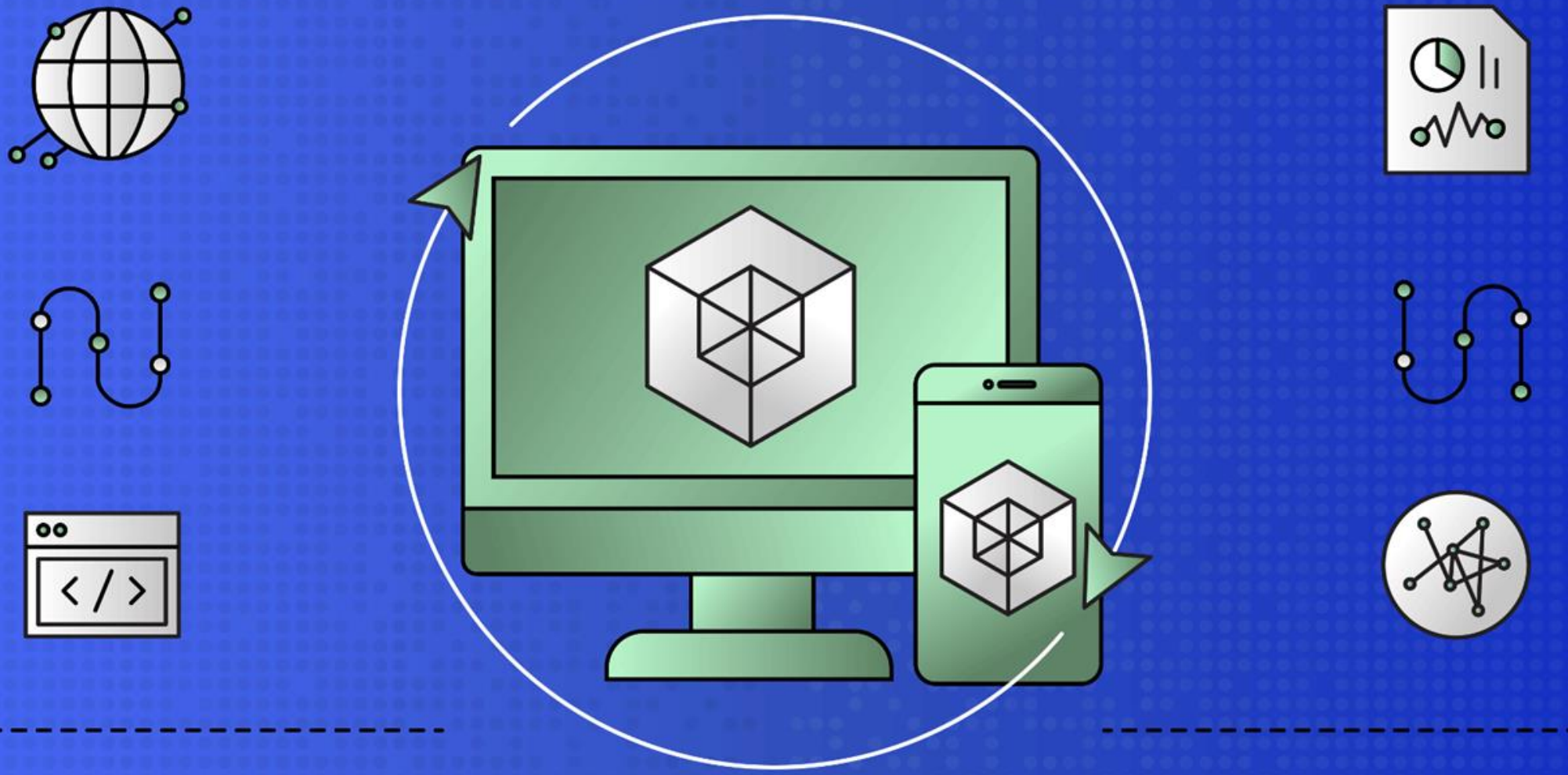
5 Mobile-Responsive Layout Strategies

Designing with Container Types in Ignition Perspective



Presenters

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Chief Strategy Officer

Inductive Automation

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Co-Director of Sales Engineering

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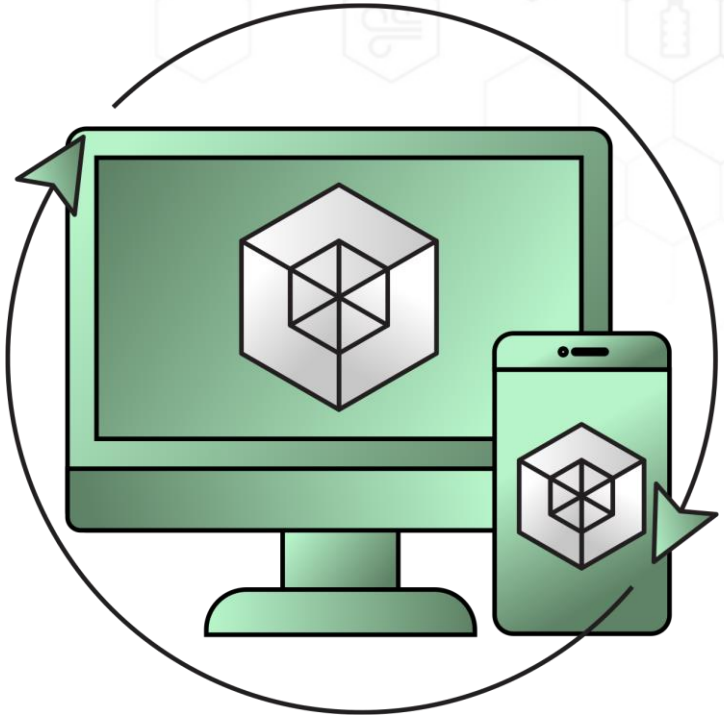
Agenda

- Introduction to Ignition
- Mobile-Responsive Design
- Ignition Perspective Container Types
- Design Use Cases (Combining Different Containers)
- Resources, Audience Q&A



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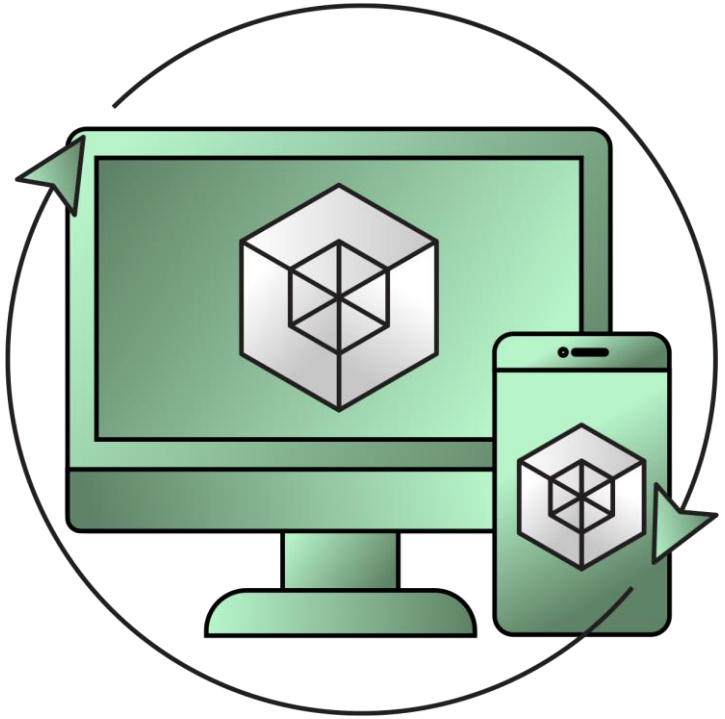
Mobile-Responsive Design

- Mobile-responsive design is all about building screens that look great on small, medium, and large devices
- Mobile devices generally have less available width
- With smaller screens, focus on mandatory elements first
- Save “nice to have" elements for larger screens



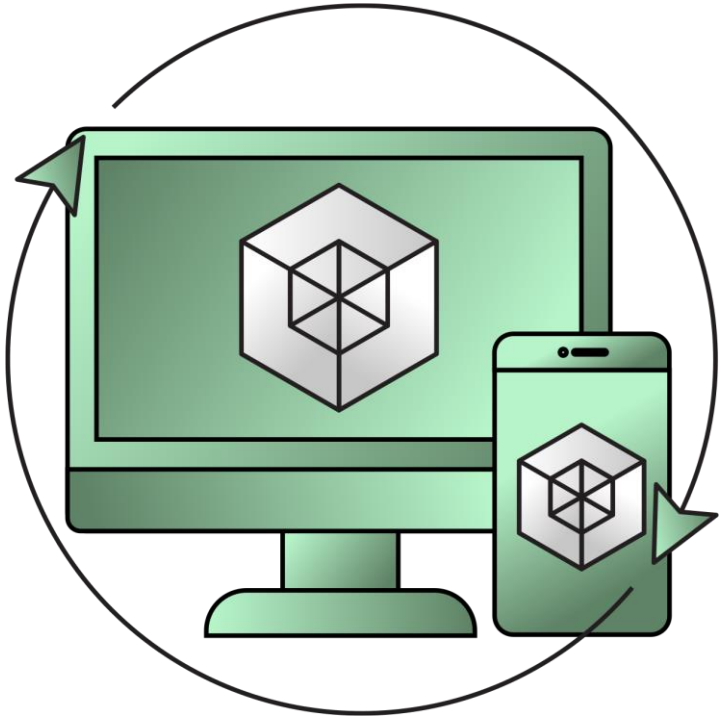
Mobile-Responsive Design

Benefits:

- Lower development costs
- Single data model to maintain
- Support any device size
- Consistency in look and functionality

Drawbacks:

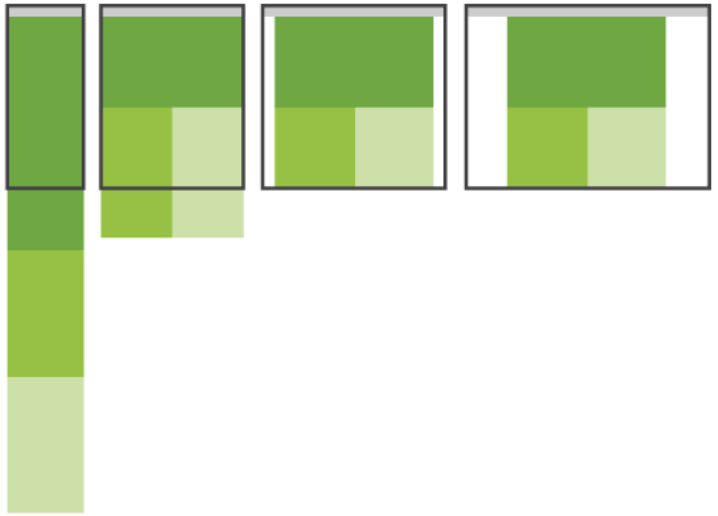
- Not one-strategy-fits-all
- Learning curve



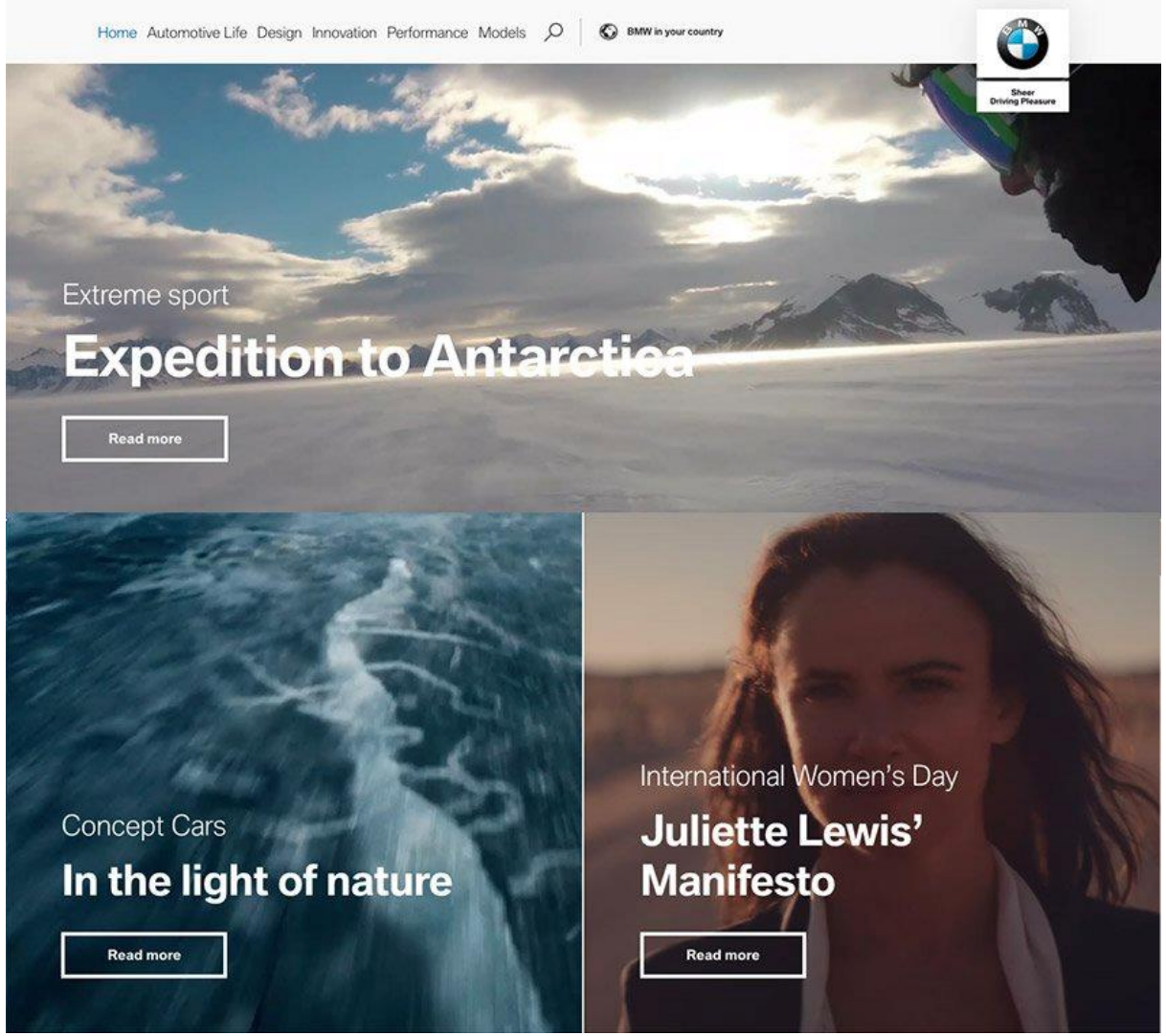
Mobile-Responsive Design

Layout strategy: Mostly Fluid

- On smaller screens, main content reflows and columns stack vertically
- On larger screens, it adjusts margins but usually remains the same size
- Usually only one breakpoint between small and large screens
- Works well for: Simple applications, reporting, documents



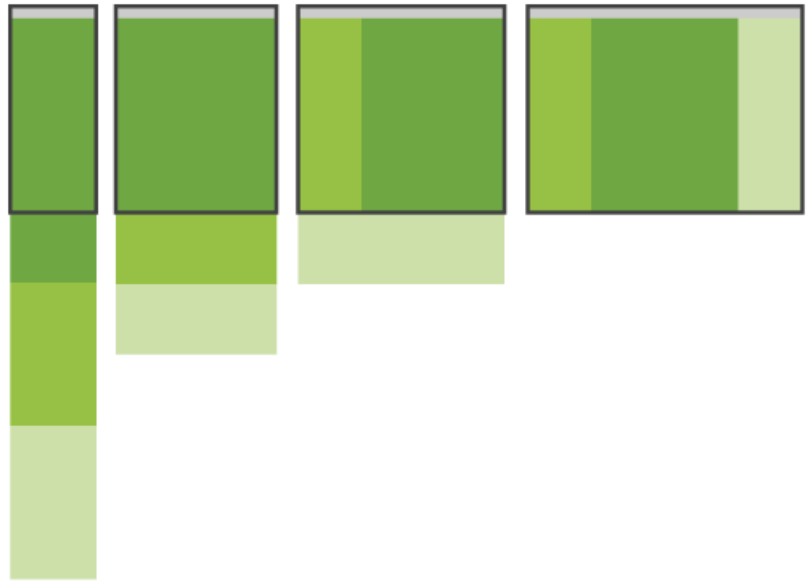
Mobile-Responsive Design



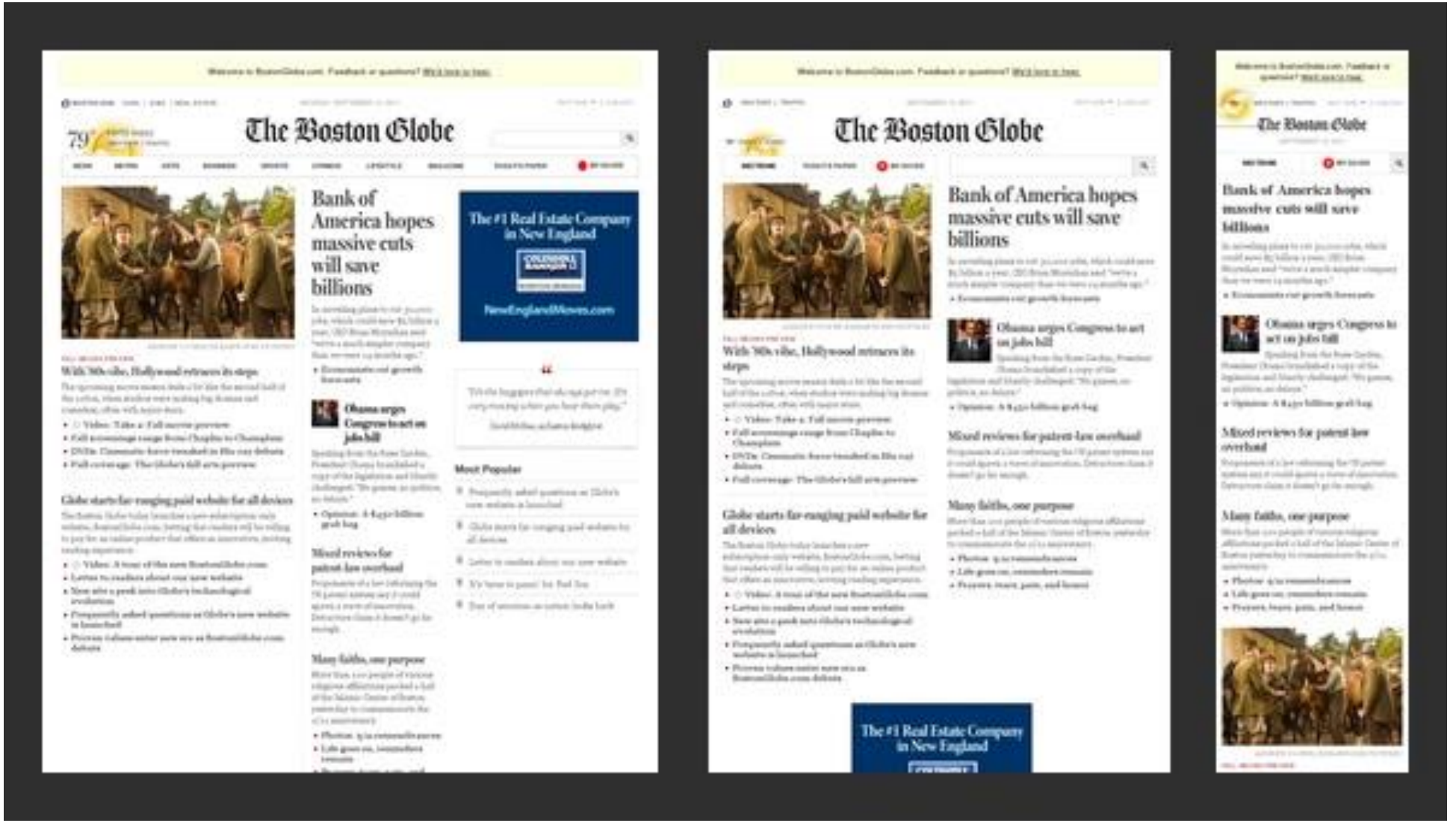
Mobile-Responsive Design

Layout strategy: Column Drop

- Full-width multi-column layout
- Similar to Mostly Fluid but without the fluid content
- Stacks columns vertically when the width is too narrow for the content
- Works well for: Simple applications, dashboards



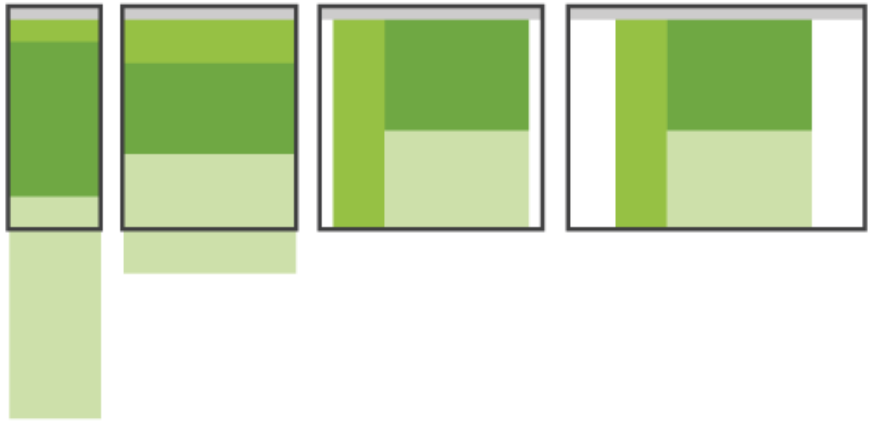
Mobile-Responsive Design



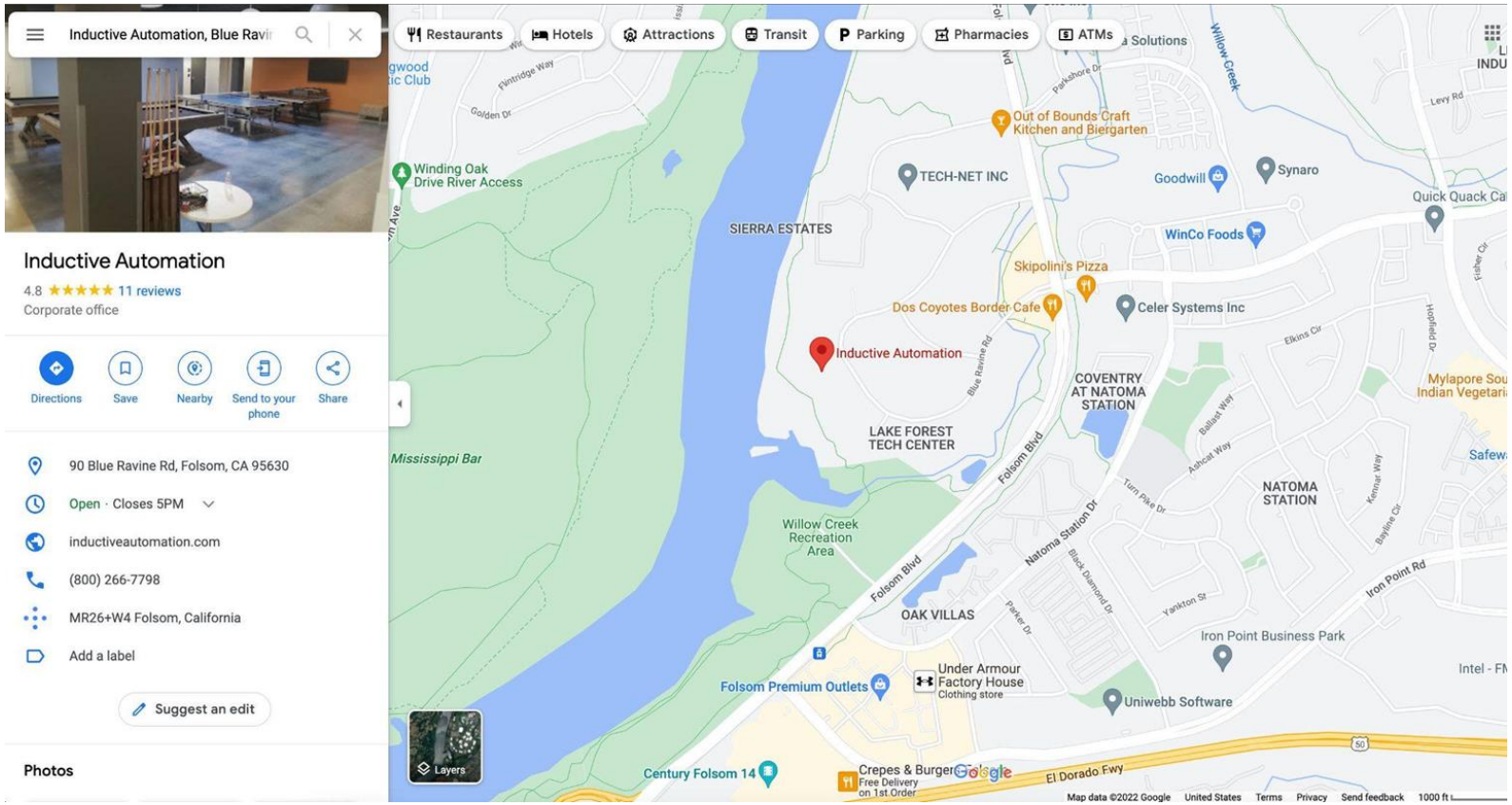
Mobile-Responsive Design

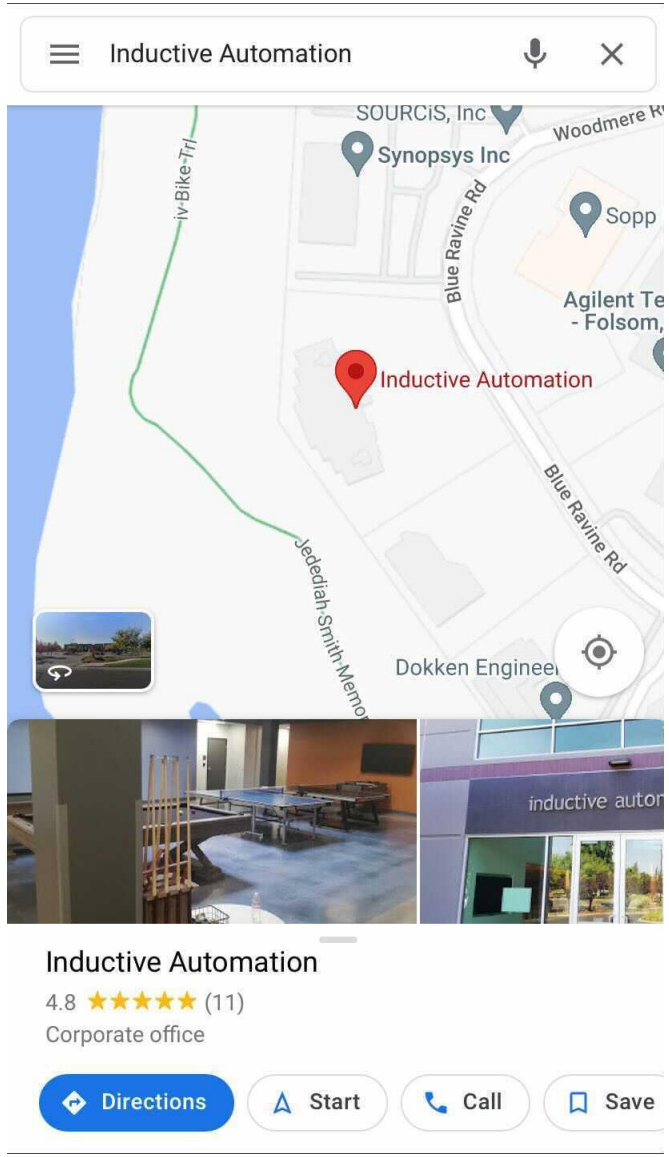
Layout strategy: Layout Shifter

- The most responsive pattern
- Different layouts across breakpoints
- Swaps components, not just layout
- Works well for: Complex applications, complex dashboards



Mobile-Responsive Design





Mobile-Responsive Design

Layout strategy: Tiny Tweaks

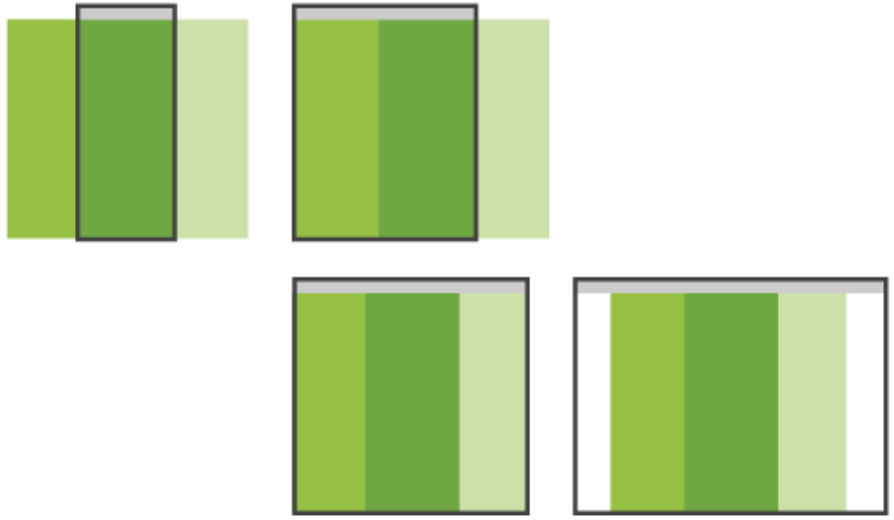
- Small changes to the content, like font & image size
- No changes to the layout
- Works well for: Nested views, Single-column layouts

Mobile-Responsive Design

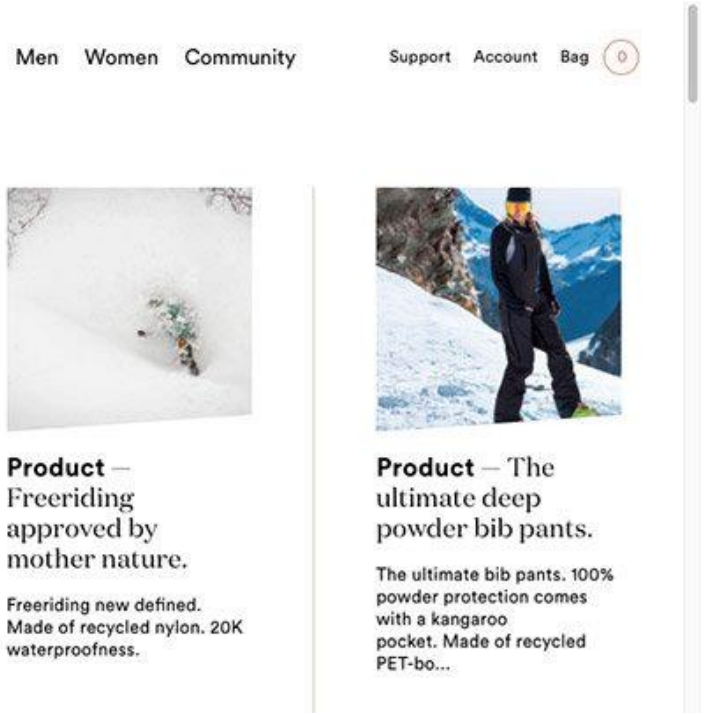
Mobile-Responsive Design

Layout strategy: Off Canvas

- Moves infrequently used content off-screen, shows it when the screen is large enough
- Content is only one click away
- Works well for: Complex applications, mobile applications



Mobile-Responsive Design



Containers in Ignition Perspective Module

- Containers are one of the ways that Perspective has mobile-responsive design built into its structure.
- Containers let you lay out and organize components within a View.
- Containers are like a box for content. The content is like fluid that shifts, moves around, and takes up available space in the container.
- The different container types support different layout strategies.

Containers in Ignition Perspective Module

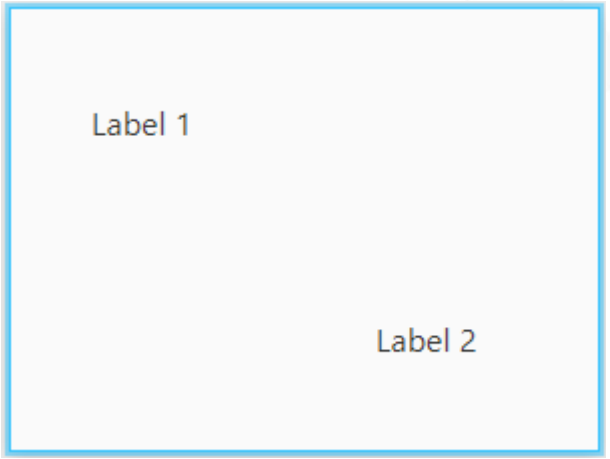
Five different container types:

- Coordinate Container
- Tab Container
- Flex Container
- Column Container
- Breakpoint Container

Coordinate Container

Features:

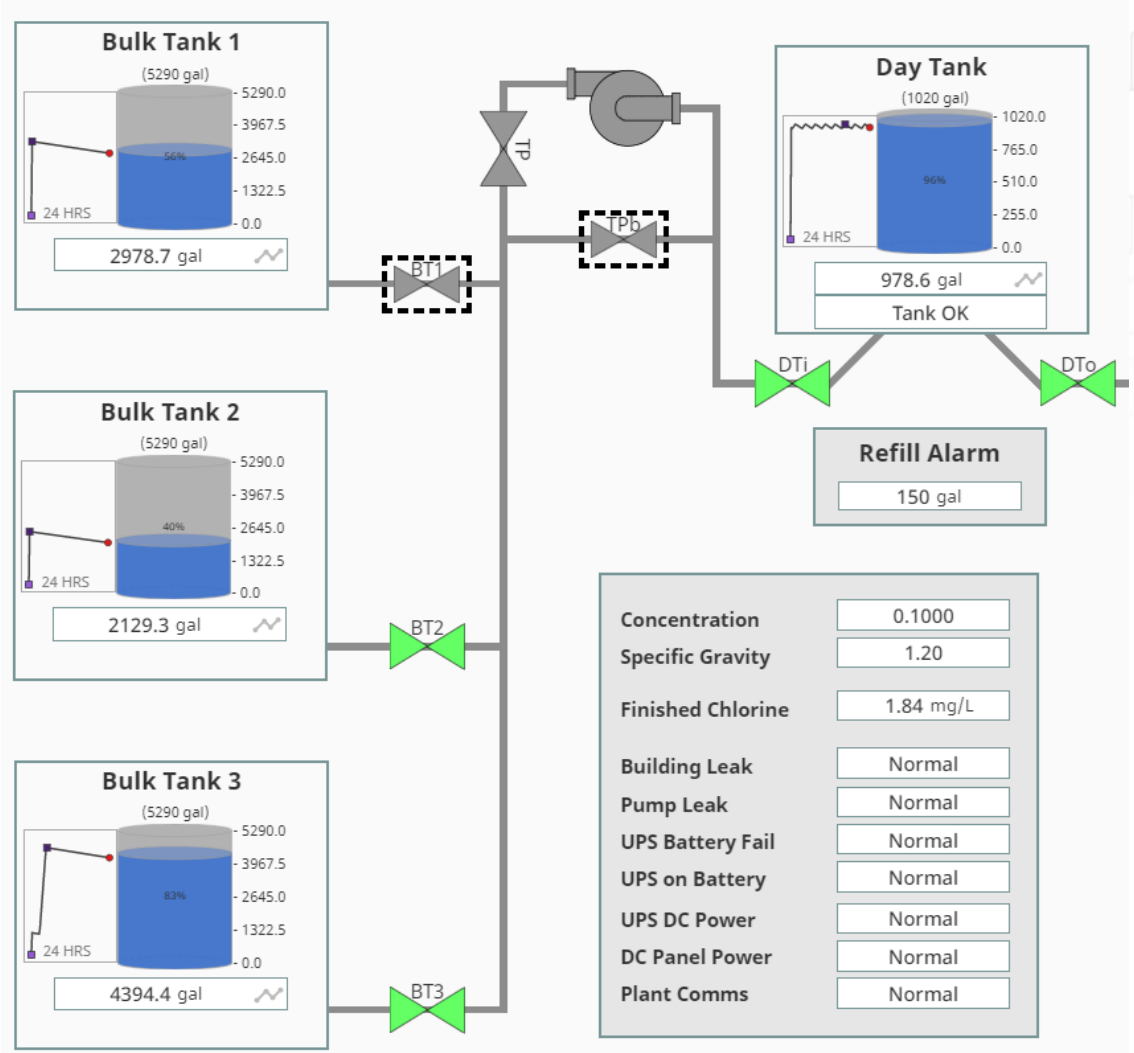
- The simplest container type
- Components use basic X, Y, Width, and Height position properties
- Components can be fixed size, or grow/shrink proportionally when the view is stretched
- Component size and location are relative to the parent container size and location
- Components can be rotated



Coordinate Container

When to use it:

- When components need to overlap each other
- When you don't want components to resize
- For Mostly Fluid layouts



Demo

Tab Container

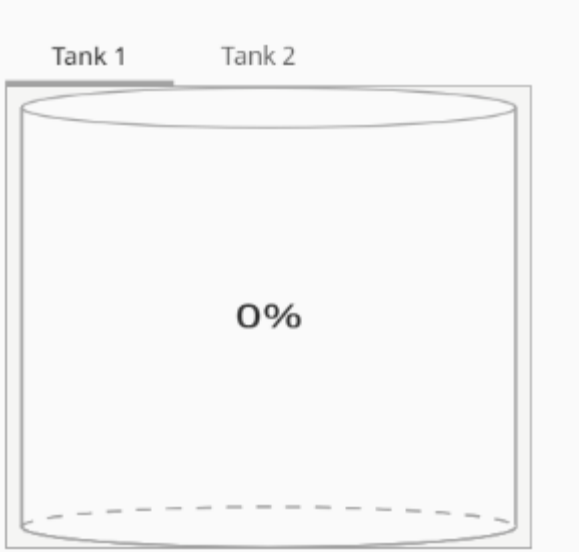
Features:

- Classic tab strip navigation buttons
- 2 Variants:
  - Classic - traditional menu with boxed tabs
  - Modern - no border around each tab and selection is indicated with an underline

Tab Container

When to use it:

- Use when you only want to display one component in each tab
- Useful for complex devices or processes



Demo

Flex Container

Features:

- Alters a component's width and height to accommodate all types of devices and screen sizes
- Expands components to fill free space or shrinks them to prevent overflow
- Allows a great deal of control over how different components expand and shrink
  - Static widths
  - Even scaling

Flex Container

When to use it:

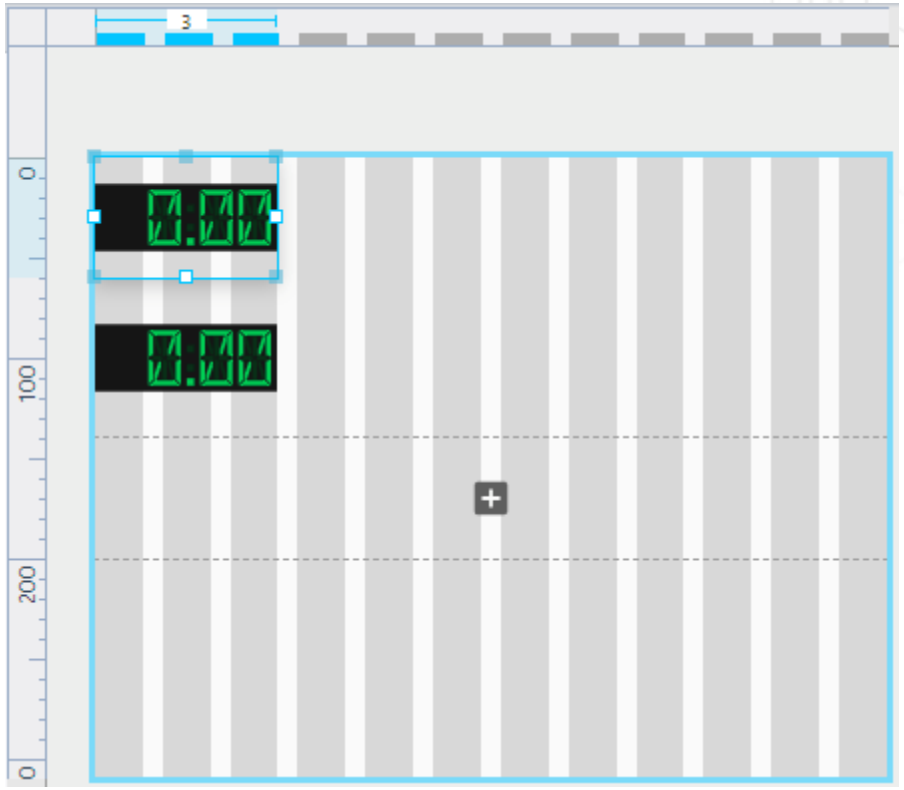
- Go-to container for mobile-responsive screens
- Use when the size of components is unknown or dynamic
- Use when operators will not have consistent screen sizes or devices
- For Column Drop layouts

Demo

Column Container

Features:

- 3 breakpoints:
  - Small
  - Medium
  - Large
- 12 columns per breakpoint
- Unlimited rows



Column Container

When to use it:

- Use when you want the same components on all screen sizes but in different positions depending on size
- On a narrow screen, each component may take up all 12 columns but have its own row
- On a wide screen, components may share a row
- For Column Drop layouts

Demo

Breakpoint Container

Features:

- Create multiple versions of a single container using a pixel width as the cutoff, which completely changes the look or structure on mobile vs desktop sessions
- Swaps sub-containers based on a breakpoint in pixels
- Consists of a single breakpoint with two child views

Breakpoint Container

When to use it:

- When you want completely different components on mobile and desktop
- When you want the most comprehensive choice for developing a project that works for sessions of many shapes and sizes
- When you want small and large versions to have:
  - Differing components
  - Differing properties, bindings, or layout behavior
  - Differing navigation options
- For Layout Shifter layouts

Demo

Named Styles and Element States / Media Queries

- Tiny Tweaks layouts can be made using Named Styles and Element States or Media Queries.
- Styles are the main way to change the look of a component in Perspective.
- A Style Class is a group of style settings that can be quickly applied to multiple components.
- When you create a new Style Class, you can save it and name it.
- Element States are used on Style Classes to change the style configuration on a component based on the state of the component or media queries.

Named Styles and Element States / Media Queries

Docked Views

- Off Canvas layouts can be made using Docked Views.
- A View that is anchored or “docked” to the edge of a session
- Features multiple properties that alter the behavior of the dock in unique ways: Display, Resizable?, Modal?, Auto Breakpoint, and several more.

Docked Views

Power Chart

- The Power Chart works with the Tag Historian system to chart history data across the Perspective platform.
- Has a responsive design and a mobile-optimized display
- Has a mobile breakpoint to fit better on mobile devices

Power Chart

Design Use Cases (Combining Perspective Containers)

- Perspective is even more powerful when you combine container types:
  - Hierarchy
  - Nesting
  - Containers within containers
  - Different layouts at different sizes and at different levels
- Combine Perspective containers in an endless number of ways!

Design Use Cases (Combining Perspective Containers)

Let’s look at examples from:

- The Perspective Demo Project
- Mobile-Responsive Layouts in Quick Start

Design Use Cases

Resources: Learn More About Perspective

- **Inductive University offers Credential Courses and Elective Studies about Perspective**
- **Extensive documentation in the Ignition Online User Manual**
- **Paid training courses also available**
- **Free resources for Perspective on the Ignition Exchange**
- **Download Ignition and the Perspective Module for free at inductiveautomation.com**

THE DISCOVER GALLERY

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