

# Development of Rehabilitation system based on real-time electroencephalogram analysis

**[Researcher]**

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**[Summary]**

Our newly developed method succeeds to analyze the electroencephalogram recorded from user’s scalp in almost real-time and to visualize user’s physical movement or motor imagery based on the information of brain activity. Our goal is to develop successive rehabilitation systems for patients with the stroke, dystonia, and chronic pain using this “**Brain-Machine (Computer) Interface**” technology. The present technology supports the control of assistive devices and the recovery based on neural plasticity.

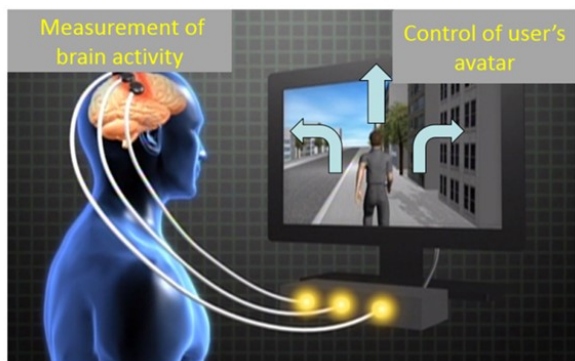


Figure 1 our avatar control-based brain machine interface technology

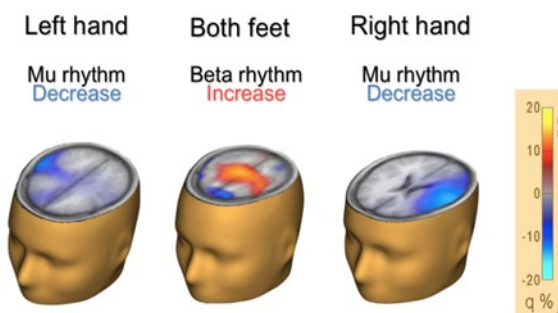


Figure 2 Electroencephalographic changes by 3 types of motor imagery

**[Potential Applications]**

- Rehabilitation, bio-system, welfare system  
→Rehabilitation system, assistive device, and bio-signal measurement equipment.
- Health science  
→Assist for relaxation and meditation
- Gaming and entertainment  
→New type of controller for 3D games

**[Future Development]**

- Finding a partner for collaborative research and development
- Starting joint study
- Applying research grant together

**[Patent]**

1 domestic patent  
Number : 2015-205042  
(Rehabilitation system)

**[Inquiry]**

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