

# Sense to Score

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Technology Award

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## Strength at Play

As seniors age, their motor skills and grip strength often diminish, making daily tasks more challenging.

To help, the team created a hand-held device with four finger buttons. Lights prompt users to press each button quickly, and three modes increase speed to challenge reflexes. A strap keeps the hand secure.

This game-like device encourages seniors to practice, gradually boosting grip strength and reaction speed.

## Innovators' Inspiration

*"My teammate's grandparents have difficulty with their grip strength. I have also noticed that many elderly people struggle to hold onto the grab poles when getting off the bus. Seeing these challenges inspired us to develop a solution to help the elderly improve their hand strength and coordination. As we were all new to programming, it was a steep learning curve. In the end, seeing the idea come to life was rewarding. It was the most satisfying moment for us after all the effort we put into making it work. We hope our device will make daily activities easier for the elderly and enhance their quality of life."*

- John Emill Chiang

## What's So Special?

- The device is available in three types of button springs – soft, medium, and hard – each offering a different level of resistance to help users gradually strengthen their fingers.
- Built-in Wi-Fi and Bluetooth connectivity allow the device to connect to a cloud-based analytics platform that records and analyses users' finger response times for performance tracking.
- The device is USB-rechargeable, eliminating the need for battery replacements.
- Made from 3D-printed PLA (polylactic acid), the casing is strong, affordable, and durable.