

Handicap Accessible Bicycle

Client: Ted Elias

Advisor: John Puccinelli

Team: Morgan Kemp mrkemp@wisc.edu (Team Leader)
 Tianna Garcia tngarcia@wisc.edu (Communicator)
 Shelby Mochal smochal2@wisc.edu (BPAG)
 Emmy Russell eerussell2@wisc.edu (BWIG/BSAC)

Date: 4/13/17 - 4/20/17

Problem Statement

The current options for a disabled adult to participate in a fun task such as going for a bike ride are very limited in availability and price. The current market also does not provide multiple options to fit the needs of a traumatic brain injury (TBI) patient and their limited mobility. Not only is our client's wife recovering from a TBI, but also a mother who would very much enjoy going for simple bike ride. By creating a new bike "sidecar" custom to the needs and capabilities of the client's wife and with cost of around \$500, more family activities can be a part of our client's life.

Last Week's Goals

- Attach seat, hitch, and wheels

Summary of Team Role Accomplishments

- Team Leader, Morgan: Facilitated team meeting, organized deliverables, agenda
- Communicator, Tianna: Invited Ted to final presentations
- BSAC, Emmy: Attended BSAC meeting
- BWIG, Emmy: Updated website with project status and progress report
- BPAG, Shelby:

Summary of Design Accomplishments

- Worked on executive summary, completed hitch work, welded seat supports, cross bar, and hitch connector,

Activities

Date	Person	Task	Time(hrs)	Weekly Total	Semester Total
4/16/17	Morgan	Agenda	.25	9.25	35
4/19/17		Axle Connector	1.5		
4/18/17		Seat Attachment manufacturing	2		
4/18/17		Budget Bike/ COE Shop Consultation	2.5		
4/20/17		Lathe Axle	3		
4/19/17	Tianna	Milled piece for seat attachment	3.5	6	31.5
4/19/17		Meeting with Puccinelli	0.5		
4/20/17		Welded seat attachment	2		
4/19/17	Shelby	Fabricated the seat attachment	3	6	30.5
4/20/17		Work on editing executive summary	1		
4/20/17		Fabrication plan for axle	1		
4/20/17		Cope cross bar	1		

4/17/17	Emmy	Talked to shop to determine best method for attaching the seat	0.5	8	29
4/18/17		Discussed best option for wheel attachment with Budget and shop	2		
4/18/17		Began fabricating seat attachment	2.5		
4/19/17		Fabricated hitch attachment	1.5		
4/19/17		Calculated shear forces for different wheel options	1.5		
4/19/17	Team	Meeting/Progress Catch up	0.5	.5	15

Statement of Team Goals

Finish the axle attachment, create pedals, add accessories.

Individual Goals

- Morgan – Continue fabrication and work on poster
- Tianna – Continue fabrication and work on poster
- Shelby- Continue fabrication and work on final poster
- Emmy- Continue fabrication

Difficulties: Axle and wheel manufacturing has been a struggle.

Project Schedule/Timeline:

Task	January		February				March					April				May
	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	8
Project R&D																
Background Research	X	X	X	X	X											
Brainstorming			X	X	X											
Create 3 Design Ideas				X												
Create Design Matrix					X											
Order Parts							X									
Manufacturing												X	X	X		
Deliverables																
Progress Reports	X	X	X	X	X	X	X	x	X	x	x	x	x	X		
PDS			X													
Midsemester					X											
Final Design							X									
Create Poster																
Team Report																
Team Presentation																
Website	X	X	X	X	X	X	X	x	X	x	x	x	x	X		
Meetings																
Client		X														
Team	X	X	X	X	X	X	X	x	X	x	x	x	x	X		
Advisor		X	X	X	X	X	X	x	X	x	x	x	x	X		

Expenses:

Seat \$95.99

Bars \$98.50

Hitch \$26

Bike \$ 100

Axle Material \$ 20