Science Fiction in the Classroom, Robots in the Community

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Motivation

Many people have misconceptions about robots

- Have unnecessary fear
- Overestimate capabilities
- Believe that systems are integrated & robust

Problem: People's expectations do not match the capabilities of current robotic technologies

2 Solutions

Engineering

Create robots that match expectations

Information about people's expectations

Social

Educate people about their unrealistic expectations

Roadmap

- Research on expectations
- Sources of expectations
- How to bridge the gap
- What you can do to help

How to Study Expectations

- Questionnaire: “Do you think this robot can do X?”
- Interview: “What can robots do?”
- Behavior: Analyze expectations based on behavior during the interaction

Some Results

- High expectations about a robot's **cognitive** capabilities (Kriz, Ferro, Damera, & Porter, 2010; Kriz, Anderson, Trafton, 2010)
  - Vision, navigation, memory
- Lower expectations about a robot's **social** capabilities (Kriz, Ferro, Damera, & Porter, 2010)
  - Close relationships, stereotyping
- Fairly low expectations about a robot's **language** capabilities (Kriz, Anderson, Trafton, 2010)
  - Particularly speech recognition

Where do these expectations come from?

- Science fiction- film, TV, writing, comics
- News media- technology stories
- Extension of expectations about humans
- Familiarity with related technologies

Group Health Commercial

DARPA Grand Challenge

Social Solutions-
Robots in the Community

Service learning- twofold solution

- Students learn by making materials
- Community learns by coming to events

ROBOTS: Fact & Fiction

Fact- Opening Doors

Fiction- Opening Doors

Students made a video using this clip to highlight the difference between fiction and fact.

Social Solutions-
Science Fiction in the Classroom

Train engineering students to think about:

- Ethics
- Human-centered design
- The impact of technologies on humans

Science Fiction Prototyping

- Science fiction can be a powerful tool for thinking through future scenarios
- In the classroom we can have discussions about what is realistic/what is fiction
- Most design & prototyping techniques don't deal with technologies that haven't happened yet

Science Fiction Prototyping Class

- 20 years in the future...
- Realistic fictional scenario between humans and robots
- Narrative: Problem and solution
- Short story, screenplay, or comic

Fall 2010 quarter (Sept 30 - Dec 9)
Thursdays 6:00 - 9:40PM
Open to anyone with a Bachelor's degree

What can you do?

- Get in the classroom, write some science fiction- Thursdays 6-10PM
- Get out in the community- take your robot with you
- Keep in touch with the lab:

  http://depts.washington.edu/hrcl

Students, Collaborators, and Friends of the HRCL

Pallavi Damera

Toni Ferro

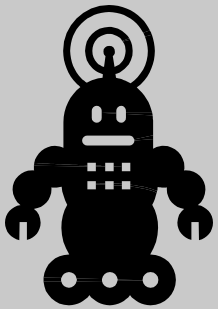
Brian David Johnson & Intel Corp.

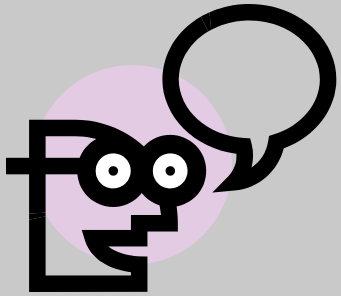
Sean Mitchell

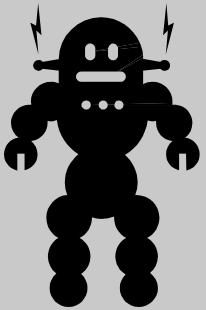
John Porter

Tandy Trower & Hoaloha Robotics

Questions?







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