A Web-based User-Interface for Internet of Things Device Management

by

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We the undersigned committee hereby approve the attached thesis, “Title: A Web-based User-Interface for Internet of Things Device Management” by Leena Mansour Alghamdi

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Abstract

Title: A Web-based User-Interface for Internet of Things Device Management

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With the growing advances in the Internet of Things (IoT) technology, which combines various devices with distinct functions, capabilities, and communication protocols, it is essential to provide a platform that enables IoT users to interact with their IoT devices directly and be able to manage them effortlessly via that platform from various locations at any time in order to protect their privacy when using IoT devices. In this study, we are aiming to provide a web-based user interface that can address that challenges and provide real-time data control; hence, we have created a user interface prototype, which can demonstrate the concept of IoT manager websites and provide a proof of concept implementation. As the proposed platform is intended to contribute to improving users' perception of the IoT devices. Furthermore, the experimental and survey methods are used in this study to assess the participants' perception of using one platform that combines all of their IoT devices and enables

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them to protect their privacy by managing these devices based on their preferences via the platform. The findings showed the need for creating a platform where users can control various IoT devices remotely. It also indicated that the website prototype is a user-friendly platform, and it could be used easily without any technical experience. Users were able to access information about the connected IoT device as well as control it.

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