Overview
Mr. Zern was in an accident that paralyzed his left arm, making it much harder to accomplish the everyday tasks that many people take for granted. The design team set forth to create a device for him that would enable him to easily zipper up both lightweight and heavyweight jackets with only the use of one arm.

Objectives
The objectives of the project were to create a device that was easy to use with one hand, able to accommodate jackets of varying length while still able to fit a standard pocket size for storage, and inconspicuous when in use. Instead of improving upon the previous device Mr. Zern was currently using, the team benchmarked current solutions in the field and constructed a new device using magnet technology. The team's innovative magnetic design served to better meet customer needs.

Approach
- First the team met with the sponsor to determine design objectives and expectations
- Next, the team researched patents and existing products
- Ideas were generated and difference concepts were considered
- A basic SolidWorks model was created and a pre pre alpha type was printed
- The device was tested and improvements were made
- An alpha prototype was sent to the sponsor for review
- An adjustable portion was added to the belt part to allow for varying lengths of jackets
- A beta prototype was printed and again tested with the customer for identification of additional improvements needed
- The final device was printed and assembled
- The sponsor was given two devices so one may be used as a back up
- The sponsor's physician was given a device in order to test success rate with variety of patients

Outcomes
- Customer will have a small, inconspicuous device to zip his jacket
- Customer will be able to zip coats of varying length with ease
- The original time to zipper his jacket is decreased
- Project increased durability of device and reduced loose linkages
- Project increases compatibility of device with coats of varying thickness
- Ergonomics of the device were greatly increased with rounded corners and rubber material