

Formable Hand

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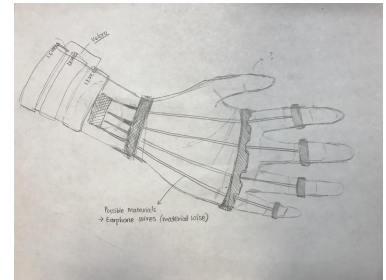
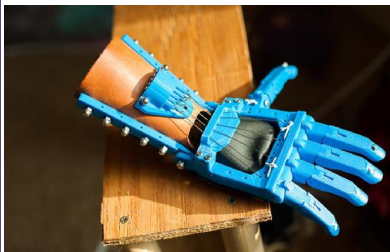
HUSKYADAPT

Accessible Design & Play Technology

The Challenge

Individuals with brain injuries often have limited movement on one side of their body. Performing daily activities with one hand can be challenging and hinder one's independence. Jayna needs a low-weight, pretty, and functional formable hand that she can shape with her dominant hand to support her daily activities, such as holding a jar when opening the lid.

Design Inspirations



Formable Hand

Prototype 1

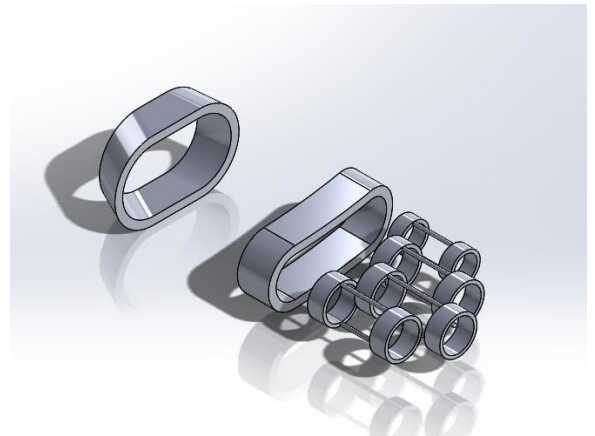
- Strings along palmar side of hand for flexion when the strings are pulled
- Circular rings around fingers and wrist to attach strings
- Bridgeway structure – to secure the strings at the bottom of the fingers
- Use velcro to secure strings in one position at the wrist
- 3d-printed and attached to glove for comfort

Challenges:

- Design has to fit with Jayna's wrist brace
- Understanding the mechanism of how the fingers and thumb work together to grip objects
- How to connect the thumb to the other strings so there is ideally only one velcro piece to pull

Next Steps

- 3D-print prototype from our CAD model
- Choose best material to use for string
- Test effectiveness of hand for gripping
- End goal: 3D-printed formable hand made with Jayna's hand dimensions



Let us know what you think!

Should the thumb be pulled/adjusted separately from the rest of the fingers? How should the thumb string connect to the rest of the device? Do you think we need strings running along both sides of the hand for flexion and extension?



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