Northeastern University
Spring 2010 ECE Capstone

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Design Concept

• Online services create virtual barriers.
• **Network Buddy** uses technology to connect people.
• Meet people at all types of venues based on compatibility.
Approach

Who will use it?

• Most practical application: Dating.
• Convenient alternative to online dating.
• Expands your social circle.

What is needed?

• A set of handheld devices that compare two or more people.
• A web application for user interface.
• SMS service for retrieval of profile (not implemented).
Where It Will Be Used: Social Events, Bars, Business Conferences, Trade Shows
Hardware

The Brains/ USB Interface: **Arduino Nano MCU**

Communication: **XBEE Series 1 RF**

Display: **8x2 Character**

Controls (Push Buttons):
- Left Scroll
- Right Scroll

Indicator: **Vibrating**

Power: **9V**

On/Off: **Power**
Firmware

- Arduino IDE Program
- C/C++ Hybrid
- Wireless Communications
- Handshaking
- Message protocol
- Component Interfacing:
  - LCD (custom symbols)
  - Vibrating Motor
  - Buttons
Prototype Versions

Stage 1 – Breadboard

Stage 2 – Developmental Modules

Stage 3 – Enclosures

Future Stage – Key
Under the Hood

- 9V Battery
- LCD
- XBEE
- Power Switch
- Vibrating Motor
- USB port
- MCU
Compatibility Algorithm

- Transmit packet w/ serial number, device mode, bit and byte categories (every 5 seconds)

- Does packet from other device exist?
  - Yes: Do bit categories match/byte categories in range/S.N. match?
    - Yes: Transmit sync request and wait for sync request
    - No: Ignore
  - No: Vibrate and display received serial number/signal strength

- Sync request received within 30 seconds?
  - Yes: Transmit sync request and wait for sync request
  - No: Ignore
Web Application

Allows users to:
- manage mode-specific” profile information (e.g. “personal networking”, “conference”)
- manage generic profile information
Data Sync Application

- Standalone (Windows-based) application
- Connects Device with local Client via USB
  - Connects local Client with web-
Questions?

Matched with Network Buddy!

Matched with an Online Social Network