TEAM TOUCH

TOUCHSCREEN SOLUTION

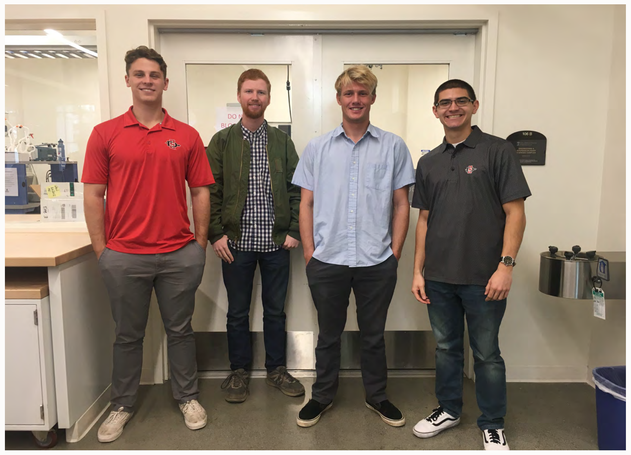
Project Advisor

Dr. Scott Shaffar

Mission Statement

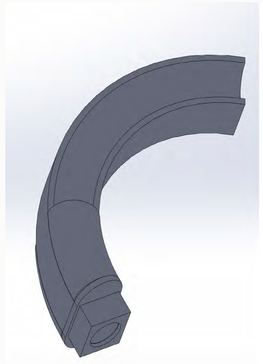
Dr. Jensen Shirley is a bilateral prosthesis user who struggles with using touchscreen devices. Our goal has been to create a device which would enable Dr. Shirley, and others in similar positions, to easily and successfully interact with all types of touchscreen devices. The device also must not interfere with the current capability of The users' prosthesis, or cause any harm to the users or the devices they interact with.

This project was made possible through sponsorship and facilitation of Quality of Life Plus (QL+), a nonprofit organization which seeks to improve the quality of life of wounded military veterans.

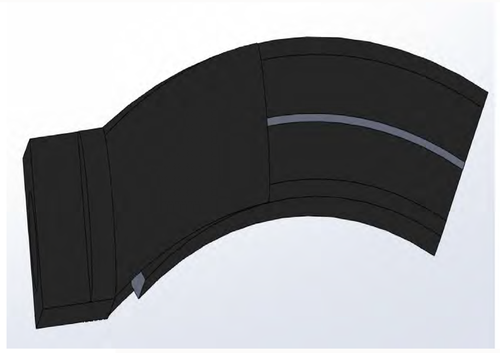


Our team, from left to right, Steven Schneider, Brandon McGoey, Harrison Clark, and Jacob Hoffer.

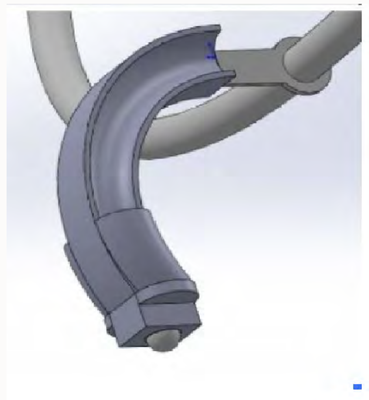
Project Progression



Our first prototype was based off measurements taken manually of prosthesis, and accommodated for the capacitive tip.



Our second prototype was based off of feedback from Dr. Shirley, and allowed for a shorter base for enhanced dexterity.



Our third prototype, and final design deliverable, includes a necklace attachment which connects to the wearer's skin and allows functional access to capacity touch screens, commonly found in cellphones.

Our final design, left as travelled work, incorporates a small battery to "power" the device over a long period of time, allowing for seamless use without the necessity of a contact point to the users skin.

COVID-19 Issue

The COVID-19/coronavirus pandemic affecting the world during the time of this project has impacted the final results. The crisis caused has caused us to lose access to SDSU and all resources used in producing physical products, as well as third party manufacturers. As a result of this, we were unable to produce a functional battery-powered prototype, and decided to leave our work in progress as travelled work, in case any future clients or teams would like to pick up the challenge where we left off. Furthermore, the team is dedicated to finishing the third prototype design and delivering it to the client, Dr. Shirley soon after the COVID-19 crisis ends. This prototype is fully functional and completely satisfies all requirements posed by the initial challenge.

Overall Project Impact

Overall, our project will have a huge impact on all potential user's lives. The outcome is a device which will enable users to interact with increasingly omnipresent devices without damaging or breaking them or their invaluable prosthesis. Going beyond simple force -based resistive touchscreen applications, the solution presented gives users access to dexterity on par with a finger, allowing for use of mobile email, text messaging and more.