World-Wide Sensor Web

2006 UW-MSR Summer Institute
Semiahmoo Resort, Blaine, WA
Background

The University of Washington and Microsoft Research host annual summer institutes to bring together a cross-section of researchers in areas of mutual interest.

- **2006 - World-Wide Sensor Web** (August 6-9, 2006)
- **2005 - Infrastructure for Managing Imprecise Information in Relational Database Systems** (July 31 - August 4, 2005)
- **2001 - Specifying and Checking Properties of Software** (August 12-17 2001)
- **2000 - Accelerating the Pace of Software Tools Research** (August 6-11 2000)
- **1999 - Technologies to Improve Software Development** (August 2-6 1999)
- **1999 - Technologies for Invisible Computing** (July 19-23 1999)
- **1997 - Data Mining** (July 6-11 1997)
Sensors + Networks + Databases

Important issues need to be addressed

- Scale
- In-network computation
- Personal and ambient systems
- Data fusion
- Privacy
- Data pedigree
- Data mining
- Collection from distributed sources
Why you are here

- Leading researchers in these areas
- Experiences with deployments
- Learned many lessons
- Know where to focus efforts

- Ability to articulate a research agenda
What we hope to accomplish

- Discuss lessons learned
- Outline problems identified
- Develop a research agenda to present to the larger research community
- Attract others to work on these problems
How we are going to go about it

- Architect a set of papers for a special issue of IEEE Pervasive Computing to appear in 2\textsuperscript{nd} quarter of 2007
  - Co-authors and outline to be determined here
  - Should describe:
    - an important problem or set of closely related problems
    - highlight examples
    - illustrate interesting issues
    - show benefits of solving
    - outline research agenda

- Companion article in IEEE Computer
  - Higher circulation pointer to special issue of IEEE Pervasive
IEEE Pervasive Computing

- Themes over the past year
  - Pervasive Computing in Healthcare
  - Intelligent Transportation Systems
  - Real-world Deployments
  - Emerging Economies
  - RFID Technology
  - Rapid Prototyping
  - Sports Technologies
Agenda

- Presentations
  - Lessons/problems from your personal experience
  - Limit of 10 minutes (except for keynotes)
  - Think ahead to how to group into paper topics

- Informal interactions
  - Discussion over meals, drinks, and activities

- Breakout groups
  - By the end of Monday, we will have groups assigned
  - Start outlining process Tuesday – make adjustments
  - Finalize plan on Wednesday – first pass, present to group, second pass before adjourning

- After the meeting
  - Prepare papers for review at IEEE by the end of the year (exact data to be determined – probably early Dec)
What you will need to do

- Participate in discussions
  - 10-minute presentation, questions, comments
  - Informal discussions
- Participate in breakout groups
  - Offer input if you are leaving early
- Commit to co-authoring a paper
  - Maybe take the lead on a paper
  - Write the paper