Educational Objective
Develop a context for learning in a junior-level mechanism design course – in which students act as design engineers creating specialized assistive devices for children with special needs

Strategy:
1. Engage students in real-world application of mechanism design, 2. Provide compelling and immediate purpose for learning theory, 3. Provide experience in working with customers (not peer engineers), 4. Student see design in practice and learn from experience

Traditional Context: The syllabus

New Context: Your company thinks that Jon’s quality of life might be enhanced with a machine. You are assigned to use your mechanism design skills to help Jon. Successful outcomes might look like:

Model Tasks:
1. Collect Project Needs
2. Connect Student teams w/ projects
3. Provide feedback to students during the design process
4. Provide Course material in timely (asynchronous) fashion
5. Provide resources for fabricating/ testing the product
6. Reflect

Learning resources required
1. Partnerships – project needs
2. Feedback on projects from customer/medical standpoint
3. Variety of access to course material & examples of applications
4. Partnerships to support project costs

Assessment Tools
1. University Service-learning and engagement survey
2. Senior Exit Interviews
3. FE topic specific data

Sample Projects:

Summary:
1. Enhances educational experience at key point in curriculum
2. Students highly motivated to acquire and use engineering skills to help others
3. Project leverages student resources and local support
4. Student outcomes demonstrate gains in learning, retention, experience
5. Project has served as a model for other programs within the University and State