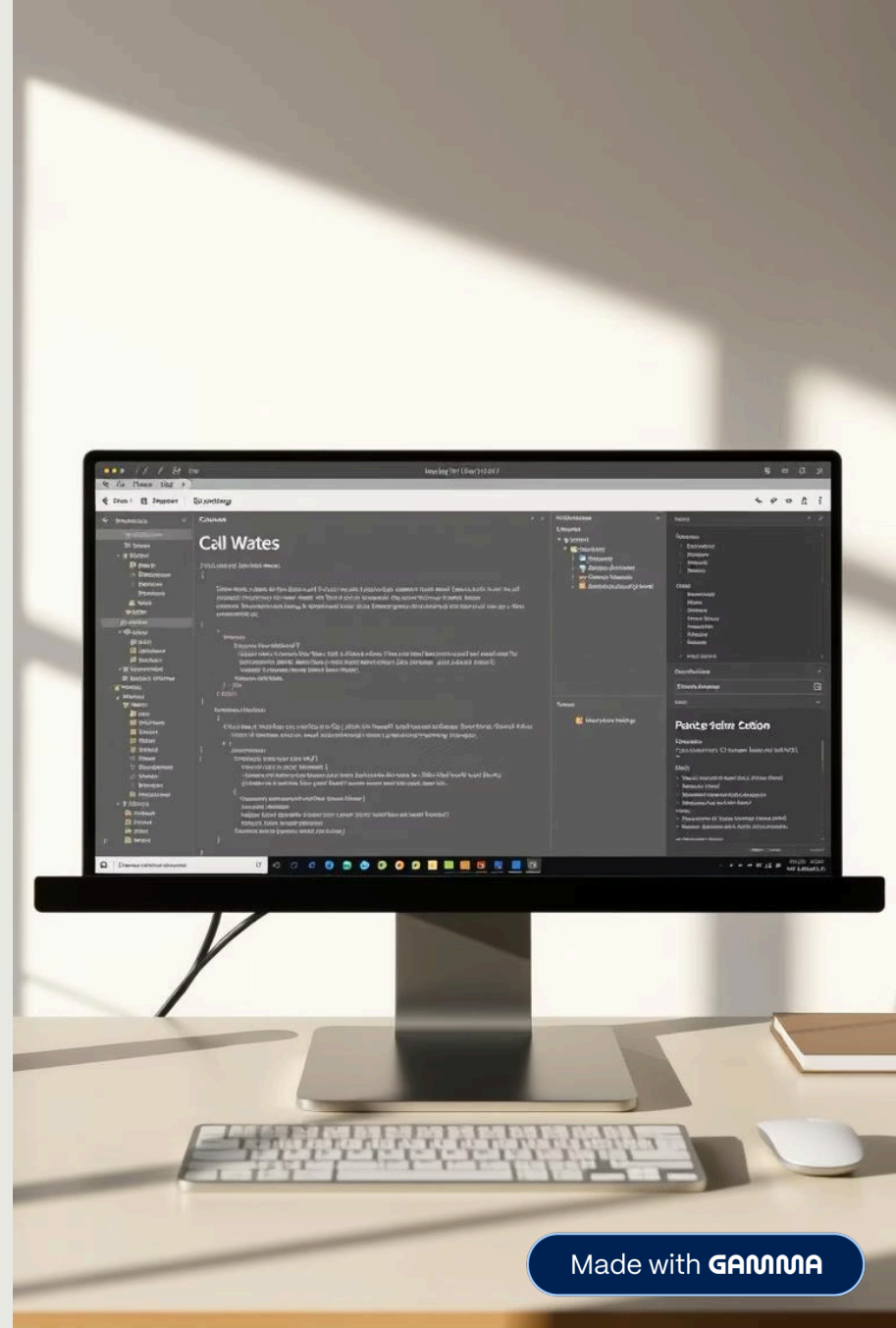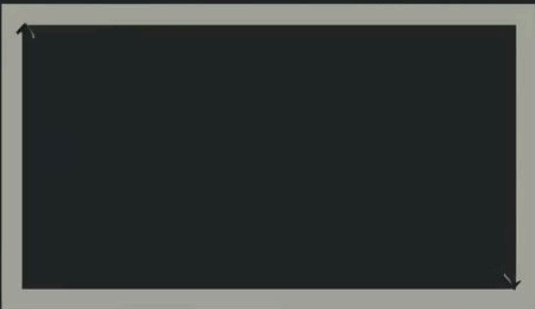# MASTERING JAVAFX LAYOUTS: BORDERPANE, STACKPANE, AND GRIDPANE

This presentation introduces key JavaFX layout panes. Learn how to design responsive and well-structured user interfaces using BorderPane, StackPane, and GridPane. We will compare their behaviors and explore practical examples.
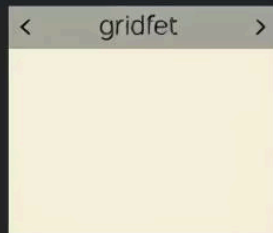
D **by Dr. Poonkodi P. SNS**

UNDERSTANDING LAYOUT PANES IN JAVAFX

LAYOUT PANES ROLE

Manage arrangement of child nodes in UI

RESPONSIVE UIS

Enable scalable and adaptable interfaces

TYPES COVERED

- BorderPane
- StackPane
- GridPane

Made with GAMMA

BORDERPANE: LAYOUT WITH REGIONS
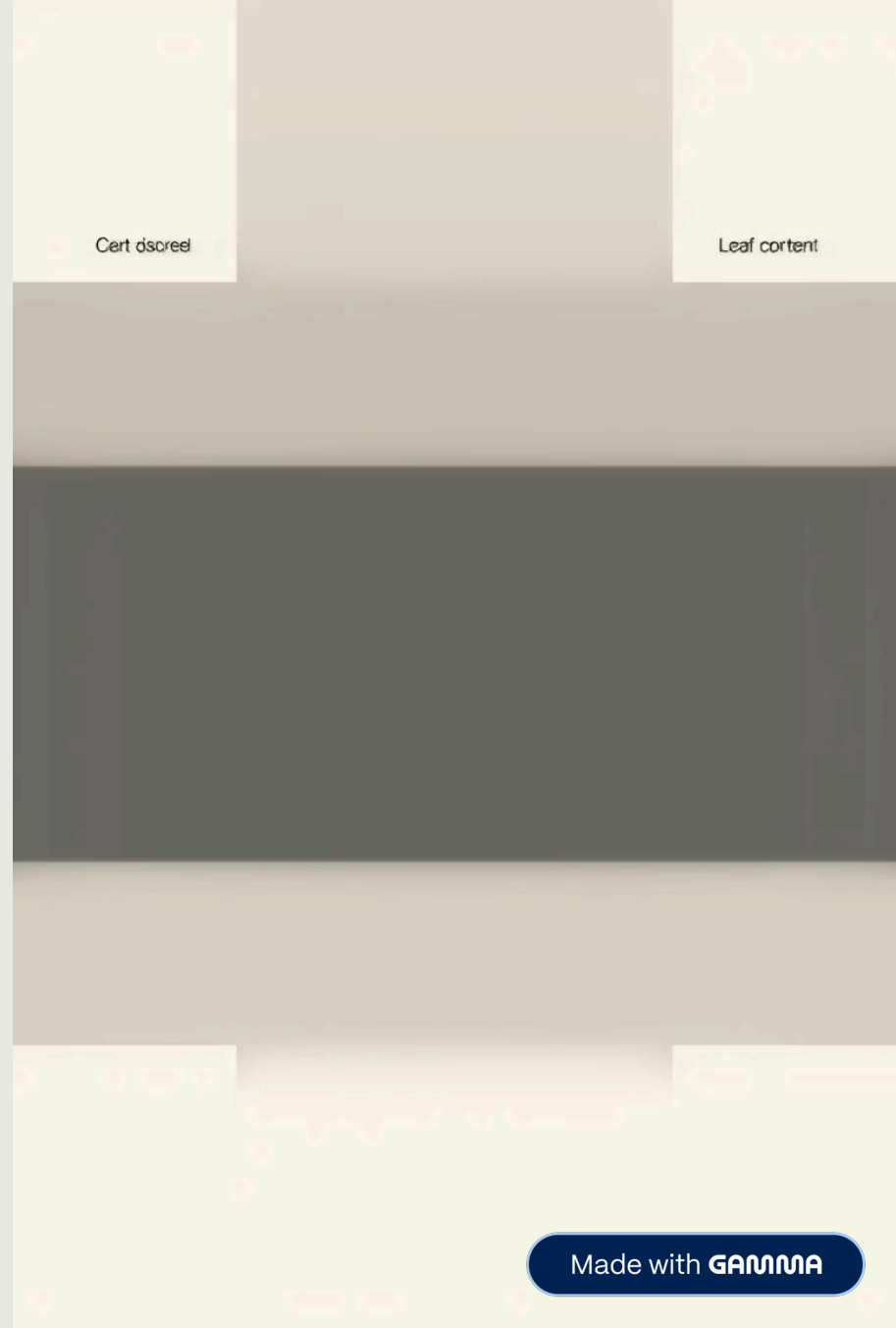
FIVE REGIONS

Top, Bottom, Left, Right, Center

SINGLE NODE PER REGION

Simplifies organization of main UI sections

COMMON USAGE

Ideal for application shell layouts
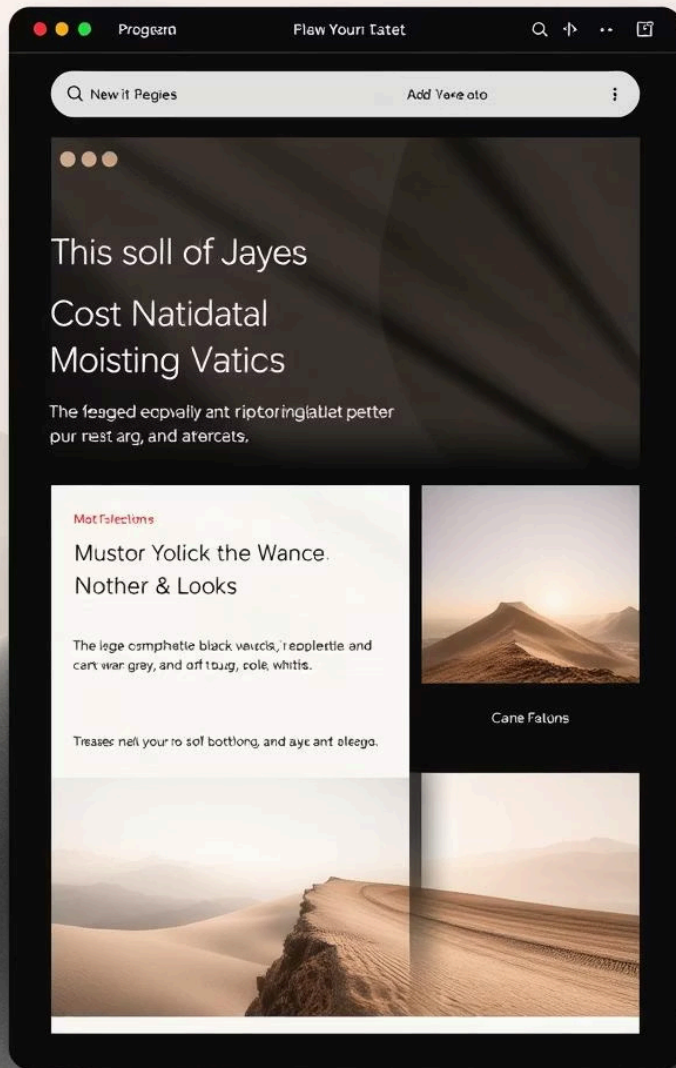
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BORDERPANE: PROPERTIES & USE CASES

PROPERTIES

- top
- bottom
- left
- right
- center

USE CASES

- Menus on top, status bars at bottom
- Sidebars for controls or navigation
- Central content display area
- Complex app interface structuring

STACKPANE: OVERLAPPING ELEMENTS

LAYOUT STYLE

Stacks nodes on top of each other

ALIGNMENT CONTROL

Nodes positioned by alignment properties

BENEFITS

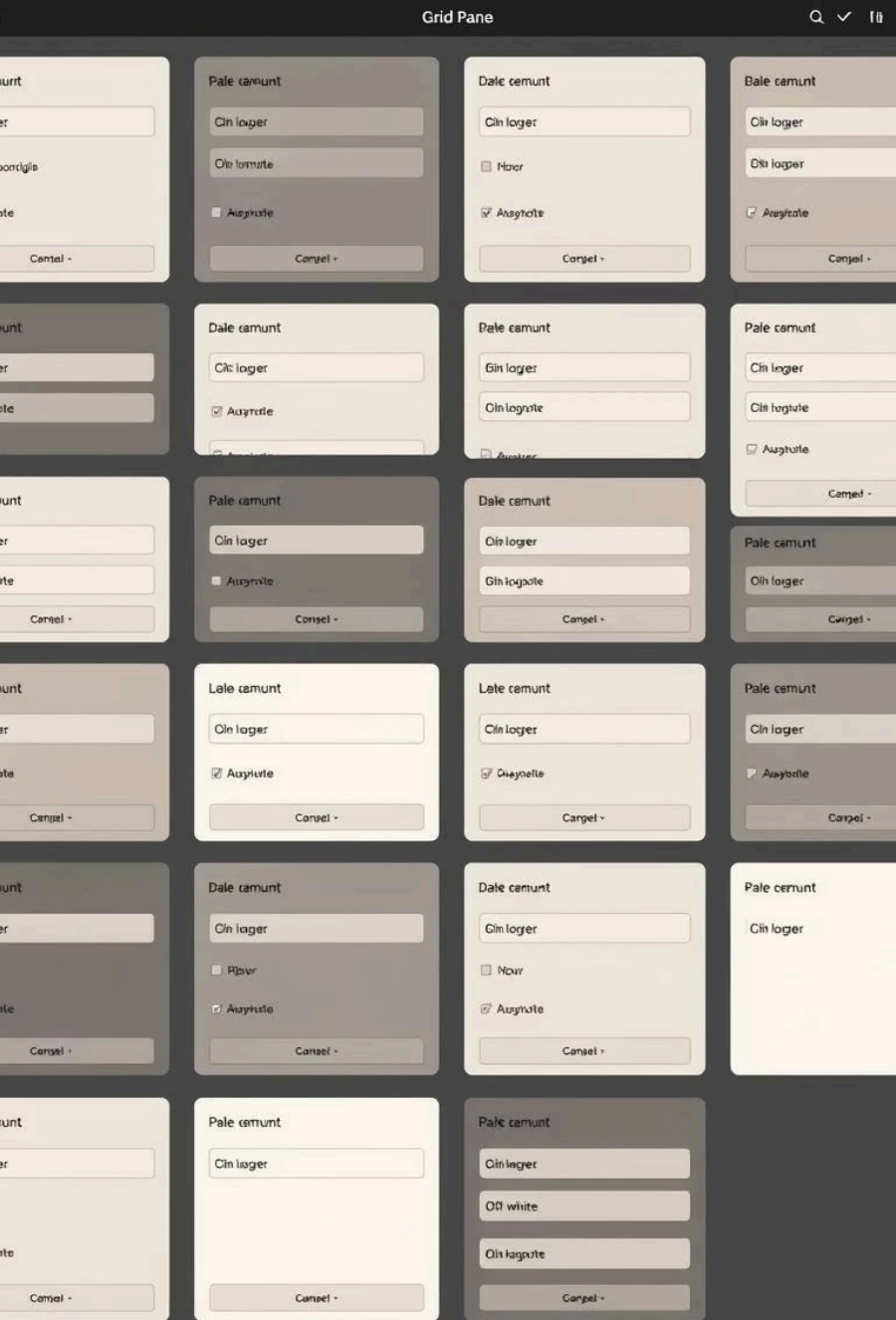Creates layered UI effects and overlays

STACKPANE: PROPERTIES & USE CASES

PROPERTIES

- alignment
- padding

USE CASES

- Overlays like watermarks or loaders
- Stacking images with text labels
- Badges and notification icons

GRIDPANE: ARRANGING IN ROWS & COLUMNS

STRUCTURE

Organizes nodes in a grid layout

CONTROL

Precise placement and sizing of nodes

APPLICATION

Ideal for forms and tabular data

GRIDPANE: PROPERTIES & USE CASES

PROPERTIES

- row constraints
- column constraints
- grid lines visible option

USE CASES

- Creating detailed forms
- Displaying tabular data
- Responsive layouts with spanning