

Tips and Tricks to Speed NI LabVIEW Software Development

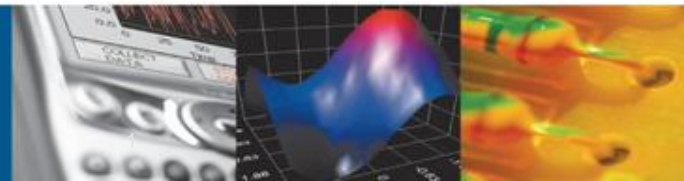
(will post slides tomorrow on kdyautomation.com)



Doug McVey, kDy Automation Solutions

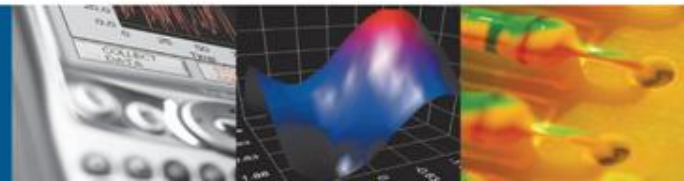


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What is an improvement in “speed”?

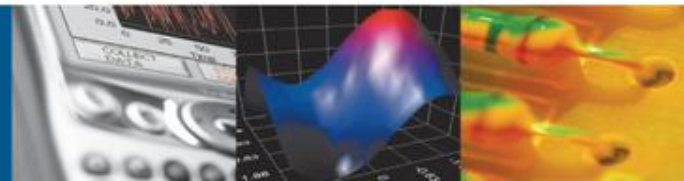
- **More/better product** – More problems solved with code that is more maintainable/reusable.
- **Less time** – Less time to create and debug; must include time to learn new techniques.
- **Must consider momentum/fatigue/time-on-task**



What is the fastest way to get faster?

Better Planning. Better architecture.

- **Better Planning**– “I know what this BD will look like when it’s done.”
- **Better Planning**– “I know where my cursor is going next.”
- **Better Architecture**- “This will be fast to debug and won’t have to be redone.”
- **Better Architecture**- “This will be maintainable and maybe even reuseable.”



Keyboard Shortcuts!

Navigation

Ctrl+F to find

Ctrl+G to page through lists

Ctrl+E toggle between FP/BD

Ctrl+Shift+E view in project window

FP/BD Arrangement

Shift+(Arrow) larger move

Shift+Drag 1D drag

Ctrl+Drag create copy

Ctrl+0 font dialog

Ctrl+Shift+A last alignment

Ctrl+D last distribution

From the audience:

Ctrl+Shift+Drag Create space

Ctrl+Z Undo

Ctrl+Shift+Z Redo

Alt,E,S Create subVI

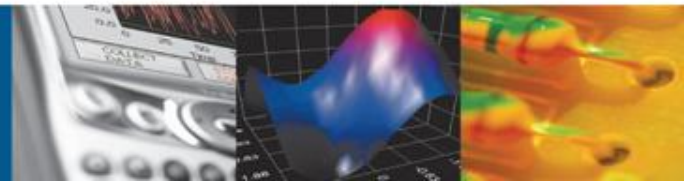
Ctrl+Shift+W List of open windows

Ctrl+Shift+? Full LV help

Ctrl+Tab page LV windows

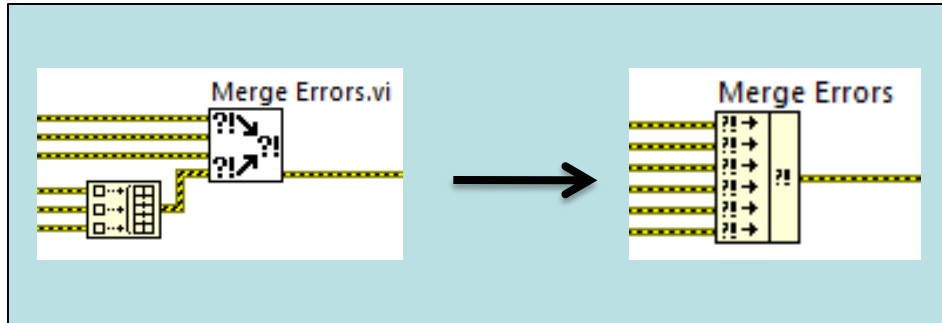
A Comprehensive List

http://zone.ni.com/reference/en-XX/help/371361G-01/lvhowto/keyboard_shortcuts/

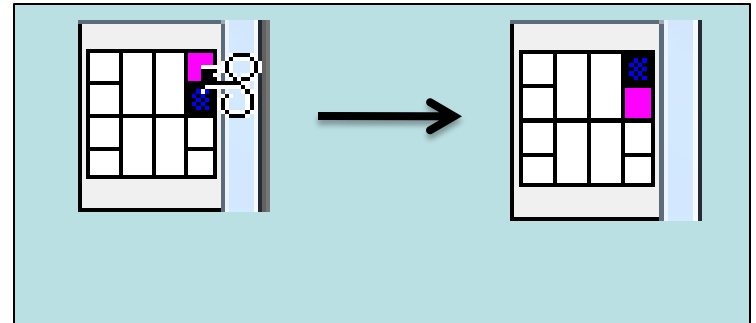


Mouse Time-savers!

LV2010: native growable merge errors



LV 2010: pane terminal drag



Audience Poll:

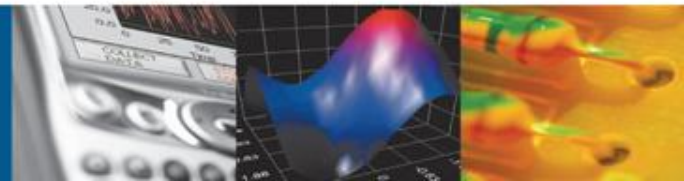
What version do you use?

2010: 6

2009: 9

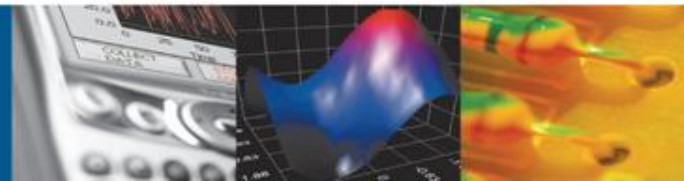
8.6: 4

Older: 5



Environment Configuration!

Speed up getting into a new installation or version of LV by copying your labview.ini file from the old version to the new one.



Essential No. 1 – Quick Drop

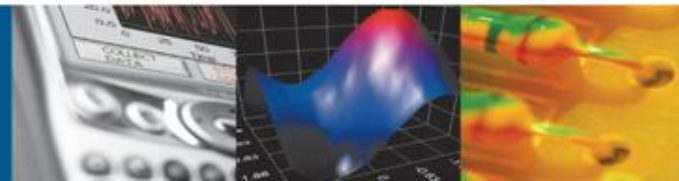
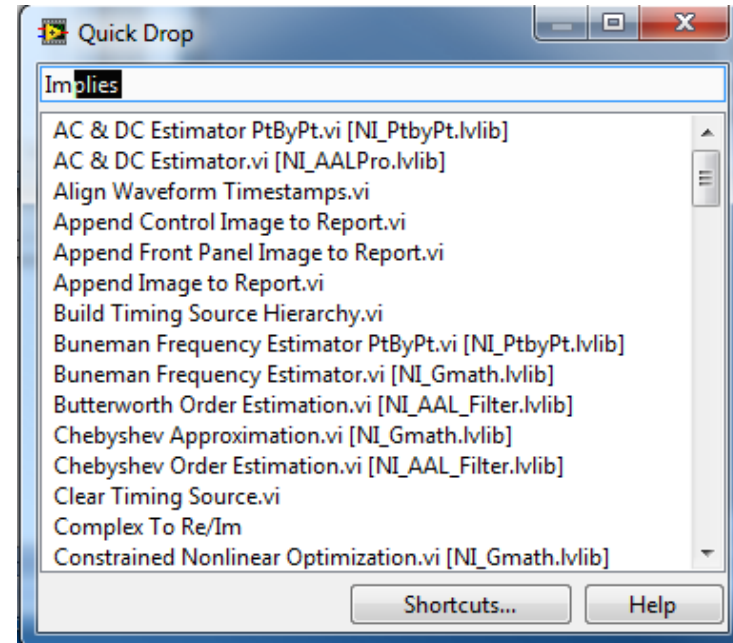
- LabVIEW 8.6 and later (but an 8.5 prototype is available)
- Drop LabVIEW objects based on name, not palette location

Two uses:

1. Locate commonly dropped items
2. Quick Drop keyboard shortcuts

Poll: do you use Quick Drop?

Yes: 5 No:

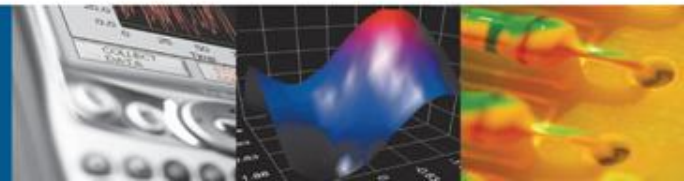


Quick Drop-Locating Items

- Launch with Ctrl+space
- Can type names of objects or create abbreviations for objects
- Project dependencies are included (LV2009 and later)
- Add the palette shortcuts () available on NI.com to your labview.ini file
 - This gives you abbreviations for calling particular palette items, for example “cs” brings up “Case Structure”, “rn” for “Property Node” etc.
 - <http://decibel.ni.com/content/docs/DOC-8344>

Hungry for more Quick Drop? Join the “Quick Drop Enthusiasts” group on ni.com/community

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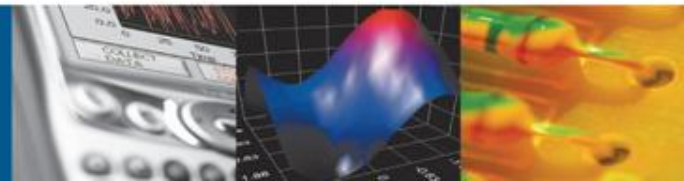


Quick Drop-Keyboard Shortcuts

- Launch with Ctrl+space
- Quick Drop keyboard shortcuts
 - key combinations struck after launching QD
 - Ctrl-(Shift)-D creates controls/indicators (constants) for all inputs/outputs
 - Ctrl-R to remove the selected items, keeping wires.
 - Ctrl-T moves terminal labels to proper places
 - Can create your own with VI Scripting
 - Find shortcuts from the LV community: <http://decibel.ni.com/content/docs/DOC-9573>

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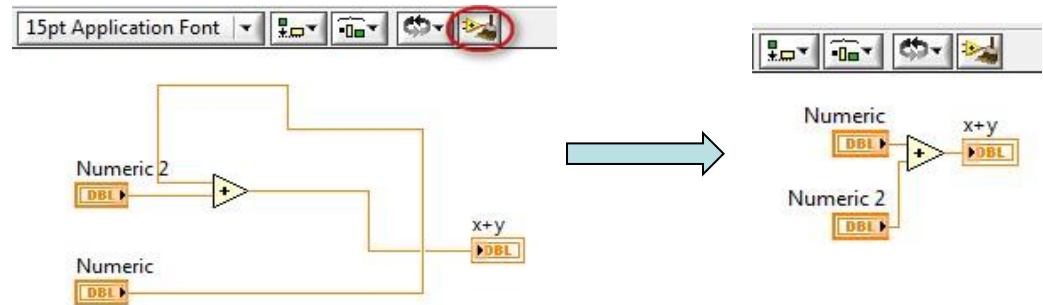
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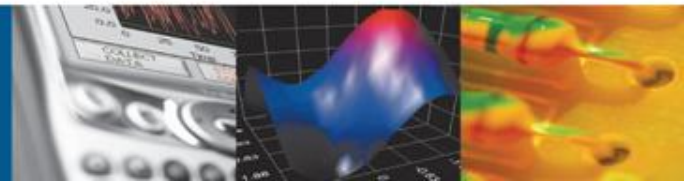
Essential No. 2 – Block Diagram Cleanup

- LabVIEW 8.6 and later
- Instantly clean up your diagram (toolbar button or **Ctrl-U**)
- Functionality in LabVIEW 2009 and later:
 - Clean up selected portion of diagram
 - Exclude certain diagram structures from cleanup
 - Best on single-screen diagrams with limited nesting

Help improve diagram cleanup — join the “Diagram Cleanup Feedback” group on ni.com/community



Poll: Regularly use Cleanup? Yes:5 No:



Essential No. 3 – Auto Tool

- LabVIEW 6.1 and later
- Automatically chooses the correct tool (operate, position, text, or wire) depending on what is under the mouse cursor
- Seems to get smarter with each LabVIEW release, so try it again if you haven't tried it lately



Operate Value Tool



Position/Size/Select Tool



Edit Text Tool

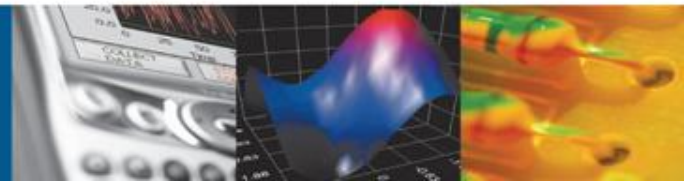


Connect Wire Tool



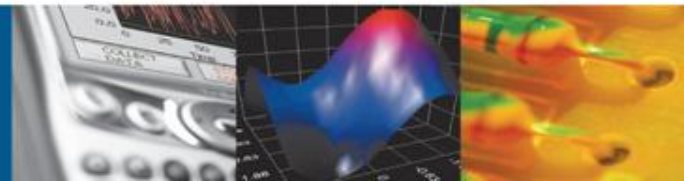
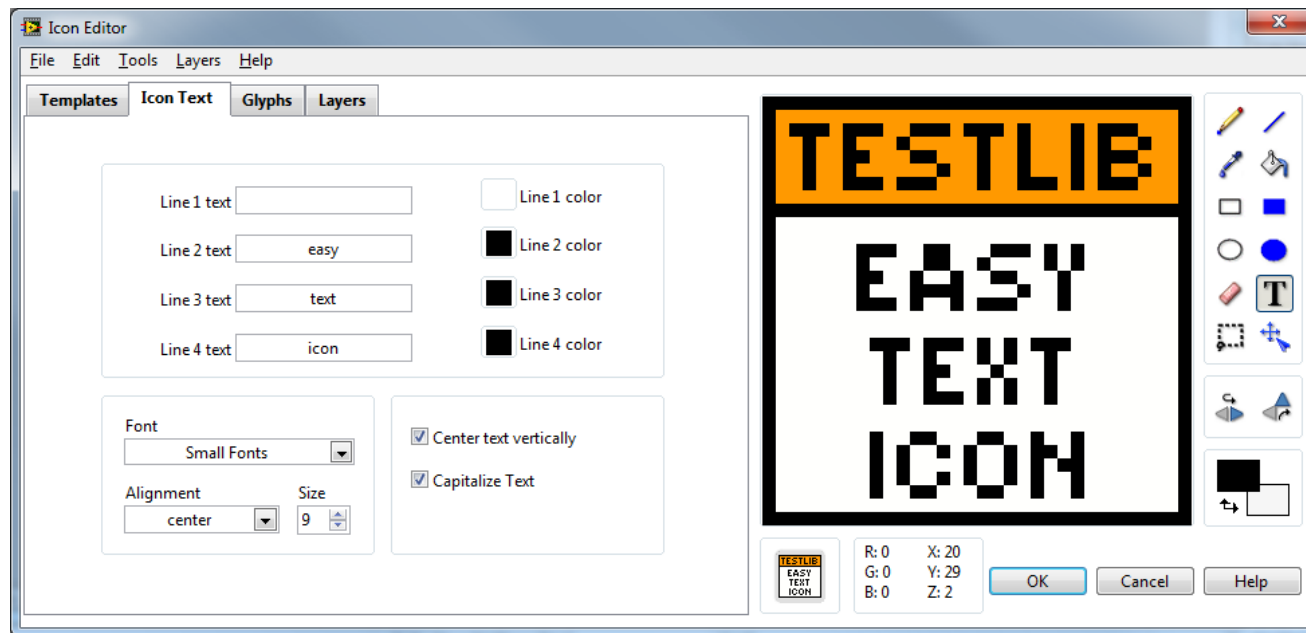
Auto Tool

Poll: Always Auto: Mixture: Always Manual:



Essential No. 4 – Enhanced Icon Editor

- LabVIEW 2009 and later
- Phenomenally quick to create text-based icons
- Automatic application of .lvlib/.lvclass banner to new VIs

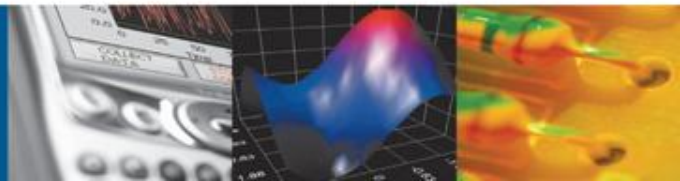


Beyond this presentation

Darren's Nuggets

<http://decibel.ni.com/content/docs/DOC-4002>

(or just search ni.com for “Darren’s Nuggets”)



Thank you for attending!

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