Proposal to

Upgrade the Department Classroom
for
Computer Derived Multimedia Presentation

submitted to

Texaco's LSU Liaison Team

submitted by

Department of Petroleum Engineering
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Summary

The petroleum engineering department is assigned a permanent lecture room. The lecture room is the focal point for petroleum engineering faculty and students and should measure up to our departmental standards of quality and excellence in instruction. To accomplish this goal, the lecture room will have to be refurbished with modern and state-of-the-art audio visual multimedia equipment.

Current Setup

The department places a high priority on undergraduate and graduate classroom instruction content and delivery. The Petroleum Engineering Department is assigned a permanent lecture room in the CEBA building. This room is used for the teaching of undergraduate and graduate courses. The room is also used for presentations of Master's theses, Ph.D. dissertations, visiting professor lectures, and SPE functions.

The room seats forty students, Fig. 1. The room seating is on a multi-tiered platform giving each student a good view, Fig. 2. The room is equipped with an audio-visual system and a computer hookup. The current equipment has the following shortcomings:

* Monitor and keyboard cannot be easily adjusted to allow speaker to view audience, keyboard, monitor, & audience.
* 486 SX system does not have a math co-processor, cannot run simulation applications in "real time"
* Current system has about 200 MB of hard drive space, because of limited disk space a wide variety of presentation applications cannot be loaded
* Current system has only a few MB of RAM, Windows and graphical applications run at a below par speed
* The computer can be accessed only in the classroom, set-up and maintenance cannot be done during classes
* Awkward to use system for training students and personnel for network applications because there is no network support

*   Difficult to transfer large presentation files to computer because the only means of file transfer is a 3½" floppy disk; recently students developed a presentation which required 30 MB of disk space

*   Screen-update is slow for large graphics because disk access is slow

*   Multi-media applications are not supported because system does not have a CD-ROM or Sound Card

*   There is no system designated for students to develop multi-media presentations
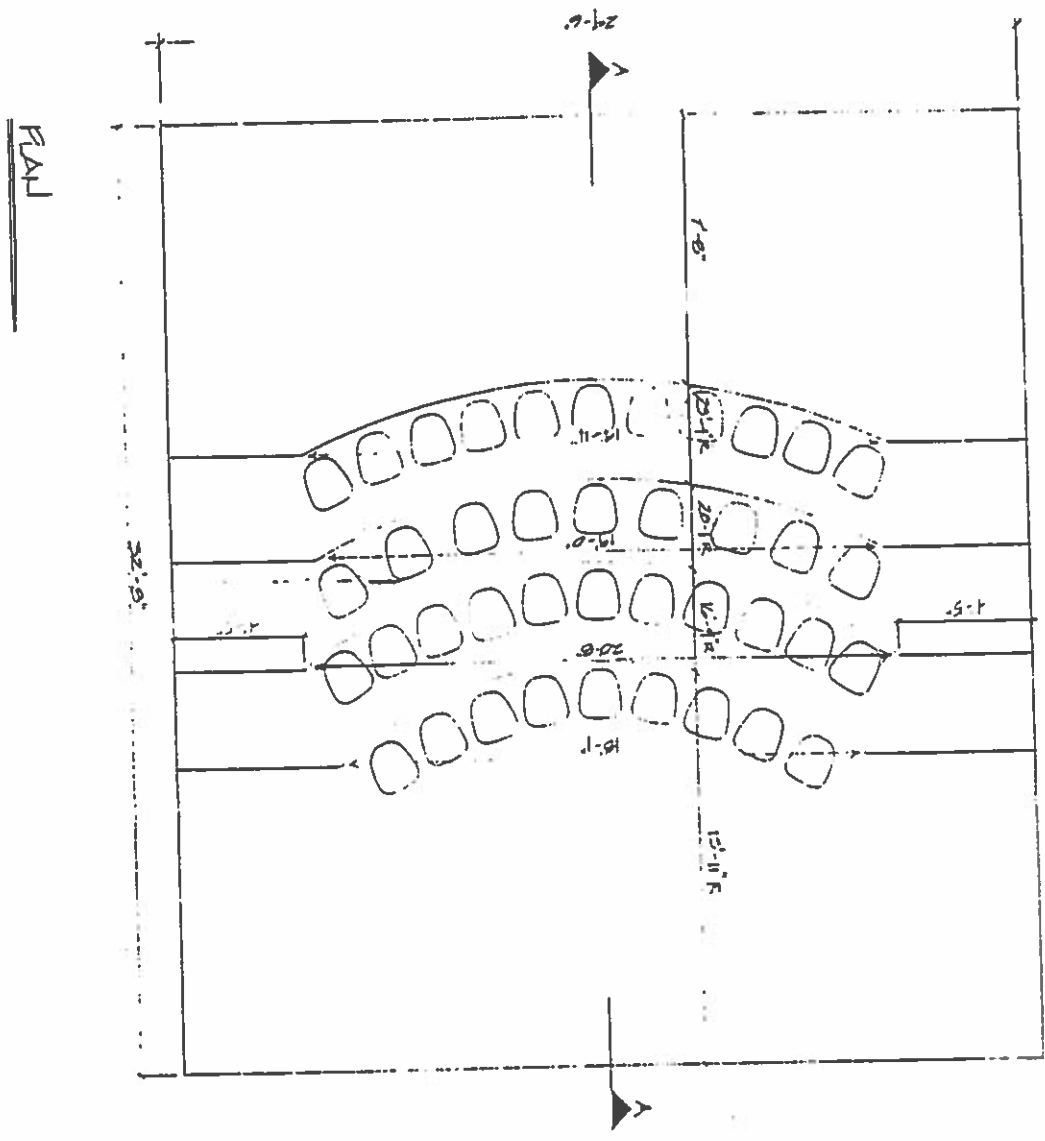
Proposed Set-up

The quality of instruction can be dramatically enhanced by installing the presentation system illustrated in Figures 3 and 4. The function and estimated price of the major components are listed in Table 1.

The advantages of the new system are:

*   System will be accessible via network for large file transfers & maintenance

*   System will be accessible during classes so the computer could be used to setup and develop presentations during working hours

*   CD-ROM will allow presentations with Photo CD's, new process where normal film is processed into images on CD-Disks

*   True multi-media presentations will be possible, including video capture and sound

*   Faster screen update because of PCI Bus, SCSI Hard drive, SCSI CD-ROM, and 32 MB of RAM

*   All preferences in applications can be supported because of 1.7 gig hard drive

*   Network training easy because of network access, even full access to the Internet

*   Organized storage for tapes and supplies

*. VCR is moved to front of room for easy control by speaker

*   Video capture ability could eliminate need for transparencies

*   Monitor and keyboard positions are more flexible, speaker can face audience and control computer

*   Remote mouse allows speaker to draw directly on the screen, real time, like an electronic chalk board

*   Any PC-based simulation package could be run with this system, real time

Table 1

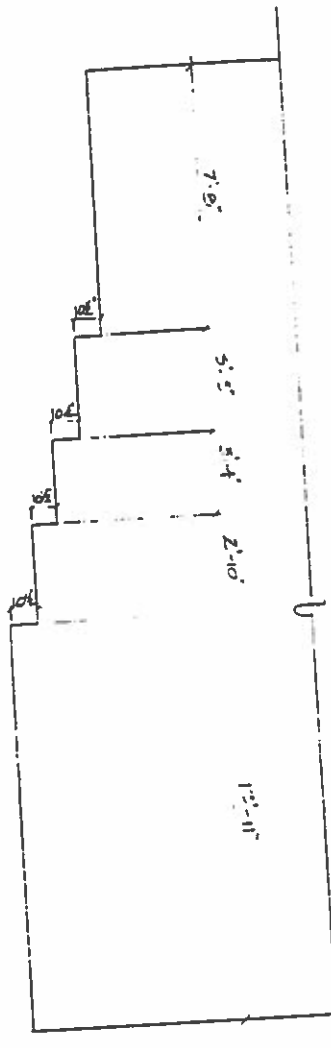## Function and Price of Major Components of the
Multimedia Presentation System

Item Description	Estimate Price	Function and Remarks
90 mhz PENTIUM PCI TW 32 mb: 2 pci, 1 pci/isa, 4 isa SLOTS, 32 mb ram, MIN 256 k cache, Full Size Tower w/13 Drive Bays, 1.44 MB Floppy Dirve, Windows 3.11, DOS 6.22	$2,918	Fast CPU and BUS with lots of memory to run graphically intensive applications
1690 MB, 8 ms, SCSI Hard Drive	$1,185	Large, fast Hard Drive to allow many users their preference of applications, also needed to store large graphics files
17" 1280x1024 IDEK SVGA Monitor	$ 769	For shooting slides from Monitor
2 MB ATI Graphics Pro PCI Video Accelerator Card	$ 380	Allows Fast Screen Update
Quad Speed, 220 µs CD-ROM	$ 475	Needed for multimedia presentations, and to take advantage of photo to CD processing
HP II cx Color Flatbed Scanner	$ 979	Needed to digitize images
Video Camera & Accessories	$1,000	Create Video Images
Limittimer System	$ 717	Conference Style Lecture timer
Audience Signal Light	$ 818	Conference Style Lecture timer
3200 Lumen Overhead Wide Angle Projector	$ 500	This projector will create a bight wide image with the projector very close to the screen
Remote Mouse 1-pixel resolution	$ 300	Remote mouse will allow lecturer to point and draw on the screen by aiming a wireless pointing device at the screen
LCD Panel	$2,749	All purpose projector
HP DeskJet 1200C color printer	$1,559	Provision for printing color transparencies and class handouts
TOTAL:	$14,349	

Figure 1. Petroleum Engineering Classroom Seating Capacity

SECTION

A

7'-0"

10"

5'-5"

10"

3'-4"

10"

2'-0"

10"

12'-11"

Figure 2. Petroleum Engineering Classroom Multi-Tiered Platform

586 Multi Media Computer
Accesable without disurbing Class

Esprit Projector
Accepts Video or
Computer Signals

Ethernet & Token Ring Cables

Terminal for Presentation Control
(Slave to 586)

Room 2427

Rock Mech Lab

Figure 3. Setup of Proposed Presentation System

Keyboard, Mouse, & Monitor for Presentation Control (Mounted on movable & rotatable arm)

Existing Cabinets

Video Camera

Book or Object

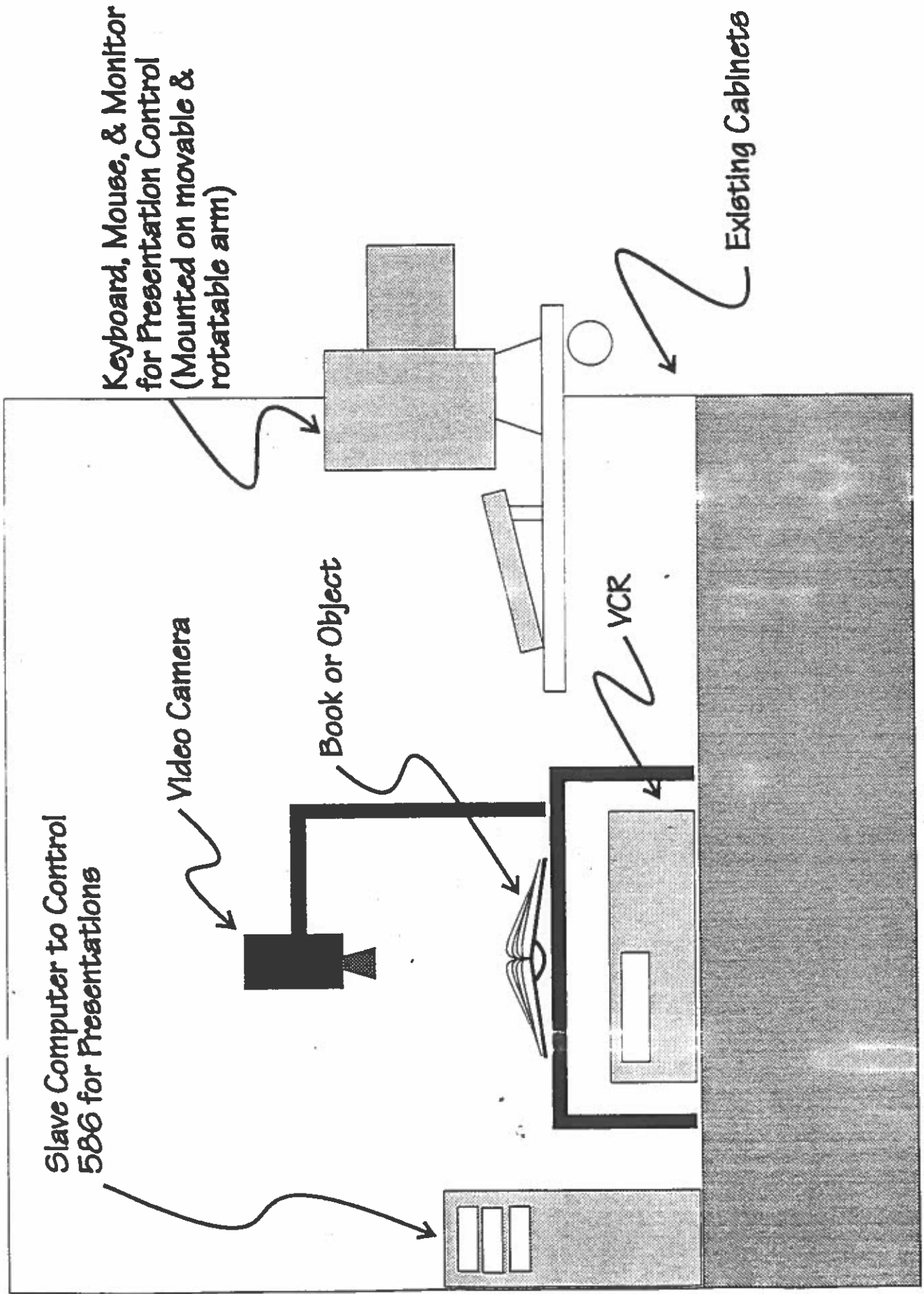Slave Computer to Control 586 for Presentations

VCR

Figure 4. Components of Speaker's Proposed Presentation Center

View of Current Room Setup