What Is Bluetooth?
What Is Bluetooth?

- Open specification
- International radio band
- Short-range wireless connections
- Low-Volume data transfers
History

- Named after Harald Blåtand
  - Known in English as “Harold Bluetooth Gromson”
  - Tenth Century Danish king
  - Reputed to be so fond of blueberries that his teeth were stained blue

- Current version is 1.1

- Future Versions:
  - 1.2 - Anonymity Mode
  - 2.0 - Non-Hopping Narrowband
Open Specification

• Originally conceived by Ericsson

• Bluetooth Special Interest Group (SIG)
  • Promoter Members
  • Associate Members (including Apple)
  • Adopter Members
International Band

- Uses 2.45 GHz ISM band
  - Industrial, Scientific, and Medical (ISM)
    - 900 MHz and 2.45 GHz ISM bands
    - Globally unlicensed
- Frequency Hopping
  - Counters interference
  - Divides band into seventy-nine channels
  - Changes channels up to 1,600 times per second
Connections

- Supports Connection to Seven Devices
- Constantly announce presence to other devices
- Password protect connections
PAN

- Standard range of 10 m (33 ft)
- 723.1 kbps bandwidth
- Personal Area Network (PAN)
- Low-cost transceiver microchips
Why Use Bluetooth?
Low Volume, Cost & Clutter

- Low-Volume Data Transfers
- Reduced Wire Clutter
- Lower Cost Than Other Wireless
Low-Volume Transfers

- Transfer a small amount of data
- Computer ↔ Computer
- Computer ↔ PDA
- Computer ↔ Mobile Phone
Reduced Wire Clutter

- PDA
- Headset
- Keyboard or mouse
- Camera
Lower Cost

- Lower Cost Than Other Wireless
  - Bluetooth transceivers designed to be low-cost
  - Roughly half price of 802.11 solutions
- Lower speed
- PAN vs. LAN
- Amusing note: faster than LocalTalk
Bluetooth Devices
Bluetooth Devices

- Keyboards and Mice
- PDAs
- Mobile Phones
- Others

The University of Utah  
Student Computing Labs  
SCL
Keyboards and Mice

- Apple Wireless Keyboard
- Apple Wireless Mouse
- Logitech Cordless MX Duo
- Logitech MX 900 Mouse
PDAs

- palmOne Tungsten T2, T3
- Toshiba Pocket PC e750 Series
- CF Cards
  - CC&C Technologies
  - GigaWaveTech
  - IOGEAR
Mobile Phones

- Matsushita X70
- Motorola T280i, Timeport 270, V880
- Nokia 3660, 6600, 6650
- Samsung Bluetooth PCS Phone
- SHARP M11, PALDIO 633S
- Sony Ericsson (many)
Other Devices

- Headsets
- Cameras
- Printers
- Microwave Ovens
- Washer-dryers
- Refrigerator-freezers

Demo: Keyboard
Configuring Bluetooth
Bluetooth Preferences
Settings
File Exchange

Bluetooth File Exchange

Your computer can share files with other Bluetooth users. You can configure how your system behaves when files are exchanged.

- When receiving items: Accept files without warning
- When PIM items are accepted: Ask
- When other items are accepted: Ask
- Folder for accepted items: Documents

Bluetooth File Transfer

- Allow other devices to browse files on this computer
- Folder other devices can browse: Shared

Choose Folder...
Devices
Issues
Firmware Issues

- Bluetooth Firmware Updater 1.0.2
  - Makes D-Link adapter incompatible with Windows
  - Updater not seeing USB adapters
    - Plug adapter into back of computer before updating
  - Says firmware is updated when it really isn’t
    - Hold down option as updater launches
Bluetooth 1.5

- Adds support for a lot of devices
- Reports of:
  - Intermittent connection loss
  - Inability to sync with some PDAs
  - Total loss of Bluetooth functionality
  - Security Risk
- Turn off “Allow other devices to browse”
Palm Mac Updates

• Tungsten T3 problems with Panther
  • Turning off UltraThin Keyboard may fix this

• Palm’s response mixed
  • Some have been told “Palm Inc, is working on this.”
  • Others have been told no more Mac updates
  • Palm’s website says update will be out in 2004
Headsets

- Requires Bluetooth 1.5
- iChat AV 2.1 highly recommended
- Tendency to drop connection if silent
  - Reconnection delay
- Poor iTunes quality
- Speech recognition not supported
Phone Security

- Anonymously obtain confidential info
  - Entire phonebook
  - Calendar
  - International Mobile Equipment Identity (IMEI)

- Retrieve memory contents
  - Previously paired devices not in the trusted list
  - Same data as above, plus:
    - Pictures
    - Text messages

- Bluejacking
Security Websites

- http://www.bluestumbler.org/
- http://www.macfixit.com/
Demo: File Exchange
Questions?