

## ESTABLISHING AN INCLUSIVE AND SUSTAINABLE DESIGN PROGRAM FOR ASSISTIVE TECHNOLOGY







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### What is HuskyADAPT?

- HuskyADAPT stands for Accessible Design and Play Technology; the program just completed its first year and is already incredibly successful
- A program that teaches students about inclusive design through toy and rideon car adaptation and year-long design projects

### What is Accessible Design?

• A design process in which the needs of people with disabilities are specifically considered [1]

### What makes a program sustainable?

- Focused on preservation and transfer of information
- Information is organized in a way allowing others to learn from, replicate, and iterate upon our work

## Design Projects 2017-2018

How do we ensure sustainability of projects between years? How do we share results with the broader community?

#### Need:

 A website that ensures the sustainability of the club and showcases past accomplishments

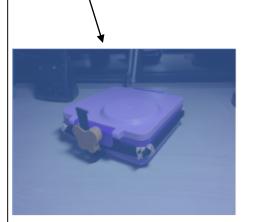
#### **Process:**

- Investigated current models for showcasing research and projects
- Posted mission statement, accomplishments, next steps and GitHub repository for each team
- Incorporated accessibility features

**Club Design Teams** 

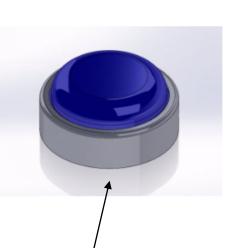
#### **Product:**

Mouseover hover feature



Accessible Lunchbox: Opening a lunchbox is a twohanded task; one hand is used to stabilize the box while the other is used to unlatch and take off the lid

have decreased hand function on one side.



Inexpensive Switch: Every child deserves to play; it is a crucial part of their development. But most toys that can simply be purchased at a store are not accessible for everyone. For many children with mobility impairments, an adapted toy is the best way they can interact with a toy and gain valuable cognitive skills.

This can be a challenging activity for individuals who

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endering of prototype; a blue button on a grey platform" width="210" height="160" /></a><strong>Inexpensive Switch: </stron

Central Page for teams; images link to detailed team pages



Mission Statement

challenge is to design an accessible, durable lunchbox that stores hot and foods, and can be operated independently by an individual with limited us ne hand.

Accomplishments

External Components:

- Double latch for tight seal
- Magnet held assistive butterfly strap (discrete, intuitive)

  Ergonomic butterfly hold for securing while opening
- nternal Components:
- Air tight seal to prevent leaks
- Wide and shallow bowl to make scooping food or
   Movable dividers to customize snack compartment
- Accessible Lunchbox Final Poster.pdf
- Accessible Lunchbox Further Documentation.pd

The website workflow is now more intuitive and organized so the information is accessible. There is now a system in place for future teams to upload their documentation.

## Furthering a Design Project

How can we help individuals with limited hand function perform daily hygienic tasks?

#### Need:

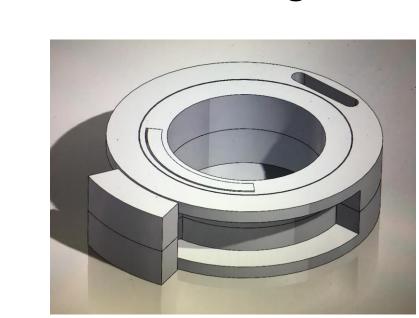
 A modular system that allows individuals with varying dexterity foster greater independence in their daily life, specifically to manipulate a toothbrush

#### **Product:**

- Team Cajun created a tool that allows the user to effectively manipulate a variety of objects
- Final design allows full rotation laterally and an axial rotation of 270 degrees
- Thin lightweight design offering maximum mobility

### **Continuation:**

- Design a tool specifically for need expert Erin Ciliv
  - A need expert is a community member who provides invaluable insight on a particular disability
- Iterated through three designs based off user feedback
- Device builds upon Erin's ability with her left hand; rotates toothbrush 180 degrees



Building upon team Cajuns work, I was able to design a similar device specifically for need expert Erin Ciliv. Erin now has the ability to brush her teeth with just her left hand.

## Design Challenges 2018-2019

How do we reach out to need experts for design project ideas and partnerships? How do we pick design projects for impact?

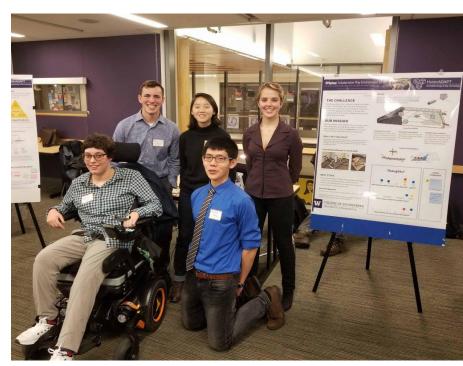
#### Need:

 System for reaching out to need experts and creating design challenges for next year

#### **Product:**

- Need Expert Survey –document to collect design ideas and set expectations for team members; incorporated feedback from experts in the field
- Centralized repository –document containing contact information of all of our community members
- Interview guidelines –document to be utilized in meetings with need experts, ensures the correct information is gathered
- Design Challenges —one page summary of each design challenge for incoming student teams, providing detail and direction

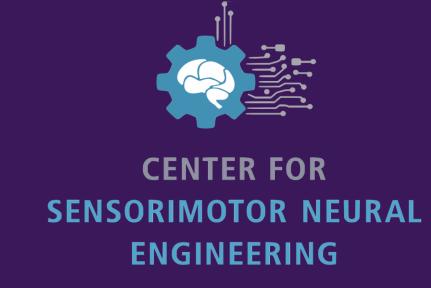




#### **Future:**

- Documentation will be used in upcoming meetings with need experts to prepare design challenges, continue to iterate upon the format based off of feedback
- Continue to expand our network of community members

Student teams and need experts are set up for success by establishing realistic expectations and desired outcomes before the design process even starts.







### References

1. Washington.edu. (2018). What is the difference between accessible, usable, and universal design? | DO-IT

# Acknowledgments

I would like to thank the HuskyADAPT faculty, design team Cajun, Erin Ciliv and her family for their advice and direction throughout this project. I also thank the Mathers Fund to Empower and Improve Human Ability for their ongoing support of HuskyADAPT.