

Sociable Objects

Instructor: Rob Faludi
Class 5

Glow-the-LED

- Review lab results
 - discuss questions, problems, successes, learnings

Readings

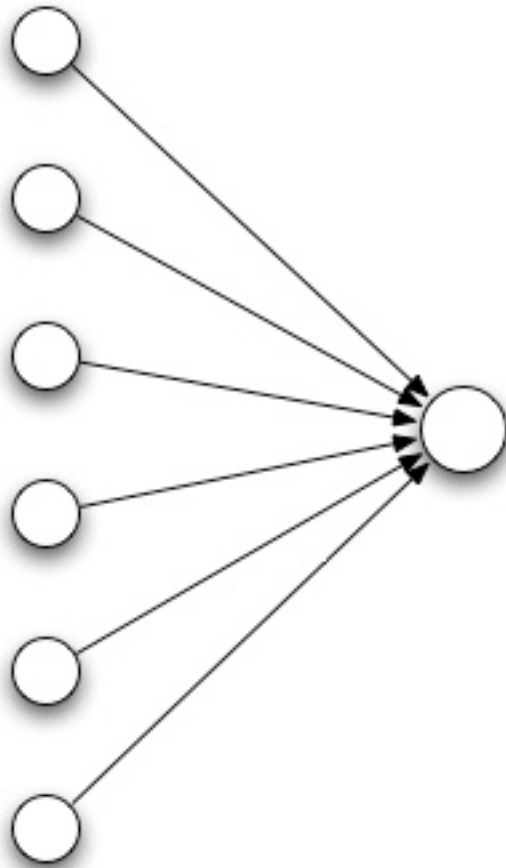
- Everything Everywhere: sensors and data in science
- Vehicle Warning System: near term utility
- Smart Dust: long term possibilities

Types of Networks

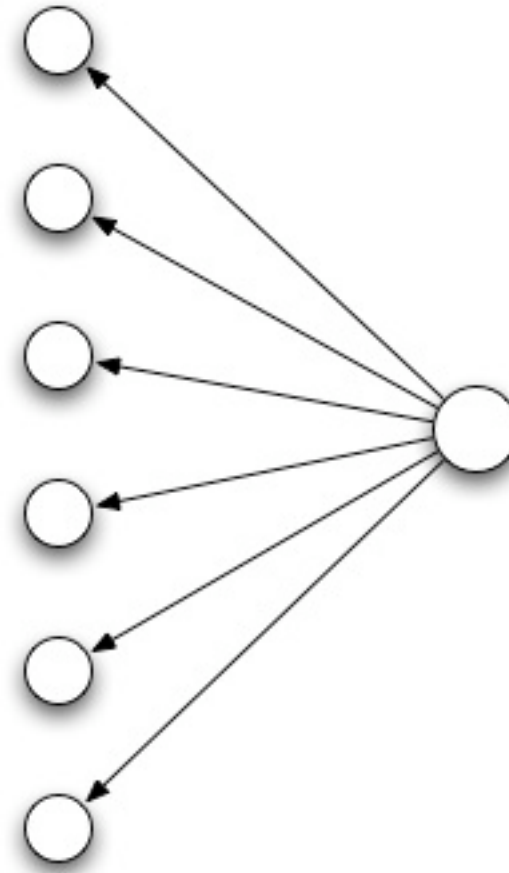
- Sensor network
- ad-hoc
- self-healing
- home network
- interactions (sociable objects)
- hide & seek (Shell House)
- gatewayed systems

802.15.4 Sensor / Display

Sensor Network

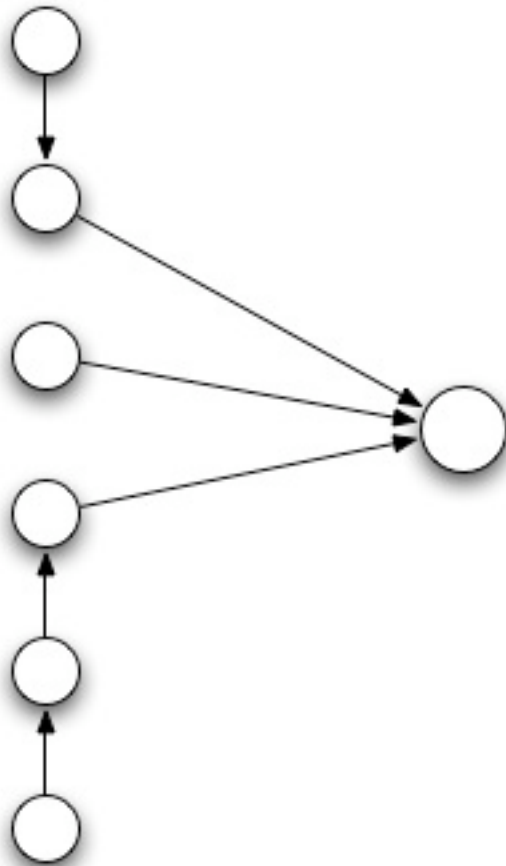


Display Network

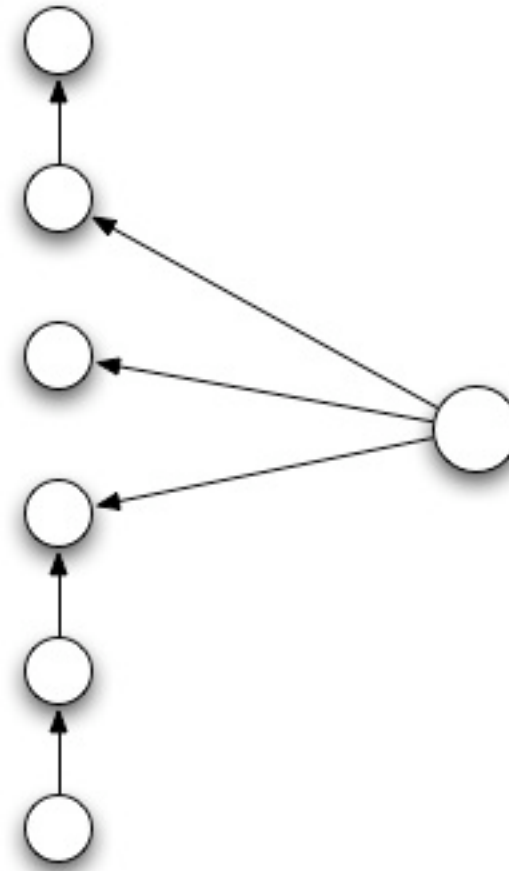


ZigBee Sensor / Display

Sensor Network

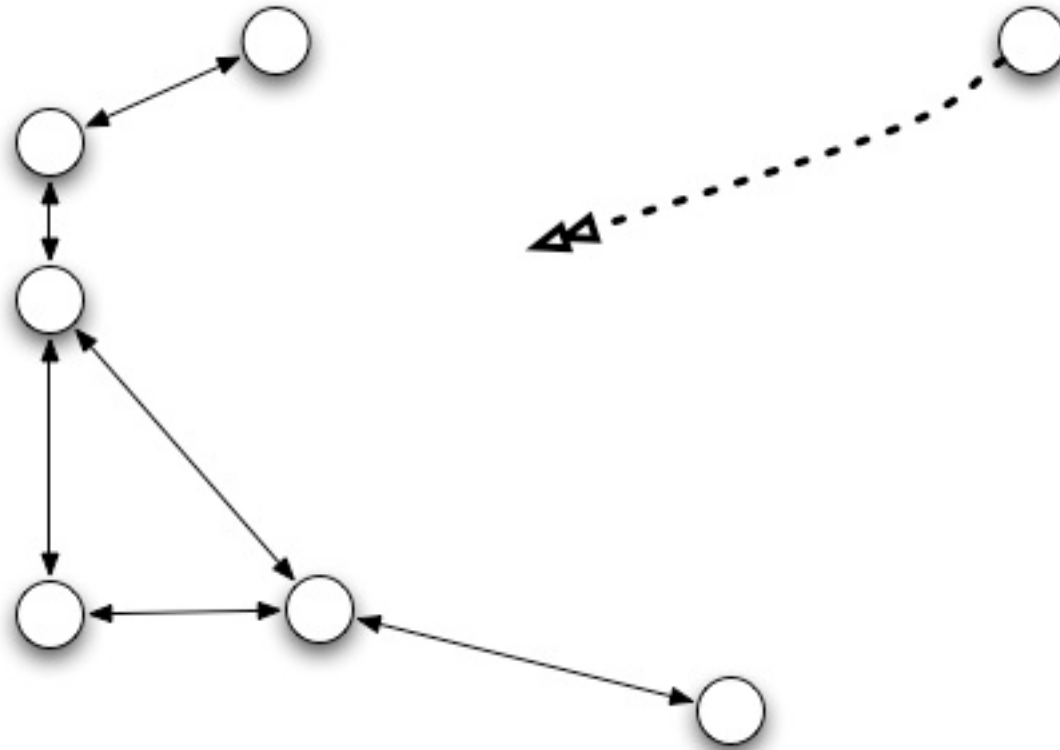


Display Network



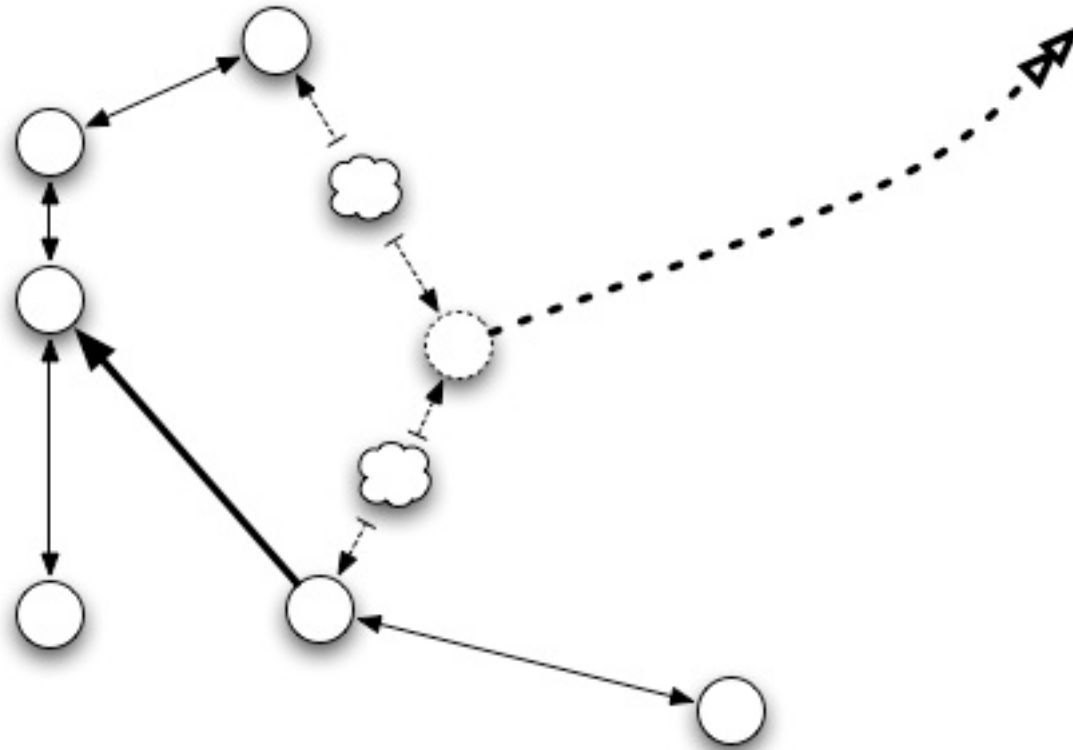
Ad-hoc

Ad-hoc Network



Self-healing

Self-healing Network



Software Serial

- Hardware vs. software serial
 - 9600 baud max, typically pins 6 & 7 but any digital pins are okay
 - `SWserial.read()` is blocking
 - No `serial.available()` function in software serial
 - No buffering
 - Last choice for input, great for debug output w/ USB-serial converter
- <http://www.arduino.cc/en/Reference/SoftwareSerial>

Assignment: Rock Paper Scissors

- Steps:
 - setup XBee
 - randomly select R, P, S (0, 1 or 2)
 - indicate selection
 - send message to partner
 - read message from partner
 - compare received with selected (case statement)
 - indicate win or loss
 - repeat process (start button)

Collaboration Groups

- pairs

Warmup

- Bippity Bippity Bop

Readings and Assignments

- Readings

- Cooperative Artifacts: http://rob.faludi.com/classes/sociableobjects/readings/Cooperative_Artefacts_2004.pdf
- How Management Teams Can Have a Good Fight: http://rob.faludi.com/classes/sociableobjects/readings/How_Management_Teams_Can_Have_a_Good_Fight.pdf Assignment

- Rock Paper Scissors

- extra reading: http://en.wikipedia.org/wiki/Rock_paper_scissors



The Common Side-blotched Lizard (*Uta stansburiana*) exhibits a RPS pattern in its different mating strategies.