Robotic Arm

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Rig Prototype

- Question Wanted to answer: Is the rig comfortable for the user? How can the weight be better distributed?
- Method: Imitating suspenders and other wearable ways that help with extra weight at the hips
- Answer: This is comfortable for the user. This does help with weight at the hip
- Future Iterations: Find a better way to connect at the front of the belt. Add weight to counteract weight from arm.

Item	Cost
Waist Belt	$107.74
Universal Sliding Rig Tool Belt Support	$34.34
Total	$142.08

Arm Prototype

- Questions: Can the Arm rest comfortably by the side? Does the hinge work? Can the joints move without interference? Does the arm achieve all 3 DoF?
- Method: 3D Printing parts to assemble the arm, used 3D printed motor as a placeholder
- Answer: No, it does not rest comfortably. Yes, the hinge works. Yes, the joints move without interference. Yes, all 3 DoF are achieved

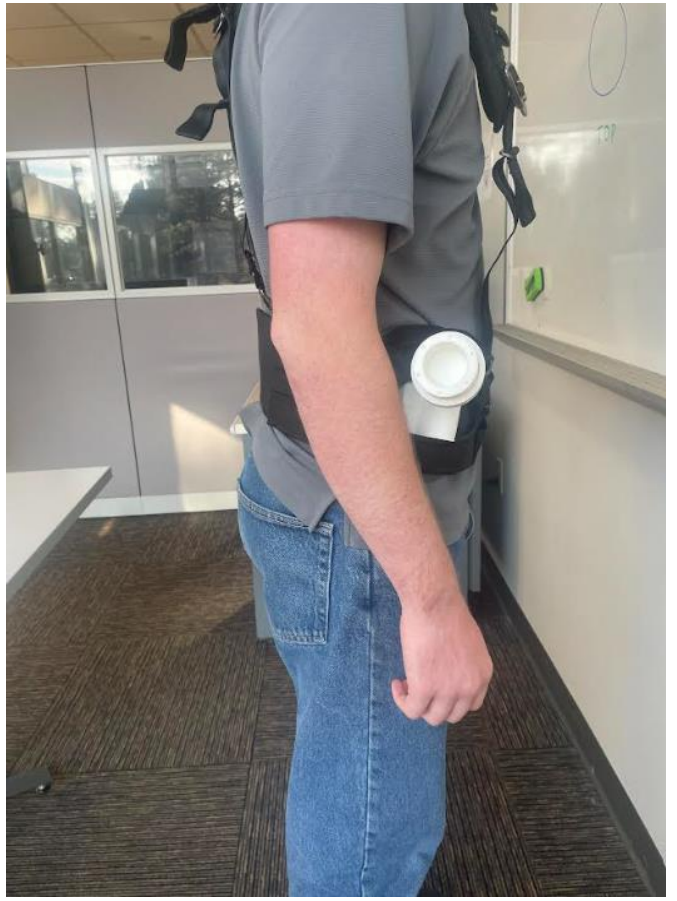
Item	Cost
22 M-3X50mm Screws	$16.50
3kg PLA Filament	$35.99
PVC	$10.63
Total	$63.12

Arm Prototype

Future Iterations:

- Find a better method for the users arm to rest comfortably
- Fina a reliable method to attach assembly to belt
- Add RoM limiters to hinge assembly
- Adjust links to accommodate wiring and power transfer

Pictures



Contributions

- Caleb: Designed the arm model and helped construct the prototype.
- Cole: 3-D printed all parts and helped construct prototype.
- Colin: Helped with creating cylindrical hinge as well as constructing both prototypes.
- Kaitlyn: Ordered parts
- Joel: Helped in creating ideas

Thank you
And
Any Questions?

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