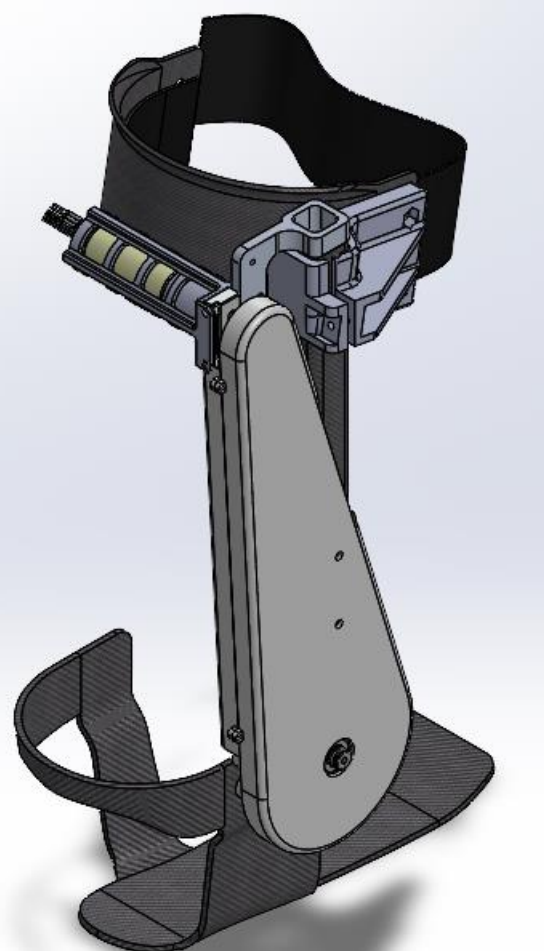


# Robotic Ankle Exoskeleton

Diego Avila, Emma De Korte, Tre Green

# Design Efforts



- Increased length of rod
- Modified dimensions of cuts to be slimmer
- Added calf cuff extender to CAD package
- Added calf cuff with Velcro strap to the CAD Package
- Replace previous footplate with a footplate module that has a 'quick connect' built in

# Purchased Parts

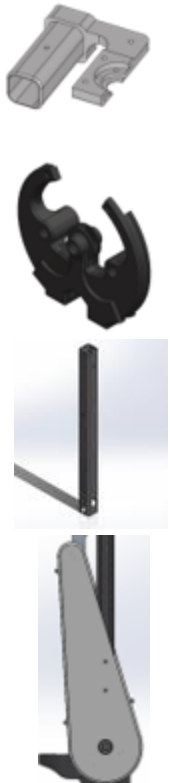
Current Bill of Materials											
Part	Number in Category	Manufactor/Source	Quantity Per Unit	Cost Per Unit	Quantity Needed	Cost per Unit needed	Quantity purchased	Item Number	Link	How it will be aquired	Part Status
Footplate	1	Provided by Lerner	1	-	1		Provided			Provided	Acquired
Torque Sensors	2	Provided by Lerner	1	-	1		Provided			Provided	Acquired
M2 Assorment of Screws + Nuts	3	Amazon	562	\$9.98	6	0.1	1		<a href="#">Link</a>	Purchased	Acquired
Chain (1ft, 05B, 8mm Pitch)	4	McMaster-Carr	1	\$9.00	1.00	9.00	2.00	6027k91	<a href="#">Link</a>	Purchased	Acquired
M3 X 25 Screws + Nuts	5	Amazon	40	\$6.38	3.00	0.48	1.00		<a href="#">Link</a>	Purchased	Acquired
Stainless Steel Ball bearing 5mm	6	Mcmaster-Carr	1	\$9.20	4	36.8	4	7804k138	<a href="#">Link</a>	Purchased	Acquired
Stainless Steel Shoulder Screw	7	Mcmaster-Carr	1	\$6.31	1	6.31	2	91273A392	<a href="#">Link</a>	Purchased	Acquired
Steel Hex Nuts	8	Mcmaster-Carr	100	\$4.76	2	0.1	1	90592A095	<a href="#">Link</a>	Purchased	Acquired



# Purchased Parts

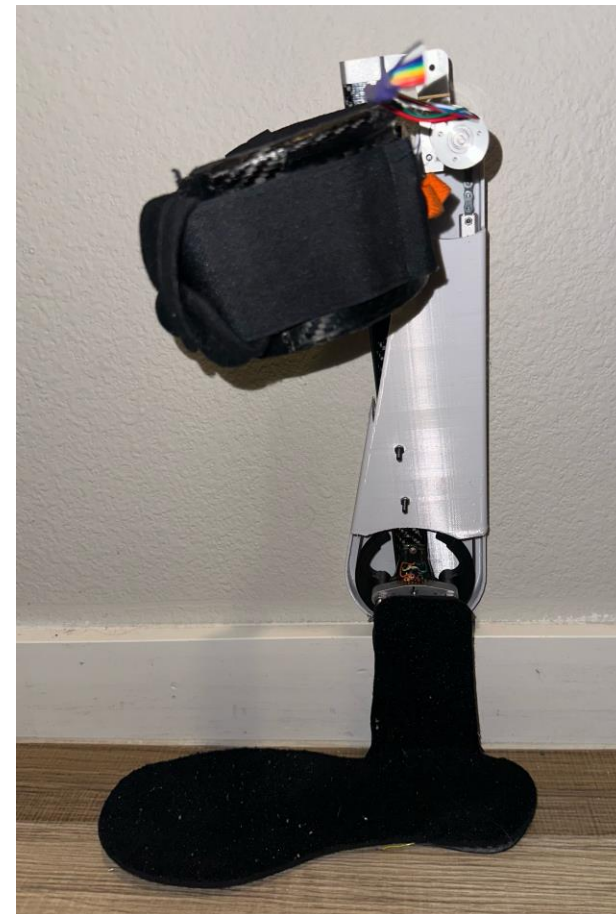
Steel Cable 2mm diameter + Clamps	9	Amazon	1	\$12	1	12	1		<a href="#">Link</a>	Purchased	Acquired
PLA Material	10	Amazon	1000 Grams	\$18	Grams		1		<a href="#">Link</a>	Purchased	Acquired
800cc Onyx Filament Spool	11	MarkForged	800 Cm <sup>3</sup>	\$190	Volume-25 Cm <sup>3</sup>	5.93	1	F-MF-0001	<a href="#">Link</a>	Purchased	Acquired
50cc Carbon Fiber CFF Spool	12	MarkForged	1	\$150			1	CF-BA-50	<a href="#">Link</a>	Purchased	Acquired
M5 x 0.80 mm Thread, 35mm Long	13	McMaster-Carr	10	\$10.36	4	1	190116A267		<a href="#">Link</a>	Purchased	Acquired
Motor	14	Maxon	1	\$715.13	1	715.13	Provided		<a href="#">Link</a>	Provided	Acquired
Gearbox	15	Maxon	1	\$294.65	1.00	294.65	Provided	370782	<a href="#">Link</a>	Provided	Acquired

# Manufactured Parts



Current Bill of Materials											Lead Times	
Part	Number in Category	Manufacturer/Source	Quantity Needed	Cost Per Unit	Quantity Purchased	Item Number	Link	How it will be acquired	Part Status	Who will Manufacture	Start Date	End Date
Spark Plug Motor Mount Mod1	1	ProtoLabs	1	\$422.72	2.00	1125-8486-002	<a href="#">Link</a>	Manufactured	Manufactured	ProtoLabs	5-Feb	9-Feb
3" Pulley	2	Lerners Lab	1					Manufactured	Manufactured	Lerners Lab	Unknown	Unknown
Carbon Fiber Tubing	3	Rockwestscomposites	1	\$215.00	1	25484	<a href="#">Link</a>	Manufactured	Manufactured	Hawley Design Works	Unknown	27-Mar
Cable Cover	4	Personally	1		1			Manufactured	Manufactured	Self Manufactured	26-Mar	27-Mar

# Demonstration



# Demonstration





# Gantt Chart



Finalized Testing Plan					
Task 1: Design Requirements Summary	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 2: Top Level Testing Summary	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 3: Testing Plan: Test/Experiment Summary	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 3: Testing Plan: Procedure	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 3: Testing Plan: Results	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 3: Testing Plan: Conclusion	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 4: Specification Sheet Preparation	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4
Task 5: QFD	D. Avila, E. De Korte, T. Green	100%	3/19/24	3/22/24	4



# Gantt Chart

Final CAD Package						
Task 1: Create a PDF of the Final CAD Packet	D. Avila	75%	3/26/24	4/13/24	19	
Task 2: Create Zip-file	D. Avila	0%	4/12/24	4/13/24	2	
Task 3: Final Expanded BOM Excel	T. Green	95%	3/26/24	4/13/24	19	
Hardware Status 100% Build						
Task 1: Cable Pulley System	D. Avila, E. De Korte, T. Green	100%	2/27/24	3/26/24	29	
Task 2: Design Efforts: 100%	D. Avila, E. De Korte, T. Green	100%	1/16/24	3/26/24	71	
Task 3: Purcahsing Plan: 100%	T. Green	100%	1/16/24	3/26/24	71	
Task 4: Demonstration: 100%	D. Avila, E. De Korte, T. Green	100%	3/26/24	3/26/24	1	
Task 5: Update Gantt Chart	E. De Korte	100%	3/25/24	3/26/24	2	

**Any Questions?**