SRCCR: Social Robotics Consortium of the Capital Region (CB)

Valerie Barr (Union College), Selmer Bringsjord (RPI),
Ilene Frank (Schenectady Museum), Ralf Schauer (SCCC)
Nick Webb (SUNY Albany)

Vision, Goals and Objectives

Build a community of people interested in using Social Robots as a platform to deliver an education in Computer Science. To explore platforms of delivery that are exciting, interesting to study, and provide mechanisms for teaching abstract concepts in a practical, hands-on way.

- organize four workshops building a community in the Capital Region in Social Robotics
- explore the possibilities of Social Robots, as a means for disseminating key CS and Engineering Principles
- encourage those from outside CS and Engineering to build Social Robots into their programs

Workshop One

20th March, 2008

What is Social Robotics?

- Humans and machines working together
- Social behavior not discrete
- Simple, social behavior improves human robot relations
- Such behavior requires both CS and non-CS input

Robots in Education

- Robots used in existing education scenarios
  - New curricula (Bryn Mawr/Georgia Tech)
  - Adapting existing work to incorporate robots (Vassar/West Point)

Industrial Perspectives

- What can a program in Social Robotics do for the graduates of tomorrow?
- Input from small robotics companies and large multinationals

Workshop Two

15th May, 2008

Platforms for Social Robotics

- Hardware platforms
  - Scribbler
  - iRobot Create
  - Edubo
  - AIBO
  - Chiara
  - NAO
  - Asimo
  - iCub

- Software
  - MYRO
  - Tekkotsu
  - Microsoft Robotics Studio

Workshop Three

November 19th, 2008

Social Robotics outside of Computer Science

Panel: Ethics and Social Robotics
- Wendell Wallach (Yale)
- Jim Moor (Dartmouth)

Panel: Social Robotics and the Study of Cognition
- Daniel Levin (Vanderbilt)
- Selma Sabanovic (Stanford)

Panel: Relationships Between Man and Machine
- Bilge Mutlu (CMU)
- Peter Asaro (Rutgers/New School)

Group Discussion: Social Robotics and Communication

Why Social Robots?

- Robots ALREADY work alongside humans
- Need to understand human behaviors
- Respond appropriately to our actions, in context
- Behave socially in given situations

- **To build social machines requires collaborations across disciplines**

- We propose social robots as a tool to:
  - **PULL** students into CS
    - Robots are exciting
    - Interesting to work with
    - Address basic challenges in CS

Social Ability
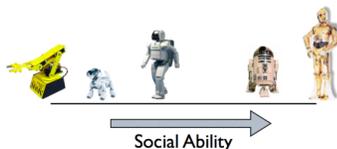
- **PUSH** CS principles to a new audience
  - Robots are exciting
  - By engaging other disciplines to think about robots
  - By informing them of OUR limitations with social machines

Successes, Challenges and Lessons Learned

Successes:
Engaging workshops
Clear goals to improve CS teaching and learning
Good communication through Wiki site

Challenges:
Difficult to engage non-CS academics at this stage
Premature platforms - basic control issues

Lessons Learned
Take time to explain vision and goals to audience

Proposed Course Details

Changing CS in upstate NY
- Union College
  - New intro CS courses for non-CS majors
- RPI
  - Teaching cognitive robotics
- UAlbany
  - New cognitive robotics course
- SCCC
  - Access to new UAlbany hardware
  - (NSF sponsored Chiara robots)
- Schenectady Museum
  - New spring program in robotics, including
    - Science show and accompanying program
    - Coincides with our final workshop
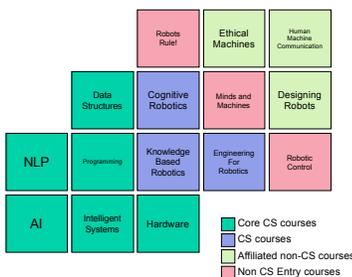
Draft architecture of new program in Social Robotics

Core CS courses
CS courses
Affiliated non-CS courses
Non CS Entry courses

Future Plans

- Final workshop in April 2009

- Develop site specific changes to existing course to reflect Social Robotics

- Incorporate new hardware across sites, sharing resources and personnel

- Foster closer relationships with community colleges and schools in the area, to act as feeder programs

- Develop area wide program in Social Robotics