

Scheduled Maintenance: On Tuesday, December 28, IEEE *Xplore* will undergo scheduled maintenance from 7:00-9:00pm ET. During this time, there may be intermittent impact on performance. We apologize for any inconvenience.

Institutional Sign In

All [dropdown] ADVANCED SEARCH

Conferences > 2021 International Conference...

BLE-based Real-time Location System Integration with Hospital Information System to Reduce Patient Waiting Time

Publisher: IEEE Cite This PDF

Mohd Shafarudin Osman ; Azizul Azizan ; Khairul Nizam Hassan ; Hadhrami Ab. Ghani ... All Authors

Need Full-Text
access to IEEE *Xplore* for your organization?
CONTACT IEEE TO SUBSCRIBE >

31 Full Text Views



Alerts

- Manage Content Alerts
- Add to Citation Alerts

More Like This

Hospital queuing-recommendation system based on patient treatment time
2017 International Conference on Intelligent Computing and Control Systems (ICICCS)
Published: 2017

A Parallel Patient Treatment Time Prediction Algorithm and Its Applications in Hospital Queuing-Recommendation in a Big Data Environment
IEEE Access
Published: 2016

Show More

Abstract



Download PDF

Document Sections

I. Introduction

Abstract:Emergency and Trauma department (ETD) in Malaysia's public hospitals receives millions of patients than other clinics due to cheap charges and reliable services, however ... **View more**

II. Literature Review

► Metadata

Abstract: Emergency and Trauma department (ETD) in Malaysia's public hospitals receives millions of patients than other clinics due to cheap charges and reliable services, however most of them are Green Zone non-critical patients. Long waiting time for patient treatment results into congestion and affects the quality of service provided in the ETD. To date only 20 public hospitals in Malaysia implements Hospital Information System (HIS) and patient waiting

V. Discussion on Preliminary

time is captured from the system manually, thus lacking the functionality to track

IEEE websites place cookies on your device to give you the best user experience. By using our websites, you agree to the placement of these cookies. To learn more, read our Privacy Policy

Accept & Close

- Authors
- Figures
- References
- Keywords
- Metrics
- More Like This
- Footnotes

not been conducted yet. This paper examines a Bluetooth Low Energy (BLE) based Real-time Location System (RTLS) implementation in ETD with HIS integration to reduce patient waiting time. We develop a Bluetooth Low Energy (BLE) based RTLS prototype that is integrated with existing HIS at ETD, Hospital Putrajaya and augment data visualization interventions to reduce patient waiting time in ETD. Preliminary results show substantial benefits of patient waiting time reduction leading to improvement of service quality. Our preliminary findings show when RTLS is introduced in the ETD workflow, the mean ATC time was significantly reduced to 10.47% in comparison to HIS without RTLS.

Published in: 2021 International Conference on Electrical, Communication, and Computer Engineering (ICECCE)

Date of Conference: 12-13 June 2021 **INSPEC Accession Number:** 21128875

Date Added to IEEE Xplore: 27 August 2021

DOI: 10.1109/ICECCE52056.2021.9514248

► ISBN Information:

Publisher: IEEE

Conference Location: Kuala Lumpur, Malaysia

☰ Contents

I. Introduction

Emergency and Trauma Department (ETD) is one of the main entrances that operates 24 hours a day to provide treatment for various emergency cases. ETD is categorized into 3 zones, 1) Red Zone for critical cases 2) Yellow Zone for semi-critical cases 3) Green Zone for non-critical cases [1]. ETD in Malaysia public hospital receives more patients than other clinics due to the cheap service charges. Significant and efficient services. For a charge of RM 1, patients have access to all healthcare services in the ETD including consultation, laboratory test, imaging examination and even medical prescription [2]. With an average waiting time of 90 minutes [3], and significant number of waiting patients, patient congestion and overcrowding occurs frequently and affects the quality of services provided in ETD.

Authors	▼
Figures	▼
References	▼
Keywords	▼
Metrics	▼
Footnotes	▼



IEEE
ENGLISH
 for Technical Professionals™
 eLEARNING
 COURSE PROGRAM

> LEARN MORE

IEEE

[CHANGE USERNAME/PASSWORD](#)

[PAYMENT OPTIONS](#)

[COMMUNICATIONS PREFERENCES](#)

[US & CANADA: +1 800 678 4333](#)



[VIEW PURCHASED DOCUMENTS](#)

[PROFESSION AND EDUCATION](#)

[WORLDWIDE: +1 732 981 0060](#)

[TECHNICAL INTERESTS](#)

[CONTACT & SUPPORT](#)

[About IEEE Xplore](#) [Contact Us](#) [Help](#) [Accessibility](#) [Terms of Use](#) [Nondiscrimination Policy](#) [IEEE Ethics Reporting](#) [Sitemap](#) [Privacy & Opting Out of Cookies](#)

IEEE Account

- » [Change Username/Password](#)
- » [Update Address](#)

Purchase Details

- » [Payment Options](#)
- » [Order History](#)
- » [View Purchased Documents](#)

Profile Information

- » [Communications Preferences](#)
- » [Profession and Education](#)
- » [Technical Interests](#)

Need Help?

- » **US & Canada:** +1 800 678 4333
- » **Worldwide:** +1 732 981 0060
- » [Contact & Support](#)

[About IEEE Xplore](#) [Contact Us](#) [Help](#) [Accessibility](#) [Terms of Use](#) [Nondiscrimination Policy](#) [Sitemap](#) [Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.
© Copyright 2021 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.

IEEE websites place cookies on your device to give you the best user experience. By using our websites, you agree to the placement of these cookies. To learn more, read our [Privacy Policy](#).

Accept & Close