

# TEAM SOFIIA

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## RESEARCH

Our team is tasked to build, modify, and design a vehicle for a young child, Sofia. Sofia is experiencing weakness in the muscles closest to the center of the body, including the shoulders, hips, thighs and upper back. With this task at hand, we began researching the disease and asked questions to the parents regarding the patient's sensitivity, mobility, and flexibility. After establishing the patient's capabilities and physical information, we were able to pick a car that best suited her needs.

## PROCESS

For this project we needed to make sure we make something that's going to help our family and is going to be safest car possible. After doing our own research, talking to medical professionals and family as well we came up with the 2 parts that we wanted to address

1. SUPPORT & SAFETY
2. PERSONALIZATION

We needed to make sure that we can provide the needed upper-body support and family wanted us to make sure it is as safe as possible. But also, as a team, we decided to make sure it represents a child as much as possible.

## BUILD

The first modification of the vehicle was rerouting the gas pedal to a button on the steering wheel. This first modification makes pressing the gas much easier for the child. This disease causes weakness in muscles making it hard for the child to press down on the gas pedal compared to pressing a button with their hand. The second major modification was creating a tubular frame and armrest for mounting the five-point harness. The tubular frame and armrest are wrapped in foam noodles providing safety for when the child tilts or leans over the vehicle. The third major modification was the five-point harness. This modification provides safety and support for the child. These three modifications are key to providing the best quality and mobility for the child.

## CUSTOMIZATIONS

After talking to Sofias's parents the team decided to customize the car with a harness to make the car not only comfortable for Sofia so she is able to have straight posture that can hold her with a customized pvc with foam that would be comfortable around the handles. We also worked on the safety bottom to stop the car with the control and we provided another button to stop the car from the back in case they lost control. The car has Bluetooth so her parents can download her favorite music. Sofia would be able to drive the car by pressing the big button on the steering wheel by herself. The theme is the ocean with blue colors and colorful fishes.



## DELIVERY



GoBabyGo is a program that provides a modified car to children with movement disabilities. Founded by Professor Cole Galloway from the University of Delaware, he brought to life a program that helps children in need in the community.

