

PP-20-MTS

"THEATER X" – DESIGNING AN ELECTRONIC SURGICAL THEATRE MANAGEMENT SYSTEM FOR A SRI LANKAN PUBLIC HOSPITAL

Abeyasinghe K^{1}, Abeywardena DGNM¹, Amaratunga SR¹, Amarasinghe AADS¹, Anthonies HA¹, Wimalasundera AR², Wijesiriwardana C³*

¹Faculty of Medicine, University of Moratuwa; ²Department of Anatomy, Faculty of Medicine, University of Moratuwa; ³Department of Information and Technology, Faculty of Information and Technology, University of Moratuwa

**Corresponding author: kheshabey@gmail.com*

Doi: <https://doi.org/10.31705/FOMAAS.2024.30>

Background: A hospital management information system aims to facilitate high-quality patient care. Delays and cancellations of surgical procedures, and poor resource allocation affect the efficiency and productivity of the surgical theatre's functioning. Implementing an electronic surgical theatre management system will improve the efficiency of theatre scheduling, data accuracy, resource allocation, and reduce waiting time and patient outcomes. The electronic surgical theatre management system manages all aspects of a surgical procedure workflow. This research aims to design an electronic surgical theatre management system focusing on theatre scheduling, resource allocation, surgical instrument management, and improved communication.

Methodology: A comprehensive literature review on existing similar systems was performed. The stakeholders were identified in the Teaching Hospital Kalutara, Sri Lanka, and in-depth interviews were done to identify user requirements. Requirement analysis was done using qualitative data analysis. Depending on the data analysis the systems requirement specifications were developed, and user interface mock-up development was done.

Deliverables: User interfaces were designed to consider the non-functional requirements of the system and the functional requirements of the stakeholders: surgical ward doctors, consultant surgeons, consultant anesthetists, administrators, theatre nurses, and staff of ancillary services. Evaluation criteria were developed to collect feedback after demonstrating user interface mock-ups. Stakeholders expressed satisfaction with the system's requirements specifications and user interfaces. Necessary amendments were made based on the feedback.

Conclusion: In conclusion, limitations of the suggested electronic surgical theatre management system were identified, and future development plans were discussed to enhance its efficiency and effectiveness.

Keywords: Surgical theatre management, Patient outcome, Resource management, Hospital information management, stakeholder engagement.