LEGO NXT Sensors
Workshop II
27 October 2007

Ranjith Sundaram
Husain Master
What are sensors?

- An electronic device used to measure a physical quantity such as temperature, pressure, or light intensity and convert it into either analog or digital signal.
What do you get with your kit?

- Touch Sensor
- Sound Sensor
- Light Sensor
- Ultrasonic Sensor
Touch Sensor

- A force-sensitive device that, upon contact, generates feedback in robotic systems.

- Use the sensor to make your robot act on command.
Sound Sensor

- Measures sound pressure level
- Can measure up to 90dB – roughly the sound of a lawnmower
Sound Pressure Level

- Decibels (dB) — all sounds are measured at equal sensitivity
- Adjusted Decibels (dBA) — sensitivity is adjusted to that of the human ear
Light Sensor

- Reads the light intensity of a surface
- Differentiates between light and dark shades
Ultrasonic Sensor

- Used to sense and measure distance, and detect movement.
- Measures distance by calculating the time it takes for a sound wave to return upon contact with an object.
Ultrasonic Sensor cont.

- Measures in both centimeters and inches
- Can measure 0-255cm with a precision of +/- 3cm
- Objects with hard surfaces are better detected
Measuring Values on NXT

- Select the VIEW submenu on the NXT display
- Select the appropriate sensor icon
- Select the port to which the sensor is connected
- Press the orange RUN button