Experiment Results

Of Stroke-T 2.0

To get some feedback on the device, we asked some students to do a training with the device. The training includes testing all four modes of the device. During and after the training, the students talked to us and gave us some feedback. The tests showed that the device works great and was clear and understandable for the test-persons. In terms of user friendliness, it can be seen that there were difficulties in attaching the hand and fingers to the device. But it is a lot easier now than with the old device. The mode for mirror therapy worked but of course all test-persons had a lot more fun during the training in the game mode. They really wanted to continuously improve their reaction time which is great. That shows us that the device could also improve the motivation for training in real stroke patients.

Furthermore, we also showed our device to an ergo therapist and asked her for her opinion. We met with her, and she tested the device for us. She was very excited about it and told us a lot of benefits. She could also imagine using it in her therapy with her patients.
The first thing she told us was that the device has a very high usability due to its size. It can be used for home training and everyday use. This would be a great improvement compared to only weekly training with a therapist. Furthermore, the usability is very simple and easy. Therefore, also elderly people or impaired people can use the device without any support from an outstanding person.
The device provides a very good motoric training of the fingers, especially with the new and adapted finger support. It mimics the movement of the gripping of the hand. This is an important training for patients to be able to hold again some objects. For example to hold a coffee mug or even open a jar.
Additionally, the device also trains tactile sensing and proprioception due to the vibration in the fingertips. This is very important to regain nervous activity in the fingertips and stimulate the nerves.

The game is very motivating and requires a lot of concentration. Therefore, the device could also be used in geriatrics to train with elderly people. Motoric training, nerve stimulation and especially concentration training can have a great benefit for those people. Furthermore, the device is very useful to help patients to achieve their sensing in the fingertips and nervous stimulation after an accident or an injury of the arm or the hand. Also, people with neuropathy, for example due to chemotherapy, could use the device to train their nerves and improve tactile sensing.