Collaborating with The Boston Home

Presented by:
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Our Motivation

How can technology help wheelchair users:
• have greater levels of mobility?
• face fewer barriers to participation?
• enjoy a greater quality of life?
Our Approach

• Work closely with The Boston Home to understand the residents’ realities, lives, and goals of residents

• Leverage our expertise in robotics, technology and aging, and artificial intelligence
What are we working on?

voice-commandable robotic wheelchair

understanding mobility patterns

providing wheelchair-based information/communication tools
A Voice-Commandable Robotic Wheelchair: Vision

• Navigation, information, and communication capabilities

• Natural-language commands
  – “Take me to the dining room.”
  – “Follow me.”
  – “What’s for lunch today?”

• Easily introduced to new environments
  – Caregiver/wheelchair user can give a narrated guide tour
Demonstration

• Tour guide
  – Algorithms that allow the wheelchair to follow a person autonomously

• Providing information through speech interaction
  – Automatic speech recognition
Principles of Our Work

• Need-inspired and people-centered research

• Participation and advice from residents and staff at The Boston Home

• Short-, medium-, and long-term research challenges and goals

• Multi-disciplinary effort
Our Team – Thank You!

Residents and staff at The Boston Home

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