Scanduc 23

Layout Manager

Harm Wibier

Goals of the project

- Better accommodate dashboard layouts
- Make use of the possibilities of CSS grid
- Do less pixel / size calculations in JavaScript
  - Leave that more to the browser engine

Flow Layout

Positioning and Layout

- Flow is the underlying system (not coordinate positioning)
  - A flow based layout fits the web better
- Panels are used for global positioning
  - Border layout provides lots of flexibility
  - Similar to the way the Studio panels feel

Column Layout

- Layout of controls within a panel
- Divide the panel into columns (**piColumnCount**)
- Determine the horizontal start position of a control (**piColumnIndex**)
- Determine the width of a control (**piColumnSpan**)
- Order of the objects determines the flow order

Form Sample

Order Number:		Customer Number:		Order Date:	
Customer Name:					
Street Address:				Ordered By:	
City:		Zip:		Salesperson ID:	
State:					
Terms:	COD	Ship Via:	COD		

- Forms automatically sized and aligned based on the columns
  - Can start at any column
  - Can span any number of columns
  - Automatically resize with panel size (if center)

Column 0 | Column 1 | Column 2

Order Number: 133
Customer Number: 94
Order Date: 29-04-2004
Customer Name: Union Enterprise of Seminole
Street Address: 4183 Central Park Circle
City: Stanford
Zip: 32771
Ordered By:
State: FL
Salesperson ID: CM
Terms: COD
Ship Via: Federal Express

Item ID	Description	Unit Price	Price	Quantity	Total
CASE	Understanding Case Technology	€39,00	€39,00	1	€39,00
DT	The Database Programmer's Tool	€179,00	€179,00	1	€179,00

Order total: €218,00

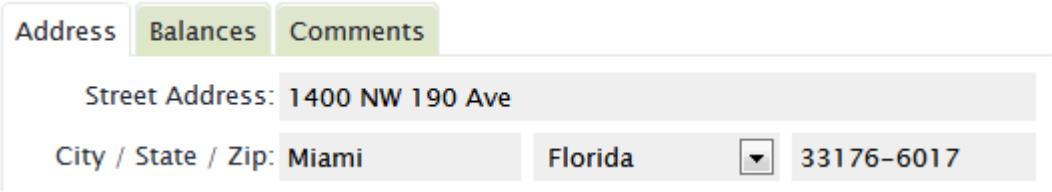
Let’s take a look..

pbFillHeight

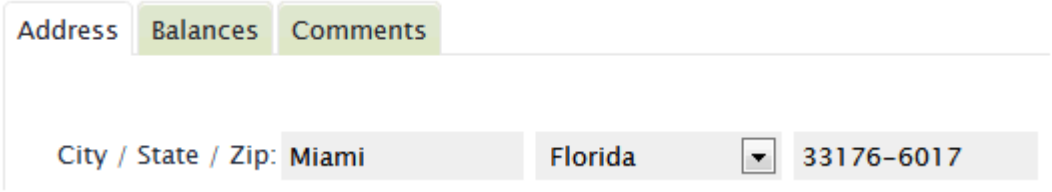
- Setting pbFillHeight to true makes the control size to the available vertical space
- Having multiple controls with pbFillHeight on different rows makes them divide the space

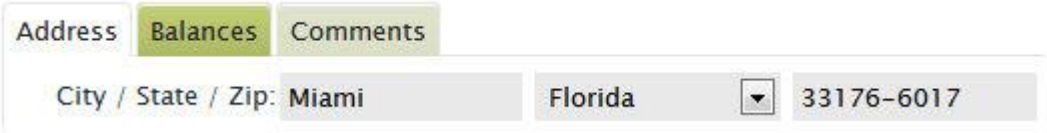
pbRender & pbVisible

- pbVisible
  - Control becomes invisible but still occupies its space



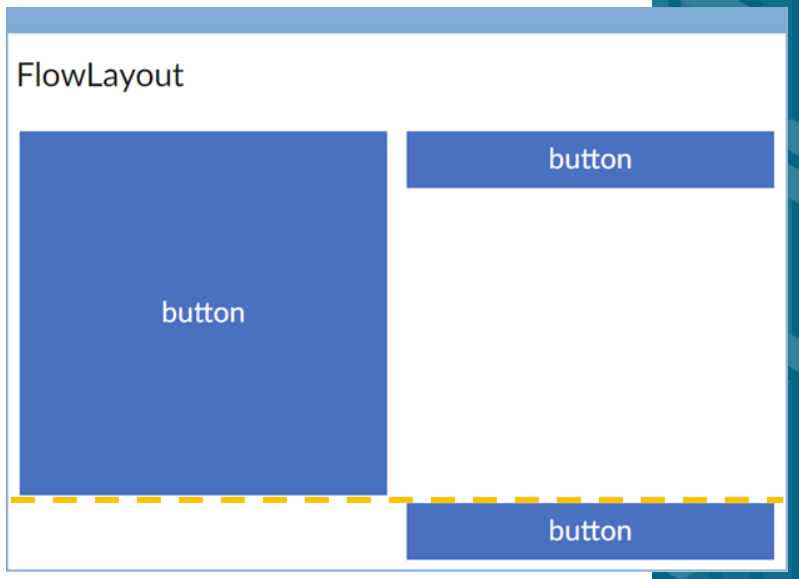
- pbRender
  - Control becomes invisible and won't occupy any space





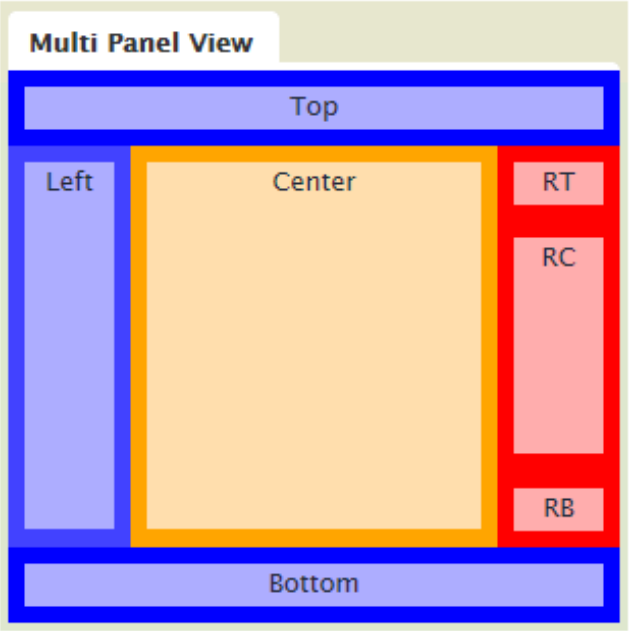
Particularities of Flow Layout

- Putting multiple controls next a single control
  - Workaround using invisible cWebGroup
- Putting objects at the bottom
  - Use invisible cWebSpacer objects
  - Use panels
- Vertical alignment relies on object height
- Spacing between objects is controlled by the CSS (theme)
- Wide buttons



Panel layout

- Panels can be nested for more complex views
- Panels can be made resizable at runtime using **pbResizable**

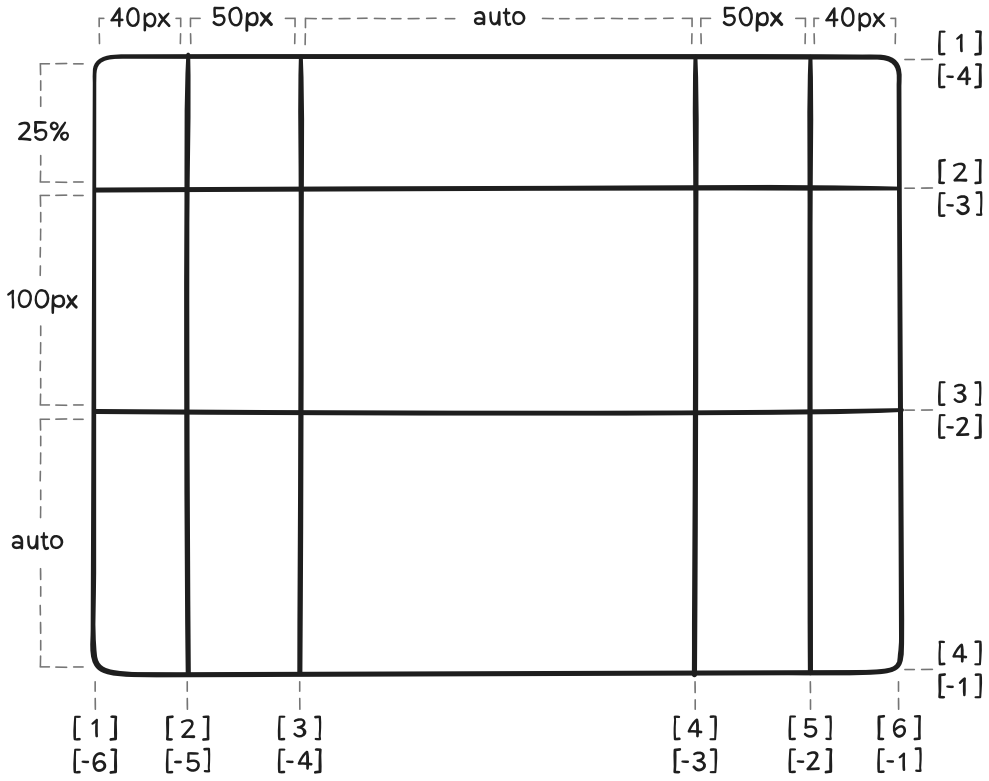


CSS Grid

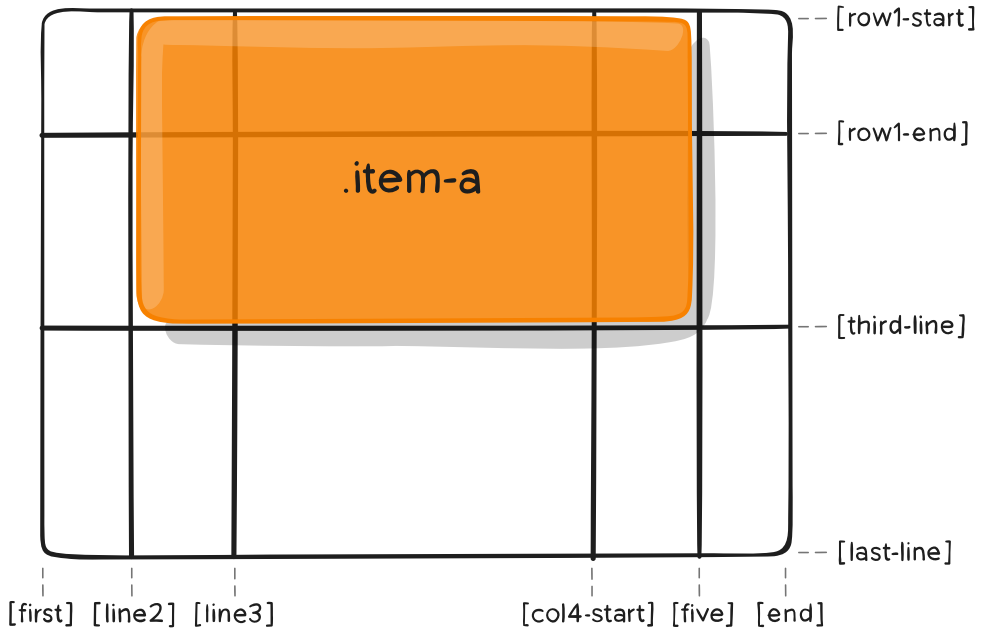
What is it?

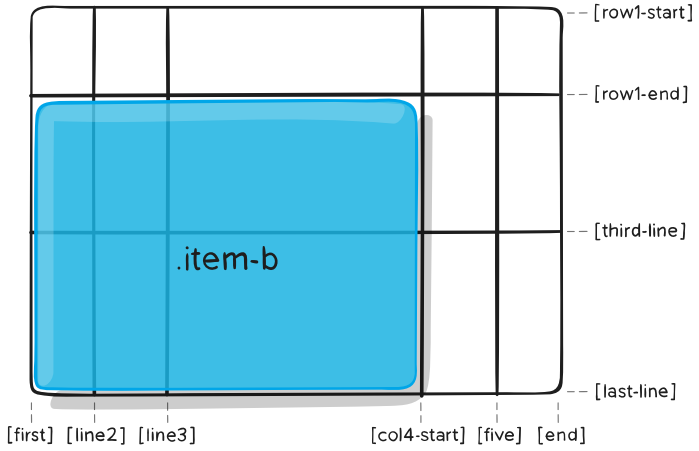
- A positioning technology for HTML elements using CSS
- Standardized around 2017
- Available in all modern browsers

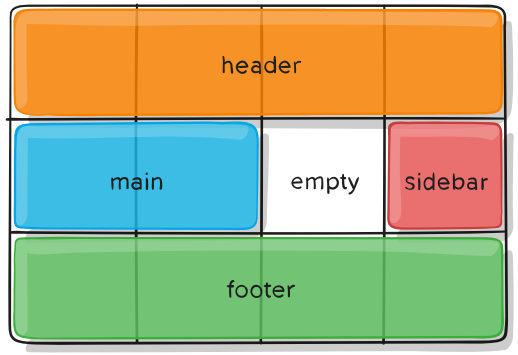
First you design a grid



Assign elements to grid cells







https://css-tricks.com/snippets/css/complete-guide-grid/

Grid Layout in DataFlex

Rows

- Configured at the container (cWebView / cWebGroup / cWebPanel / ..)
  - **peLayout**
    - Switch between grid and flow
  - **piRowCount**
    - Determine the amount of rows
  - **psRowHeights**
    - String defining row heights
  - **piDefaultRowHeight**
    - Height of rows that are not defined in **psRowHeights**
- Configured at the control (cWebButton / cWebForm / cWebList / ..)
  - **piRowIndex**
    - Positions a control at a row
  - **piRowSpan**
    - Spans a control over multiple rows

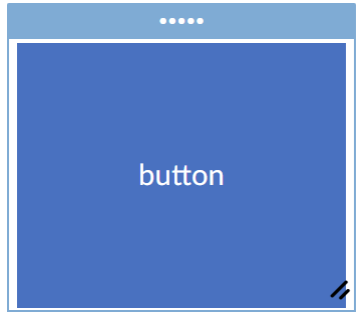
Colums

- Column logic will be the same as for flow layout
  - piColumnCount, piColumnIndex, piColumnSpan all remain the same

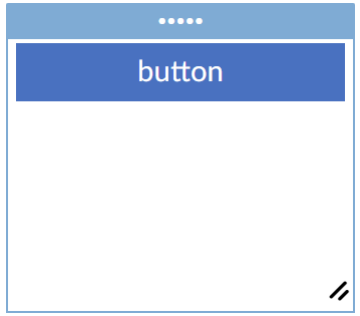
pbFillHeight

- Switch between ‘natural height’ of a control and filling the grid cell

- **True**



- **False**



Still being researched

- Allowing more CSS grid options for setting row heights
  - Fractions (1fr, 2fr instead of fill)
  - Minmax values
- Customizable column widths (psColumnWidths)
- Improving responsiveness behaviors
- Determine if custom controls will need to be changed
- Inheritance of peLayout value from parent object

Considerations

- pbRender behavior under grid is the same as pbVisible
- This will not replace flow layout & panel layout
  - It might in the future
  - We’ll see how this technology evolves

Status

- Scheduled for DataFlex 2023
  - First version will be in Beta 1
    - *(which should be released soon after Scanduc)*

Thank you!

Are there any questions?