

INFORMATION PORTAL

A Digital Library Science, Mathematics,
Engineering and Technology Education

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Add

Help

www.smete.org

We envision the Information Portal as a gateway to digital resources, collections and user services for Science, Mathematics, Engineering and Technology Education (SMETE). The Information Portal is more than a digital library, we envision it as a *digital learning space* serving a broad community of learners from these disciplines, including K-12, higher education and life long learners. The Information Portal will support the development, use, re-use and evaluation of a broad variety of digital learning objects, ranging from Java applets to CD-ROMs to web pages. Many of the services of the Information Portal will provide community-based support to help users evaluate whether they should adopt or adapt a particular digital learning object.

The Information Portal builds upon our previous work on NEEDS —The National Engineering Education Delivery System, a digital library for engineering education. Since 1994, NEEDS has provided the engineering education community with a World Wide Web based interface for easy access to a number of services supporting technology enabled learning. Our experiences with a wide variety of university partners, technologies and content provide us with a strong background to help us identify how to best use this national resource, who will be its target audience, what types of resources can be made available and how best to describe and use these resources.

"A digital library has to be more than just content—it means developing a group of users. The users, depending on their expertise will want [different] support services."

— Digital Library User

Info

"Tabs" allow convenient access to the features available for each digital learning object. The Info tab provides standard information describing the learning object and allows easy access to other services including Download and Comments & Reviews.

Download

Users may download or link to learning objects in the digital library. The Download tab describes the available platforms, minimum hardware and software requirements and may provide installation notes.

Comments & Reviews

The Comments & Reviews tab connects users to a community-based feedback and support mechanism for each learning object. Users can contribute their experiences with using the learning object or attach related resources, such as a related website, a homework or lab assignment using the learning object or describe other pedagogical practices they used with the learning object.

The screenshot shows a web interface for a digital learning object. At the top, there are navigation tabs: Info, Download, Pedagogy, Comments & Reviews, Add Comment, and Details. The main content area is titled "The Virtual Disk Drive Design Studio" and includes a "Premier Courseware of 1997" badge, a "DL" icon, and icons for Download, Pedagogy, and Comments & Reviews. Below the icons, the following information is displayed:

- Title:** The Virtual Disk Drive Design Studio
- Authors:** David Y. Yu, Alice M. Agogino
- Publisher:** University of California at Berkeley (03/1997)
- Courseware Series:** Multimedia Case Studies of Design in Industry
- Version:** 1.0b5
- Summary:** The Multimedia Virtual Disk Drive Design Studio is an engineering design case study using interactive multimedia courseware for undergraduate engineering and science students. The purpose of this multimedia case is to introduce students to the world of mechatronics in the form of a disk drive. Students play the role of a project engineer for the ACME disk drive company and will have to mine out the necessary information from a multimedia archive in order to build a new disk drive model. Students will have to keep track of the development and production costs. They will also be asked to launch their new disk drives in a certain time frame, simulating the idea of time-to-market. This interactive disk drive case study is ideally complemented by hands-on mechanical dissection of an actual disk drive.

At the bottom, there is a paragraph of text: "This entire project is put together using Macromedia Director. This cross-platform software will allow us to distribute CD-ROMs to a wide spectrum of students around the country with 24 CD-ROM drives. The author is currently collaborating with Western Digital Corporation and IBM Almaden Research Center in San Jose. Western Digital Corp. provided the mathematical model for performance calculations while IBM has contributed in the form of technical literature and expert opinions."

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