A Review on IoT Operating Systems

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 176
Number 24

Year of Publication: 2020

Authors:
Amal Antony, Sarika S.

10.5120/ijca2020920245

Abstract

An IoT development board is a small-form-factor system, complete with microprocessor(s), memory, input/output functions providing the user with all the features of a functional computer. The MCU based smaller variants house limited hardware resources and do not demand an operating system. But the more powerful single board computers require an operating system to efficiently manage its resources and control the hardware. The choice of operating system depends on the microcontroller architecture, on-board memory, software stack used, real-time computing requirements, implementation environment and cost of the system. Operating systems for IoT applications require additional functionalities like network support, power usage monitoring, secondary storage management, multithreading and so on. This paper intends to survey the different IoT operating systems available in the market and studies the various considerations on the selection of OS for IoT development boards.

References


Index Terms

Computer Science    Embedded Systems

Keywords

IoT, operating system, embedded system, smart devices, embedded Linux, open-source, development board