**Problem**
Isaac Postma is a 10 year old boy from Byron Center, MI who was born with Spinal Muscular Atrophy, a rare genetic disorder that causes his muscles to deteriorate over time. He has nearly lost all ability to move his muscles; however, he has the ability to control his left index finger. He has outgrown his current stroller and it is painful for his back and difficult to breathe while sitting upright in a conventional electric wheelchair. The manufacturer of his current stroller does not provide a model that is both motorized and large enough to support his growing body.

**Solution**
The main objective of Achieving Mobility was to design, prototype, and deliver a motorized stroller that would provide Isaac with independent mobility and comfort. The focus of the design was in the areas of safety, reliability, and ease of use. Isaac controls the stroller with the touch of his finger and sees where he is going via an LCD with video input.

**Results**
With the help of several outside resources, Achieving Mobility successfully designed and constructed a working motorized stroller. The main components include motor control hardware and software, power regulation system, camera and LCD system, touch button and LED user interface, and mechanical structure. The final product was extensively tested with no issues.

**From L to R:** Matt Last (ME), Rob VanderVennen (ME), Matt Rozema (EE), Dan Evans (EE)

**Final SolidWorks Model**

**Final Product**

**Sponsored by:**

- Gentex Corporation
- Johnson Controls
- Texas Instruments
- Ivanres Church
- St. Mary Free Bed Rehabilitation Hospital