

## INTRODUCTION

In a predominantly able-bodied society, children with disabilities are often overlooked. This exclusion deprives them of reaching developmental milestones, namely independent mobility. The Go Baby Go Program strives to help children with disabilities around the world by giving them the opportunity for independent movement. Through Glendale Community College's Internship, we work as a team to bring awareness to the disability community by modifying ride-on cars for children with disabilities. These modifications will serve to accommodate the child's diagnosis ranging from cerebral palsy to respiratory failure. Through these modified cars, we can facilitate movement, foster independence, and provide accessibility. Not only will the ride-on car offer mobility, but it will also allow children to socialize with their peers without assistance from their parents. With our team's various backgrounds, ranging from engineering and biology, we combine our knowledge and skill sets to build the most accessible car for our specific client.

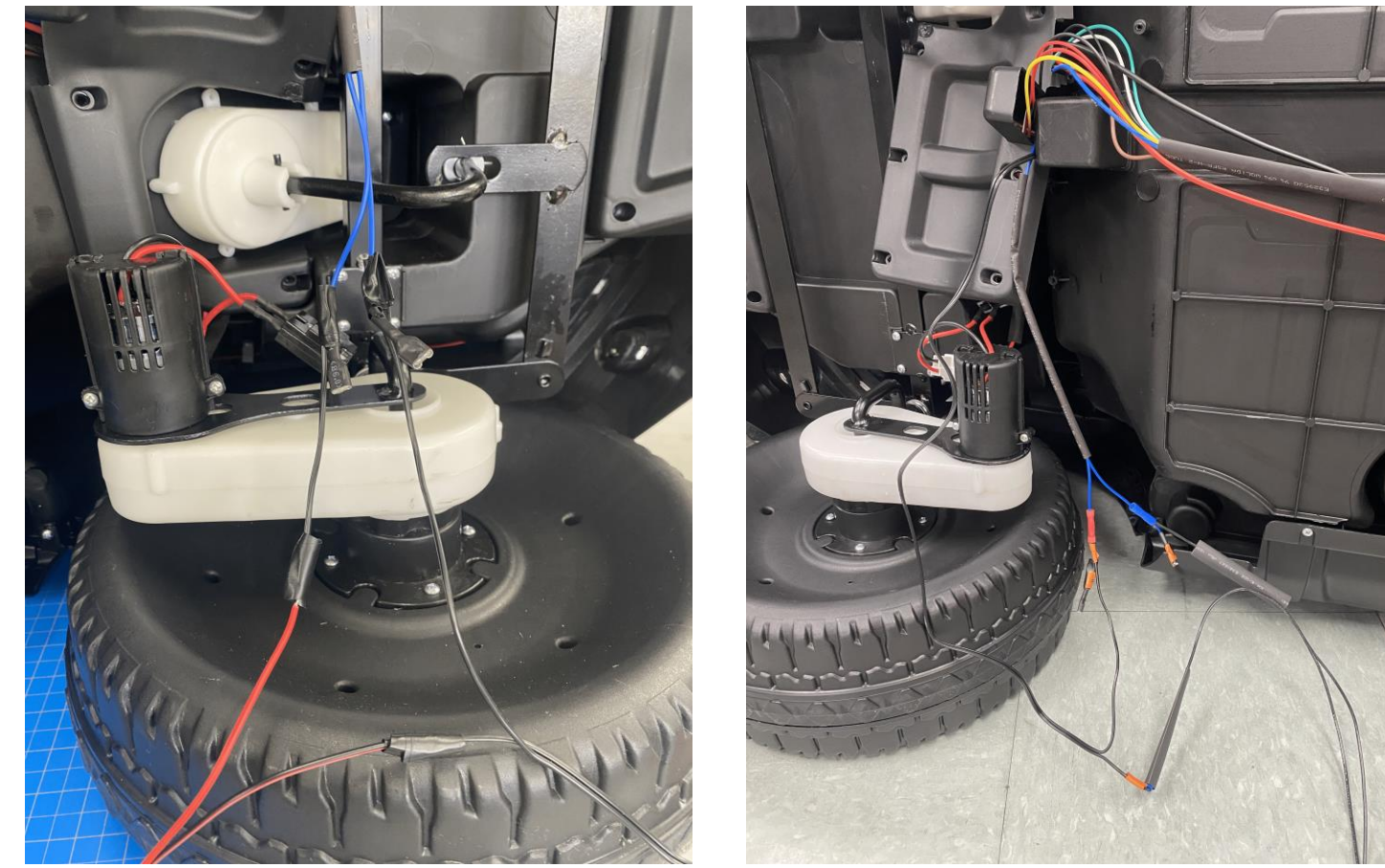


## OBJECTIVES

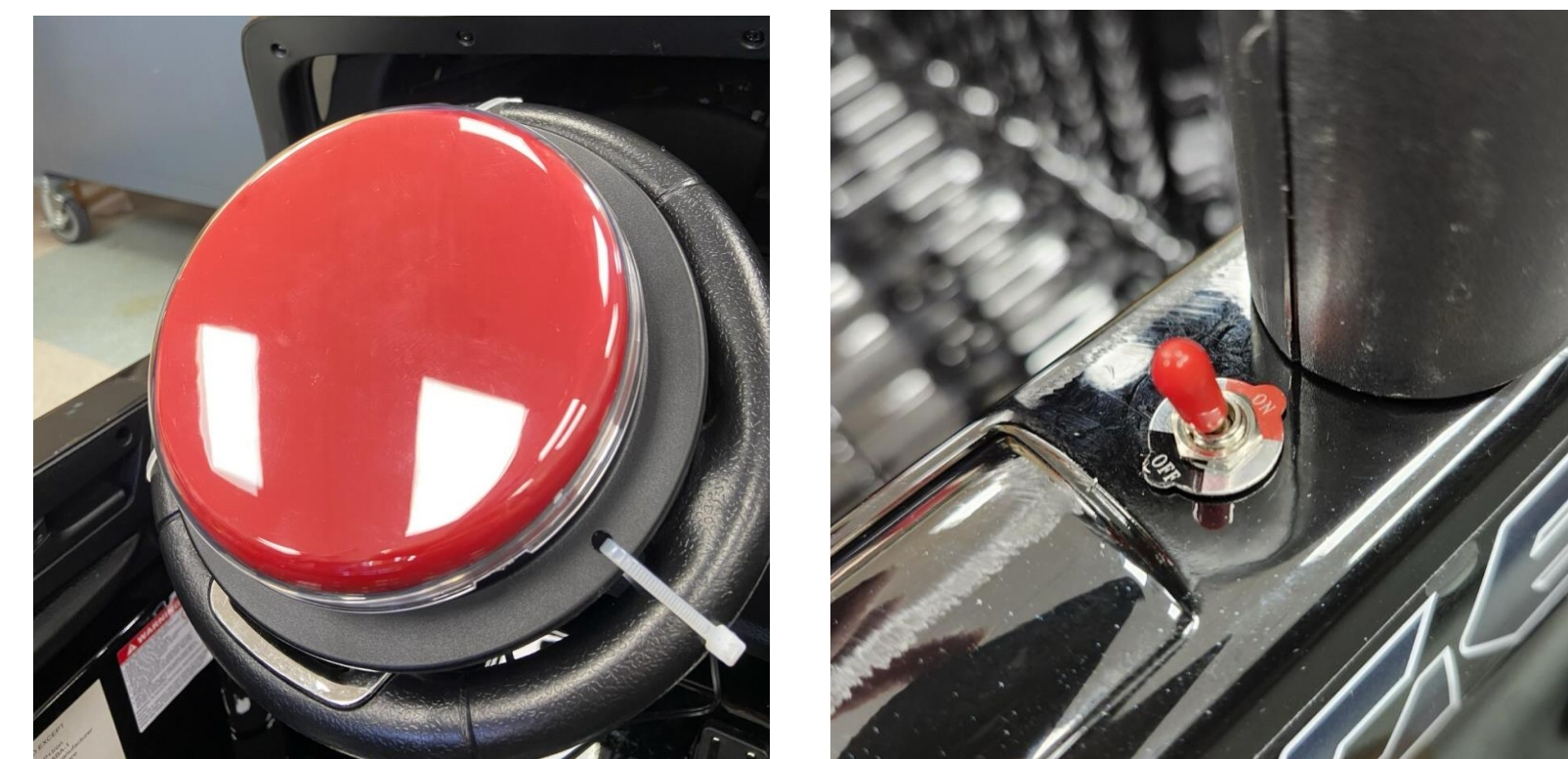
- ❑ Modify trunk of the car to securely place the portable ventilator
- ❑ Replace the pedal with a wired accessibility switch for easy acceleration
- ❑ Integrate an emergency toggle switch for the parent
- ❑ Provide shade using an umbrella
- ❑ Implement comfortable padding for driver's car seat
- ❑ Provide storage space for driver's belongings
- ❑ Customize the car with the driver's décor preferences
- ❑ 3D print a license plate

## MATERIALS & METHODS

1. Rewire the acceleration from the pedal to the switch.



2. Mount the Big Red button onto the steering wheel with zip ties.



3. Drill a hole in the side of the trunk to make space for an emergency toggle switch.

4. Secure the portable ventilator into place by layering yoga mats, foam materials, and pool noodles on all sides of the trunk for cushioning. Attach a belt for further support to fasten the ventilator down.



5. Customize the car by 3D printing a license plate with the F3Slic3r software.



## RESULTS

- Pictures of the finalized ride-on car with modifications:



## CONCLUSIONS

Prioritizing the needs of children with disabilities when designing products significantly helps their physical, cognitive, and social development. It is important to give these children the opportunity to exercise mobility, as it helps build their confidence in doing previously assisted activities independently and strengthen their motor skills. The ride-on cars allow the child to freely explore the world around them and interact with their peers without the help of their parents. We can push manufacturers to focus on human-centered design that considers the disabled community's needs through our collective efforts. In the Go Baby Go Program, we learn the positive impact of community support. As we continue to provide more resources for the disabled community, we can create an accessible society.

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