

INTRODUCTION



At 24 months old, William is a playful and inquisitive child diagnosed with Pitt-Hopkins Syndrome and mild hypotonia. William loves watching animals, playing with his brother, and enjoys the show Bluey. He has great head control and can sit independently for up to 20 minutes, allowing him to explore his surroundings. He'll be using his car for play on his parents' property, where supportive seating and leg stability will help him stay engaged. Though he has experienced only one seizure, monitoring sensory triggers like bright lights and sudden sounds is important for his well-being. With his curiosity, determination, and love for movement, William is on an exciting path of growth and discovery!

OBJECTIVES

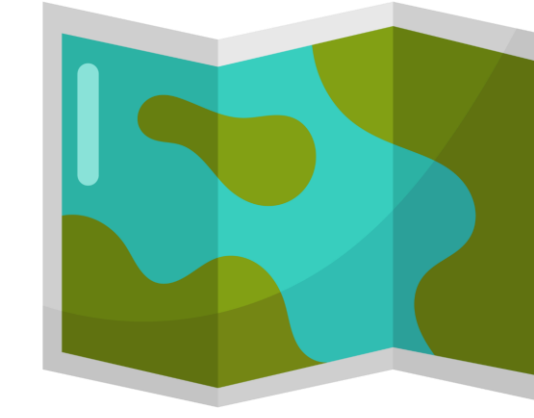


Create a car that is:

- Safe
- Easy to use
- Aesthetically pleasing
- Educational (alphabet+numbers)
- Suits William's interests (Bluey+animals)

The objective is to design a car that is not only visually appealing but also safe, user-friendly, and educational. Prioritizing safety ensures that the car provides a secure and stable experience, while an intuitive design makes it accessible and easy to use. Additionally, incorporating educational elements encourages learning through interactive features. A visually aesthetic design enhances engagement, making the car both functional and enjoyable for William.

MATERIALS METHODS



- Wiring the Toggle Switch
- Preparing the Red Button,
- Using wire cutter to unwrap the circuit's external source
- Connecting the battery's circuit to the car's steering wheel's circuit by twisting the end of the wires
- Inserting the wire's endpoint's to the battery's positive and negative port
- Assembling the PVC Structure

The setup process involves wiring the car's pedal to the red button, ensuring seamless functionality and ease of use. The battery's circuit is connected to a kill switch, providing an additional safety measure. A wire stripper is used to prepare connections for both the red button and the kill switch, allowing for secure electrical contact. The PVC structure is then assembled to provide stability and support. To enhance visual appeal, stickers and other aesthetic details are added, making the car more engaging. Finally, a pedal board is installed to offer shade, improving comfort during use.

RESULT



William's custom-built car met the goals of safety, ease of use, education, and visual appeal. He engaged comfortably with its features, benefiting from supportive seating and leg stability. The red button and pedal setup ensured simple operation, while the kill switch added safety. Stickers and aesthetics enhanced excitement, making the car both fun and functional.

CONCLUSION



This project successfully provided William with a safe and engaging mobility solution. Thoughtful design and adaptive features supported his needs while fostering independence and play. The car's functionality and aesthetics made for an enjoyable experience, demonstrating the value of personalized adaptations for children with mobility challenges.

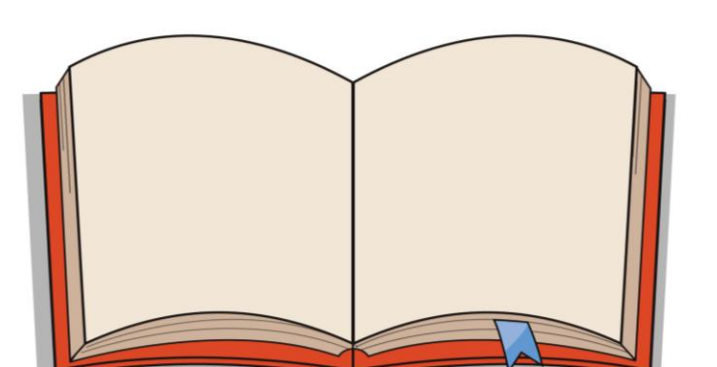


ACKNOWLEDGEMENT



This project would not have been possible without the dedication and collaboration of an incredible team. Their efforts in designing and building the car ensured that William received a safe, functional, and visually appealing mobility solution tailored to his needs. A special thank you to Professor Manooki and Herwerth and to our peer mentor (Anthony Kasumyan) for their guidance, expertise, and valuable insights throughout the development process. Additionally, William's parent provided essential information that helped shape the car's design, ensuring it met his specific mobility and comfort requirements. Their input was invaluable in creating a meaningful and impactful final product.

CITATIONS REFERENCES



- Go Baby Go Canvas Page
- William's Parent Amy
- Professor Manooki & Herwerth