Project ATTIS: An Assistive Aid for Parkinson's Patients Using Vibrational White Noise to Reduce Resting Tremors

Jing, Anne (School: Assumption College School)

Parkinson’s disease is a progressive disease of the nervous system that affects 10 million people each year. It is often characterized by resting tremor and stiffness. With difficulty in fine motor skills, there are many aids to assist with daily activities, such as the Liftware Spoon. However, these devices lack in universality and customizability. Project ATTIS differs from these devices as it is not limited to one activity but is capable of many. Its technique to limit the tremors right from the hand allows the device to have universal applications in daily routine. Each patient’s symptoms and diagnosis is different and a device should reflect the uniqueness of each case; Project ATTIS allows for full user control. The principle behind Project ATTIS is to create a minuscule distraction to the brain and stop the involuntary tremors to the hand. Coin-cell vibrators will provide a vibrating sensation to the patient’s wrist while not hindering any voluntary actions. Project ATTIS takes patients diagnosed with dementia into consideration as it works subconsciously. Tests were performed and the results were compared. The patient’s handwriting with the device was smoother and more accurate. Patients were then asked to balance a cup on a saucer. Without the device, the cup and saucer began to shake and with Project ATTIS, the tea cup was visibly more stable. Project ATTIS uses a creative method to help Parkinson’s patients combat a daily struggle. Its non-invasive technology along with its customizability and universality makes the device suitable for everyone.

Awards Won:
First Award of $3,000