Advance Programming Techniques (APT)

Lecture # 35

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Introduction

- When we create WinForms applications, our forms often need to resize. For example:
  - A user maximizes the window
  - The app runs on different screen resolutions
  - A panel expands or collapses
- To make sure our controls **resize or reposition automatically**, WinForms provides two powerful layout properties:
  - Anchor property
  - Dock property
- Understanding these two will help you build **professional, flexible UI layouts**

What is Anchor?

- Anchor property ensures that a control maintains its position (and optionally size) relative to the sides of the form
- By default:
  - Anchor = Top, Left
- Meaning: when the form resizes, the control stays fixed in distance from the **top-left corner**

How Anchor Works?

- If we anchor a control to:
- Left only
  - Control stays the same distance from left side
- Left + Right
  - Control **resizes horizontally** when the form grows
- Top + Bottom
  - Control **resizes vertically**
- All four sides
  - Control grows in **both width & height**

What is Dock?

- Dock makes a control attach to an entire side of the container (or fill it completely)
- Dock options:
  - Top
  - Bottom
  - Left
  - Right
  - Fill
  - None

How Dock Works?

- Dock = Top
  - Control sticks to the top and stretches horizontally
- Dock = Bottom
  - Control sticks to bottom and stretches horizontally
- Dock = Left
  - Sticks on left and stretches vertically
- Dock = Right
  - Sticks on right and stretches vertically
- Dock = Fill
  - Completely fills the parent area

Common Mistakes

- ❌ Setting both Dock and Anchor
  - WinForms ignores Anchor when Dock is used.
    Use only one
- ❌ Docking multiple controls incorrectly
  - Dock order matters. Controls docked earlier get placed first
- ❌ Overusing Anchor
  - For complex layouts, Dock (or TableLayoutPanel) is better