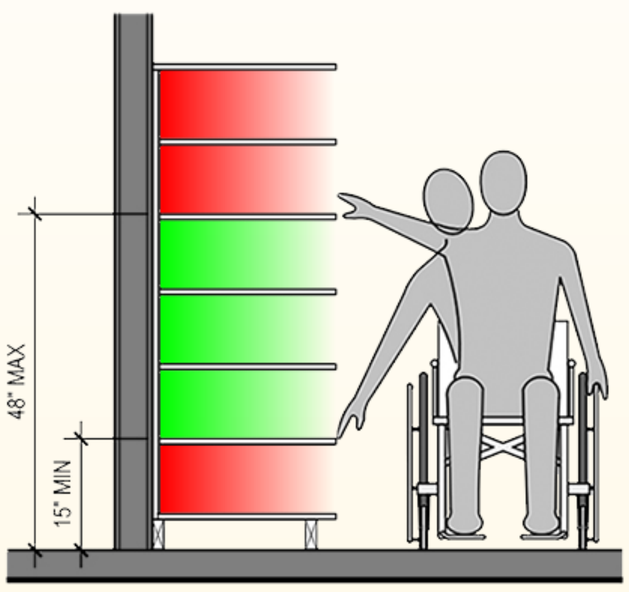
Vertical Automated Storage Technology

Tyler Wadekamper (EE) | Jonathan Ho (CPE) | John Kim (EE)
Joshua Mason (ME) | Luke Swatosh (ME)

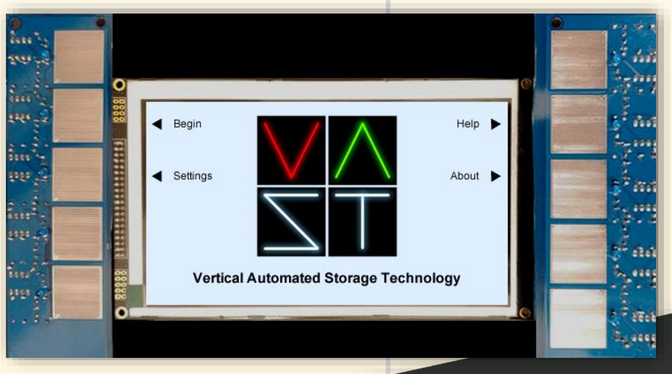
The Problem



- People who are physically handicapped have a limited ability to lift and store items at out of reach heights.
- The Americans with Disabilities Act requires a maximum reach height of 48 inches, and a minimum reach height of 15 inches.
- There is a need in the community for a system that automatically stores items well above and below these restrictions.

The Solution

- At the press of a button, the Vertical Automated Storage System (VAST) will automatically retrieve or store a bin with items at heights of up to seven feet in the shelf.
- The user will have a convenient user access area at a height that is comfortable for them.



The Approach

- A **ceiling height shelving unit** that utilizes vertical space.
- **Automatic bin retrieval system** using precise motors to enable three axis motion.
- Maximum **lifting capability of 40lb** per bin.
- User interface complete with **touch buttons** and a **screen**.
- **Focus on user safety** through the use of **infrared sensors** and an anti-entanglement housing.