LabVIEW State Machine

Creating LabVIEW Applications using the State Machine Principles

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https://www.halvorsen.blog
LabVIEW

• LabVIEW is a graphical programming language
• LabVIEW has powerful features for Simulation, Control, Vision and DAQ Applications

Resources:
• https://halvorsen.blog/documents/programming/labview/
• https://halvorsen.blog/documents/teaching/courses/labview_automation.php
New LabVIEW Programmers that has not learned about the State Machine principles tends to put all their code into a While loop without no structure.
Simple LabVIEW VIs vs. LabVIEW Applications

• Typically engineers often create simple LabVIEW VIs that eventually grow out of control, because they don't have the proper structure and best practices.

• The solution to this problem is organizing your code and data in a way that enables modularity, readability, and reuse.

• Using a state machine approach is a good way to make it right from the early beginning.
State Machine

The state machine is one of the fundamental architectures LabVIEW developers frequently use to build applications.

In LabVIEW software, you can create a basic state machine with a **While loop**, a **Shift Register**, a **Case Structure**, and some form of case selector.
Structure your Code!

- Use the State Machine principles
- Use the Project Explorer
- Create and use SubVIs
Project Explorer
SubVIs
LabVIEW Example

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