2008 TE Sessions Supported by

CATERPILLAR®

NATIONAL INSTRUMENTS

Rockwell Automation

The George W. Woodruff School of Mechanical Engineering

Georgia Tech College of Computing

LabVIEW Part 3: Sensors

October 28, 2008

www.robojackets.org

Outline

- Motor control review
- Sensing
- Simple Autonomous
  - Possible complex autonomous!
- CRIO + LabVIEW Demo

RoboJackets

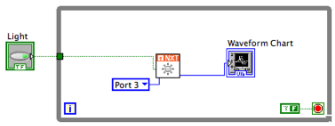
Sensors

- Light
- Touch
- Ultrasonic (Distance)
- Sound (previously covered)
- Wheel Position (encoding)

RoboJackets

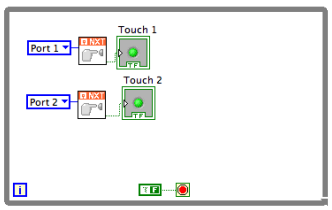
Light Sensor

Let's do another demo!



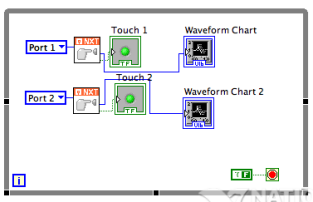
RoboJackets

Touch Sensor



RoboJackets

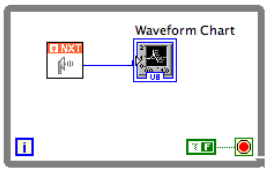
Touch Sensor



RoboJackets

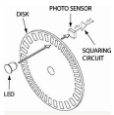
Ultrasonic Sensor

Let's do another demo!

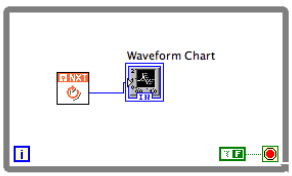


RoboJackets

Rotation Sensor



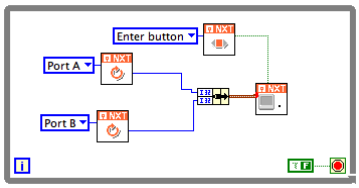
Let's do another demo!



RoboJackets

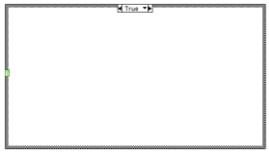
Rotation Sensor

Etch-A-Sketch!



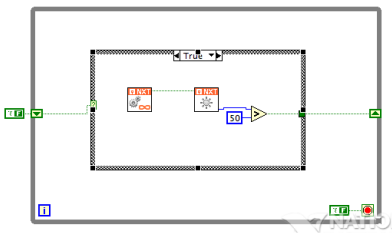
RoboJackets

Case Statement



RoboJackets

Drive Till Line Guided Activity



RoboJackets

CRIO Demo

RoboJackets

Legal

These slides and more are available at

http://www.robojackets.org

All media included is either in the public domain, generated by the author/s or covered by Fair Use of Copyrighted Material for Educational Purposes Title 17 Chapter 1 107 (which is reproduced in the next slide).

For more information contact the RoboJackets.
(contact info available via the web)

RoboJackets

Legal

Title 17 Chapter 1 107. Limitations on exclusive rights: Fair use

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
(2) the nature of the copyrighted work;
(3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
(4) the effect of the use upon the potential market for or value of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

RoboJackets