

Building an application with QT (C++) on an embedded Raspberry Pi computer to communicate with peripherals via the USART interface.

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Abstract: In practice, the development of IoT technology and embedded devices has created a high demand for building automation systems. This topic focuses on the process of developing an application using Qt (C++) for Raspberry Pi to provide a USART interface for peripheral connections. The objective of the research is to address the issue of integrating and communicating between embedded devices and peripheral modules via the USART protocol. The applied method includes theoretical research on Qt (C++) and experimental implementation of the application on Raspberry Pi. The expected outcome of this topic will confirm the efficiency and flexibility of this application development system, while also providing an important technical foundation for similar projects.

Keywords: Qt (C++), Raspberry Pi, USART interface, IoT, embedded devices