Panel Concepts
- Graphical User Interface (GUI)
- Parent vs. Child Panels
- First Step in a LabWindows Project

Types of Panels

<table>
<thead>
<tr>
<th>Control</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED</td>
<td></td>
</tr>
<tr>
<td>Text Box</td>
<td></td>
</tr>
<tr>
<td>Numeric</td>
<td></td>
</tr>
<tr>
<td>Button</td>
<td></td>
</tr>
<tr>
<td>Graph</td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td></td>
</tr>
</tbody>
</table>

Controls vs. Displays

- **Controls** ("Inputs")
  - Expect "something" to happen when left-clicked on
  - "something" =>
  - "left-clicked" =>

- **Displays** ("Outputs")
  - Expect nothing to happen when clicked on

Components of Every Control

- 1: a “commit event” (EVENT_COMMIT) occurs
- 2: a (callback) function is called and executed
LabWindows Design Process

1. Design GUI
2. Attach (callback) Functions to Controls
3. Generate Code
4. Add Your Functions and Statements to Skeleton Code

Attaching a (callback) Function

Getting Values In & Out of Displays

- Reading a Value from a Panel: (Input)
  GetCtrlVal (panelHandle, PANEL_BINARYSWITCH, &iOnOff);

- Writing a Value to a Panel: (Output)
  SetCtrlVal (panelHandle, PANEL_NUMERIC, x);

GetCtrlVal (or SetCtrlVal) Arguments

GetCtrlVal (panelHandle, PANEL_BINARYSWITCH, &iOnOff);

1. Parent Panel (always the same)
2. Panel Name
3. Variable to Store Value to (or to Display in ‘SetCtrlVal’)

Common Mistakes with Get/SetCtrlVal

- Data type in code is not matched to date type in GUI!

  static int x;
  GetCtrlVal (panelHandle, PANEL_BINARYSWITCH, &iOnOff);

Warning: Renaming Your GUI or Adding it to a New Project

- Always make sure the name of your GUI agrees with the code in the following two statements:

  1. #include "Example5.h"
  2. if ((panelHandle = LoadPanel (0, "Example5.uir", PANEL)) < 0) return -1;