



NORTHERN
ARIZONA
UNIVERSITY



GoBabyGo A (Team 14)



Project Sponsor: W.L. Gore and
Associates

ME 476C

Ernes Distajo

Abdullah Alajmi

Abdulrahman Almutairi

Mohammad Aljuaidi

Samuel Williams

Project Description

- Created in 2012 at the University of Delaware
- Developed a set of DIY cars
- Enabling young children to move and interact with their peers

Project Goal:

- Design and build a new version of the GBG retrofits for children that have limited mobility of their arms and/or legs

Aspects changed from ME476C

- Coding
- Material change for armrests
- Reevaluating safety

Design Description

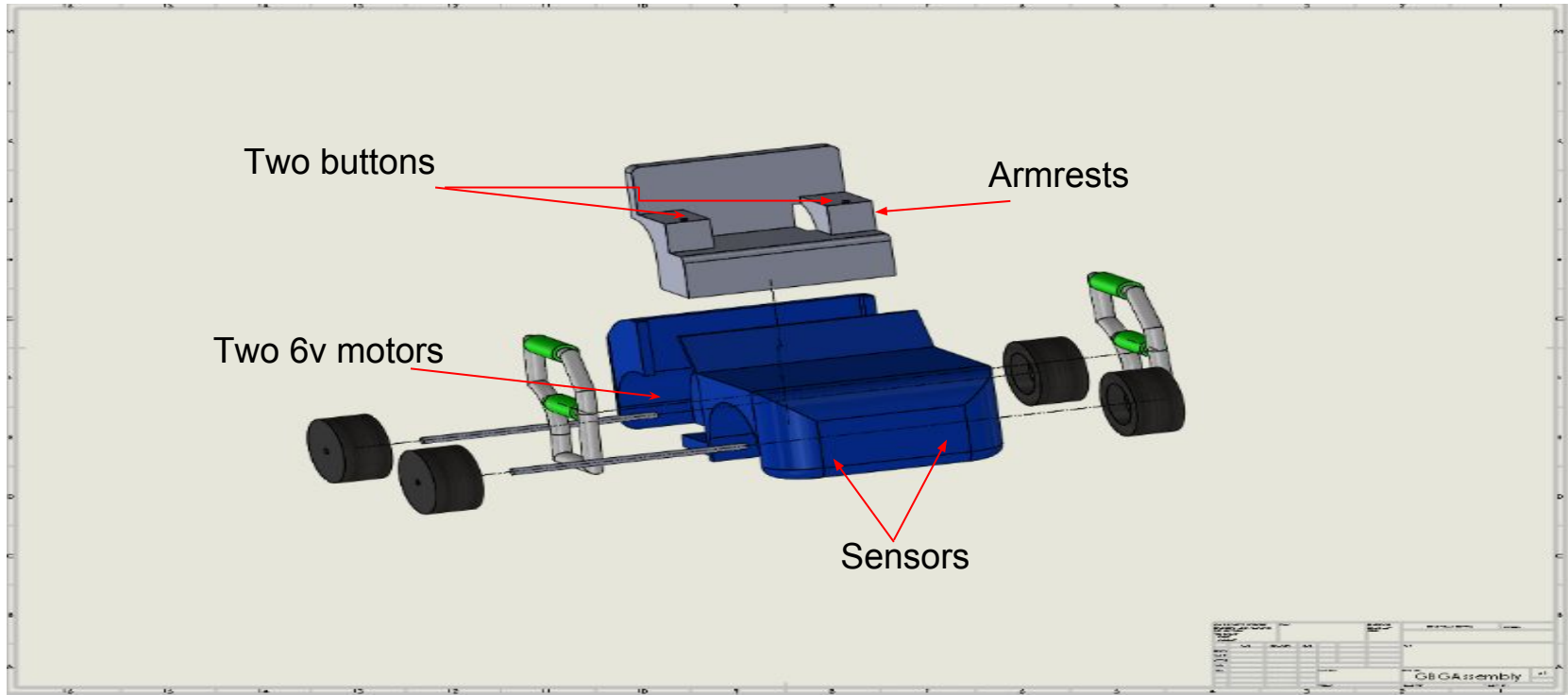


Figure 1: Exploded View

Updated Design

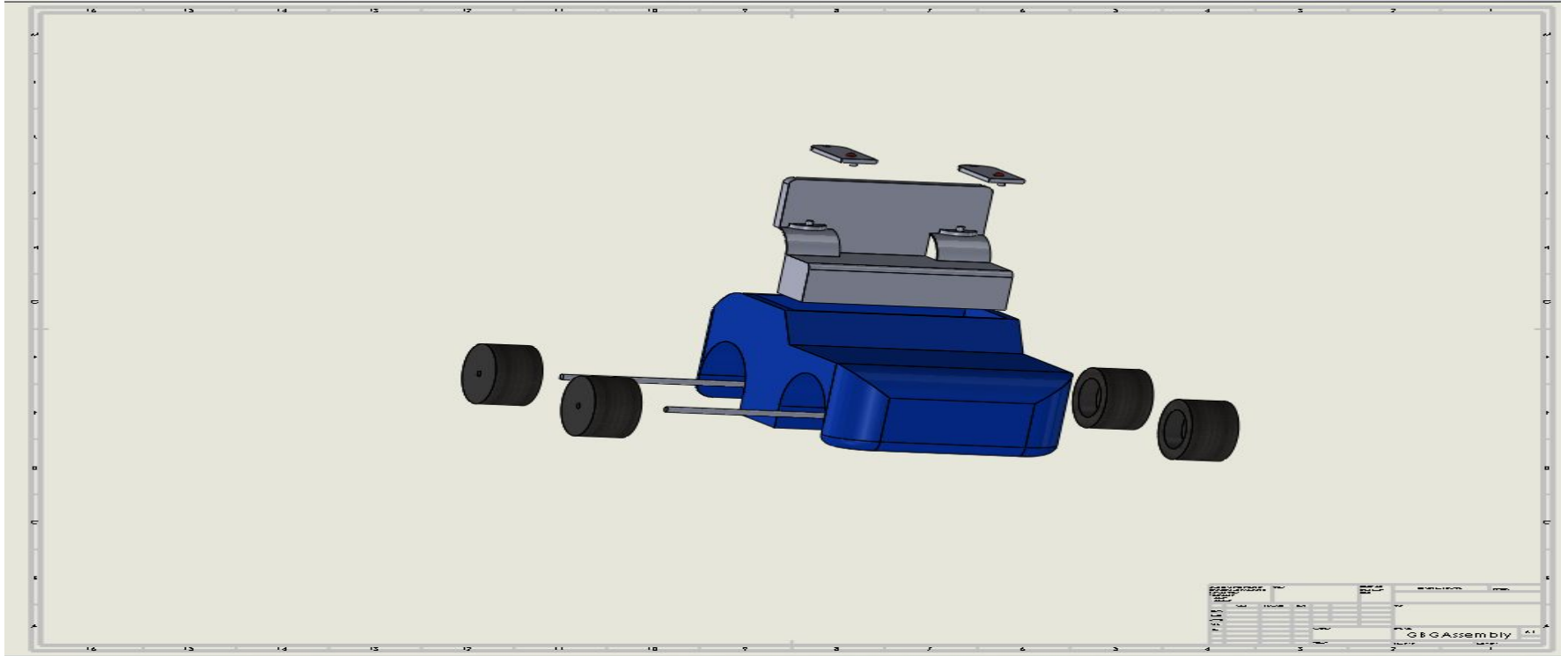


Figure 2: Updated Exploded View

Updates

☐ ● Winter Break (Individual)	12/14/16	1/23/17
● Post Mortem Report	12/14/16	1/23/17
● Review/ Create Spring...	12/14/16	1/16/17
● Car Assembly/ Website	12/14/16	1/16/17
● Budgeting	12/14/16	1/16/17
● CAD Package	12/14/16	1/16/17
● Revising Report	12/14/16	1/16/17

Figure 3: Winter Break Schedule

- What was done during the winter break?
- What has been Accomplished?
- Link to video: <https://youtu.be/6NMnt3GKS7A>

Manufacturing Plan

Feb. 13th: Hardware Review I

- Work on steering system
 - Test buttons and motors
 - Buy an Arduino package
 - Work on variations of code
- Complete Arduino code

Mar. 6th: Midpoint Presentation

- Connect and test object sensors
- Construct armrest and attach to car
- Construct seatbelt attachments

Mar. 22nd: Hardware Review II

- Seat Support
- Test and build umbrella/cover option
- Finalization

Manufacturing Responsibilities

Ernes Distajo: Arduino circuit and programming with buttons/sensors

Abdullah Alajmi: Seat support

Abdulrahman Almutairi: Purchasing components and budget tracking

Mohammad Aljuaidi: Armrests construction and attachment

Samuel Williams: Seatbelt attachments

All will contribute in someway to every area

Current Schedule

Name	Begin date	End date
☐ ● Progress Presentation	2/1/17	2/1/17
● Project Description	2/1/17	2/1/17
● Updates	2/1/17	2/1/17
● Manufacturing	2/1/17	2/1/17
● Schedule	2/1/17	2/1/17
● Budget	2/1/17	2/1/17
● UGRADS Registration	2/1/17	3/13/17
☐ ● Production	1/23/17	4/12/17
● Buttons and Motor	1/23/17	2/3/17
● Armrest	2/3/17	2/13/17
● Hardware Review 1	2/17/17	2/17/17
● Peer Eval 1	2/17/17	2/17/17
● Adjustable Supports...	2/17/17	3/3/17
● Reserved	3/6/17	3/20/17
● Hardware Review 2	3/24/17	3/24/17
● Peer Eval 2	3/24/17	4/12/17

Figure 4: Current Schedule



Figure 5: Button/Motor Production

Future Schedule

☐	• Midpoint Report	3/3/17	3/3/17	☐	• Final Report	5/5/17	5/5/17
	• Implementation	3/3/17	3/3/17		• Peer Eval 3	5/5/17	5/5/17
	• Design of Experiment	3/3/17	3/3/17		• CAD Package	5/5/17	5/5/17
	• Design Changes	3/3/17	3/3/17		• Testing	5/5/17	5/5/17
☐	• Midpoint Review Presen...	3/8/17	3/8/17		• Conclusions	5/5/17	5/5/17
	• Project Description	3/8/17	3/8/17		• Contributors to Proj...	5/5/17	5/5/17
	• Updates	3/8/17	3/8/17		• Opportunities/Areas...	5/5/17	5/5/17
	• Moving Forward	3/8/17	3/8/17				
	• Schedule	3/8/17	3/8/17				
	• Budget	3/8/17	3/8/17				
	• Draft of Poster	4/7/17	4/7/17				
	• Final Poster	4/14/17	4/14/17				
	• Final Product Testing Pr...	4/17/17	4/17/17				
	• Draft of Operation/Asse...	4/21/17	4/21/17				
	• UGRADS Presentation	4/24/17	4/24/17				

Figure 6: Future Schedule

Budget

- Project's Budget \$1500.
- Remaining Budget \$1108.61.

Part #	Part Name	Description	Qty	Item model number	Supplier	Cost
1	Power Wheels Car ✓	(2) 6v motors	1	SKY907	Amazon	\$ 159.99
2	Push Button ✓	Big Red Button	2	COM-09181	Amazon	\$ 44.00
3	PVC Piping	2 in. x 5 ft	2	P002FGP-WH-5	Home Depot	\$ 31.28
4	Pool Noodles	57 in x 2.3 in	2	ATB-73000WN-2pc	Walmart	\$ 21.98
5	Sensors ✓	Car Parking Sensor	1	B00XBYXOPU	Amazon	\$ 18.00
6	5 Point Seat belt	9.4 x 3.6 x 3.2 inches	1	2V-8TCC-ASKP	Amazon	\$ 18.88
7	Optional Cover	Umbrella	1	5J870181	Amazon	\$ 13.90
8	Foam board ✓	1 in. x 2 ft. x 2 ft	1	203553730	Home Depot	\$ 5.98
9	Double Sided Tape ✓	1 in. x 1.6 yds	1	207088689	Home Depot	\$ 4.98
10	Mini Hacksaw ✓	10 in	1	100026795	Home Depot	\$ 8.97
11	Kit	Ultimate Starter Kit	1	B008TDND88	Amazon	\$ 48.99
12	Wire ✓	White Primary Wire	1	48243000104	Home Depot	\$ 5.19
13	Splice ✓	15PK	1	32076075040	Home Depot	\$ 2.39
14	Disconn ✓	15PK	1	32076075217	Home Depot	\$ 2.99
15	Set of Nails ✓	125 Nails	1	100113374	Home Depot	\$ 3.87
Total			18			\$ 391.39

Figure 7: BOM

Questions?