SmartRehab – An AI-Powered Platform to Provide an Accessible and Affordable Home-Rehabilitation Strategy

Principal Investigator:

Prof. Gary K K Lau, Dr. Wilton W T Fok

Technology

Our digital platform makes use of a pose estimation AI algorithm and only requires the built-in RGB camera of a smart device to detect a person's movement. It can provide instant feedback to guide one's exercise training and transfer movement data into a web portal for therapists to monitor remotely. Therapists can also prescribe tailor-made exercises to suit patients' needs on the web portal. Several modules have been developed to encompass different rehabilitation exercises specialized for different types of patients. This platform has been validated against the gold standard of movement detection – Microsoft Kinect which confirmed its reliability and accuracy.
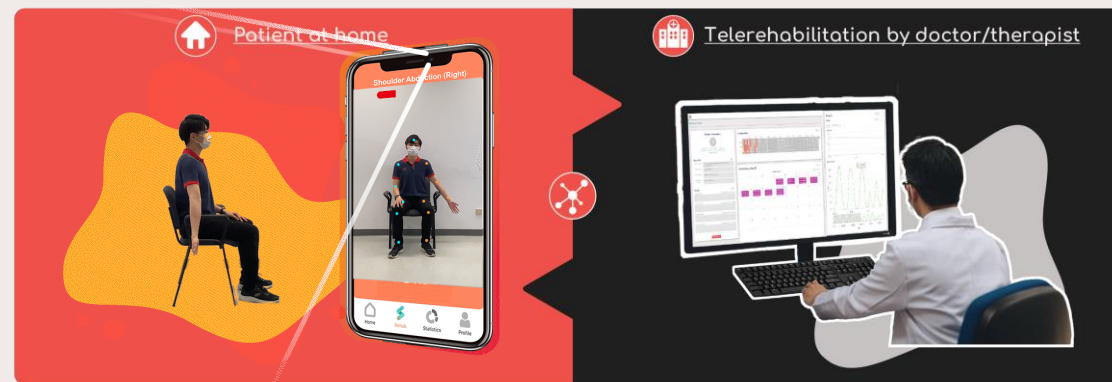
Key Advantages

- The platform only requires a smart device.
- The platform provides instant feedback.
- The interaction with the platform motivates the patients.
- The activity recording enhances patients' compliance.
- Therapists can prescribe individualized training and keep track of patients' progress.
- No videos or pictures are recorded.

Stage of Development

- Additional modules and exercises are actively being developed.

Opportunities

- This platform can ease manpower shortage and allows patients to train themselves every day at home.
- Patients do not have to travel for training.
- The platform can be applied to other neurological or orthopaedic conditions.
- Pairing with Bluetooth sensors enables the application to cardiopulmonary rehabilitation.

Intellectual Property

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Contact

✉ : infottu@hku.hk

HKU Med LKS Faculty of Medicine Technology Transfer Unit 香港大學李嘉誠醫學院技術轉移部

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