CS 349 - User Interfaces **Winter 2018**

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9.1 Layout

9.1.1 Responsive v.s. Adaptive

- Responsive : universal design reflows spatial layout to fit width
- Adaptive: switch between optimized spatial layouts to fit devices
- In practice, the approaches can be combined

9.1.2 Dynamic Layout

- If a window is resized, we want to
  1. maximize use of available space for displaying widgets but we want to do this such that:
  2. maintain consistency with spatial layout
  3. preserve visual quality of spatial layout
- Need to dynamically modify the layout:
  - re-allocate space for widgets
  - adjust location and size of widgets
  - perhaps even change visibility, look, and/or feel of widgets

9.1.3 Intrinsic Size Layout

- Query each item for its preferred size
- Grow the widget to perfectly contain each item
- A bottom-up approach where top-level widgets size completely dependent on its contained widgets

9.1.4 Variable Intrinsic Size Layout

- Layout determined in two-passes
  1. Get each child widgets preferred size (includes recursively asking all of its children for their preferred size...)
  2. Decide on a layout that satisfies everyones preferences, then iterate through each child, and set its layout (size/position)