GoBabyGo: A joystick-activated bumper car for children with disabilities

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INTRODUCTION

• Few devices exist to support early mobility for children with disabilities.
• Ride-on cars are modified commercial toys that allow for switch activated controls. These allow more accessibility for children with disabilities and their families while reducing the financial burden.
• Ride-on cars with switches are difficult to steer so alternatives are being examined.
• Joysticks can enable steering, but current designs are too complex and time consuming.

CRITICAL REQUIREMENTS

• Allow for joystick compatibility.
• Simple enough for volunteers to accomplish in a day (under 5 hours).
• Inexpensive and accessible (< $300)

DESIGN AND DEVELOPMENT

• Childproof latch allows for ease of access in and out.
• Customizable Joystick mount (Center, Right or Left)

RESULTS/VALIDATION

• Can be manufactured < 5 hours as compared to 30 for the concept design.
• Instruction booklet enables easy manufacturing.
• Total cost for modifications is < $300.

CONCLUSION & FUTURE WORK

• Create design with buttons to control the car as well as the joystick and support fixtures to the table, so it does not rock back and forth.
• Enable proportional control.

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Our goal is to optimize the manufacturing of joystick-controlled cars, making it easier for volunteers to assemble within a single day with readily available household tools.
GU0 What is cost for a single modification?

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