


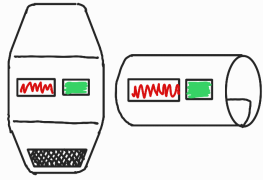

- **Title:** Preventing Weightlifting Injuries by Barbell Modifications, Weightlifting Injuries, BME301


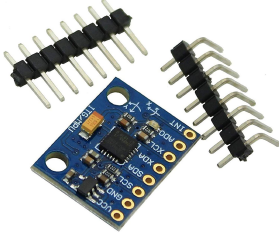
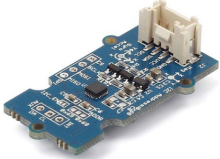
- **Date:** 2/10/24-2/17/24

Last Name	First Name	Role	Email
Settell	Megan	Advisor	settell@wisc.edu
Gold	Robert	Client	bob.gld@gmail.com
BlomWillis	Nolan	Leader	blomwillis@wisc.edu
Kafar	Kaden	Communicator	kafar@wisc.edu
Parsons	Jacob	BSAC	jcparsons@wisc.edu
Waldenberger	James	BWIG	jwaldenberge@wisc.edu

- **Problem statement:** Over one million weightlifters each year experience weightlifting injuries that put them in the emergency room. Of these one million, 18-46% are reported to be caused by bench pressing a barbell. Our team's task is to create a pitch-able system that increases safety for lifting, specifically bench pressing.
- **Brief status update:** The design matrix is finished and the team is aware of what needs to be done going forward as more of a direction and path is paved clearly for the team to take.
- **Difficulties / advice requests:** No difficulties or advice requests for this coming week

- **Current design:** We are thinking about going with a barbell attachment that will use radar to calculate the height of the barbell during the lift.

Design	Full barbell		Barbell attachment		Full suit + VR	
						
Safety (25)	4/5	20	5/5	25	5/5	25
Ease of Use (20)	4/5	16	5/5	20	2/5	8
Uniqueness (20)	3/5	12	2/5	8	5/5	20
Marketability (20)	3/5	12	4/5	16	5/5	20
Cost (10)	3/5	6	5/5	10	1/5	2
Ease of Fabrication (5)	2/5	2	4/5	4	1/5	1
Overall Score:	68		83		76	

Technology	Radar/Lidar		Accelerometer		IMU	
						
Accuracy (25)	5/5	25	4/5	20	3/5	
Reliability (25)	3/5	15	4/5	20	4/5	
Marketability (20)	5/5	20	2/5	8	3/5	
Cost (15)	2/5	6	4/5	12	3/5	
Ease of Fabrication (10)	2/5	4	4/5	8	3/5	
Safety (5)	5/5	5	5/5	5	5/5	
Overall Score:	75		72		67	

- Materials and expenses:** a concise accounting of the amounts and types of expenses incurred on the project. Use the template provided here: <http://bmedesign.engr.wisc.edu/course/resources/#bpag>

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	QTY	Cost Each	Total	Link
Category 1										
									\$0.00	
									\$0.00	
Category 2										
									\$0.00	
									\$0.00	
								TOTAL	\$0.00	

- Major team goals for the next week:** Complete the design matrix and nail down a design the team wants to go with.

- **Next week's individual goals:** A concise statement of intended action to continue progress on the project - be specific, i.e. what will you research.

Kaden: Begin work toward the preliminary presentation. Continue brainstorming potential ideas for new patentable possibilities for the project.

Jacob: Conduct further research on technology related to our winning design in the design matrix and begin working on the preliminary presentation.

Nolan: Research more about radar devices used to track balance or leveling. Also start working on preliminary presentation.

James: Start work on preliminary presentation slides, think of design solutions, and research technologies and materials that will be used in the design.

Project Goal	Deadline	Assigned	Progress	Completed
Initial meeting with client	1/31	Team	100%	Y
Gather research/project information	2/2	Team	100%	Y
Product Design Specification (PDS)	2/8	Team	100%	Y
Design Matrix	2/15	Team	100%	Y
Order/gather necessary materials	2/18	Team		
Preliminary Presentation PDF	2/26	Team		
Preliminary Report	3/1	Team		
Create prototypes, test	4/22	Team		
Final fabrication	4/22	Team		
Test and finalize final design	4/22	Team		
Poster Presentation PDF	4/22	Team		
Final Report	5/1	Team		
Final Notebook Team	5/1	Team		

- **Previous week's goals and accomplishments:**

Team: As a team, the Design Matrix was completed

Kaden: I worked on some of the descriptions of the design criteria and led a discussion with the client on what he would like to see out of our design matrix. I also conducted more research on radar vs. lidar technologies.

Jacob: I worked on completing various descriptions of the design criteria on the design matrix and attended the client meeting to discuss further what kind of designs he would like before we evaluated our design matrix.

Nolan: I completed my portion of the design matrix and did research on Radar as well as a little on Lidar technologies and how they are used.

James: I added sketches to the design matrix to display the features of each design to the client, and then rated them based on our criteria.

- **Activities:** a concise accounting of time spent working on the project.

	Kaden	Jacob	Nolan	James
Week 1	2.5hrs	2.5 hrs	3hrs	2.5hrs
Week 2	2 hrs	1.5 hrs	2hrs	1.5hrs
Week 3	1.5 hrs	1.5 hrs	1.5hrs	1hr