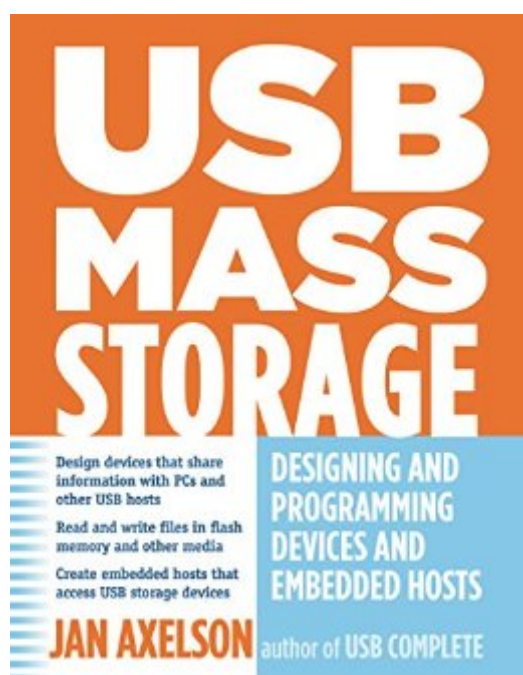# USB Mass Storage: Designing And Programming Devices And Embedded Hosts

Synopsis

This developer's guide for designers and programmers of mass-storage devices that use the Universal Serial Bus (USB) interface provides developers with information on how to choose storage media, interface the media to a microcontroller or other CPU, and write device firmware to access the media and perform USB communications. Comparisons of popular storage-media options to help users choose a media type for a project are included, and the types describedÂ cover hard drives and flash-memory cards such as the MultiMediaCard (MMC), Secure Digital (SD) card, and CompactFlash card.Â Helpful tips on developing an embedded host that can access USB mass-storage devices are also covered.

Book Information

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Customer Reviews

This is a very well done book on a very topical subject. USB mass storage has gotten so inexpensive that its use in dedicated embedded systems has become almost a given. And here is one book that talks about all aspects of putting such a system together.The book basically covers three subjects:First there is a general discussion of mass storage in general. This includes hard

drives which may be the most economical for your application, and it includes various types of flash memory devices.Second the book covers the hardware interface down to the level of giving a sample circuit.Finally there is a description of the software that will be needed to get the devices to operate. This goes from the simple structure of the commands down to the definition of file systems.In short, here is a complete guide to USB Mass Storage in one, fairly small, book. This is all the engineer/programmer needs. Ms. Axelson has written a number of books on USB in general and clearly knows whereof she speaks.

This book covers two areas of computer technology: creating USB based mass storage systems, using either rotating (disk) media or flash storage. It offers guidance and examples for each of these with a focus on the special requirements and limits of embedded hosts that access USB storage devices.A design engineer who's task it is to design a USB based memory subsytem has options. He or she can contact various device manufacturers, request data sheets, and demo or development boards. This step will be needed. Next is to prototype several such devices, to create software drivers, and to debug the hardware and software. One could "google" for sources, and start there, or... One could purchase Jan's book and get a head start with both hardware selection AND with software driver development.

This book is well written, offers plenty of details and provides good direction for developing mass storage related devices. It exposes the magnitude of information one must learn to make a working product and is a great first start. The accompanying website [...] is also very helpful.This book is an excellent attempt at addressing a technically complex subject. As long as you don't expect the book to hand you a complete solution, you won't be disappointed. The material can only be thoroughly understood by applying it. Many of the examples can be implemented with the development board from Microchip, which is very affordable.

Provided a good explanation of what had been confusing for me about how different systems wrap code. For example, a file system "wrapping" the SCSI commands for reading/writing mass storage which in turn are wrapped in USB package wrappers for transmission and execution through USB link. Why some mass storage systems do (Flash Drive) or do not (SD drive) need USB wrappers.Best book I have read which brings it all together.

Nice initial approach. Concepts are also well explained but it ends by there.Most of the references

and samples are very dependent to to a single environment (using Microchip IC).This made me stop reading it. I was expecting a broad point of view, so to speak, something to apply to any embedded.I was going to buy the complete series, but fortunately I just bought this one, and i won't buy the others.I'll keep searching to see if there is something better.So, I you don't have any idea of USB storage, and you've worked only with Pic/Dspic, etc. ... It's the right for you.If you don't have any idea of USB storage, and you can work with any embedded environment, kind of it's ok.If you have mid or plus, knowledge of USB and you are expecting nice techinques or methods using general examples. Well, humm.. no. Go look for something else.

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