VISVESVARAYA TECNOLOGICAL UNIVERSITY, BELGAUM

A Project report on

USB 2.0 DRIVER DEVELOPMENT FOR MCSBSTR9 EVALUATION BOARD USING ARM9

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in
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ABSTRACT

Universal serial Bus (USB) is a serial bus standard to interface devices. USB was designed to allow peripherals to be connected using a single standardized interface socket, to improve plug and play capabilities by allowing devices to be connected and disconnected without rebooting the computer (Hot Swapping). Other convenient features include, powering low-consumption devices without the need for an external power supply and allowing some devices to be used without requiring individual device drivers. A single USB port can be used to connect up to 127 peripheral devices, by use of USB hubs.

When the device (MCBSTR9 Evaluation Board) is plugged into an active USB host, it gets detected by Host PC. Then the PC starts Enumeration process. During enumeration, the host requests a number of data structures, or descriptors, from the device. These descriptors contain information about the number and type of communication channels, or endpoints, that the USB device desires to use, as well as information about any device class. Enumeration occurs on the default endpoint, which is endpoint 0, also known as the control endpoint. The host also assigns a unique 7-bit address to the device, directing communications to a particular device.

After the successful detection of the Device by PC, in order to check the two way communication between the PC and the device an LED application is performed. The next advancement in ubiquitous technology is Super Speed USB (USB 3.0) that will deliver over targeted 10x the speed of today's Hi-Speed USB connections. Wireless is the new wireless extension to USB that combines the speed and security of wired technology with the ease-of-use of wireless technology.