A Data Parasitizing Scheme for Effective Health Monitoring in Wireless Body Area Networks

ABSTRACT

- In this paper, we propose a scheme to parasitize the data in surrounding Wi-Fi networks whenever temporary disconnection occurs.
- Specifically, we model data parasitizing as an optimization problem, with the objective of maximizing the system lifetime without any data loss.
- Then, we propose an optimal offline algorithm to solve the problem, as well as an online algorithm that allows practical implementations.
- We have also implemented a prototype system, where the online algorithm serves as the underlying technique, based on Arduino.

EXISTING SYSTEM

- Wireless body area networks have emerged recently to provide health monitoring for chronic patients. In a WBAN, the patient's smart phone is deemed an appropriate sink to help forward the sensing data to back-end servers.
- Through a real world case study, we observe that temporary disconnection between sensors and the associated smart phone can happen frequently due to postural changes, causing a significant amount of data to be lost forever.

PROPOSED SYSTEM

- Compared with the longest disconnection time in a daily activity study, our scheme could withstand most temporary disconnections due to postural changes.
- Moreover, the extra overheads, such as energy consumption and Wi-Fi traffic, are justifiable.
- Overall, our experiments show that data parasitizing is practicable, although several issues, as we have discussed, remain to be addressed to carry out this concept as a fully functional system.

HARDWARE REQUIREMENTS

- Processor - Intel core i3
- RAM - 2B
- Hard Disk - 20 GB

SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)

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