Abstract

In this thesis, I present a possibility for the firmware upgrade of embedded systems. I explain the motivation for firmware upgrade, what practical benefits does it come with, then I introduce the requirements for the firmware loader software. Based on that I have chosen a software development kit that supports the most of the firmware loader's features, review its properties, and I emphasize its features, which were most helpful during the development. Then I go into details about the PC side software plan of the firmware loader, I unravel its modules, and the function of its modules. After that I start to explain the embedded side software plan of the firmware loader. I differentiate between the modules according to their portability. I show the functions of these modules, and the underlying operations. I present the hardware used for the testing of the firmware loader: an ATmega 128 microcontroller and a Blackfin 537 DSP. Then I show test results. Last, but not least, I summarize the my work, and suggest a few directions of improvement.