

عنوان مقاله:

Modeling and Simulation of an Automated Manifold System for Enhancing Healthcare Services

محل انتشار:

پنجمین کنگره بین المللی مهندسی، تکنولوژی و علوم کاربردی (سال: 1402)

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خلاصه مقاله:

In this paper, we focus on modeling and simulation of a manifold system. The manifold system plays a crucial role in the medical industry as a vital tool for delivering oxygen to patients. By connecting to oxygen generator devices and establishing a primary and backup source of oxygen, this system enables better and more effective healthcare services. The medical industry is rapidly evolving and facing new challenges every day. One of its primary needs is to ensure the timely and quality delivery of healthcare services to patients. Designing and optimizing medical equipment systems is of utmost importance. With the advancement of technology in the medical industry, programming and simulation have gained significance as effective tools for system design. By programming, the system's performance can be simulated under various conditions, allowing the identification of problems and weaknesses before system construction and the implementation of necessary improvements. In this research, modeling and simulation of the hospital manifold system were performed to aid in its optimization. Simulation was carried out in Proteus to replicate real-world behavior, and control algorithms were implemented in CodeVision to manage conditions and inputs. This research demonstrates that proper modeling and control can help improve the performance and efficiency of the manifold system, ultimately leading to the enhancement of healthcare services for patients. The results indicate the model's capability in reproducing real-world conditions and enhancing the performance of the manifold system

کلمات کلیدی:

Manifold System, Programming, Simulation, Automation

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