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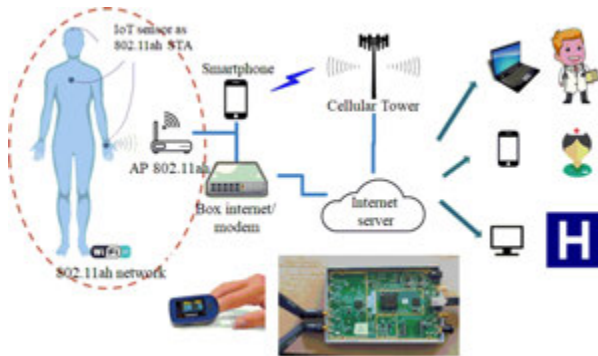
Poster n°93

HIGH SPEED INTERNET OF THINGS BASED NETWORKS FOR HEALTHCARE ENVIRONMENT

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INTERNET OF THINGS SYSTEM FOR HEALTHCARE APPLICATIONS



Collaboration with Institute Technology Bandung ITB @ Indonesia & University Al-Neelain (Karthoum, Sudan)
 Project Hubert Curien Nusantara 2019-2021 & Napata 2021-2022

Objectives

Design, develop, evaluate & implement an IoT healthcare communication prototype:
 → Model for healthcare using monitoring technology across various propagation links combining optical and remote sensing techniques
 → Access to devices provided from anywhere in hospital
 → Increase efficiency of doctors and nurses
 → Facilitate their work by accessing accurate data on patients in real time, as they can care for more patients..

Preliminary Results

- Measurement of patient's vital parameters through sensors & communication network provided by gateway & LiFi Technologies.
- Characterization of multipath reflection as a function of different room dimensions to determine the feasibility of reliable and high speed Wireless communication system for healthcare environments.
- measurement of LiFi RSS & SNR in ideal environment (dark room).

Light Fidelity for Healthcare / Hospital of The Future

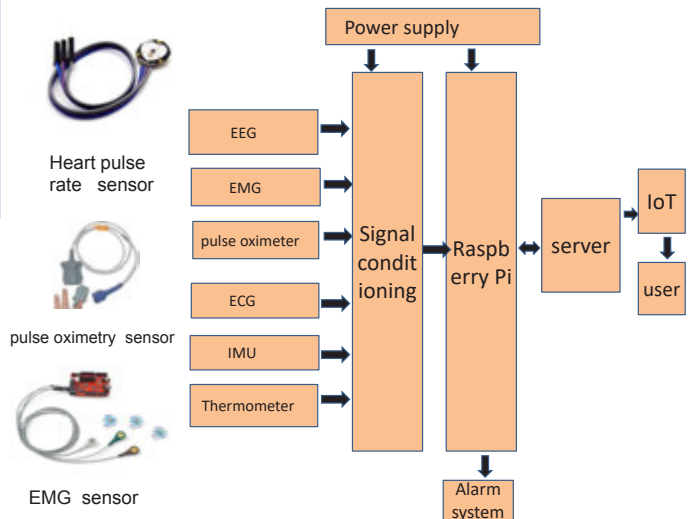


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Introduction

- Access to medical services & Cost savings
 → Main problems in healthcare due to COVID-19
- Huge shortage of specialist doctors or nurses due to poor health care development.
- Concept of Hospital of the future (HoF)
 → Wireless technologies & Sensor networks based on wireless body networks(WBAN) to contribute to helping solve these issues.
- New 802.12.4 standard from IEEE supporting WBAN development.



Technological & Scientific Challenges

- Develop an IoT system that collects data generated from various locations.
- Investigate a simulator allowing to simulate body area networks.
- Develop a 802.12.4 ah protocole for Wireless body area network.
- Develop a power of sensor algorithmes,



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