Lecture Notes on Data Engineering and Communications Technologies (LNDECT)
Volume 48, 2021, Pages 675–709

Development and Operation Analysis of Spectrum Monitoring Subsystem 2.4–2.5 GHz Range (Book Chapter)

Hu, Z.[a], Buriachok, V.[b], Bogachuk, I.[b], Sokolov, V.[b], Ageyev, D.[c]

[a]Central China Normal University, Wuhan, China
[b]Borys Grinchenko Kyiv University, Kiev, Ukraine
[c]Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

Abstract

The paper presents a substantiation of the effectiveness of IEEE 802.11 wireless network analysis subsystem implementation using miniature spectrum analyzers. Also it was given an overview of firmware work scheme, development process of trial versions, monitoring system development approaches, current development stage, infrastructure for research system, reliability and scan check, our system design and hardware implementation, future work, etc. Paper also provides technical solutions on automation, optimal algorithms searching, errors correcting, organizing software according to the Model-View-Controller scheme, harmonizing data exchange protocols, storing and presenting the obtained results.

Author keywords

Access point, Availability, Dynamic channel allocation, Integrity, Spectrum analyzer

Funding details

Funding sponsor	Funding number	Acronym
Ministry of Education - Singapore	CCNU19TS022	MOE

Funding text

This scientific work was partially supported by RAMECS and self-determined research funds of CCNU from the colleges' primary research and operation of MOE (CCNU19TS022).

About this chapter

https://link.springer.com/chapter/10.1007%2F978-3-030-43070-2_29

ISSN: 2367-4512
Print ISBN: 978-3-030-43069-6
Online ISBN: 978-3-030-43070-2
DOI: 10.1007/978-3-030-43070-2_29
EID: 2-s2.0-85087214225

First Online: 21 June 2020
Original language: English
Source Type: Book Series
Document Type: Book Chapter
Publisher: Springer, Cham