

C# Godot Tutorial 6

GUI

Notes

- Bigger font
- Watch videos in order
 - Signals and Slots (will review a bit though)
- Will show you everything I do...for now
- Switch between slides and coding
- If you don't understand the slide...wait till code

Topics

- Basic controls
- Containers
- Patterns
- Play (code)
- Summary

Allows easy user interaction

- E.g.

- Buttons

- Sliders

- Labels

- etc...

Commonality

- All GUI classes are Controls
- Have some commonly used properties, methods, and signals
 - signals are emitted when the Control is interacted with (usually by the user)

Button

- button.Text

- signal: pressed()

Label

○label.Text

TextureButton

- button.TextureNormal
- button.TextureHover
- button.TexturePressed
- button.TextureDisabled

LineEdit

- Allows one line of text input
- `lineEdit.Text`
- `lineEdit.Clear()`
- Signal: `text_changed(String newText)`
- Signal: `text_entered(String newText)`

Slider

- HSlider and VSlider (horizontal and vertical, respectively)
- slider.MinValue
- slider.MaxValue
- slider.Step
- slider.TickCount
- Signal: value_changed(float value)

Containers

- Controls that inherit from the Container class are known as “containers”
- container controls determine the size and position of their children!
 - children can give hints via “Size Flags”

PanelContainer

- Container that displays an opaque background and expands children to cover its whole area

HBoxContainer

- Container that arranges children horizontally

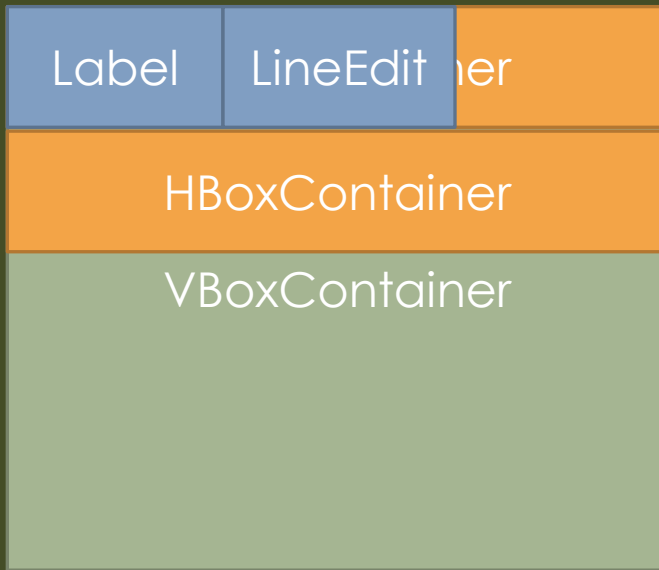
VBoxContainer

- Container that arranges children vertically

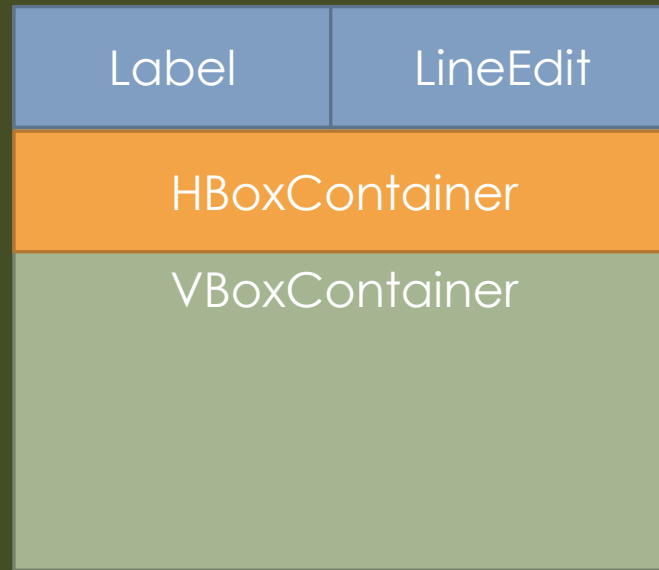
Useful Pattern

- PanelContainer
 - VBoxContainer
 - HBoxContainer
 - Label
 - LineEdit/Slider/some other input Control
 - HBoxContainer
 - Label
 - LineEdit/Slider/some other input Control
 - ...repeat...

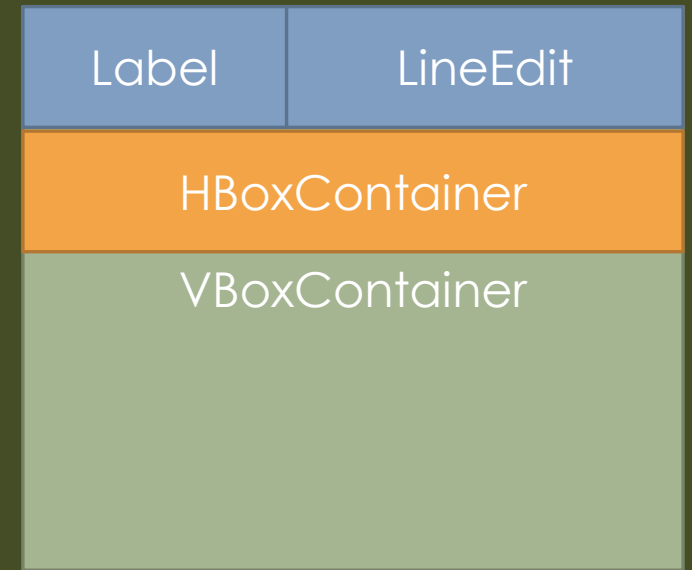
Useful Pattern



- no expand



- expand
- equal ratio



- expand
- Label ratio = 1
- LineEdit ratio = 2

Important Properties For Controls in Containers

- **Fill**

- control should make itself big enough to take up all the space that the container has give to it

- **Expand**

- if container has extra space, some of it should be given to this control

- **StretchRatio**

- if container has extra space, and a bunch of children that have Expand on, how should the available space be distributed?

GridContainer

- arranges children in a grid
- gridContainer.Columns

Useful Pattern 2

- PanelContainer
 - GridContainer (Columns = 2)
 - Label
 - LineEdit/etc (Expand=True horizontally)
 - Label
 - LineEdit/etc (Expand=True horizontally)
 - ...repeat..

Summary

- Common Controls (Button, Label, TextureButton, Slider)
 - And their common properties/methods/signals
- Containers – control children's size/position
 - “size flags” of children (Fill, Expand, Ratio)
- Useful patterns
 - PanelContainer, VBoxContainer, HBoxContainer, Controls
 - PanelContainer, GridContainer, Controls