Here at the CSNE we work to improve overall health and function by engineering neural devices, the design program I will be talking about today, HuskyADAPT, targets similar challenges but uses a variety of different approaches. My project this summer focused on how to preserve our work and help push the organization forward in the future.

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So, what is HuskyADAPT? HuskyADAPT is a student run organization at the University of Washington that just completed its first year. The ADAPT stands for accessible design and play technology. As a whole, the organization works to foster an inclusive, sustainable and multidisciplinary community supporting accessible design through its three main components, Go Baby Go, Toy Adaptation and Design.

Go Baby Go hosts workshops to modify battery powered ride on cars for children with varying abilities. This provides these kids with the independence of mobility from a very young age.

Toy Adaptation teaches community members to adapt toys. When I say to adapt a toy that just means to modify a toy in a way to make it accessible to users of all abilities.

However, the main focus of this presentation will be focused on the design portion of HuskyADAPT

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Last year we had 19 successful design projects focused on accessibility challenges. These projects ranged from my team which created a collaborative play environment to the development of a specialized keyboard. If you would like to know more about any of these projects, please feel free to come talk to me during the poster session.

**NEXT**

Clearly the question isn’t, is their work important, the question is how do we keep the momentum going and make HuskyADAPT a sustainable program. To do this I broke it down into two main aims.

**NEXT**

My first aim was to develop an online database storing all documentation from design projects ***enabling*** others to ***explore***, ***download*** and ***iterate*** upon our work.

**NEXT**

My second aim was to develop an ***optimized*** and ***replicable*** process for ***creating*** the design challenges for upcoming years.

I keep mentioning design challenges and design projects but haven’t really explained what that looks like in the context of HuskyADAPT. So, before I dive into these two aims I would like to give an example of a past design project that I got to build upon this summer.

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All of these design projects have a guiding question targeting accessibility that acts as the design challenge. This one in particular focused on how we can help individuals with limited hand function perform daily hygienic tasks, specifically brushing their teeth. Design team Cajun worked on this last year and created a modular tool allowing their users to do just that. When I saw this project I immediately thought of my friend and need expert Erin Ciliv

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and utilized their documentation to design a tool specifically for Erin. A need expert is a member of our community who we work with throughout the design process as they can provide invaluable insight. With Erin’s feedback, I was able to iterate through multiple prototypes and created a design that built upon Erin’s abilities. She has a very strong grip with her left hand and has a good amount of flexion in her wrist, I capitalized on this and created a tool that would help her rotate the toothbrush 180 degrees allowing her to brush her teeth with just left hand.

In the future I hope to implement an attachment to act as a button and modify the toothbrush stand to make it easier to place the toothbrush back on the charger. I want to point out that both of these adaptations were brought to my attention by Erin. This just goes to show the value add our need experts bring to the table throughout the design process.

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I wanted to make sure that I gave others the same opportunity that I had. So, in the creation of the online database I made sure that everything I had used was available for the various design projects. I broke down the information into a central page listing all of the design challenges which branches off to individual team pages detailing the teams mission statement, what they accomplished, next steps for others to continue their work and the files for each team

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The files are available through a GitHub repository and give the community a inside look at the design process. Additionally, our CAD files are available for download so others may download and print out our prototypes.

**NEXT**

Once I had a method for storing all past and future documentation, I took a systematic approach in the creation of design challenges for next year. I modified the survey we send out to our need experts, which is where we gather our initial information. With the help of faculty members, I compiled a list of all of our community members which can be added to as our organization expands. I also created an interview document for meetings with our need experts, so I can make sure that we gather all of the necessary information. As these meetings are ongoing I will be summarizing these challenges for next years design teams, ensuring they have all the information needed to succeed.

**NEXT**

In addition to introducing engineers to new ways of approaching design and creating a wide variety of accessible technology, HuskyADAPT also helps build incredible relationships. I was lucky enough to meet Erin last year and we hit it off immediately, possibly because we are both huge patriot’s fans, which I apologize for. I will always be grateful that HuskyADAPT gave me the opportunity to meet Erin and that is just another reason the work we do is so important and needs to continue to expand. Thank you.

**[Files](https://github.com/nwjoe/HuskyADAPT-Files/tree/master/Cajun)**

Click on the "Files" heading to look at our documentation!