

PANEL ON “MULTIMEDIA EDUCATION”

ACM Multimedia 2007
ACM EMME Workshop



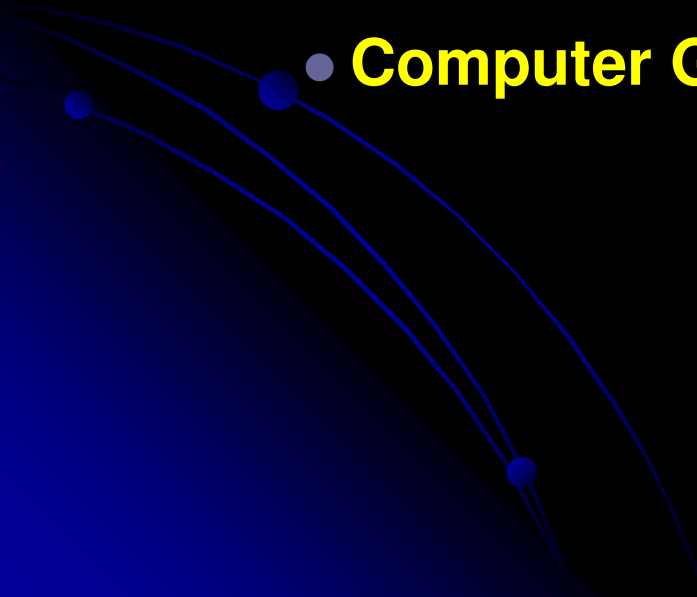
Status of MM Education

- **The 2005 Computing Curricula (by ACM/IEEE Computer Society)**
 - Computer Science
 - Computer Engineering
 - Software Engineering
 - Information Systems
 - Information Technology

Status of MM Education

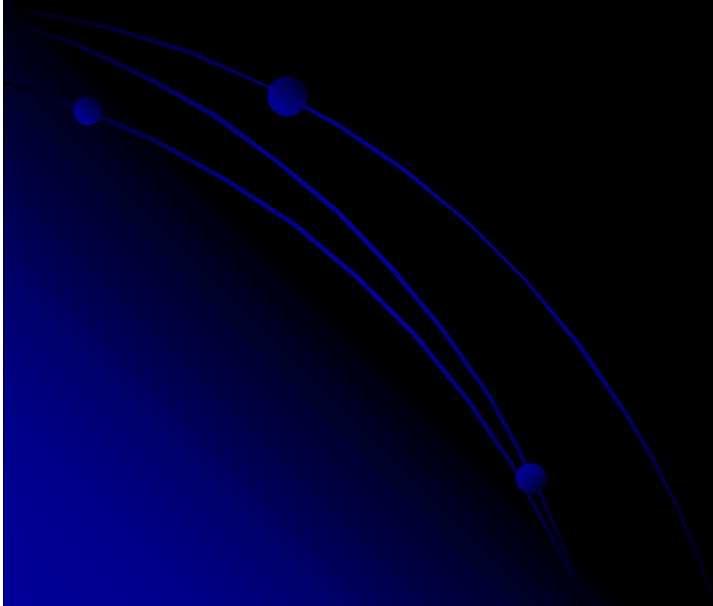
- **Core Knowledge of Computer Science**
 - Net-Centric Computing -- **Multimedia Data Technologies**
 - Human-Computer Interaction -- **HCI Aspects of Multimedia Systems**
 - Information Management -- **Multimedia Information and Systems**
 - **Advanced Courses**
 - **Multimedia Systems Development (in HCI)**
 - **Multimedia Information Systems (in IM)**
 - **Distributed Multimedia (in Architecture)**

Status of MM Education

- Core Knowledge of Computer Engineering
 - Human-Computer Interaction -- **Multimedia Systems**
 - Elective Courses
 - **Multimedia Systems and Algorithms**
 - **Computer Graphics and Multimedia**
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Status of MM Education

- Core Knowledge of **Software Engineering**
 - Systems and Application Specialties --
Multimedia, game and entertainment systems



Status of MM Education

- **Multimedia Courses in Asia (China)**
 - **Tsinghua University**
 - Technologies of Multimedia Computing
 - Multimedia Computer Technologies
 - Foundation of Multimedia Technologies and Applications
 - **Shanghai Jiao Tong University**
 - Technologies and Applications of Multimedia
 - Technologies of Multimedia
 - Principals of Multimedia Technologies
 - **Fudan University**
 - Computer Network and Multimedia

Status of MM Education

- Multimedia Courses in Asia (Japan and Korea)
 - University of Tokyo
 - Digital Media
 - Waseda University
 - Multimedia Processing
 - Seoul National University
 - Landscape Architecture and Multimedia (not in CS)
 - Yonsei National University
 - Multimedia
 - Korea University
 - Media Processing

Status of MM Education

- Multimedia Courses in Asia (Taiwan)
 - National Taiwan University
 - Multimedia Information Analysis and Retrieval
 - Multimedia Security
 - National Tsing Hua University
 - Multimedia Communication
 - **Multimedia Technologies and Applications (Timothy K. Shih)**
 - National Cheng Kung University
 - Multimedia Communication
 - Special Topics in Multimedia Communication
 - Multimedia Database
 - Tamkang University
 - **Multimedia Information Networking (Timothy K. Shih)**

Importance of MM for General CS Education

- **Concepts** and **usages** of MM technologies can be taught in introductory/programming courses
- **Elective courses** toward a stand alone discipline
- Constant **changing** of course contents
 - e.g., **Ubiquitous Multimedia Computing**
 - e.g., **Video Game Technology**

Learning Material for MM

- Textbook: Z.-N. Li and M.S. Drew, "Fundamentals of Multimedia", Prentice-Hall, 2003.
 - **Powerpoint** presentations
 - Programming exercises and solutions
 - Sample exams and solutions
 - Website for a sample course: Multimedia System
 - **Tools and demos**
 - Additional references

MM Learning Material for MM

- In my lectures, I use
 - Image, audio, and Video
 - Demo Programs
 - Powerpoint slides
- Combine the above as an e-learning courseware
- For research, I focus on **Multimedia Technologies for e-Learning**
 - E-Learning on **Interactive TV**
 - E-learning on **Mobile Devices**
 - E-learning on **Hardcopy Textbook**
 - E-learning on **PC**

Consequences/Suggestions

- The need of **reusable** and **exchangeable** e-learning courseware
 - E-Learning de facto standard – SCORM
 - Federated Repository – CORDRA
 - New Raising e-Learning Specification – Common Cartridge
- The need of standard course outlines
 - **Basic Multimedia Technologies**
 - **Elective Courses** (changing topics)

Consequences/Suggestions

- The need of Multimedia Discipline
 - Define **core technologies**
 - Video Communication, Image Compression, etc.
 - What are the **related areas**
 - Instructional Design, Game Design, Advertisement, Entertainment
 - **What are the job opportunities**
- What should we do?