

## Documents

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**Web-Based Medical Information System for Stroke Rehabilitation Internet-of-Things (RIOT) Patients: A Prototype (2024) 6th IEEE International Conference on Artificial Intelligence in Engineering and Technology, IICAIET 2024, pp. 326-330.**

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### Abstract

Traditional stroke rehabilitation methods are known to be limited to their accessibility for patients with mobility issues while lacking real-time feedback whereas a modern way as remote rehabilitation seems to be costly for some patients. The downsides of the previous method will eventually execute an impact to the patients' rehabilitation progress. To overcome the issue, as a starting point of this research, the proposed solution is a web-based medical information system that incorporates hand gesture recognition using MediaPipe and RIOT framework. Rehabilitation Internet-of-Things (RIOT) is an IoT system created to aid in remote rehabilitation, specifically targeting stroke survivors in remote areas and healthcare providers specialising in physiotherapy. This system offers a platform for stroke patients to perform rehabilitation exercises with real-time feedback. Additionally, in the making of a proper medical information system using web development technologies, the integration of MediaPipe and RIOT platform development using JavaScript or Python web integration. Moreover, surveys and usability testing were conducted to evaluate its effectiveness. Therefore, an innovative and cost-effective approach was developed to provide stroke rehabilitation by combining real-time feedback, and user-centred design, improving accessibility and effectiveness of stroke rehabilitation. © 2024 IEEE.

### Author Keywords

RIOT; Stroke Rehabilitation; UI/UX Design; Usability Testing Survey; Website Technologies

### Index Keywords

Electrotherapeutics, Medical informatics, Patient rehabilitation, Usability engineering, Web Design; Medical information, Real-time feedback, Rehabilitation internet-of-thing, Rehabilitation methods, Stroke rehabilitation, UI/UX design, Usability testing, Usability testing survey, Web based, Website technology; User centered design

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