

LabVIEW on the iPad

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LabVIEW on mobile devices

NI Data Dashboard

1. Originally tablets only
2. Now on iPhone & Android 2.3.3

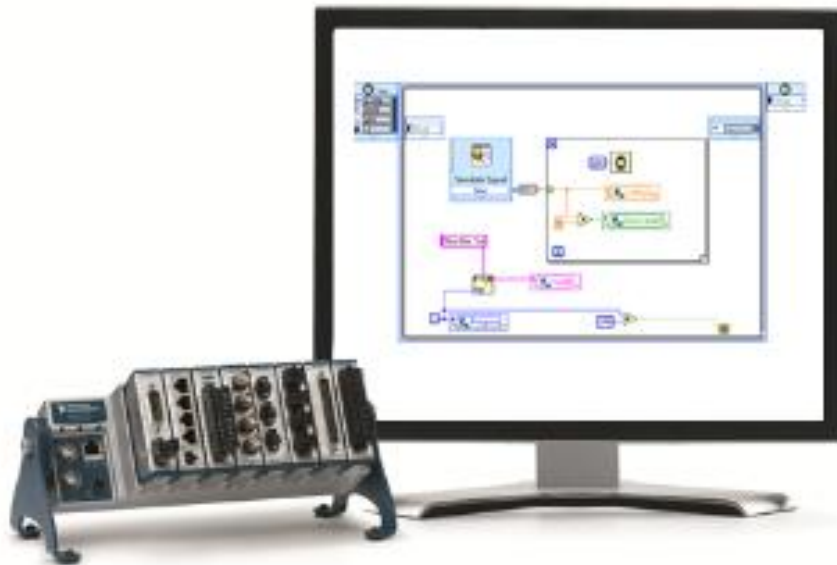
Throw Lab Viremote

1. iPhone, iPad, & iPodTouch
2. Two way <Monitor & >Control

Several other options ...



NI Data Dashboard



NI Data Dashboard

1. Free App
2. Monitoring only (so far)
3. Network Published Shared Variables
4. NI Web Services
5. Tablet: 1, 2, 4, or 6 indicators
6. Phone App only a single indicator/page



NI Data Dashboard

1. Strings, numerics, and Booleans
2. Numerics can be gauges, charts or digital
3. Double tap to zoom
4. Swipe to change between pages



NI Data Dashboard

DEMO



ThrowLab Viremote

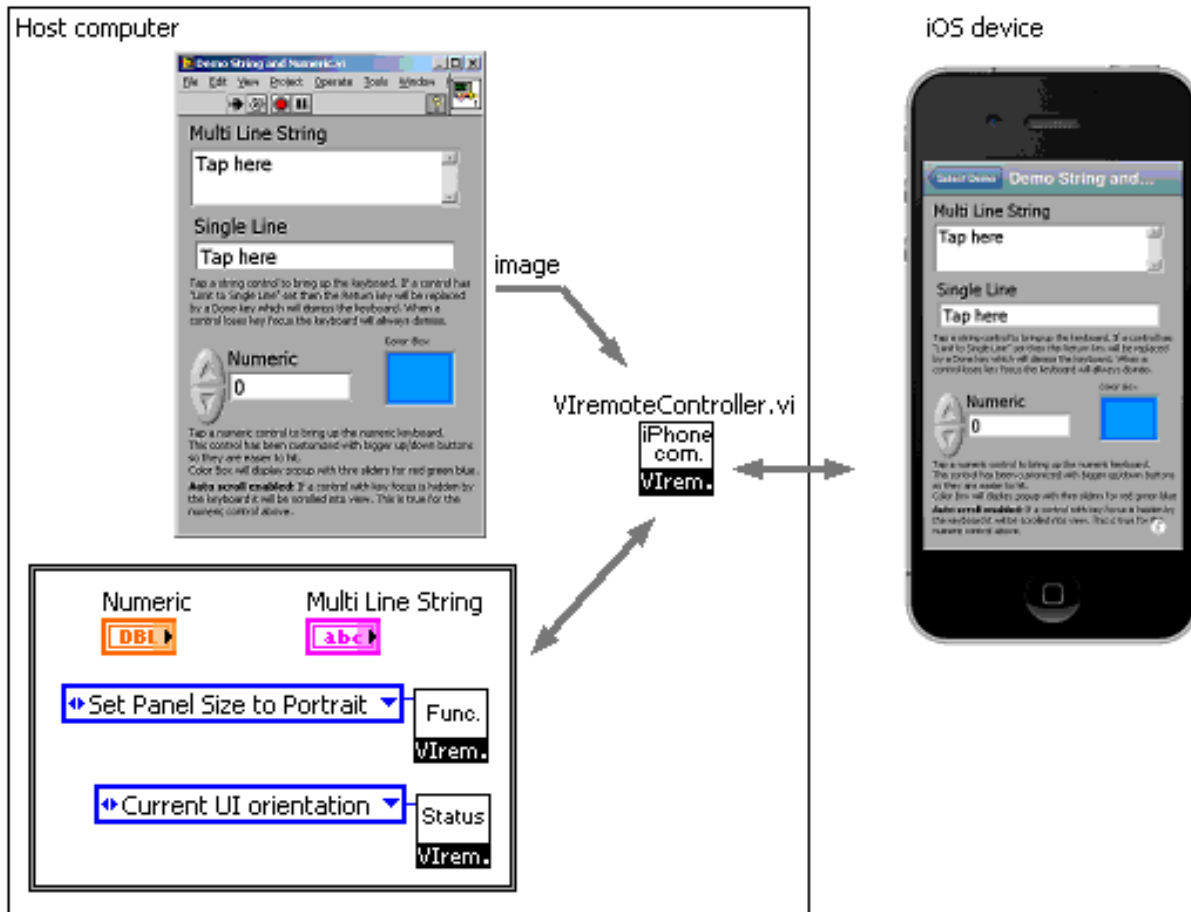


ThrowLab Vremote

1. Multiple modes: mouse/keyboard emulation or not, one to one or many to one connections.
2. TCP based (Shared Variables not used)
3. Vremote.llb is free but the App is \$20/device
4. VI front panel mirrored to iPad/iPhone screen



ThrowLab Viremote



ThrowLab Vremote

1. Many supported controls and indicators: color box, path control, slide, enum, comboBox, etc.
2. With emulation enabled also supports tab controls, listbox, controls in arrays
3. Sub-panels not yet supported



ThrowLab VRemote

DEMO



More Options

YouTube

Multitouch Library For LabVIEW Running On iPad

BristolNanoPhysics 20 videos ▾



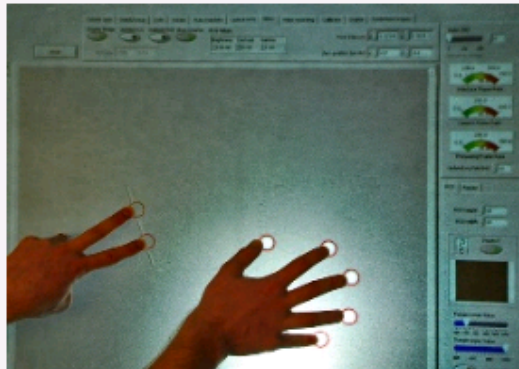
The video shows a LabVIEW interface running on an iPad. On the left, there are two bar graphs with a vertical axis ranging from -100 to 100. On the right, there is a 2D diagram of a robotic arm with two joints. At the bottom, there is a control panel with a 'Method' dropdown menu, a 'STOP' button, and four PID controller parameters: Kd, Ki, Kp, and PI. A hand is visible interacting with the screen, touching the 'STOP' button and the PID parameters.

0:18 / 0:22

•Multitouch Interface Library for LabVIEW



Creating a Multitouch Interface Library for LabVIEW



Gallery

Nanotools

"This thousand-fold increase in imaging speed enabled us to interact with the instrument and our samples in real time, rather than the time lapse format of normal atomic force microscopy (AFM) imaging."

- David Carberry, University of Bristol

The Challenge:

Implementing a multitouch control within any NI LabVIEW VI.


The Solution:

Using NI LabVIEW software to create a multitouch user interface with more intuitive and responsive methods for laboratory equipment control.



Using UDP protocol via Hexler

Control LabVIEW from the iPhone, iPad or iPod Touch

VERSION 2 

Created on: Jun 24, 2010 4:27 AM by [macaba](#) - Last Modified: Aug 28, 2010 3:31 PM by [macaba](#)

This is a VI that can send and receive String and 32-bit float data from an iOS app called 'Touch OSC' using the Open Sound Control protocol over UDP.

Open Sound Control (OSC) is a content format for messaging among computers, sound synthesizers, and other multimedia devices that are optimized for modern networking technology. Bringing the benefits of modern networking technology to the world of electronic musical instruments, OSC's advantages include interoperability, accuracy, flexibility, and enhanced organization and documentation. [\[Extract from Wikipedia page on OSC\]](#)

[TouchOSC](#) is a universal iPhone / iPod Touch / iPad application that lets you send and receive Open Sound Control messages over a Wi-Fi network using the UDP protocol.



Hexler OCR

hexler.net | pixels, waves and hyperactivity disorder

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TouchOSC

Modular OSC and MIDI control surface for iPhone / iPod Touch / iPad

Sends and receives **Open Sound Control** messages over a Wi-Fi network using the UDP protocol and supports both **CoreMIDI** and the **Line 6 MIDI Mobilizer** interfaces for sending and receiving MIDI messages.

Available on the App Store



Links and References

1. NI – Creating a Multi-touch library: <http://sine.ni.com/cs/app/doc/p/id/cs-13097>
2. Controlling LEGO Mindstorm: <http://www.youtube.com/watch?v=mnKBchs3j2M>
3. ThrowLab: <http://throwlab.com>
4. OSC / NI Community on Hexler: <https://decibel.ni.com/content/docs/DOC-12289>
5. Hexler: <http://hexler.net/software/touchosc>



ALE SYSTEM INTEGRATION

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- National Instruments Certified Alliance Partner
 - All developers have National Instruments Certification
- Experience:
 - Test Labs, Manufacturers, Mil/Aero, Finance
 - Over 17 Years Test & Automation experience
 - Expertise in variety of instrument manufacturers' products
- Programming:
 - LabVIEW, LabWindows/CVI, TestStand, Visual Studio

