Default
Enable Multiple Sel	False
Pull To Refresh	False
Inverse Loading	False
Default Selected Ite	(none)

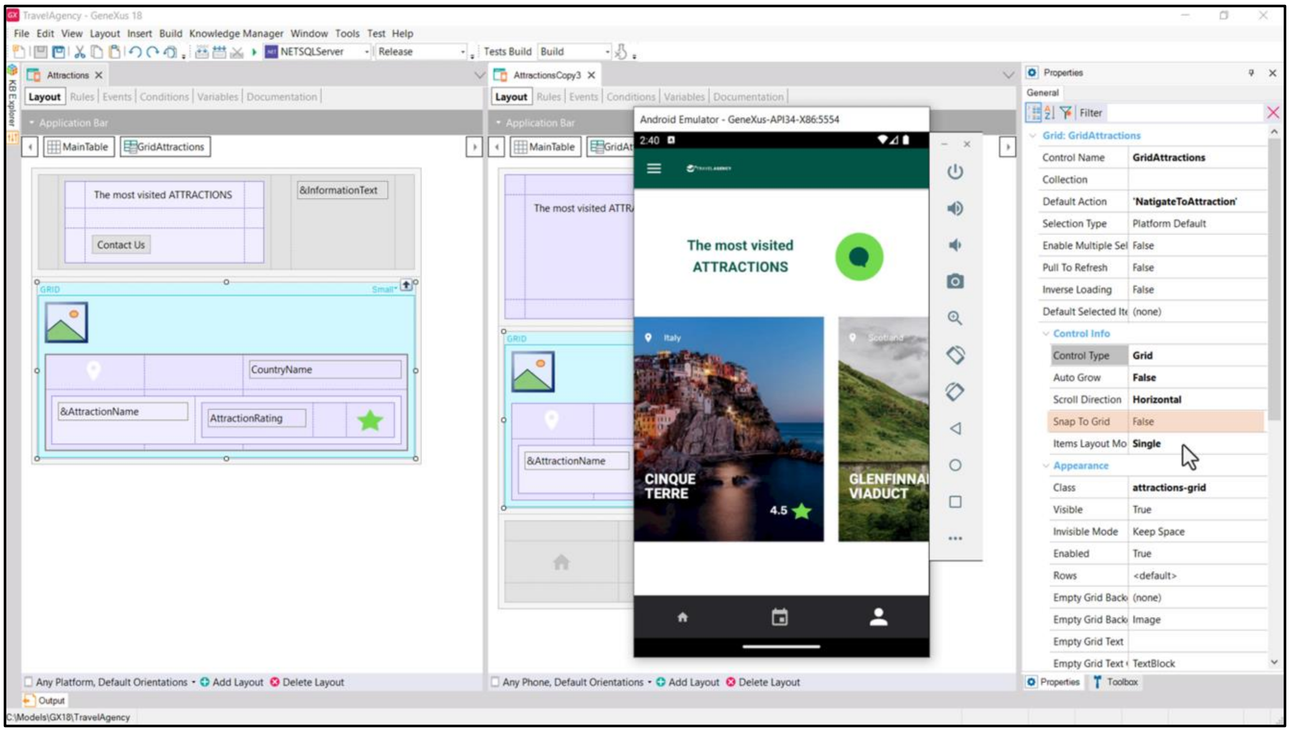
Control Info

Control Type	Grid
Auto Grow	False
Scroll Direction	Horizontal
Snap To Grid	False
Items Layout Mo	Single

Appearance

Class	attractions-grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Backi	(none)
Empty Grid Backi	Image
Empty Grid Text	
Empty Grid Text	TextBlock

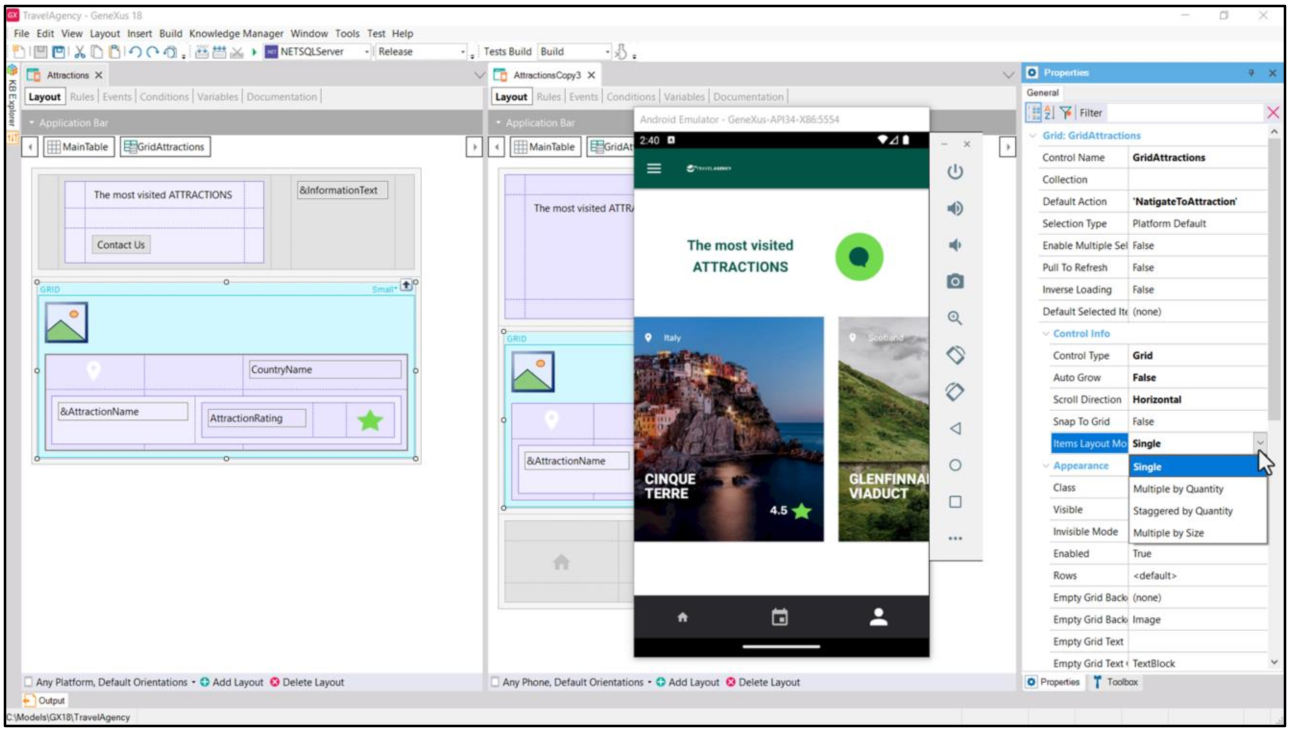
...to standard grid but with horizontal Scroll Direction...


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build
Build
Attractions
AttractionsCopy3
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
GridAttractions
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
CountryName
&AttractionName
AttractionRating
Android Emulator - GeneXus-API34-X86:5554
2:40
The most visited ATTRACTIONS
Italy
Scotland
CINQUE TERRE
4.5
GLENFINNAN VIADUCT
Any Platform, Default Orientations
Add Layout
Delete Layout
Any Phone, Default Orientations
Output
C:\Models\GX18\TravelAgency
Properties
General
Filter
Toolbox

Grid: GridAttractions

Control Name	GridAttractions
Collection	
Default Action	'NatigateToAttraction'
Selection Type	Platform Default
Enable Multiple Sel	False
Pull To Refresh	False
Inverse Loading	False
Default Selected Ite	(none)
Control Info	
Control Type	Grid
Auto Grow	False
Scroll Direction	Horizontal
Snap To Grid	False
Items Layout Mo	Single
Appearance	
Class	attractions-grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Back	(none)
Empty Grid Back	Image
Empty Grid Text	
Empty Grid Text	TextBlock

Note that the items remain fixed in the place where we stop scrolling, even if they are split on the screen. This behavior is given by this property.

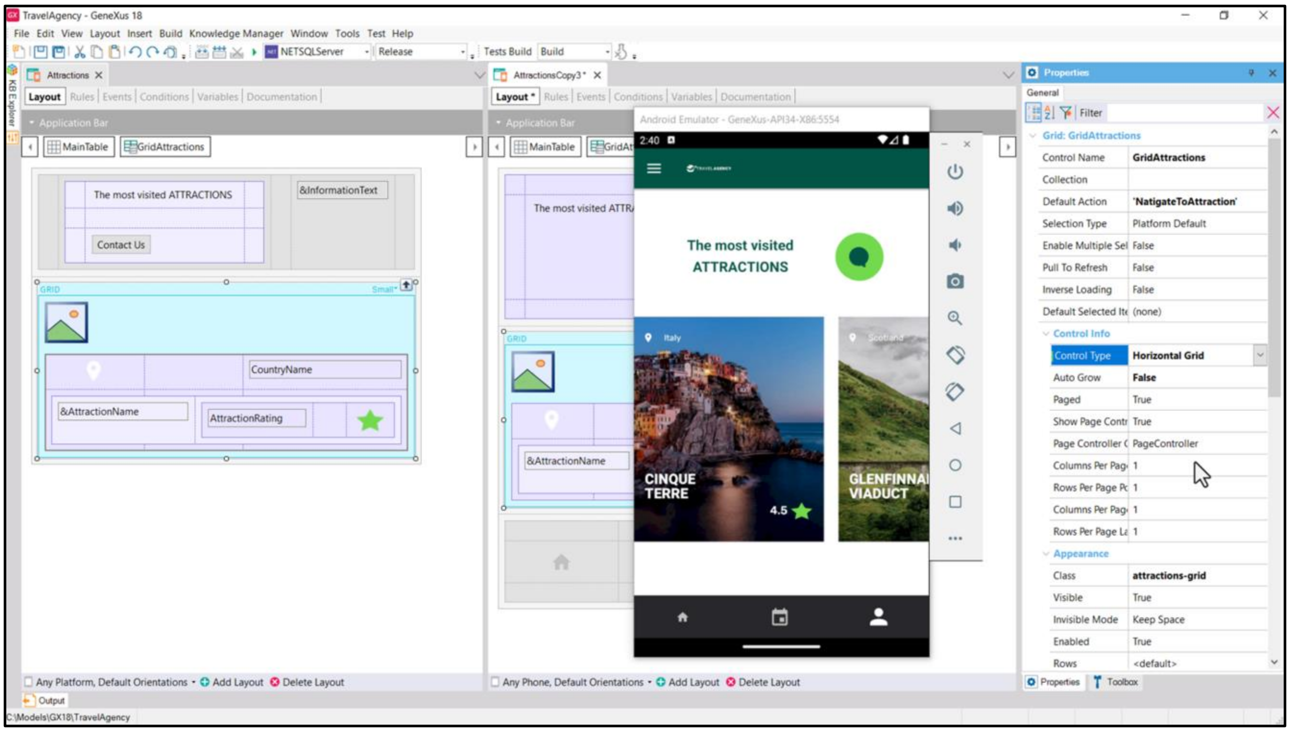

TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer
Release
Tests Build Build
Attractions
AttractionsCopy3
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable
GridAttractions
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID
Small
CountryName
&AttractionName
AttractionRating
Android Emulator - GeneXus-API34-X86:5554
2:40
The most visited ATTRACTIONS
Italy
CINQUE TERRE
4.5
Scotland
GLENFINNAN VIADUCT
Any Platform, Default Orientations
Add Layout
Delete Layout
Any Phone, Default Orientations
Output
C:\Models\GX18\TravelAgency
Properties
General
Filter
Toolbox

Grid: GridAttractions

Control Name	GridAttractions
Collection	
Default Action	'NatigateToAttraction'
Selection Type	Platform Default
Enable Multiple Sel	False
Pull To Refresh	False
Inverse Loading	False
Default Selected Ite	(none)
Control Info	
Control Type	Grid
Auto Grow	False
Scroll Direction	Horizontal
Snap To Grid	False
Items Layout Mo	Single
Appearance	
Class	
Visible	
Invisible Mode	
Enabled	True
Rows	<default>
Empty Grid Backg	(none)
Empty Grid Backg	Image
Empty Grid Text	
Empty Grid Text	TextBlock

Single
Multiple by Quantity
Staggered by Quantity
Multiple by Size

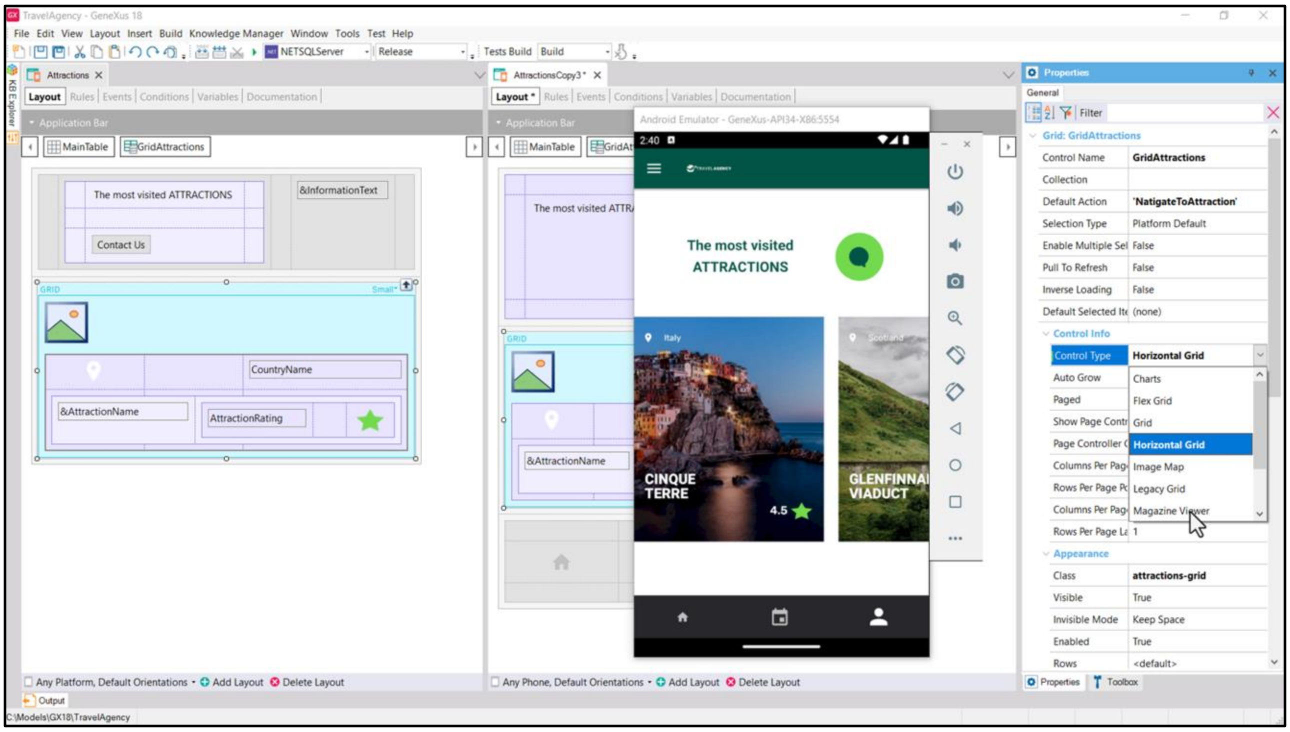
On the other hand, see all these options offered by the Item Layout Mode property...



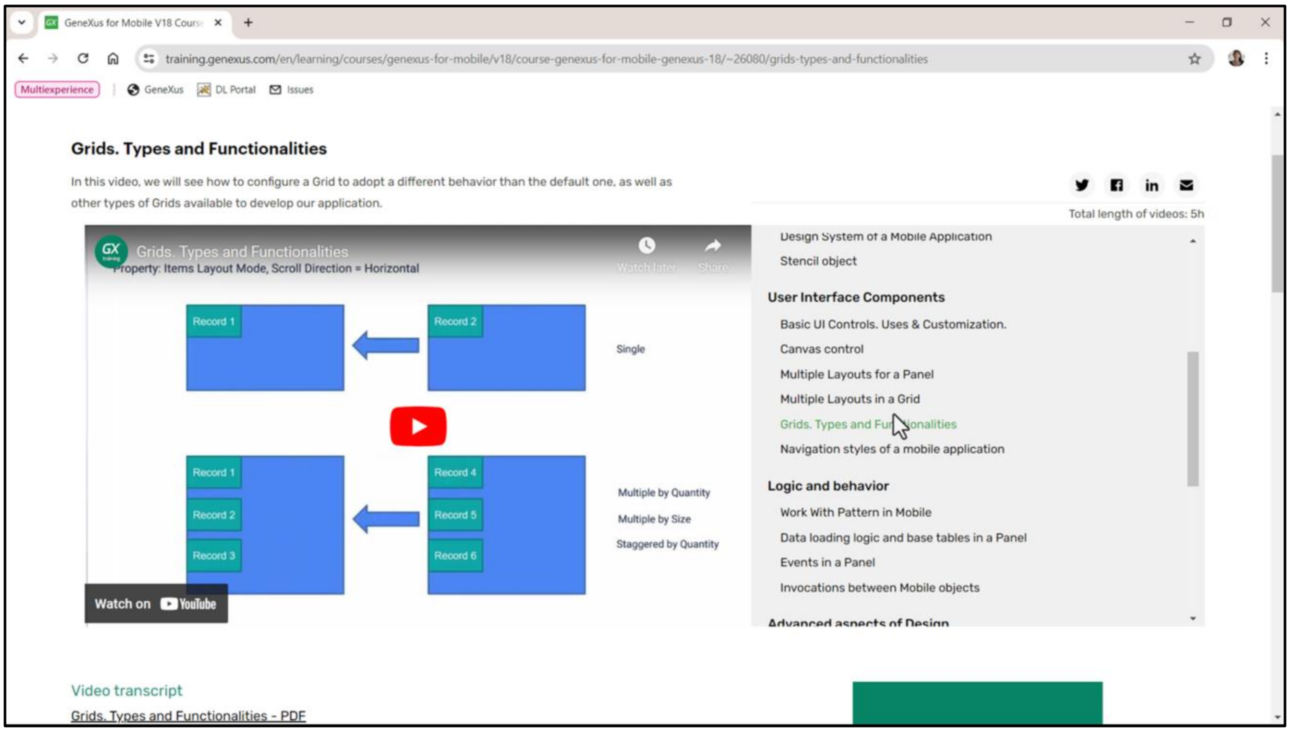
Grid: GridAttractions

Control Name	GridAttractions
Collection	
Default Action	'NatigateToAttraction'
Selection Type	Platform Default
Enable Multiple Sel	False
Pull To Refresh	False
Inverse Loading	False
Default Selected Ite	(none)
Control Info	
Control Type	Horizontal Grid
Auto Grow	False
Paged	True
Show Page Contr	True
Page Controller (	PageController
Columns Per Pag	1
Rows Per Page Pc	1
Columns Per Pag	1
Rows Per Page La	1
Appearance	
Class	attractions-grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>

And also note that we could have chosen Horizontal Grid instead.



It will be useful to understand the differences, as well as the particularities of all these other types of grids, in order to choose in each case the one that best suits our needs.


GeneXus for Mobile V18 Course

training.genexus.com/en/learning/courses/genexus-for-mobile/v18/course-genexus-for-mobile-genexus-18/~26080/grids-types-and-functionalities

Multiexperience | GeneXus | DL Portal | Issues

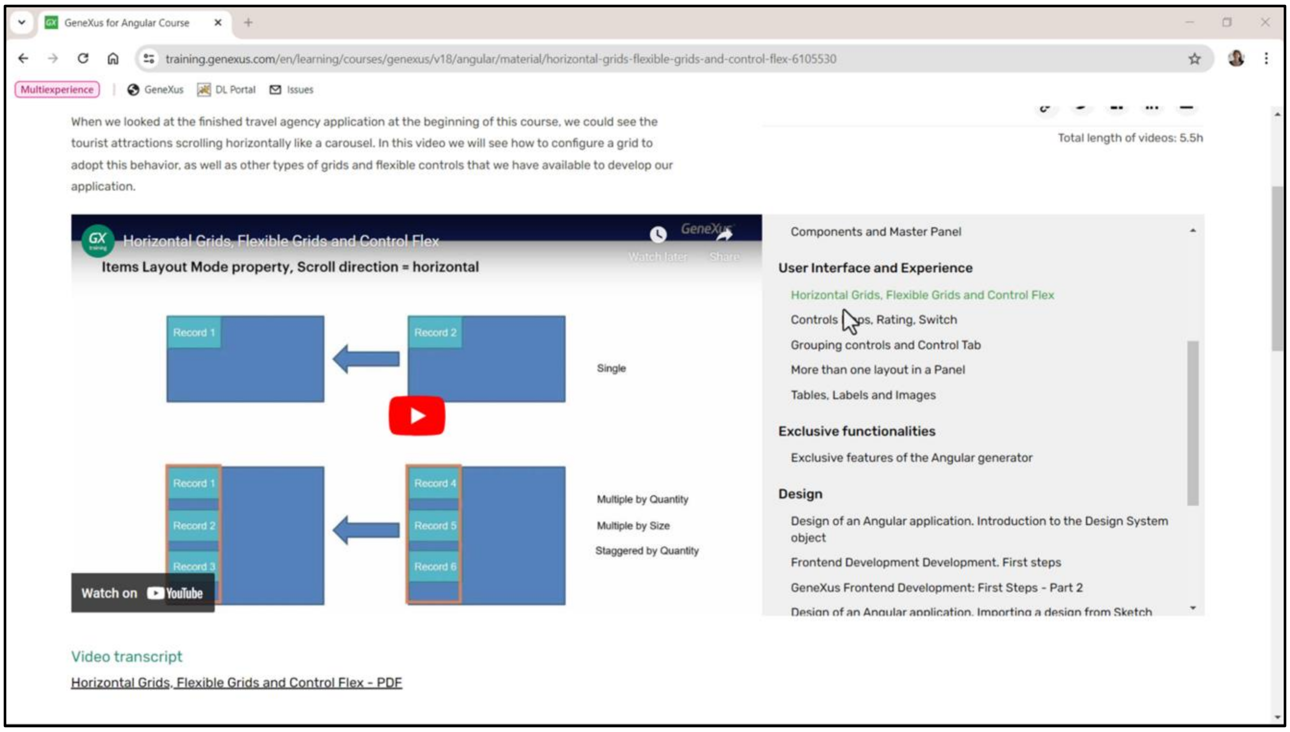
Grids. Types and Functionalities

In this video, we will see how to configure a Grid to adopt a different behavior than the default one, as well as other types of Grids available to develop our application.

Total length of videos: 5h

Video transcript
Grids. Types and Functionalities - PDF

As an initial approach, I recommend this video from the Mobile course.



GeneXus for Angular Course

training.genexus.com/en/learning/courses/genexus/v18/angular/material/horizontal-grids-flexible-grids-and-control-flex-6105530

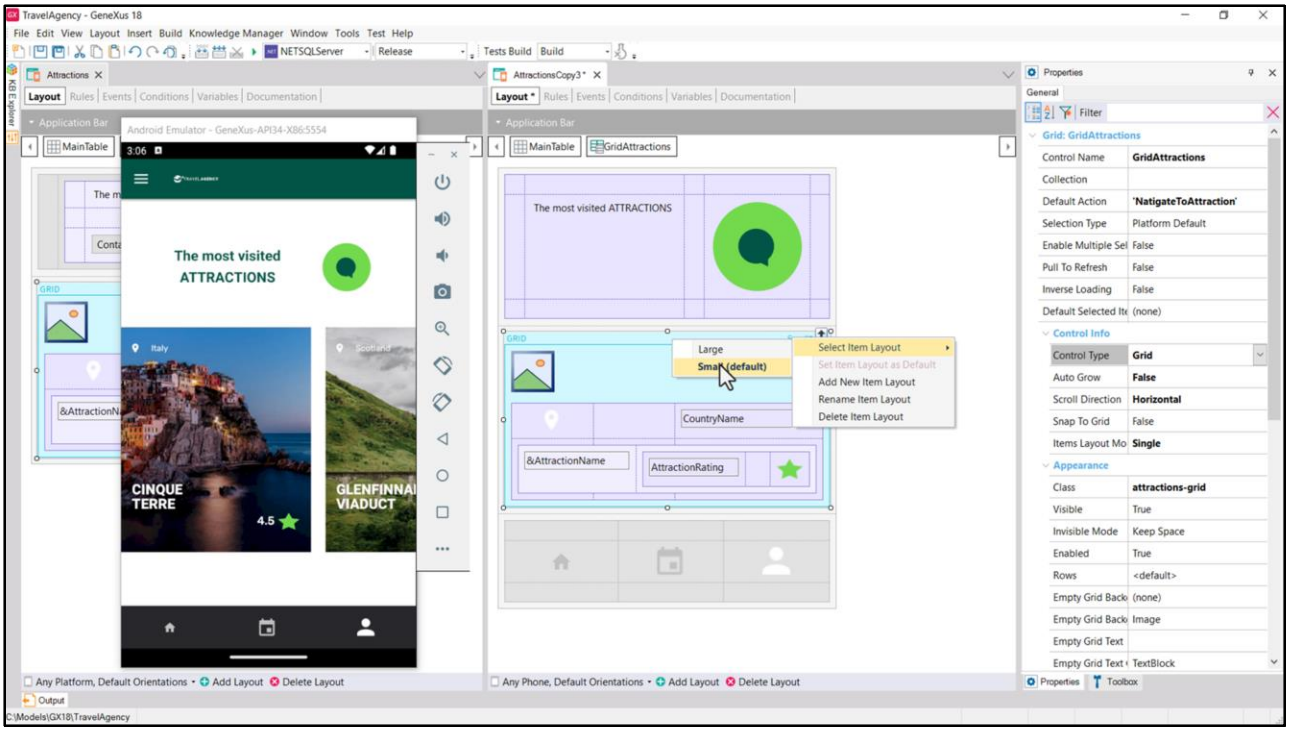
When we looked at the finished travel agency application at the beginning of this course, we could see the tourist attractions scrolling horizontally like a carousel. In this video we will see how to configure a grid to adopt this behavior, as well as other types of grids and flexible controls that we have available to develop our application.

Total length of videos: 5.5h

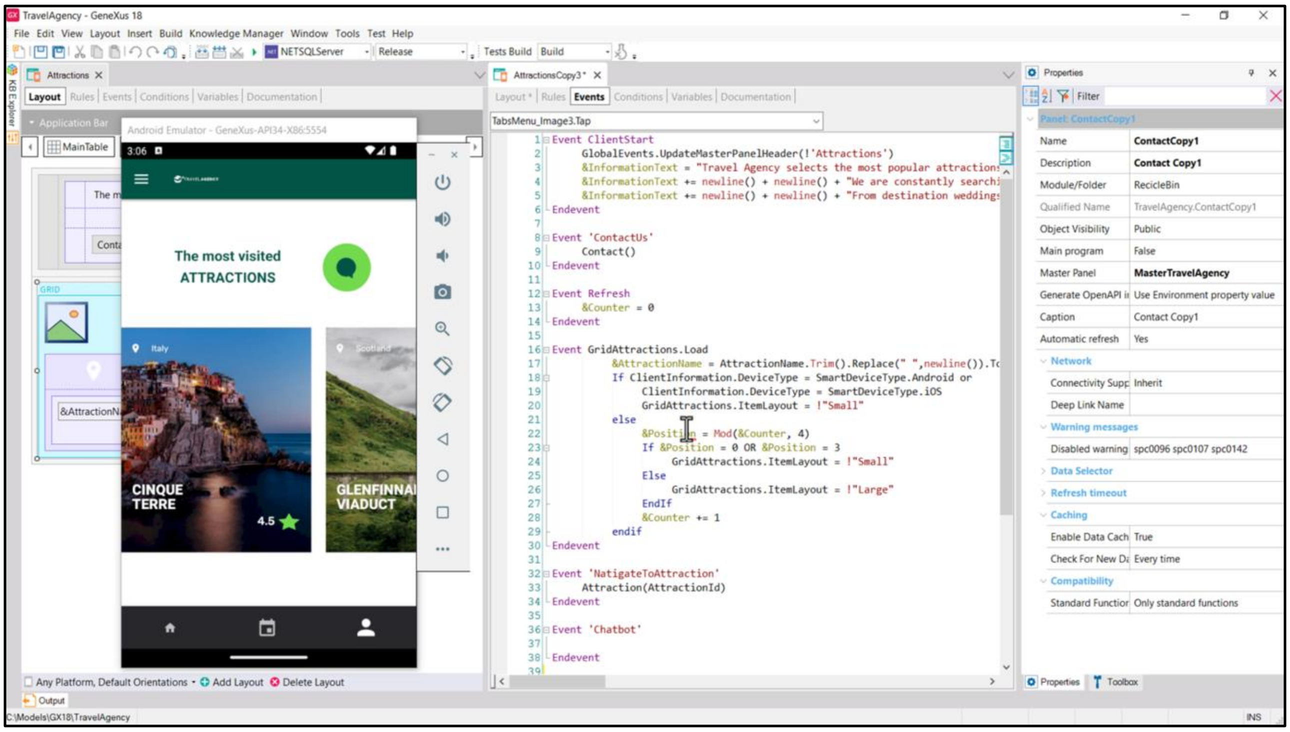
Video transcript

Horizontal Grids, Flexible Grids and Control Flex - PDF

Note that much (if not all) of this applies equally to Angular.



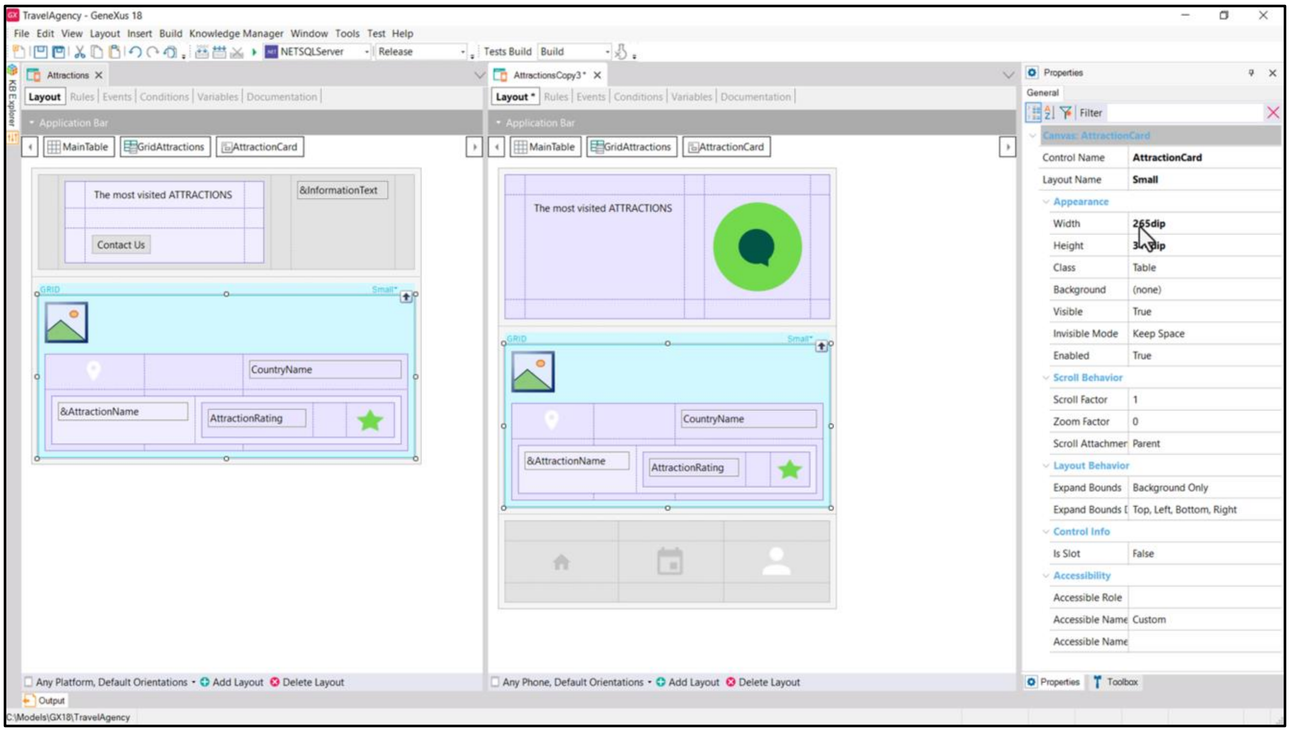
Going back to our case, to make the Attractions screen look like this, the other thing I did was to use only the Small layout item...



```
Event ClientStart
      GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
      &InformationText = "Travel Agency selects the most popular attractions
      &InformationText += newline() + newline() + "We are constantly searchi
      &InformationText += newline() + newline() + "From destination weddings
Endevent

Event 'ContactUs'
      Contact()
Endevent

Event Refresh
      &Counter = 0
Endevent

Event GridAttractions.Load
            &AttractionName = AttractionName.Trim().Replace(" ",newline()).To
            If ClientInformation.DeviceType = SmartDeviceType.Android or
                  ClientInformation.DeviceType = SmartDeviceType.iOS
                  GridAttractions.ItemLayout = !"Small"
            else
                  &Position = Mod(&Counter, 4)
                  If &Position = 0 OR &Position = 3
                        GridAttractions.ItemLayout = !"Small"
                  Else
                        GridAttractions.ItemLayout = !"Large"
                  EndIf
                  &Counter += 1
            endif
Endevent

Event 'NatigateToAttraction'
      Attraction(AttractionId)
Endevent

Event 'Chatbot'

Endevent
```

Name	ContactCopy1
Description	Contact Copy1
Module/Folder	RecicleBin
Qualified Name	TravelAgency.ContactCopy1
Object Visibility	Public
Main program	False
Master Panel	MasterTravelAgency
Generate OpenAPI i	Use Environment property value
Caption	Contact Copy1
Automatic refresh	Yes
Connectivity Supp	Inherit
Deep Link Name	
Disabled warning	spc0096 spc0107 spc0142
Enable Data Cach	True
Check For New Da	Every time
Standard Functior	Only standard functions

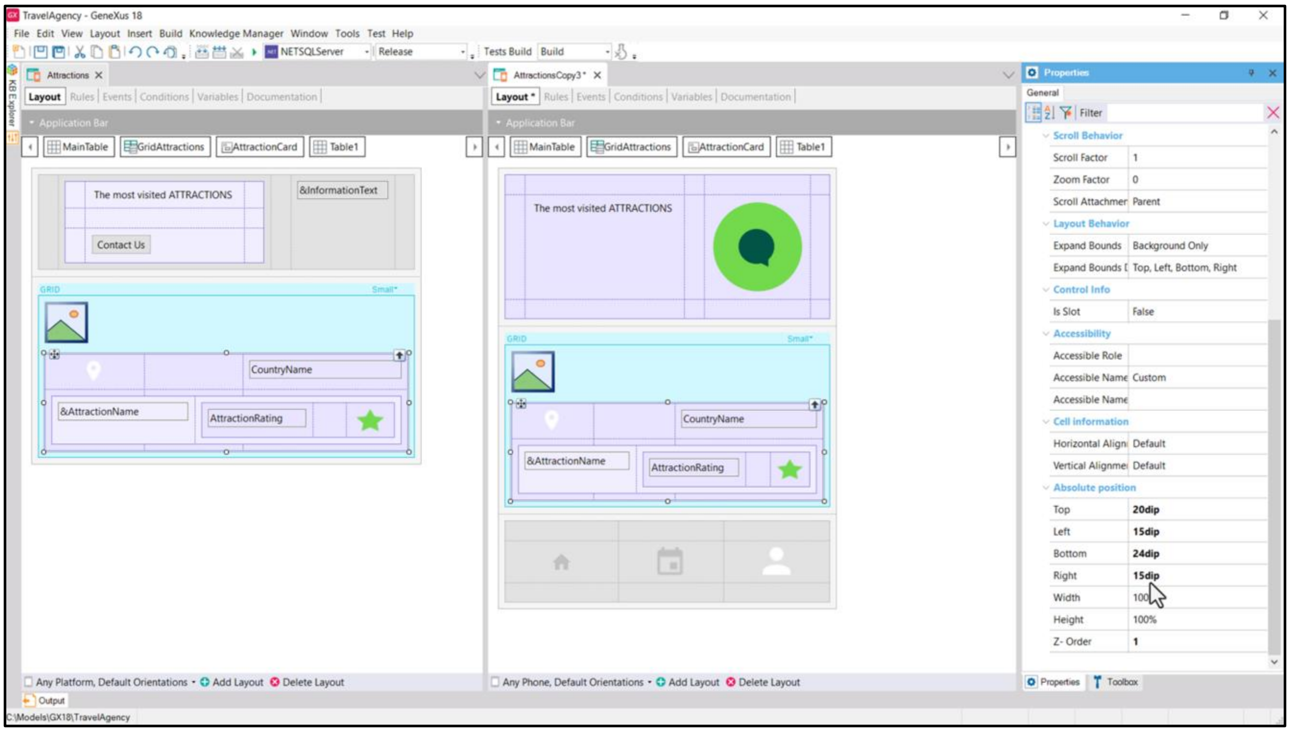
Note that in the Load event it will only execute the *else* that loads both items layouts if it is not Android or Apple.


TravelAgency - GeneXus 18
File Edit View Layout Insert Build Knowledge Manager Window Tools Test Help
NETSQLServer Release Tests Build Build
Attractions
AttractionsCopy3 *
Layout Rules Events Conditions Variables Documentation
Application Bar
MainTable GridAttractions AttractionCard
The most visited ATTRACTIONS
&InformationText
Contact Us
GRID Small
CountryName
&AttractionName
AttractionRating
Any Platform, Default Orientations Add Layout Delete Layout
Any Phone, Default Orientations Add Layout Delete Layout
Output
C:\Models\GX18\TravelAgency
Properties Toolbox

Properties — General — Canvas: AttractionCard

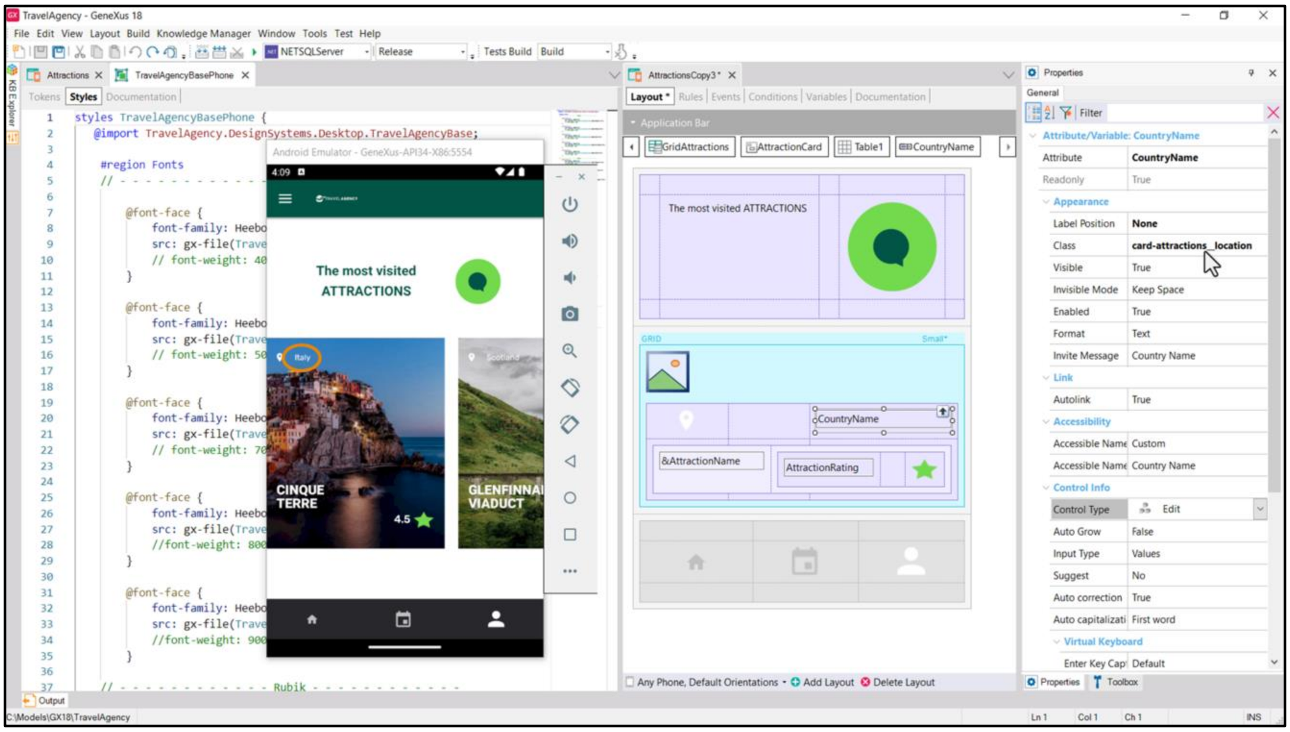
Control Name	AttractionCard
Layout Name	Small
Appearance	
Width	265dip
Height	3[illegible]dip
Class	Table
Background	(none)
Visible	True
Invisible Mode	Keep Space
Enabled	True
Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachmer	Parent
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds [	Top, Left, Bottom, Right
Control Info	
Is Slot	False
Accessibility	
Accessible Role	
Accessible Name	Custom
Accessible Name	

And then all I had to do was adjust the height and width of the canvas....



Scroll Behavior	
Scroll Factor	1
Zoom Factor	0
Scroll Attachmer	Parent
Layout Behavior	
Expand Bounds	Background Only
Expand Bounds [	Top, Left, Bottom, Right
Control Info	
Is Slot	False
Accessibility	
Accessible Role	
Accessible Name	Custom
Accessible Name	
Cell information	
Horizontal Align	Default
Vertical Alignme	Default
Absolute position	
Top	20dip
Left	15dip
Bottom	24dip
Right	15dip
Width	100
Height	100%
Z- Order	1

...and some of the distances from the edges.



```
styles TravelAgencyBasePhone {
   @import TravelAgency.DesignSystems.Desktop.TravelAgencyBase;

    #region Fonts
    // - - - - - - - - - - - - -

        @font-face {
            font-family: Heebo
            src: gx-file(Trave
            // font-weight: 40
        }

        @font-face {
            font-family: Heebo
            src: gx-file(Trave
            // font-weight: 50
        }

        @font-face {
            font-family: Heebo
            src: gx-file(Trave
            // font-weight: 70
        }

        @font-face {
            font-family: Heebo
            src: gx-file(Trave
            //font-weight: 800
        }

        @font-face {
            font-family: Heebo
            src: gx-file(Trave
            //font-weight: 900
        }

    // - - - - - - - - - - - - - - Rubik - - - - - - - - - - - -
```

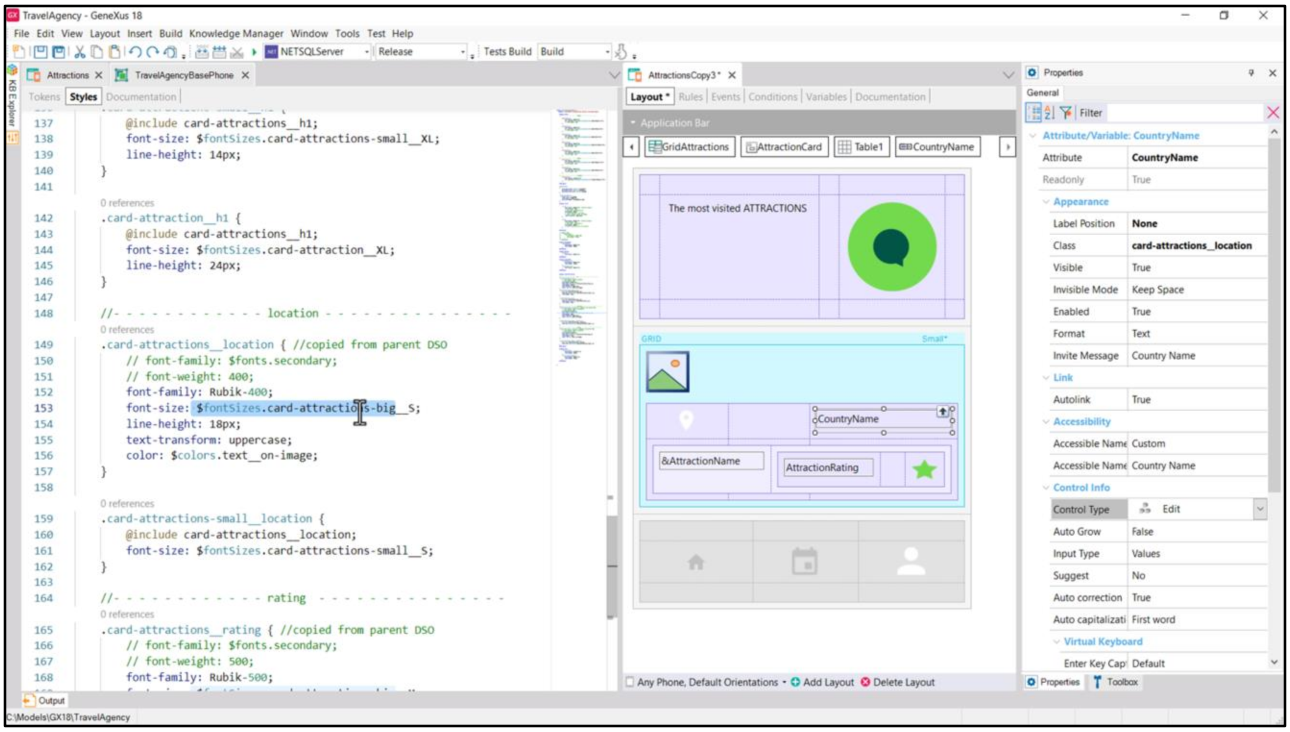
Attribute/Variable: CountryName	
Attribute	CountryName
Readonly	True
Appearance	
Label Position	None
Class	card-attractions_location
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Invite Message	Country Name
Link	
Autolink	True
Accessibility	
Accessible Name	Custom
Accessible Name	Country Name
Control Info	
Control Type	Edit
Auto Grow	False
Input Type	Values
Suggest	No
Auto correction	True
Auto capitalizati	First word
Virtual Keyboard	
Enter Key Cap	Default

As for the classes and DSOs, I didn't have to do almost anything else to make everything look like this.

If at the beginning of this module it may have seemed that multiexperience was troublesome, here it will be quite the opposite: I open the base DSO for Phone that we were working on, which was built on top of the base DSO for Angular Desktop, updating the font size tokens and the typography classes.

And note how little work I had to do to style the screen for Android.

For example, the name of the country is looking like this and it's because of this class that had the same control for the Any Platform layout (the one we used for Angular Desktop)... which I didn't change at all when I created the new layout from this other one...



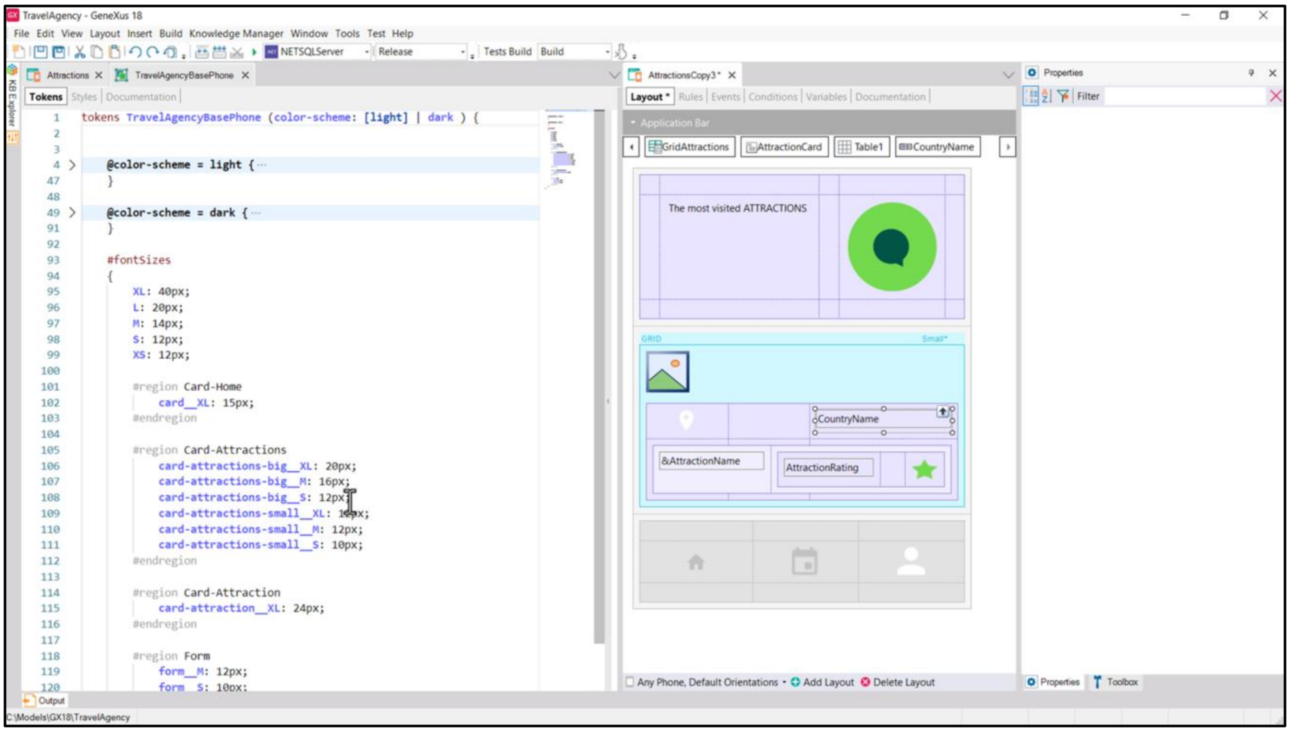
```
        @include card-attractions__h1;
        font-size: $fontSizes.card-attractions-small__XL;
        line-height: 14px;
    }

    0 references
    .card-attraction__h1 {
        @include card-attractions__h1;
        font-size: $fontSizes.card-attraction__XL;
        line-height: 24px;
    }

    //- - - - - - - - - - - - - location - - - - - - - - - - - - - - -
    0 references
    .card-attractions__location { //copied from parent DSO
        // font-family: $fonts.secondary;
        // font-weight: 400;
        font-family: Rubik-400;
        font-size: $fontSizes.card-attractions-big__S;
        line-height: 18px;
        text-transform: uppercase;
        color: $colors.text__on-image;
    }

    0 references
    .card-attractions-small__location {
        @include card-attractions__location;
        font-size: $fontSizes.card-attractions-small__S;
    }

    //- - - - - - - - - - - - - rating - - - - - - - - - - - - - - -
    0 references
    .card-attractions__rating { //copied from parent DSO
        // font-family: $fonts.secondary;
        // font-weight: 500;
        font-family: Rubik-500;
```

Properties

General

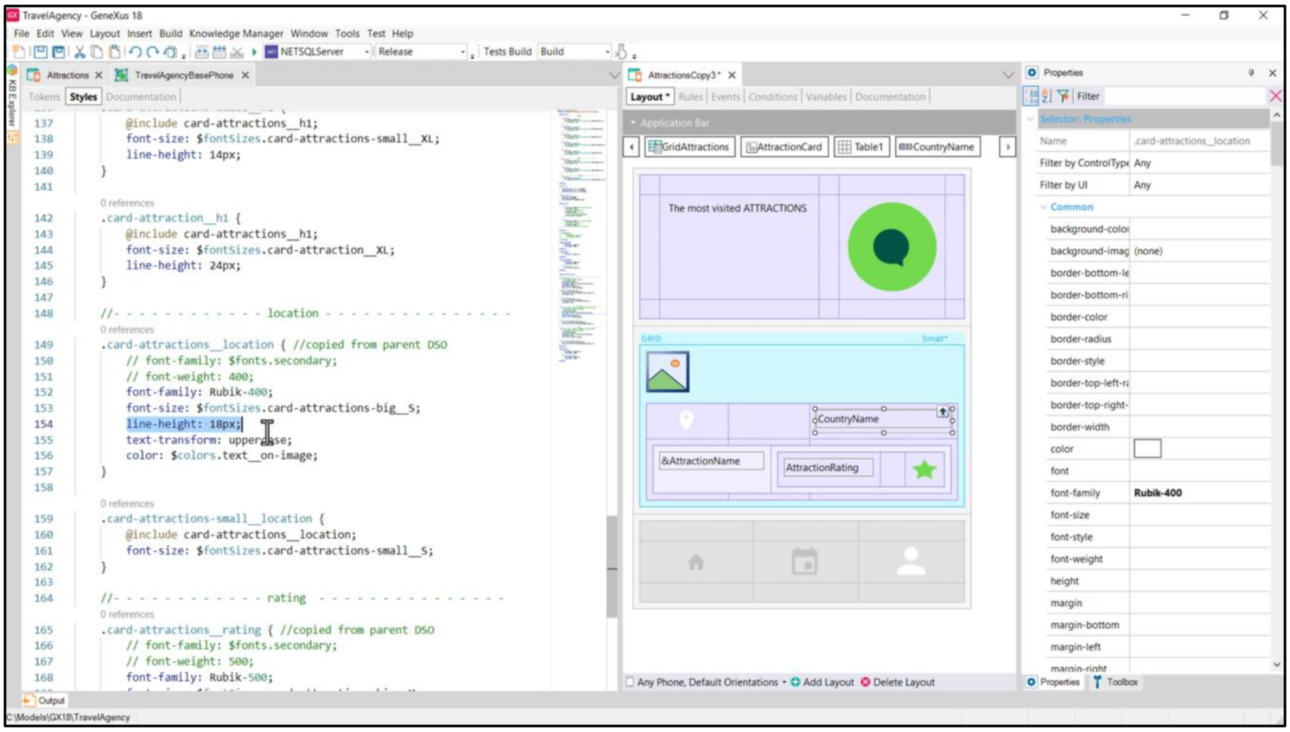
Attribute/Variable: CountryName	
Attribute	CountryName
Readonly	True
Appearance	
Label Position	None
Class	card-attractions__location
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Invite Message	Country Name
Link	
Autolink	True
Accessibility	
Accessible Name	Custom
Accessible Name	Country Name
Control Info	
Control Type	Edit
Auto Grow	False
Input Type	Values
Suggest	No
Auto correction	True
Auto capitalizati	First word
Virtual Keyboard	
Enter Key Cap	Default

And at the class level, remember that we had copied it when we started the project, many videos ago, to be able to include it later in this other variation. Now all we did was change the reference to the font and nothing else.



```
tokens TravelAgencyBasePhone (color-scheme: [light] | dark ) {


    @color-scheme = light {···
    }

    @color-scheme = dark {···
    }

    #fontSizes
    {
        XL: 40px;
        L: 20px;
        M: 14px;
        S: 12px;
        XS: 12px;

        #region Card-Home
            card__XL: 15px;
        #endregion

        #region Card-Attractions
            card-attractions-big__XL: 20px;
            card-attractions-big__M: 16px;
            card-attractions-big__S: 12px;
            card-attractions-small__XL: 12px;
            card-attractions-small__M: 12px;
            card-attractions-small__S: 10px;
        #endregion

        #region Card-Attraction
            card-attraction__XL: 24px;
        #endregion

        #region Form
            form__M: 12px;
            form__S: 10px;
```

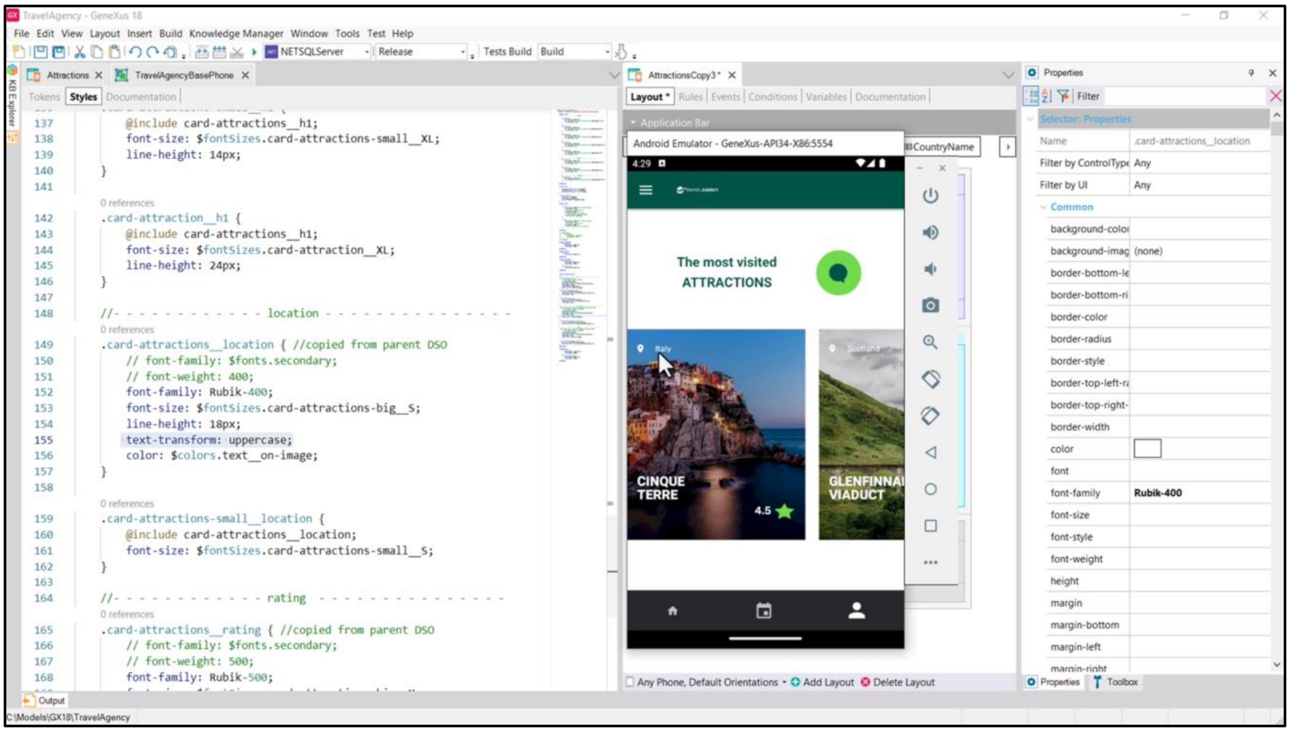
We know that the font-size will be the right one, because we had redefined it in this DSO, at that time.



```
    @include card-attractions__h1;
    font-size: $fontSizes.card-attractions-small__XL;
    line-height: 14px;
}

0 references
.card-attraction__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.card-attraction__XL;
    line-height: 24px;
}

//- - - - - - - - - - - - location - - - - - - - - - - - - - - -
0 references
.card-attractions__location { //copied from parent DSO
    // font-family: $fonts.secondary;
    // font-weight: 400;
    font-family: Rubik-400;
    font-size: $fontSizes.card-attractions-big__S;
    line-height: 18px;
    text-transform: uppercase;
    color: $colors.text__on-image;
}

0 references
.card-attractions-small__location {
    @include card-attractions__location;
    font-size: $fontSizes.card-attractions-small__S;
}

//- - - - - - - - - - - - rating - - - - - - - - - - - - - - -
0 references
.card-attractions__rating { //copied from parent DSO
    // font-family: $fonts.secondary;
    // font-weight: 500;
    font-family: Rubik-500;
```

Name	.card-attractions__location
Filter by ControlType	Any
Filter by UI	Any
background-image	(none)
font-family	Rubik-400

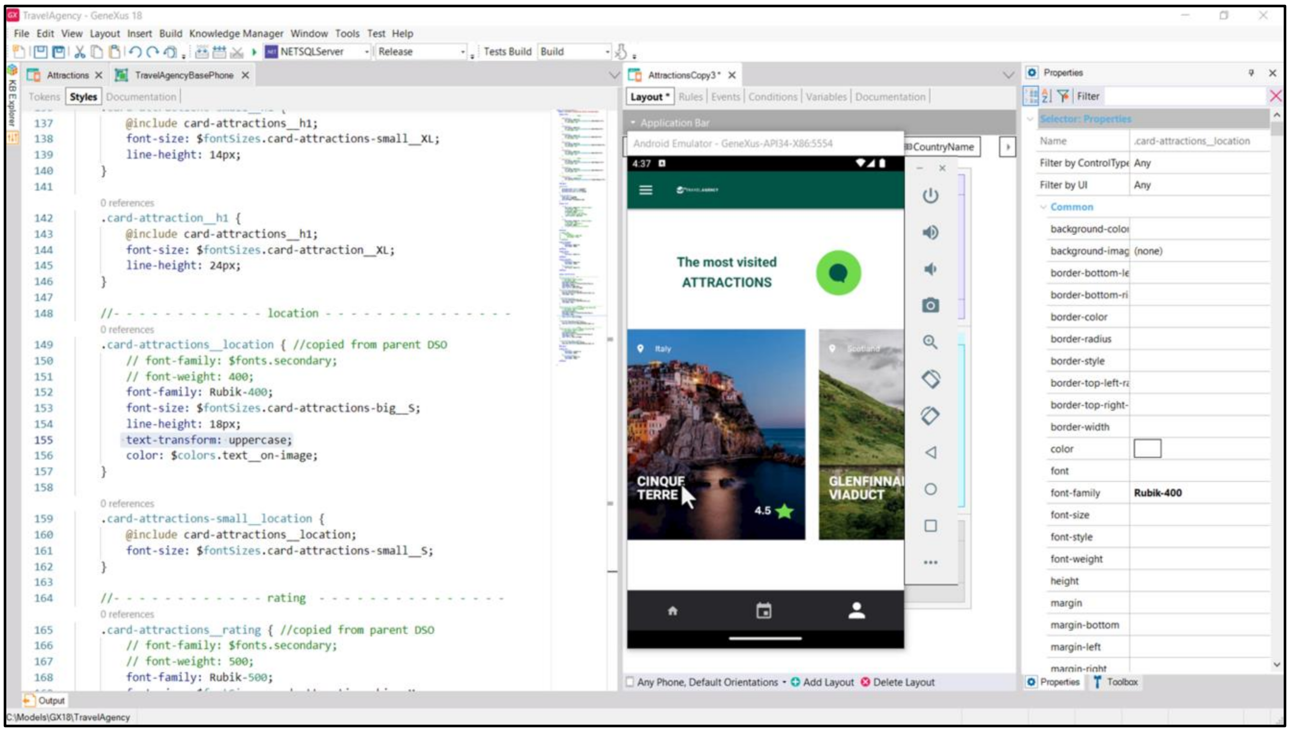
But, for example, we didn't check if this line-height is the right one for this size...



```
    @include card-attractions__h1;
    font-size: $fontSizes.card-attractions-small__XL;
    line-height: 14px;
}

0 references
.card-attraction__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.card-attraction__XL;
    line-height: 24px;
}

//- - - - - - - - - - - - - location - - - - - - - - - - - - - - - -
0 references
.card-attractions__location { //copied from parent DSO
    // font-family: $fonts.secondary;
    // font-weight: 400;
    font-family: Rubik-400;
    font-size: $fontSizes.card-attractions-big__S;
    line-height: 18px;
    text-transform: uppercase;
    color: $colors.text__on-image;
}

0 references
.card-attractions-small__location {
    @include card-attractions__location;
    font-size: $fontSizes.card-attractions-small__S;
}

//- - - - - - - - - - - - - rating  - - - - - - - - - - - - - - - -
0 references
.card-attractions__rating { //copied from parent DSO
    // font-family: $fonts.secondary;
    // font-weight: 500;
    font-family: Rubik-500;
```

Name	.card-attractions__location
Filter by ControlType	Any
Filter by UI	Any
font-family	Rubik-400

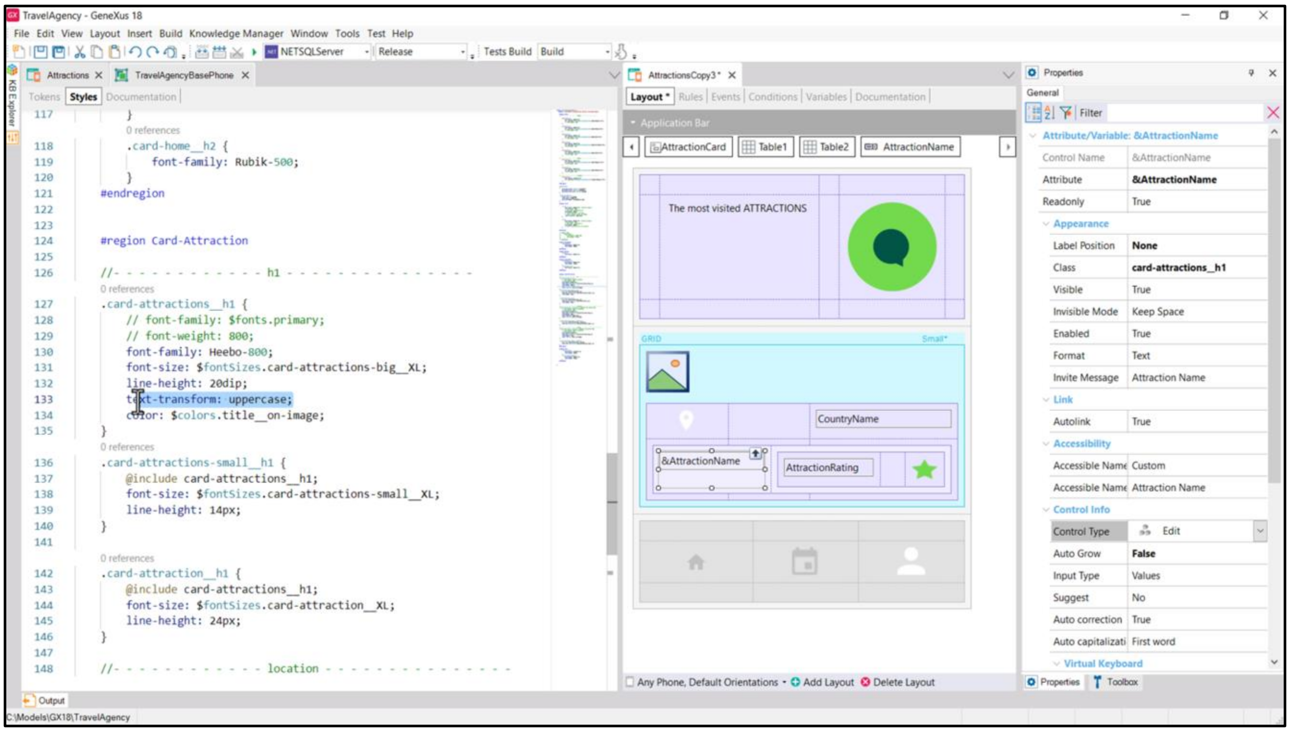
...also, we didn't take into account that this property will have no effect and that's why the text looks like this.



```
    @include card-attractions__h1;
    font-size: $fontSizes.card-attractions-small__XL;
    line-height: 14px;
}

0 references
.card-attraction__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.card-attraction__XL;
    line-height: 24px;
}

//- - - - - - - - - - - - - location - - - - - - - - - - - - - - -
0 references
.card-attractions__location { //copied from parent DSO
    // font-family: $fonts.secondary;
    // font-weight: 400;
    font-family: Rubik-400;
    font-size: $fontSizes.card-attractions-big__S;
    line-height: 18px;
    text-transform: uppercase;
    color: $colors.text__on-image;
}

0 references
.card-attractions-small__location {
    @include card-attractions__location;
    font-size: $fontSizes.card-attractions-small__S;
}

//- - - - - - - - - - - - - rating - - - - - - - - - - - - - - -
0 references
.card-attractions__rating { //copied from parent DSO
    // font-family: $fonts.secondary;
    // font-weight: 500;
    font-family: Rubik-500;
```

Name	.card-attractions__location
Filter by ControlType	Any
Filter by UI	Any
font-family	Rubik-400

This text should also be displayed in lowercase.



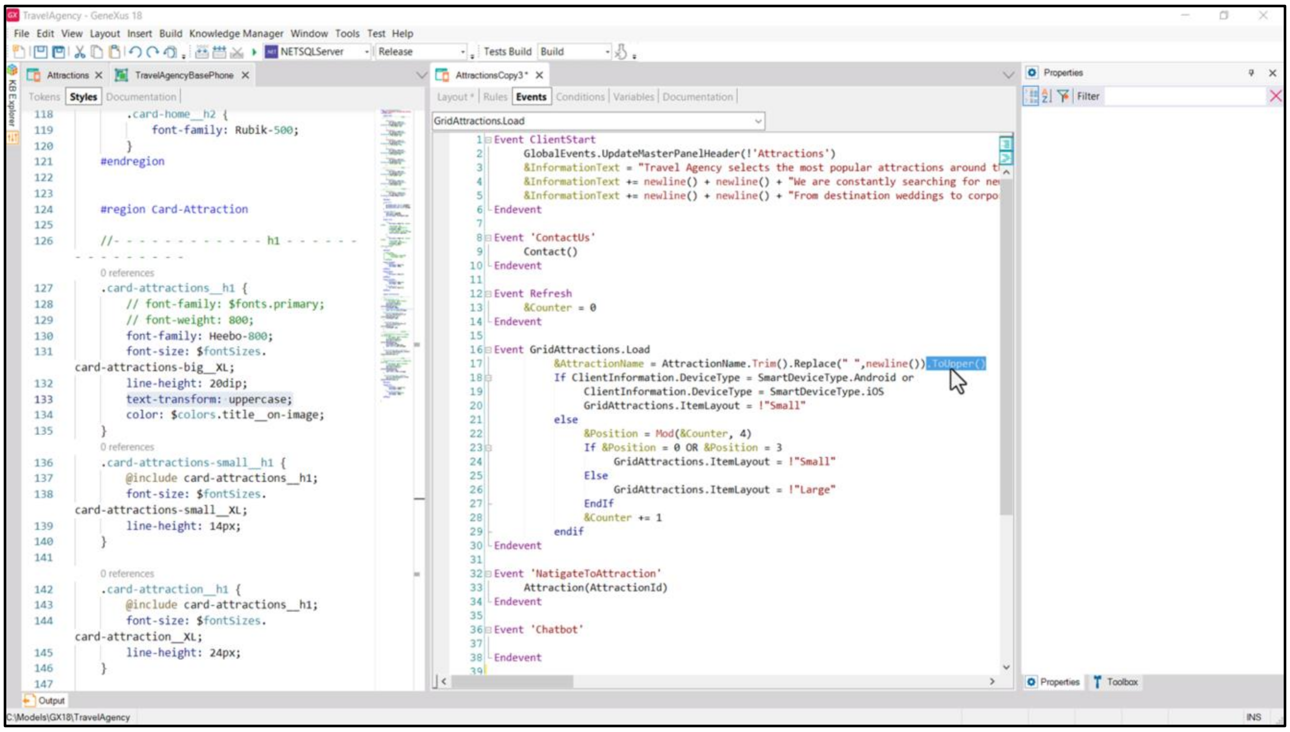
```
        }
        0 references
        .card-home__h2 {
            font-family: Rubik-500;
        }
    #endregion


    #region Card-Attraction

    //- - - - - - - - - - - - - h1 - - - - - - - - - - - - - - - -
    0 references
    .card-attractions__h1 {
        // font-family: $fonts.primary;
        // font-weight: 800;
        font-family: Heebo-800;
        font-size: $fontSizes.card-attractions-big__XL;
        line-height: 20dip;
        text-transform: uppercase;
        color: $colors.title__on-image;
    }
    0 references
    .card-attractions-small__h1 {
        @include card-attractions__h1;
        font-size: $fontSizes.card-attractions-small__XL;
        line-height: 14px;
    }

    0 references
    .card-attraction__h1 {
        @include card-attractions__h1;
        font-size: $fontSizes.card-attraction__XL;
        line-height: 24px;
    }

    //- - - - - - - - - - - - - location - - - - - - - - - - - - - - - -
```

Attribute/Variable: &AttractionName

Control Name	&AttractionName
Attribute	**&AttractionName**
Readonly	True
Appearance	
Label Position	**None**
Class	**card-attractions__h1**
Visible	True
Invisible Mode	Keep Space
Enabled	True
Format	Text
Invite Message	Attraction Name
Link	
Autolink	True
Accessibility	
Accessible Name	Custom
Accessible Name	Attraction Name
Control Info	
Control Type	Edit
Auto Grow	**False**
Input Type	Values
Suggest	No
Auto correction	True
Auto capitalizati	First word
Virtual Keyboard	

See that the class is this one... to which, like the other one, I only changed the definition of the font family. Everything else is as we had specified in that early stage.

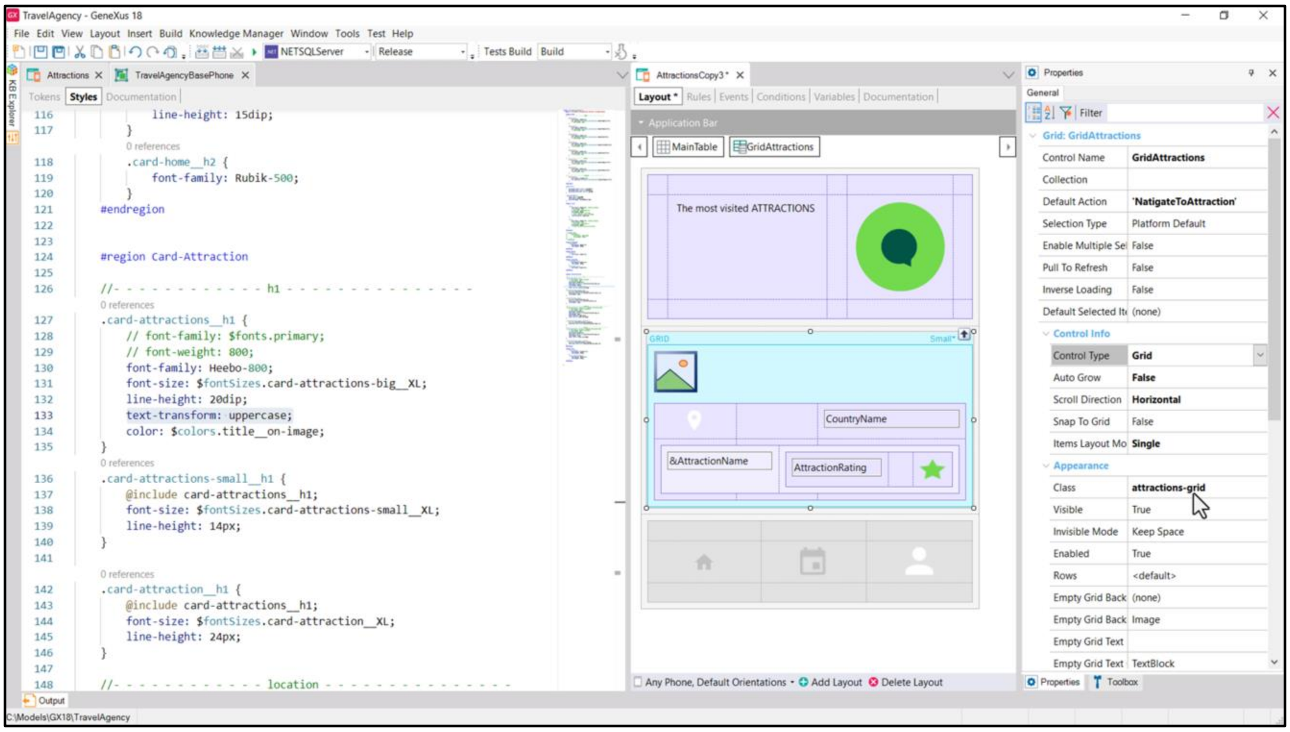
But... I realized when I executed (before showing you anything of this module) that the uppercase value was not applied...



```
    .card-home__h2 {
        font-family: Rubik-500;
    }
#endregion


#region Card-Attraction

//- - - - - - - - - - - - - h1 - - - - - -
- - - - - - - - - -
0 references
.card-attractions__h1 {
    // font-family: $fonts.primary;
    // font-weight: 800;
    font-family: Heebo-800;
    font-size: $fontSizes.
card-attractions-big__XL;
    line-height: 20dip;
    text-transform: uppercase;
    color: $colors.title__on-image;
}
0 references
.card-attractions-small__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.
card-attractions-small__XL;
    line-height: 14px;
}

0 references
.card-attraction__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.
card-attraction__XL;
    line-height: 24px;
}
```

```
Event ClientStart
    GlobalEvents.UpdateMasterPanelHeader(!'Attractions')
    &InformationText = "Travel Agency selects the most popular attractions around t
    &InformationText += newline() + newline() + "We are constantly searching for ne
    &InformationText += newline() + newline() + "From destination weddings to corpo
Endevent

Event 'ContactUs'
    Contact()
Endevent

Event Refresh
    &Counter = 0
Endevent

Event GridAttractions.Load
        &AttractionName = AttractionName.Trim().Replace(" ",newline()).ToUpper()
        If ClientInformation.DeviceType = SmartDeviceType.Android or
            ClientInformation.DeviceType = SmartDeviceType.iOS
            GridAttractions.ItemLayout = !"Small"
        else
            &Position = Mod(&Counter, 4)
            If &Position = 0 OR &Position = 3
                GridAttractions.ItemLayout = !"Small"
            Else
                GridAttractions.ItemLayout = !"Large"
            EndIf
            &Counter += 1
        endif
Endevent

Event 'NatigateToAttraction'
    Attraction(AttractionId)
Endevent

Event 'Chatbot'

Endevent
```

...and then I changed it programmatically here.

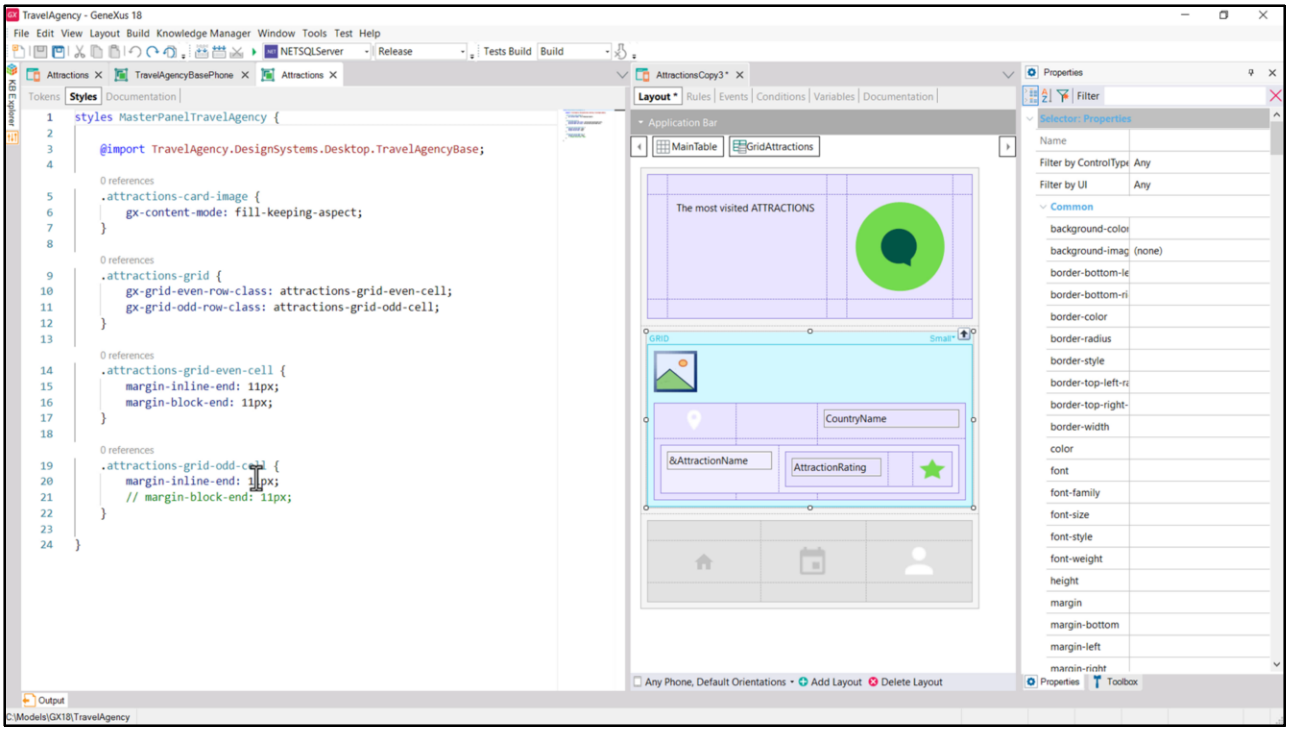


```
        line-height: 15dip;
    }
    0 references
    .card-home__h2 {
        font-family: Rubik-500;
    }
#endregion


#region Card-Attraction

//- - - - - - - - - - - - h1 - - - - - - - - - - - - - - -
0 references
.card-attractions__h1 {
    // font-family: $fonts.primary;
    // font-weight: 800;
    font-family: Heebo-800;
    font-size: $fontSizes.card-attractions-big__XL;
    line-height: 20dip;
    text-transform: uppercase;
    color: $colors.title__on-image;
}
0 references
.card-attractions-small__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.card-attractions-small__XL;
    line-height: 14px;
}

0 references
.card-attraction__h1 {
    @include card-attractions__h1;
    font-size: $fontSizes.card-attraction__XL;
    line-height: 24px;
}

//- - - - - - - - - - - - location - - - - - - - - - - - - - -
```

Properties — General — Grid: GridAttractions

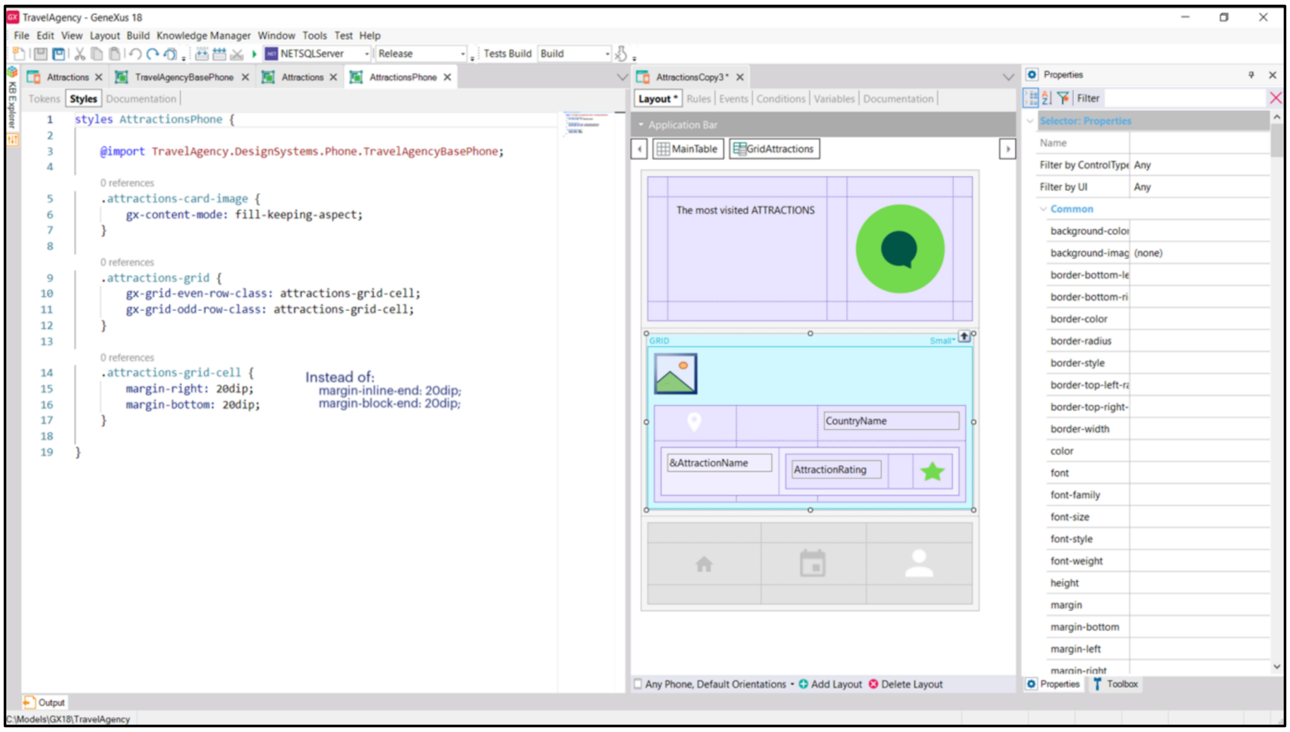
Control Name	GridAttractions
Collection	
Default Action	'NatigateToAttraction'
Selection Type	Platform Default
Enable Multiple Sel	False
Pull To Refresh	False
Inverse Loading	False
Default Selected It	(none)
Control Info	
Control Type	Grid
Auto Grow	False
Scroll Direction	Horizontal
Snap To Grid	False
Items Layout Mo	Single
Appearance	
Class	attractions-grid
Visible	True
Invisible Mode	Keep Space
Enabled	True
Rows	<default>
Empty Grid Back	(none)
Empty Grid Back	Image
Empty Grid Text	
Empty Grid Text	TextBlock

For the rating it is the same. Lastly, the grid had this class...



```
styles MasterPanelTravelAgency {

    @import TravelAgency.DesignSystems.Desktop.TravelAgencyBase;

    0 references
    .attractions-card-image {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .attractions-grid {
        gx-grid-even-row-class: attractions-grid-even-cell;
        gx-grid-odd-row-class: attractions-grid-odd-cell;
    }

    0 references
    .attractions-grid-even-cell {
        margin-inline-end: 11px;
        margin-block-end: 11px;
    }

    0 references
    .attractions-grid-odd-cell {
        margin-inline-end: 11px;
        // margin-block-end: 11px;
    }

}
```

... through which we gave the Desktop application the margins of each item depending on whether they were at the top or at the bottom.



```
styles AttractionsPhone {

    @import TravelAgency.DesignSystems.Phone.TravelAgencyBasePhone;

    0 references
    .attractions-card-image {
        gx-content-mode: fill-keeping-aspect;
    }

    0 references
    .attractions-grid {
        gx-grid-even-row-class: attractions-grid-cell;
        gx-grid-odd-row-class: attractions-grid-cell;
    }

    0 references
    .attractions-grid-cell {
        margin-right: 20dip;
        margin-bottom: 20dip;
    }

}
```

Instead of:
margin-inline-end: 20dip;
margin-block-end: 20dip;

Here I had to redefine it, not only because for now we have only one type of item, but also because the logical properties of the margin don't work yet for the native world.

In the next video, we'll start by summarizing what we've been seeing in this module, give a couple more ideas and end it. I look forward to seeing you there.

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