Product Confirmation

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“Children with disabilities are being left behind in their access to play and this is likely to have negative impacts on their overall development and well-being”

-National Library of Medicine (2023)

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Initial Definition

Product Requirements

This toy should…

- Be made for children with ASD and CP
- Be useful in developing fine motor skills
- Be made for children who are 4-7 years old
- Be appealing and enjoyable to children with and without special needs
- Be able to be assembled by the child with supervision
- Be durable enough to withstand lots of playtime
- Be usable in a therapeutic environment
- Meet ASTM standards for safety
- Easy to clean

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Original Design

Original Design

The Character Curtain

- A 4-pronged stand for hanging characters
- The characters could be customized and made for each child, with their parent's help
- Came with various sized rings to help work up fine motor skills
- The colored rods are attached via threads, allowing them to be moved around, further working on fine motor skills

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Original Design in Use

Reach Services Adaptive Lending Library

- This Library is full of adaptive toys for the community to borrow, and for their in-house therapists to use when they work with their kids
- The Character Curtain has been in the lending library since late 2019

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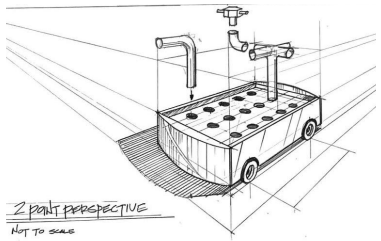
Reach Services

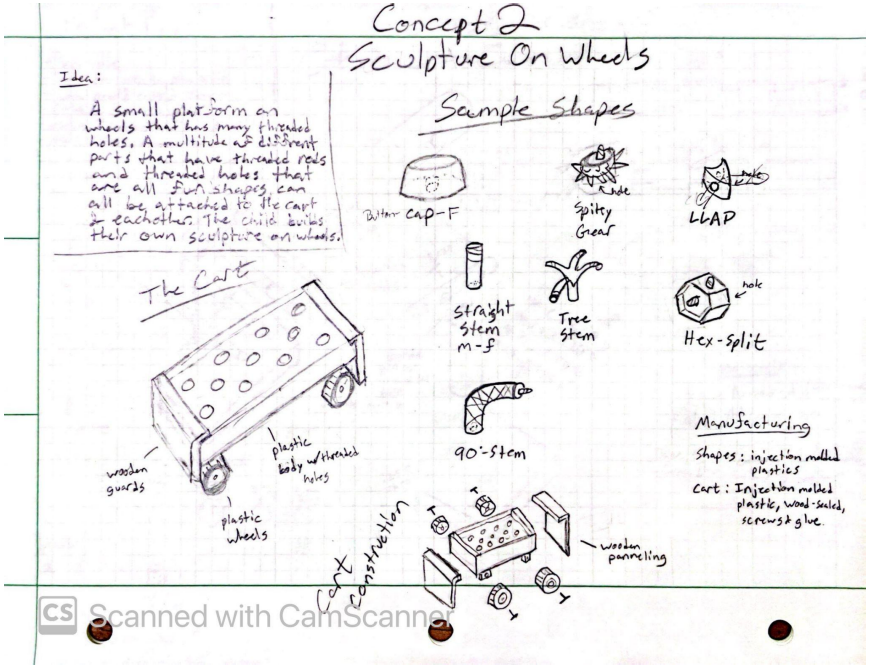
The Last 5 Years

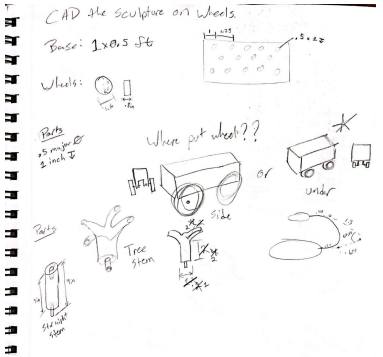
- We called back to see how it was doing, what they liked, didn't like, and how they thought we could improve the design overall
- The therapists like the toy, and thought it could be helpful
- The children were not drawn to the toy, so they never played with it

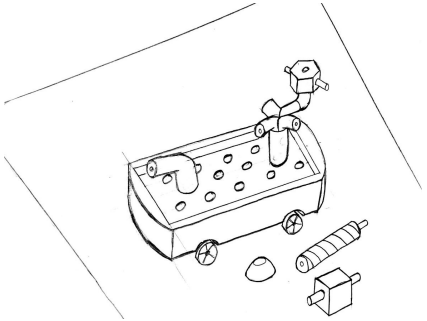
Early Concept Generation

Early Concept Generation









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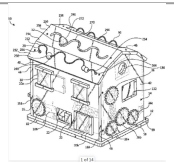
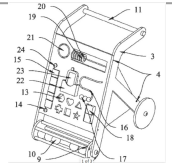
Research

Market Research - Feature Matrix

✔/✖				Our Toy
Develops fine motor skills	✔	✔	✔	✔
Appealing to all children	✔/✖	✔	✖	✔
Child can construct toy	✖	✖	✔	✔

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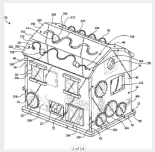
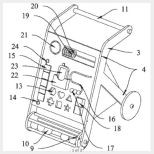
Comparing Toys for Fine Motor Growth and Child Creativity





Develops Fine Motor Skills

Our Goal

LEGO

Built by Child

KiwiCo

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Interview - Annie Clayton

- 2 years of early childhood education
- Currently helps care for her 4 yro niece with cerebral palsy
- “Definitely do threads for finger dexterity growth”
- “Add a leash”

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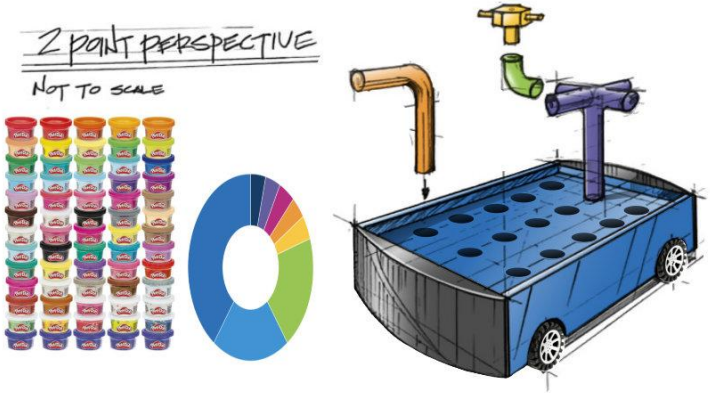
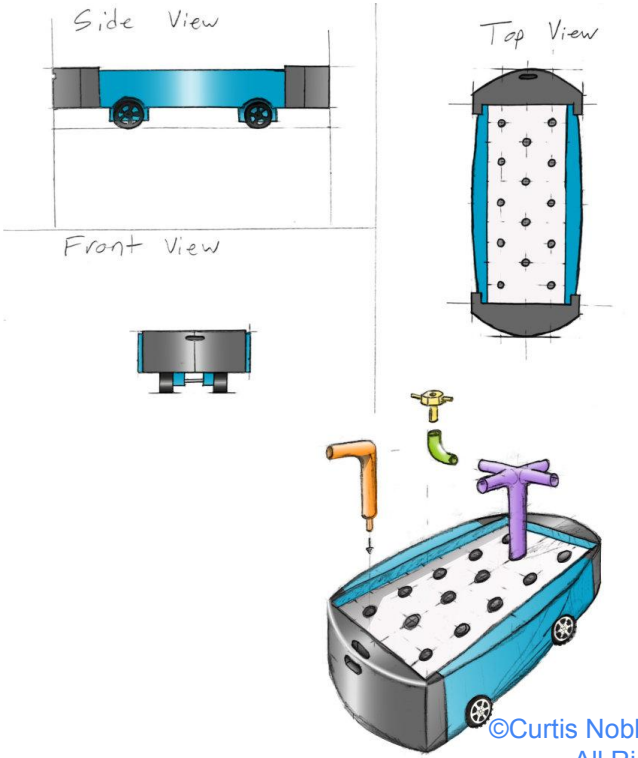
New Design

New Design: Creative Cruiser





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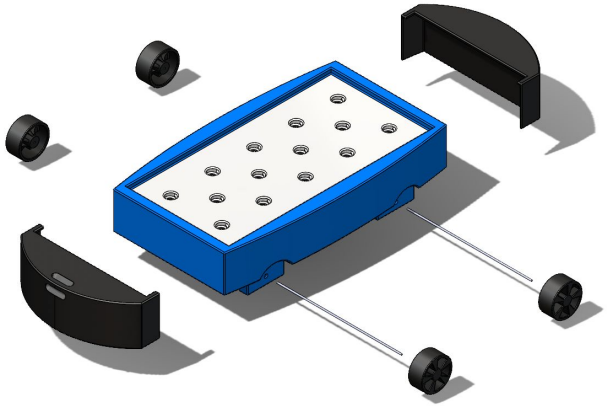
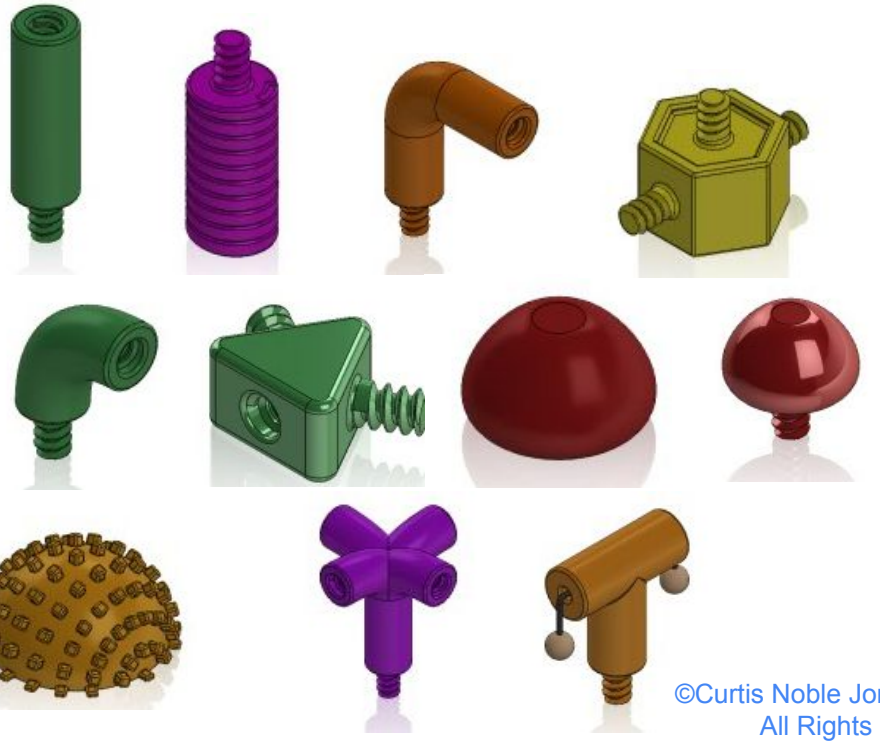
New Design - Component View





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New Design - Component View

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The Creative Cruiser

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Thank You!

Appendix

Appendix A

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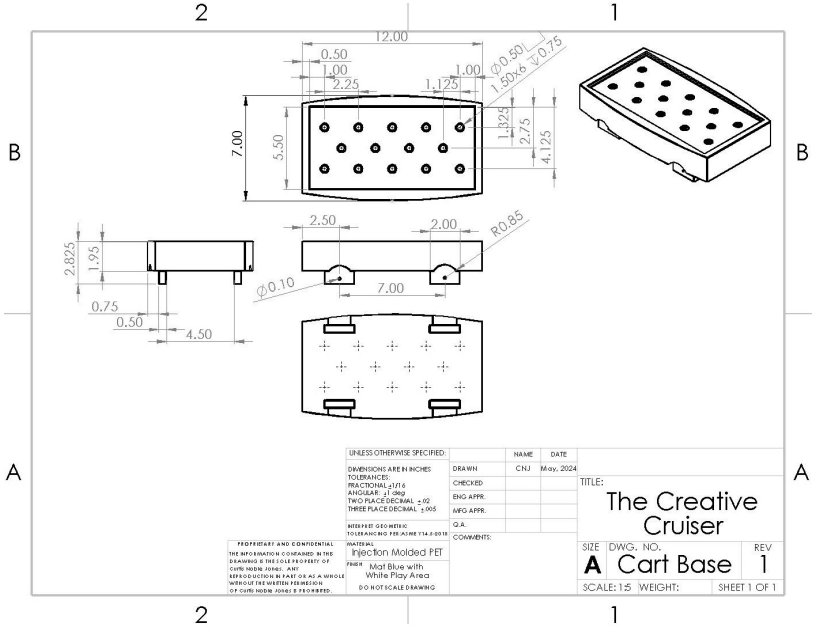
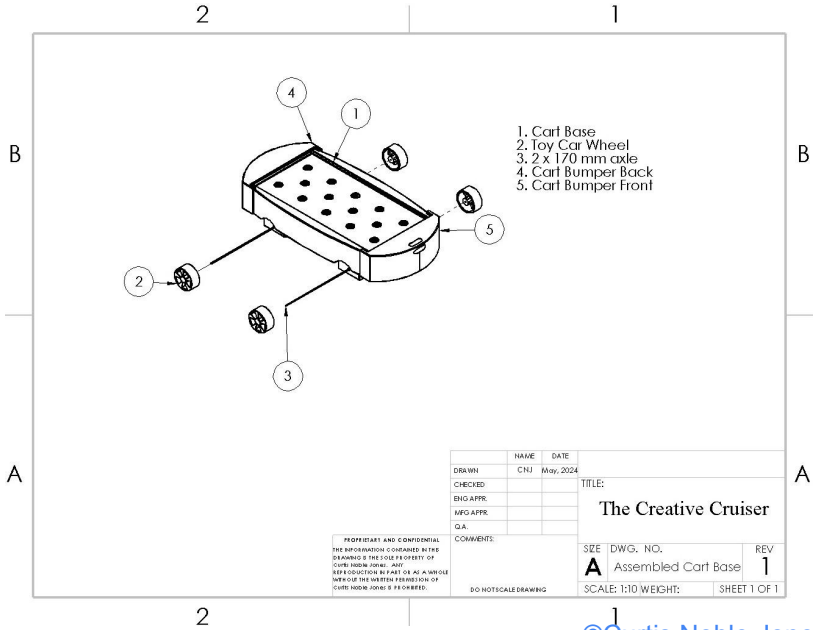
Appendix B.I

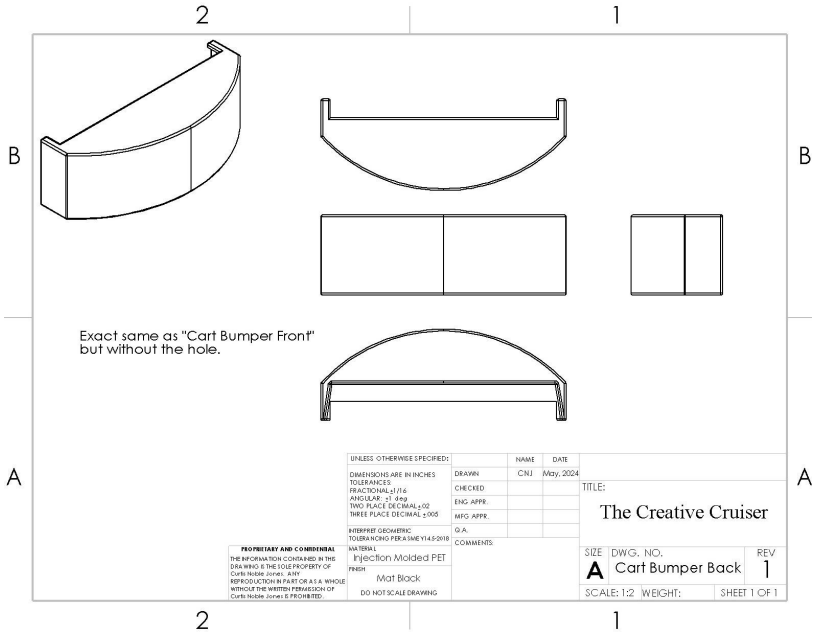
Engineering Drawings - Cart

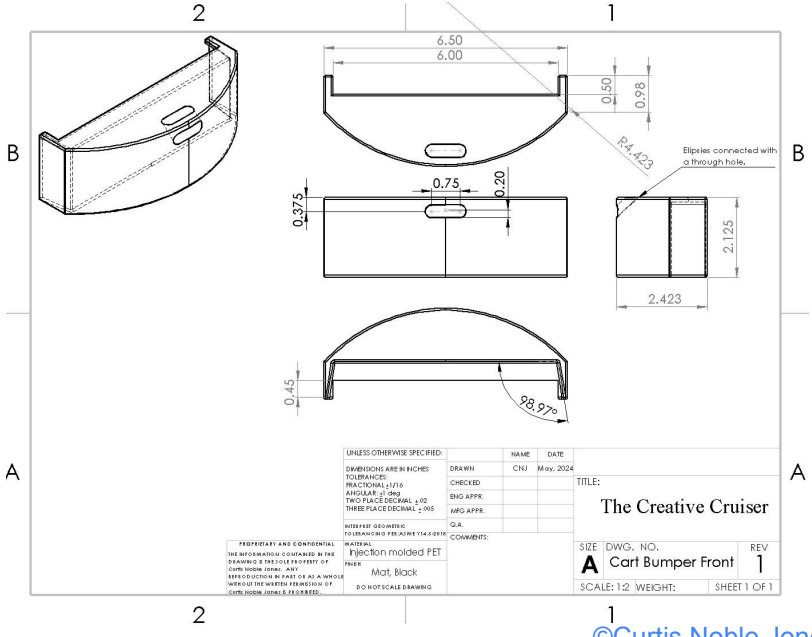




Appendix B.II

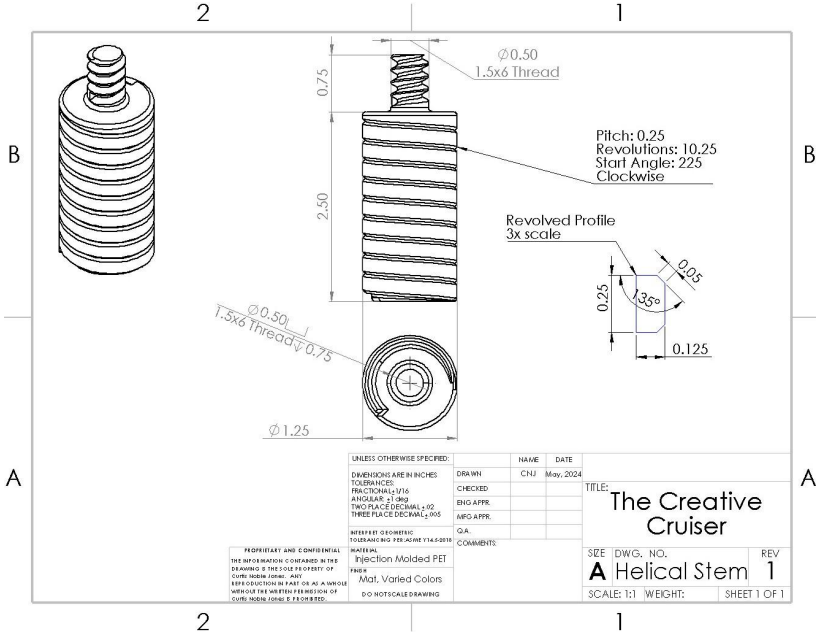
Engineering Drawings - Cart

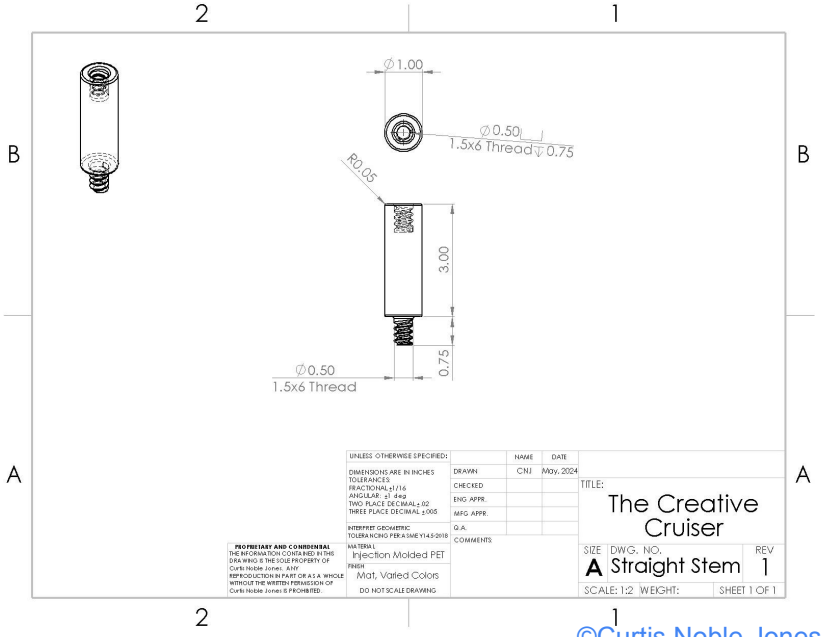




Appendix B.III

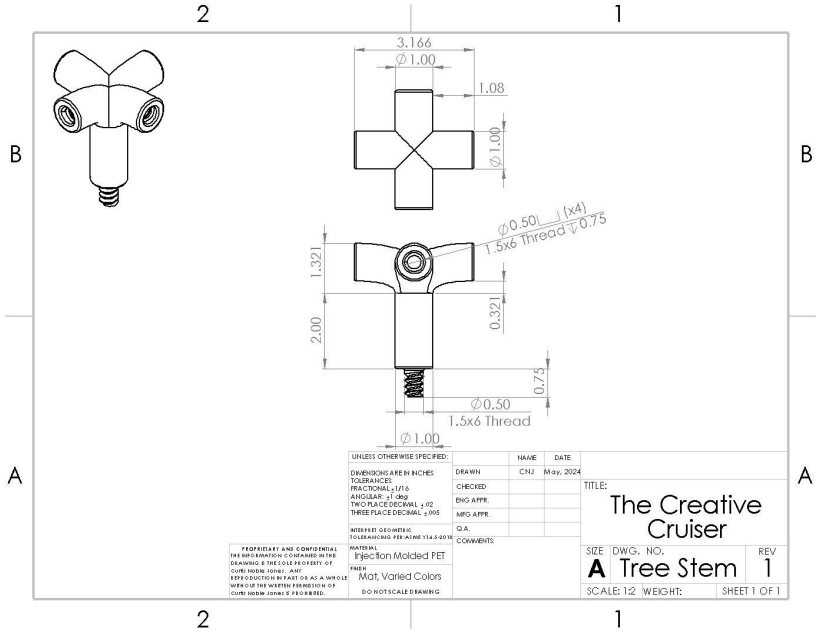
Engineering Drawings - Stems





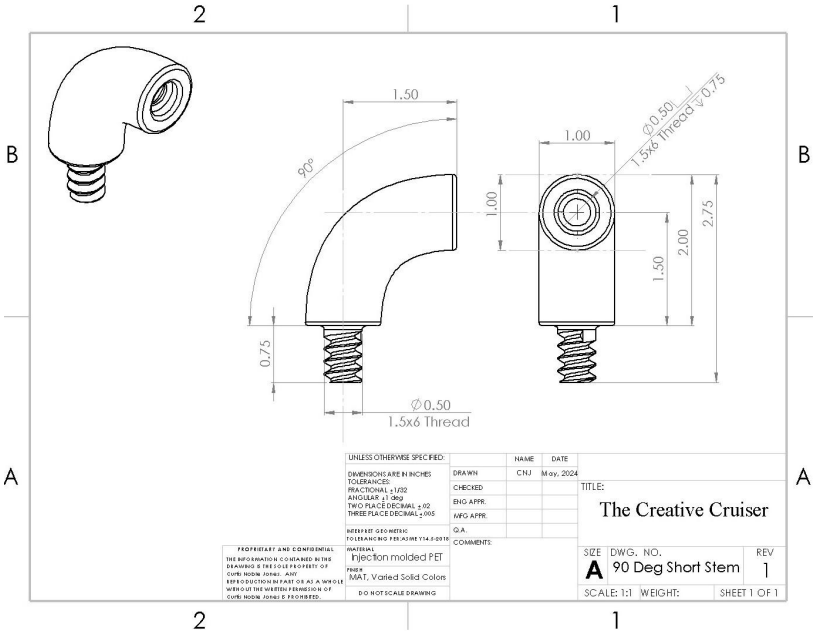
Appendix B.IV

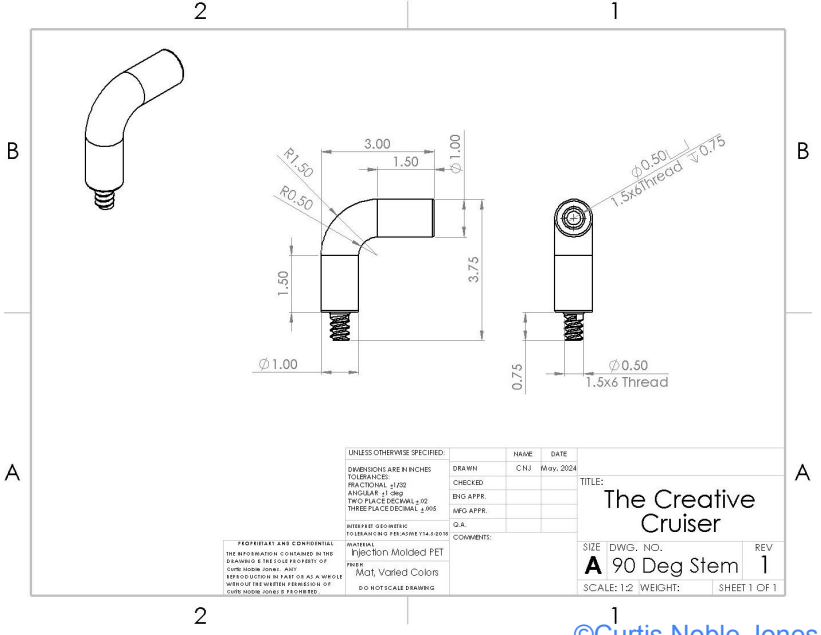
Engineering Drawings - Stems



Appendix B.V

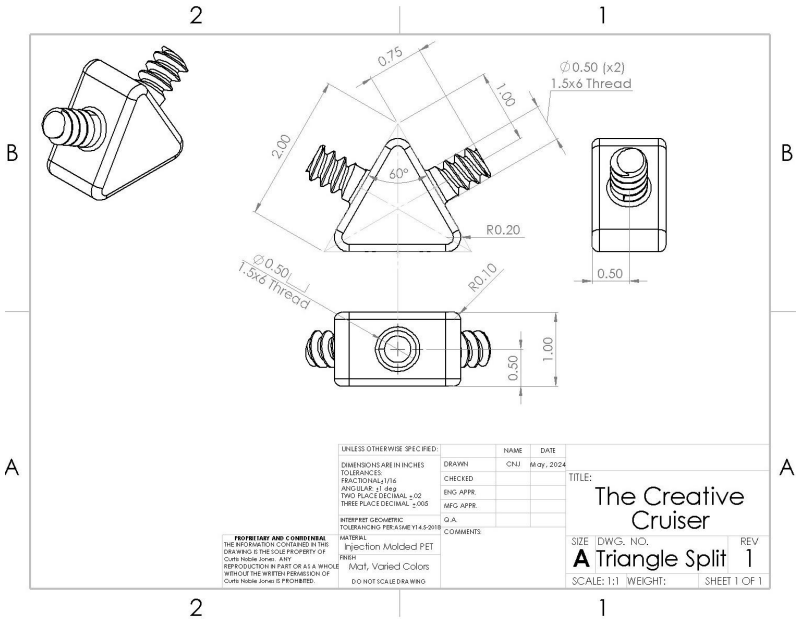
Engineering Drawings - Elbows

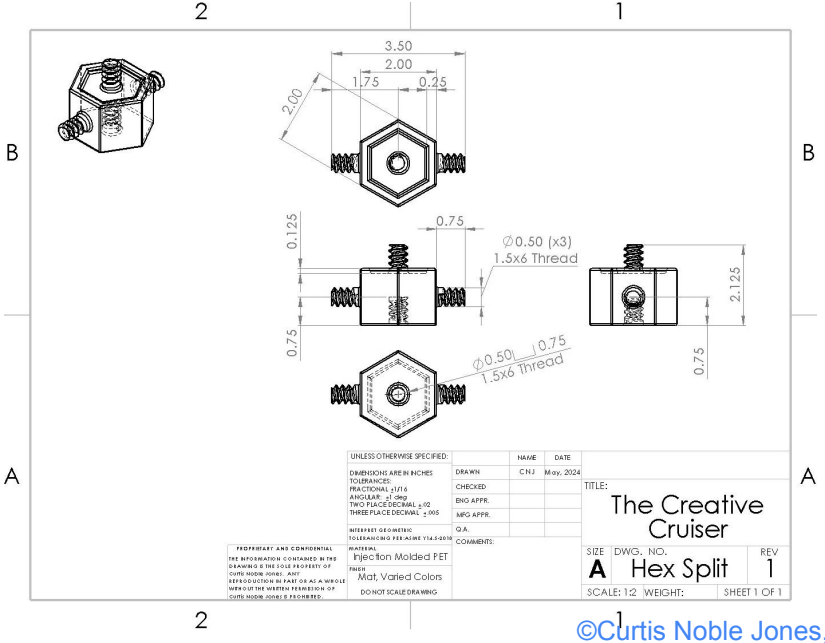




Appendix B.VI

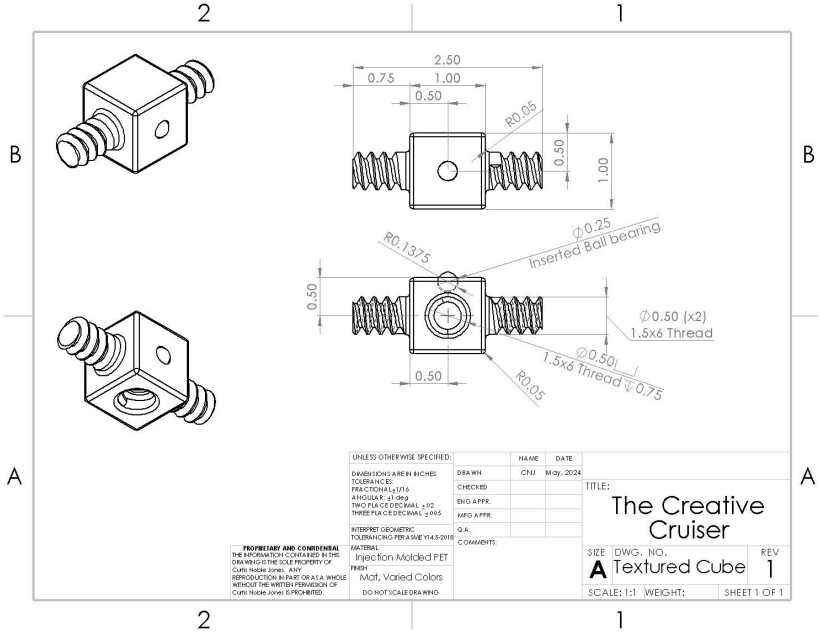
Engineering Drawings - Geometrics





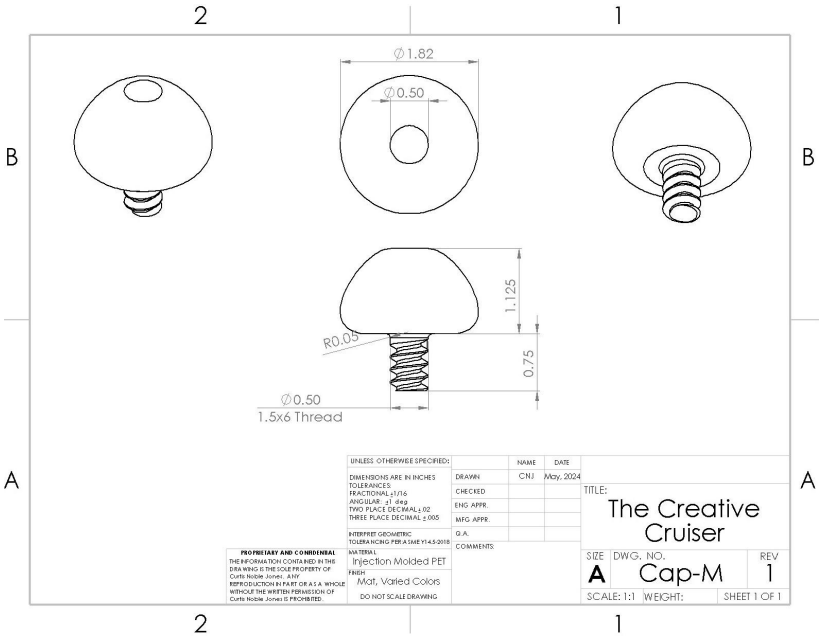
Appendix B.VII

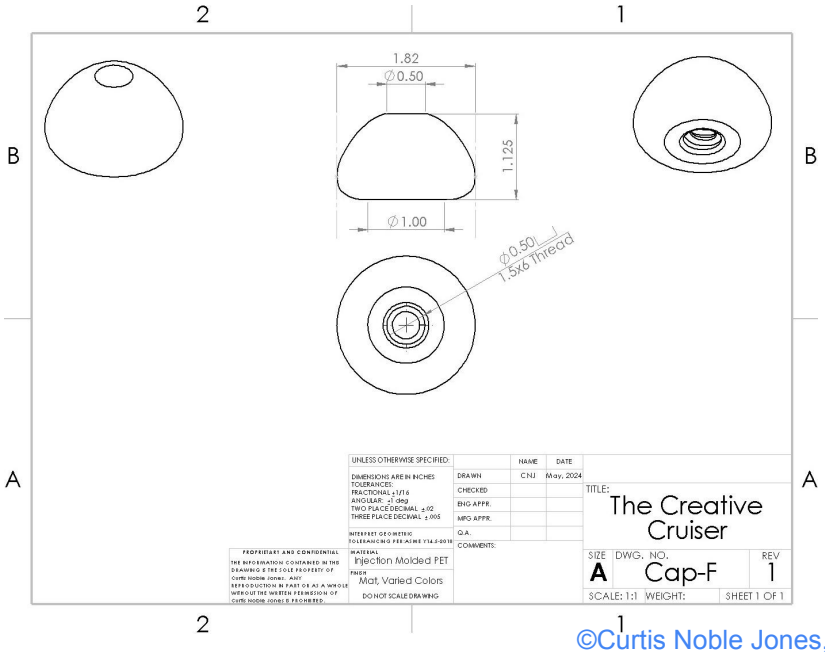
Engineering Drawings - Geometrics



Appendix B.VIII

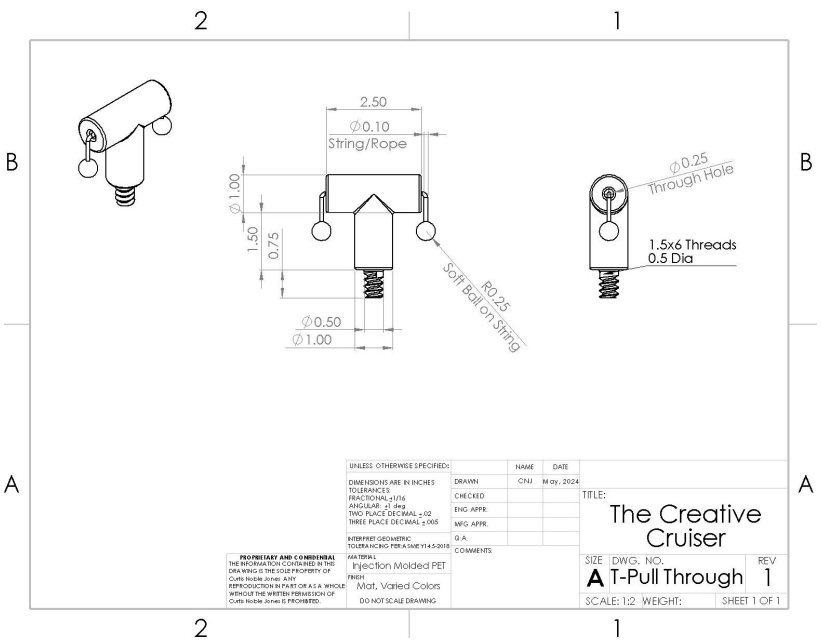
Engineering Drawings - End Caps

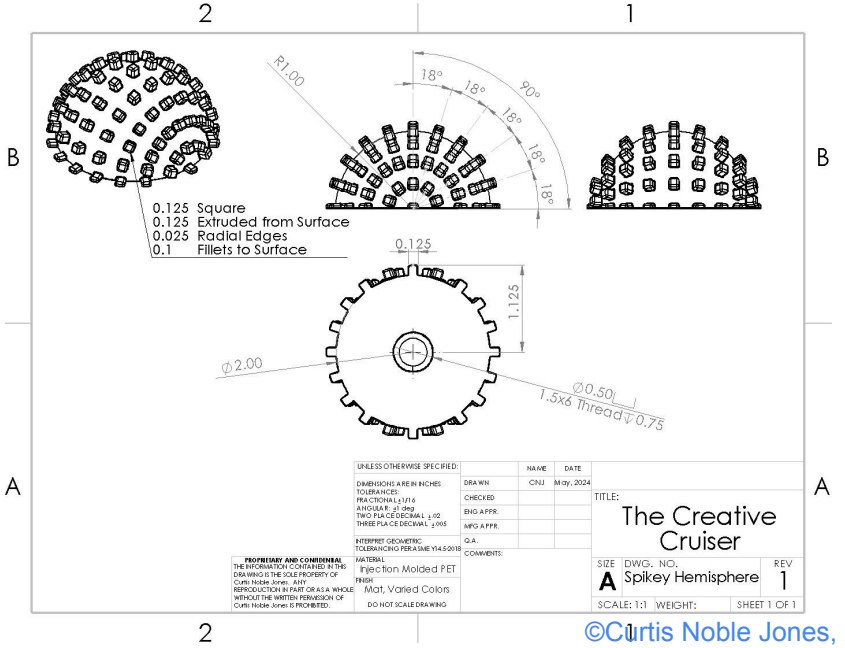




Appendix B.IX

Engineering Drawings - End Caps





Appendix C

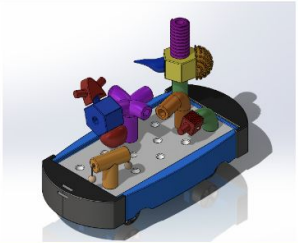
Unit Economics

- We estimate this to cost $8.71 to make after upfront expenses
- We will sell 1 unit, off the shelf, at $39.99
- This gives a Profit Margin of $31.28 per unit, or 21.78%

Appendix D

Prototype Building - Cost of Build

Bill of Materials - Prototype Build



Assembly Name :	Sculpture Cart™
Assembly Number :	Custom
Assembly Revision :	
Approval Date :	
Pieces :	69
Total Cost :	$125.00

Part ID	Category	Part #	Part Name	Color	Qty	Units	Picture	Unit Cost	Cost
SC-1	Main Body		Cart Body	Blue	1				$ -
SC-2	Main Body		Cart Bumper	Grey	2				$ -
W-1.6	https://www.amazon.com/EUDAX-50pcs-Plast		Plastic Toy Wheel, 1.95 mm shaft x 19 x 42 mm	Black	1	50 Wheels, 25 axles		$ 12.00	$ 12.00
R-4.4	https://www.amazon.com/Lon0167		304 Stainless Steel Rods 4mm x 170mm	Stainless Steel	1	5 rods		$ 9.00	$ 9.00

Link to the BOF
https://docs.google.com/spreadsheets/d/1YxTThKuzaKzixN7fQ-8pAKVvf39JpjpwxgQ93kaVe6o/edit?usp=sharing

Appendix E

AI Generated Cart Image

- An AI generated image that was made to help brainstorm the creation of the Bits and Bobs.

Appendix F

Early Concept Sketches