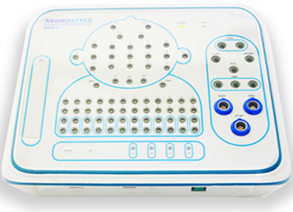
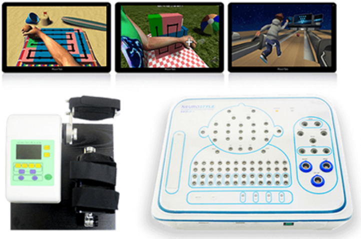
Products

NBETTER Stroke Rehabilitation System



nBETTER



Neurostyle Brain Exercise Therapy Towards Enhanced Recovery (nBETTER) is a rehabilitation system that detects visualized movements of stroke-affected limbs using Electroencephalography (EEG) based Neuro-feedback to provide visually engaging and mechanical feedback for exercising the brain towards better post-stroke recovery.

The FIRST Brain Computer Interface (BCI) based Stroke Rehabilitation System in the market With new stroke rehab: Build new motor control pathway in the brain directly.

nBETTER can be used as a standalone application or deployed as an intranet or internet application (by putting some modules on the server). The subject's information, performance parameters and recorded EEG signals are used to give input for neurofeedback.

DOWNLOAD PDF

What is NBETTER

Stroke Rehabilitation System which can significantly improve Motor Function recovery in Disabled Post-stroke Patients

N EUROSTYLE
B RAIN
E XERCISE
T HERAPY
T OWARDS
E NHANCED
R ECOVERY

THE FIRST BCI-BASED STROKE REHABILITATION SYSTEM | AVAILABLE IN THE WORLD

NEW KIND OF STROKE REHABILITATION

Build new motor control pathway in the brain directly

Research and Development

A*STAR Institute for Infocomm Research

BEST BCI Model in the WORLD

- 1 of Singapore's Top R&D Institutes
- International recognition for BCI design and research

System Key Features

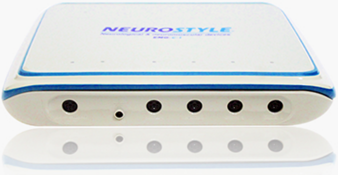
System Key Features

- Brain-Computer interface (BCI) based Stroke Rehabilitation System
- Configured for rehabilitation in Chronic and Sub-Acute stroke
- Motor Imagery with Virtual Reality (VR) feedback mechanism
- Innovative algorithm that is clinically-tested to detect patient's motor intent
- Portable and lightweight system
- Suitable for deployment in Hospitals, Rehabilitation clinic, bedside or home

System Components

System Components

- Electroencephalograph (EEG)
- Virtual Reality Games
- Physical Feedback Mechanism



Accessories

EEG Cap

EEG Cap

EEG Cap

EEG Cap

EEG Cap

EEG Cap electrode cables (24 cables bundle)

EEG Cap with electrode cables connected

Single-plug EEG electrode with cap

NEUROPLASTICITY

The brain's ability to reorganize itself by forming new neural connections throughout life. Neuroplasticity allows the neurons (nerve cells) in the brain to compensate for injury and disease and to adjust their activities in response to new situations or to changes in their environment.

Neuroplasticity is like travelling from point A to B

NEURON

The nerve cells in the brain

PLASTIC

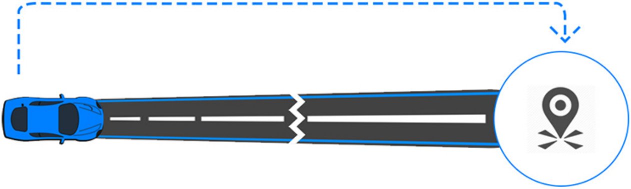
to mold, sculpt or modify

If the road going to point B is damaged (same way as having brain damage).

What happens is we take a different/alternative route going to point B. (forming New Neural Pathway)

Upon continuous times of taking the same route, we get to memorize the route. (same way as new neural pathways being strengthened)

Taking Alternative Route
Forming New Neural Pathway

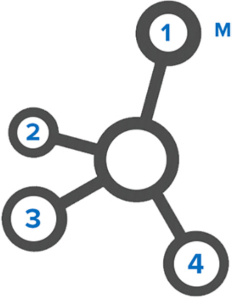


POINT A
MIND INTENT

DAMAGED ROAD
DAMAGED PART OF BRAIN

POINT B
FUNCTION

NEUROPLASTICITY can be achieved through continuous practice and exercise.



1 MENTAL ACTIVITY

2 CREATION OF NEW NEURAL STRUCTURES

3 REPETITION OF MENTAL ACTIVITY

4 STRENGTHENING OF NEURAL CONNECTION

NBETTER System Components

EEG

- Used for the acquisition of the patient’s brain signal
- Used to Understand brain status

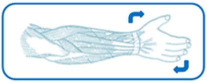
Physical Feedback Device (CPM)

- Performs the physical rehabilitation of affected limb
- The software gives signal which triggers the action of the CPM

Virtual Reality

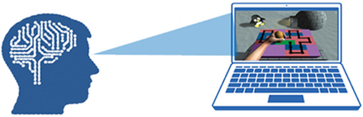
- Low cost and Long-term Rehabilitation
- Controlled Environments
- Motivation Mechanism
- Personalized Tasks and Feedback

Brain-Computer Interface (BCI)



BRAIN-COMPUTER-INTERFACE

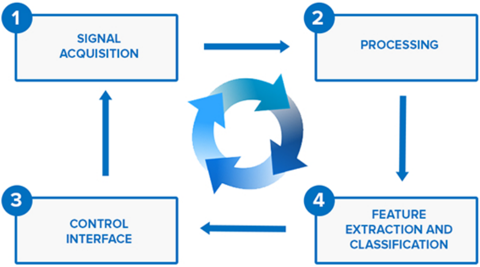
MOTOR-IMAGE



ACQUIRE EEG → **ANALYZE SOFTWARE** → **TRANSLATE CPM / VR**

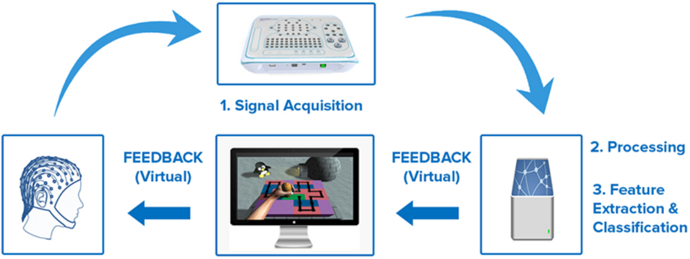
Brain Signals into control commands of output devices

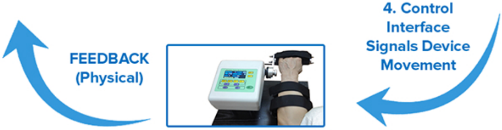
BCI – PRINCIPLE



Most Critical Step
Motion Feature Extraction

Involves the Extraction of certain sports–related features which is Different from other features.



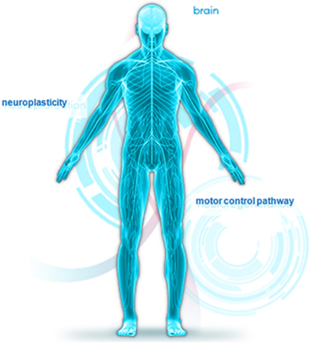


BCI Technology

In order to verify the accuracy of different algorithms, Several BCI annual contests were organized in Germany

- **Understand Brain status through EEG**
- **Can be used with robots, and manual rehab**
- **BCI can help more than 80% stroke patients**

NBETTER



Adds & Synchronizes

Brain Rehab | **Physical Rehab**

Brain Computer Interface

+

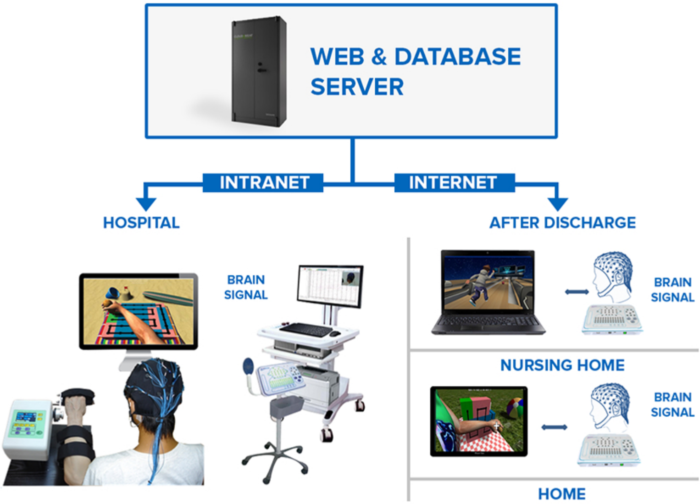
Virtual Reality

Physical Feedback Device

or

Manual Physical Rehab

Advantages Tele – Rehabilitation Set-up



KEY SUMMARY

Easy to Use

Innovative & Customized BCI model

Applicable for Chronic & Sub-Acute Stroke patients

Remote Assessment by Medical Staff Applicable for Tele-Rehabilitation

Improve Efficiency and Task Management

Got a query for Neuro Style Product or Services?

CONNECT WITH US

GET IN TOUCH

NEUROSTYLE
Neurological & Neuromuscular devices

CONTACT US

NEUROSTYLE PTE LTD

63 Hill View Ave, #08-08,
Singapore 669569

(65) 6563-2678

info@neurostyle.biz

QUICK LINKS

- Home
- About
- Products
- Support
- Contact

OUR PRODUCTS

- EEG
- EMG
- Neuro Rehabilitation
- NBETTER Stroke Rehabilitation

OPERATING HOURS

9:00-18:00 SGT

Copyright © 2016 Neuro Style. All rights reserved.