

Collaborative Mesh Networking

Instructor: Rob Faludi
Week 7

Readings

- Making Things Talk, Chapter 7

Coordination Project

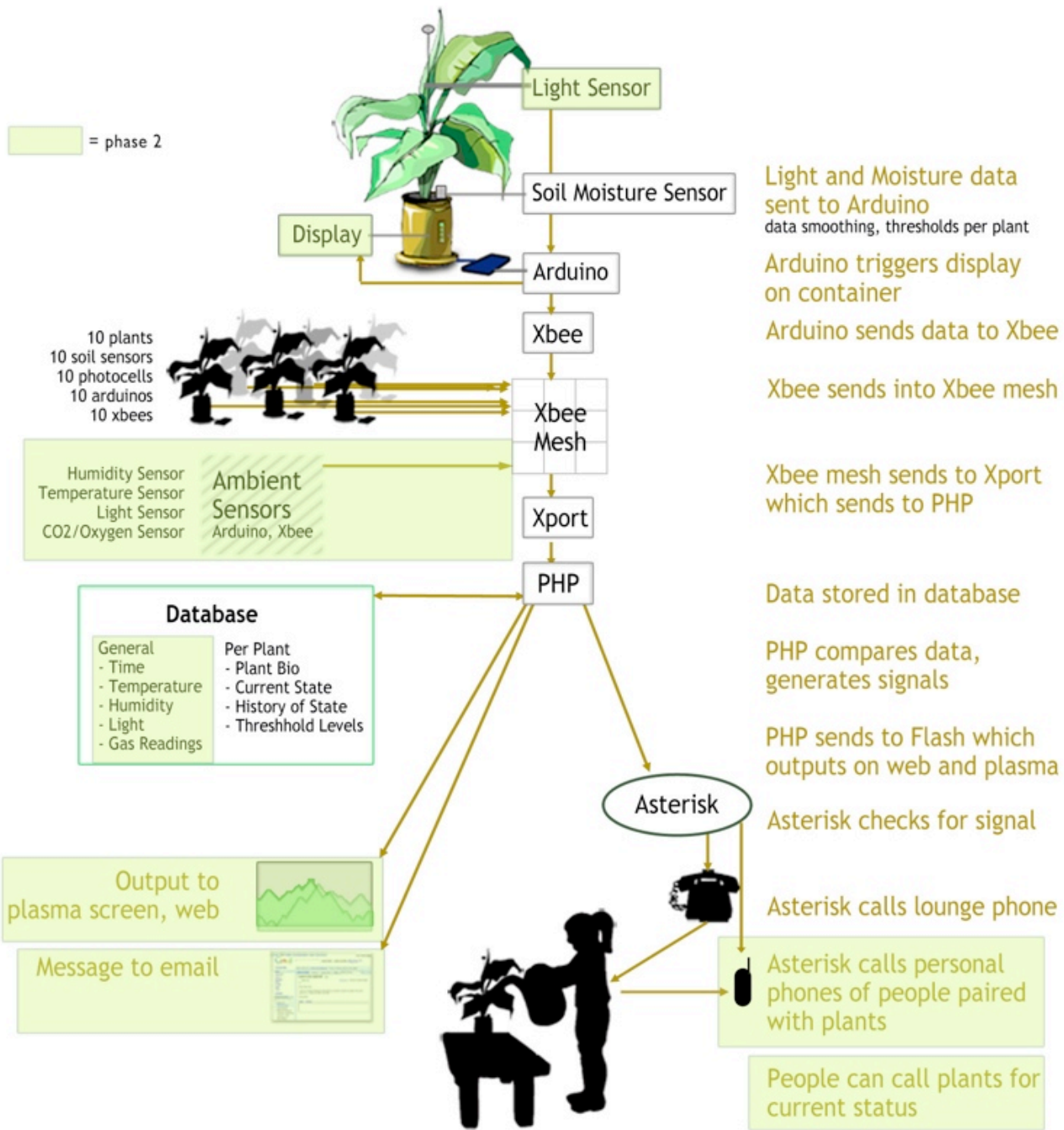
- Progress report from each group
- Cooperation and/or interaction with other groups
 - interaction may happen automatically
 - assign address ranges

Direct, Indirect, Subtext

- What data can we sense directly?
- How about inferences that we can make from the data?
- What's the subtext of the data? What can we infer from the inference?

Gateways

- TCP/IP
 - HTTP: web, Asterisk
 - Daytime: <http://tf.nist.gov/service/its.htm>
- Bluetooth
- Cellular
- Serial (XBees are gateways too)



BlueWay

A/V Lab

Lounge

Conference



Dan Phiffer



Terence Arjo



Matthew Chmiel



Megan MacMurtrei



Maria Pino



Richard Hauck



Oyku Cakar



Joshua Dickens



Jeung-Ah Kim



Timothy McFarney



Kate Riche



Pollie Barden



Amit Pitaru



Kyung-Mi Kim



Dan Shiffman



Dan O'Sullivan



Michael Harari



Ananthan Sriakandarajah



Stephan Hechenberger



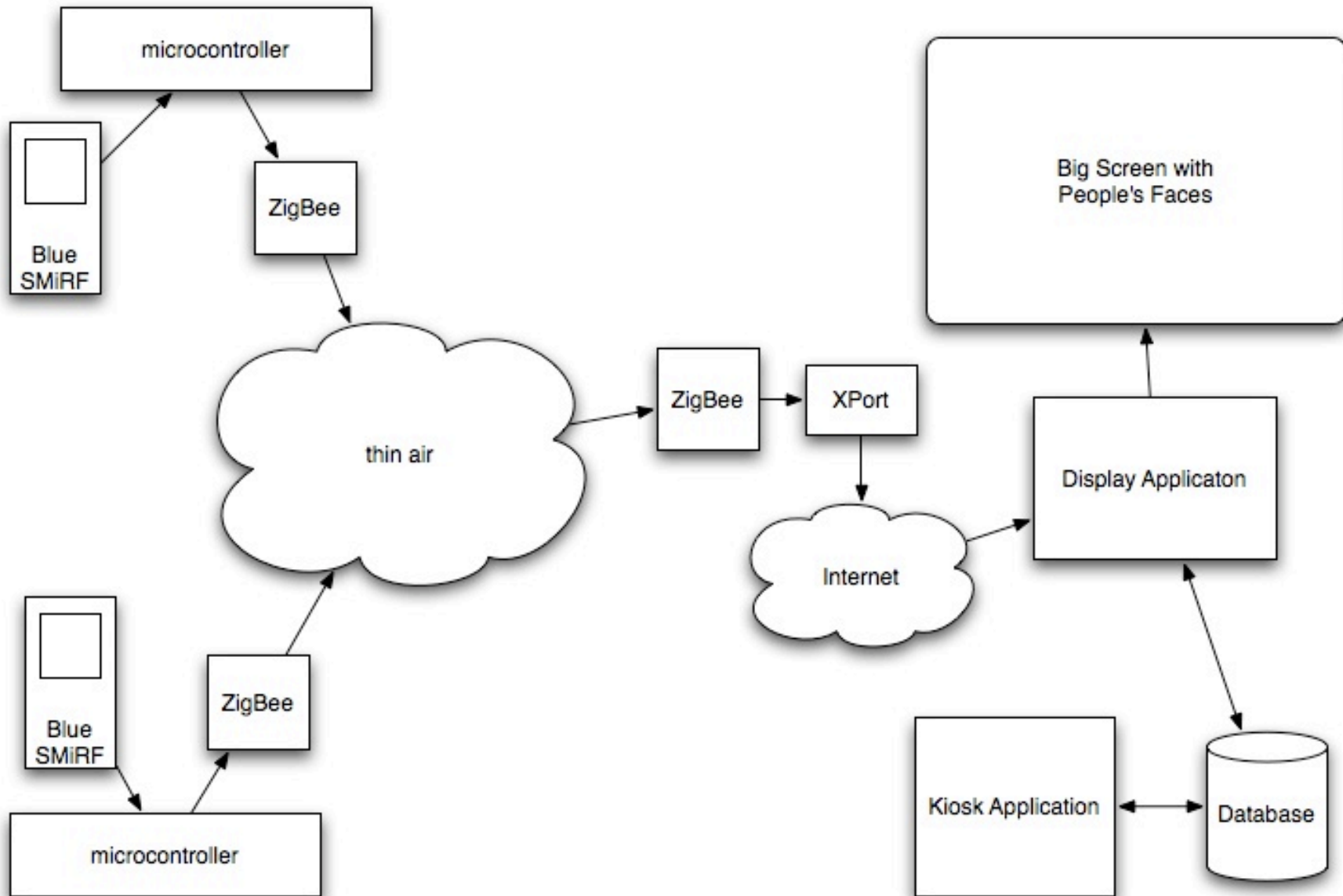
Juliana Chan

PComp

J-Room

Lobby & Main Lab

BlueWay System Diagram



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>

RSSI Range Test

- Demonstration of range issues
 - Regular antenna
 - Clipped antenna: sorry didn't have one
 - XBee Pro power levels ATPL
 - RSSI

Readings and Assignments

- Readings

- Startup eyes battery-free wireless sensor nets: <http://eetimes.eu/showArticle.jhtml?articleID=202400294>
- Tinker: A Tool for Designing Data-Centric Sensor Networks, Jeremy Elson, 2006: <http://research.microsoft.com/nec/publications/spot6613-elson.pdf>

- Assignment

- Continue with coordination project
- Due date: 10/24