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Abstract
The device driver plays an important role in an operating system. It is the communication bridge between the hardware peripheral and the application programs running on computer. Device drivers are very sophisticate to develop, because it depends on knowledge of peripheral device specification as well as the OS. kernel’s details. Because a driver is a program which operates in the kernel of OS, it is very sensitive to the modification/upgrade of an OS. Even dealing with the same peripheral device, it usually can not avoid to redevelop a new version of device driver for a newer version of OS. Therefore, the development of device drivers has become a big problem for many PC peripheral system providers.

In this thesis, we proposed a device driver generator for PC peripherals using USB interface. More specifically, we focus on the USB force feedback devices. Given the necessary parameters for a specific device, the tool can automatic generate a specific device driver, an INF file and a corresponding application program for verification. This tool can release a software engineer from learning the heavy burden of investigating the operating system core and relevant knowledge of the hardware, hence accelerates the development of the driver. In short, it is a very useful synthesis tool for device driver, which can help many hardware peripheral providers to solve their problem.
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