



# Wheelchair-Mounted Frisbee Golf Disc Launcher

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## Motivation & Background

Quality of Life Plus is a nonprofit organization that partners with university STEM groups to provide **assistive technology for disabled service members**.

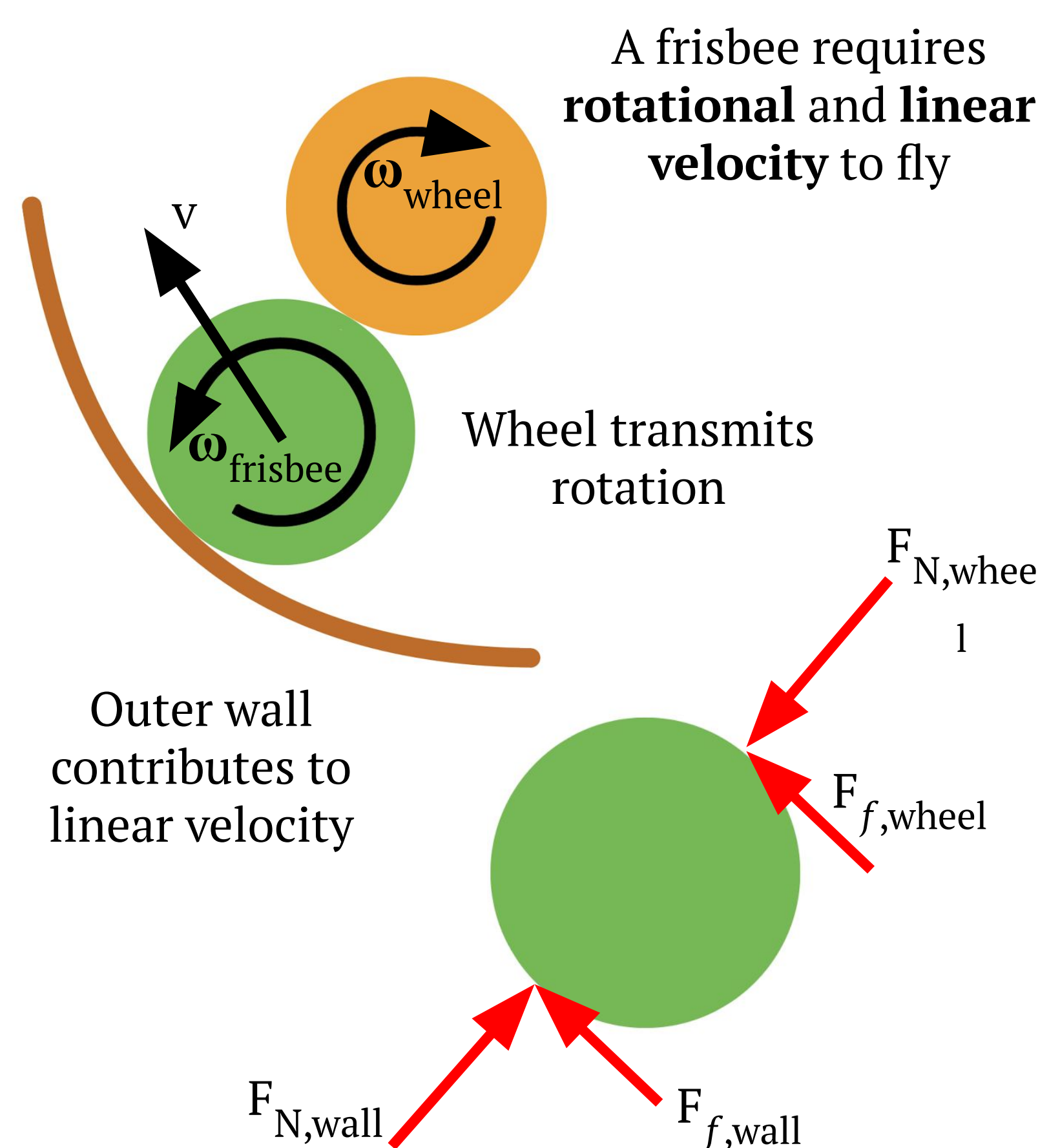
QL+ sponsored us to create a functional prototype that allows **individuals with very limited mobility** and almost no upper extremity dexterity to **launch a frisbee from a motorized wheelchair**.

The individuals are **patients at Craig Hospital**, a world-renowned neurorehabilitation and research hospital.

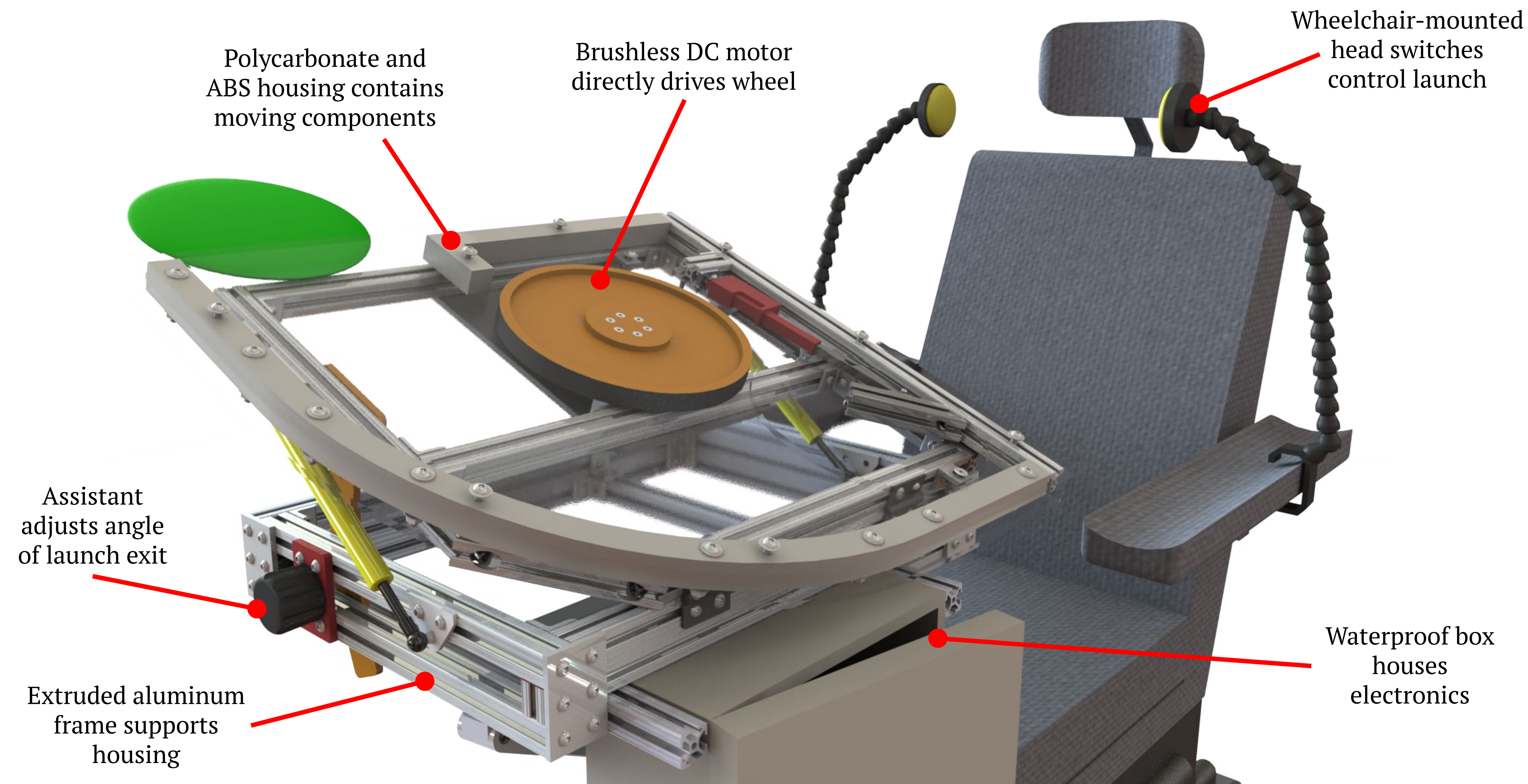
## Key Requirements

- ✓ Safe for user and those on course
- ✓ Launch with an independent trigger
- ✓ Launch up to 100 ft
- ✓ Weigh less than 60 lbs
- ✓ Maintain power for 18 hole game
- ✓ Attach to wheelchair
- ✓ Accept multiple disc sizes
- ✓ Allow user-controlled launch distance
- ✓ Include UI indicator
- ✓ Cost less than \$2,000

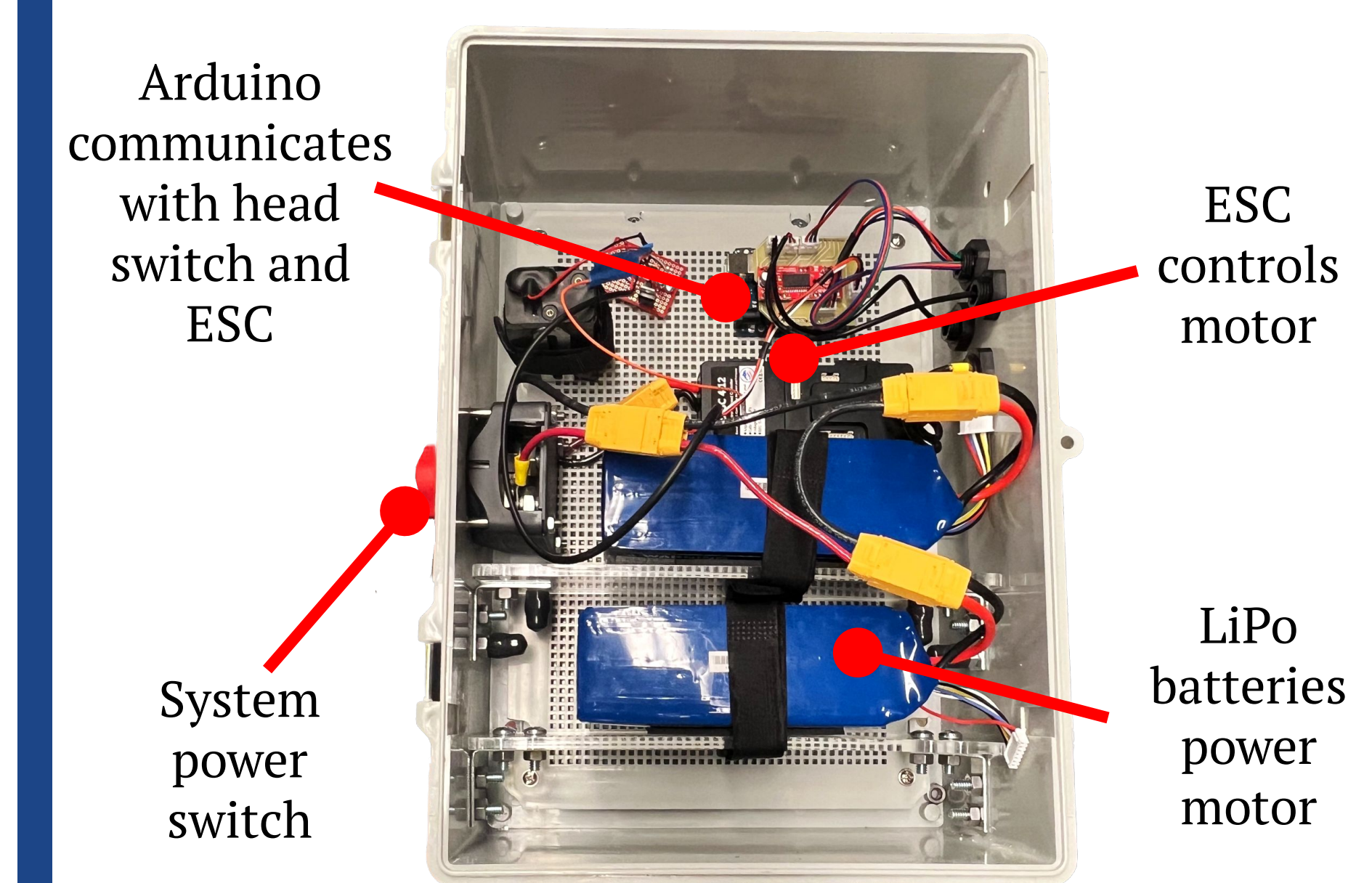
## Theory



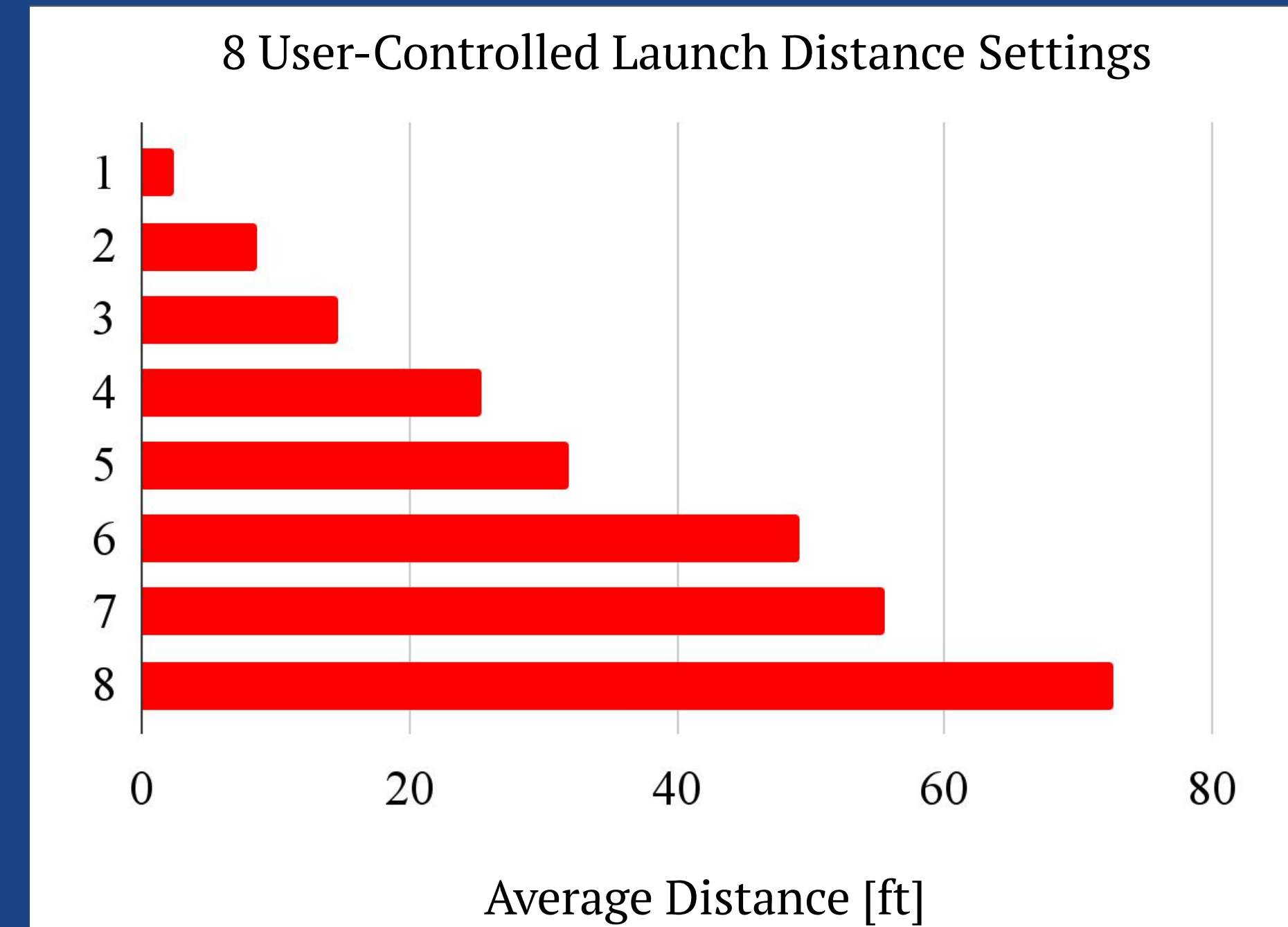
## Design Overview



## Electrical System



## Testing & Results



- ✓ Maximum launch distance of 77 feet
- ✓ Maintains power for a minimum of 200 launches
- ✓ Electrical safety limits succeeded 100% of the time
- ✓ Weighs 55 lbs

## Impact



"These devices allow wounded patriots to get back to doing the things they love." - Quality of Life Plus

