



**Innovative Teaching Approaches  
in development of Software Designed  
Instrumentation and its application  
in real-time systems**

# **The Advanced Applications of LabVIEW**

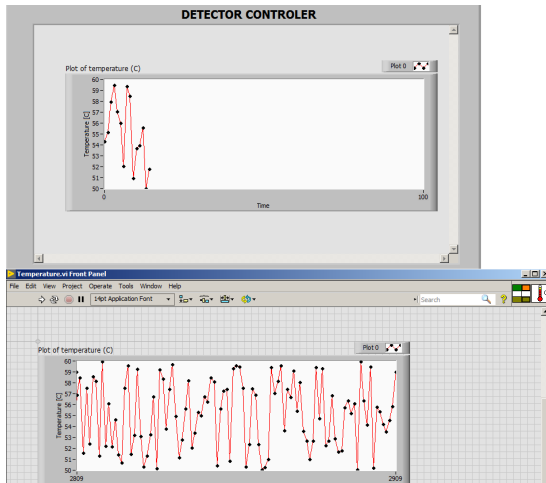
## **Lecture 8: Creating documentation, management and error logging.**

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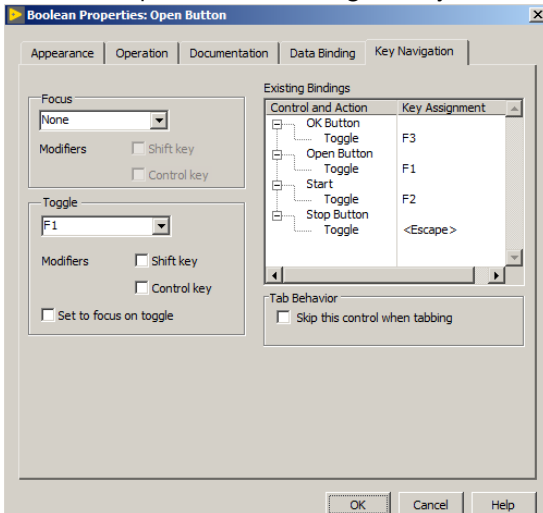
# Controlling the user interface

- Subpanel control is used to display the front panel of subVI in main front panel.



# Controlling the user interface

- Sometimes it is better to give the user the ability to control the operation of the front panel controls using the keyboard.



# User documentation

The well prepared documentation should include 3 types of information: concepts, procedures and reference materials. The list of useful elements to prepare proper documentation of the code:

## ① *Labels:*

- description of functionality of controls/indicators,
- displayed in *Context Help* window and connector pane,
- the name should include the default value and unit,
- if control has limited range, please insert the free label to inform user about it.

## ② *Captions:*

- additional description of control/indicator functionality, which is displayed only on front panel,
- use caption to describe functionality of controls/indicators and short label to save space in block diagram,
- caption appears as tip strip in *Context Help* window.

- ③ *Tip strip* - additional description on yellow block, when user is focused on control/indicator.
- ④ *VI properties* should include the following items:
  - An overview of the VI
  - Instructions for using VI
  - Description of inputs and outputs.
- ⑤ *Free labels and comments*
- ⑥ *Wiring description*

# Error managing

- 1 Prepare error testing procedure to make sure that application works properly and do not crash unexpectedly. Error testing should consist of steps:
  - Identify the different errors.
  - Determine how application should response to error and repeat the chosen part of code as long as error occurs.
  - Develop tests to ensure that application behaves as expected.
- 2 Remember to include error clusters in subVI and functions to pass error information through the application.
- 3 Remember to store warnings and errors in log files, which should include information as: date, time, error code, source of error.



**Itasdi**

**Thank you for attention!**

Lecture was prepared based on materials from: "LabVIEW Core 3 Course Manual".

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