User Interaction: Intro to Multi-Touch

Asst. Professor Donald J. Patterson
INF 133 Fall 2011
Getting Multi-Touch up and Running

- Your program
- MT4J
  - TUIO
- Community Core Vision
- web cam
Getting Multi-Touch up and Running

- Community Core Vision (http://ccv.nuigroup.com/)
- is an open source/cross-platform solution for computer vision and machine sensing. It takes an input video stream and outputs tracking data (e.g. coordinates and blob size) and events (e.g. finger down, moved and released) that are used in building multi-touch applications.
Getting Multi-Touch up and Running

- MT4J
- MT4j - Multitouch for Java™ - is an open source Java™ development platform, created for rapid development of graphically rich applications. MT4j is designed to support different kinds of input devices with a special focus on multitouch support.
- http://www.mt4j.org
Getting Multi-Touch up and Running

- TUIO

  TUIO is an open framework that defines a common protocol and API for tangible multitouch surfaces. The TUIO protocol allows the transmission of an abstract description of interactive surfaces, including touch events and tangible object states.

- http://www.tuio.org/
Getting Multi-Touch up and Running: Demo #1

- To a flash application that is multi-touch aware
- Through a TUIO server
- Going through CCV
- Video from recorded gray scale
Getting Multi-Touch up and Running: Demo #2

- To a flash application that is multi-touch aware
- Through a TUIO server
- Going through CCV
- Live video
Getting Multi-Touch up and Running: Demo #3

- To a MT4J application that is multi-touch aware
- Going through a MT4J TUIO server
- Multitouch from a TUIO simulator
Getting Multi-Touch up and Running: Demo #4

- To a MT4J application that is multi-touch aware
- Going through a MT4J TUIO server
- Live multitouch from iPhone
Getting Multi-Touch up and Running

Diagram:

- Flash App
  - Run it "Fire"
  - Flash App "Physics"
- TUIO Server
  - Launch
- CCV
  - Calibration
- Pick Video
- Recorded Video
- Live Video
- LED
Getting Multi-Touch up and Running

- Issues
  - CCV version
  - 1.5 Windows
  - 1.3 / 1.2 Mac/Linux