Chapter - 7

Introduction to Multimedia

Definition:

Multimedia is media and content that uses a combination of different content forms. Multimedia includes a combination of text, audio, still images, animation, video, and interactivity content forms.

Multimedia is usually recorded and played, displayed or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance.

Multimedia also describes electronic media devices used to store and experience multimedia content. The term "rich media" is synonymous for interactive multimedia. Hypermedia can be considered one particular multimedia application.

Application of Multimedia:

Multimedia finds its application in various areas including advertisements, art, education, entertainment, engineering, medicine, mathematics, business, scientific research and spatial/temporal applications. Several examples are as follows:

1. **Creative Industries:**

Creative industries use multimedia for a variety of purposes ranging from fine arts, to entertainment, to commercial art, to journalism, to media and software services provided for any of the industries listed below. An individual multimedia designer may cover the spectrum throughout their career.

Much of the electronic old and new media used by commercial artists is multimedia. Exciting presentations are used to grab and keep attention in advertising. Business to business, and interoffice communications are often developed by creative services firms for advanced multimedia presentations beyond simple slide shows to sell ideas or liven-up training. Commercial multimedia developers may be hired to design for governmental services and nonprofit applications as well.

2. **Entertainment And Fine Arts:**

In addition, multimedia is heavily used in the entertainment industry, especially to develop special effects in movies and animations. Multimedia games are a popular pastime and are software programs available either as CD-ROMs or online. Some video games also use multimedia features. Multimedia applications that allow users to actively participate instead of just sitting by as passive recipients of information are called Interactive Multimedia. In Arts there are multimedia artists, whose minds are able to blend techniques using different media that in some way incorporates interaction with the viewer... Another approach entails the creation of multimedia that can be displayed in a traditional fine arts arena, such as an art gallery. Although multimedia display

material may be volatile, the survivability of the content is as strong as any traditional media. Digital recording material may be just as durable and infinitely reproducible with perfect copies every time.

3. Education:

In Education, multimedia is used to produce computer-based training courses (popularly called CBTs) and reference books like encyclopedia and almanacs. A CBT lets the user go through a series of presentations, text about a particular topic, and associated illustrations in various information formats. Edutainment is an informal term used to describe combining education with entertainment, especially multimedia entertainment.

Learning theory in the past decade has expanded dramatically because of the introduction of multimedia. Several lines of research have evolved (e.g. Cognitive load, Multimedia learning, and the list goes on). The possibilities for learning and instruction are nearly endless.

The idea of media convergence is also becoming a major factor in education, particularly higher education. Defined as separate technologies such as voice (and telephony features), data (and productivity applications) and video that now share resources and interact with each other, synergistically creating new efficiencies, media convergence is rapidly changing the curriculum in universities all over the world. Likewise, it is changing the availability, or lack thereof, of jobs requiring this savvy technological skill.

Newspaper companies all over are also trying to embrace the new phenomenon by implementing its practices in their work. While some have been slow to come around, other major newspapers like The New York Times, USA Today and The Washington Post are setting the precedent for the positioning of the newspaper industry in a globalized world.

4. Engineering:

Software engineers may use multimedia in Computer Simulations for anything from entertainment to training such as military or industrial training. Multimedia for software interfaces are often done as collaboration between creative professionals and software engineers.

5. Industry:

In the Industrial sector, multimedia is used as a way to help present information to shareholders, superiors and coworkers. Multimedia is also helpful for providing employee training, advertising and selling products all over the world via virtually unlimited web-based technology

6. Mathematical and Scientific Research:

In mathematical and scientific research, multimedia is mainly used for modeling and simulation. For example, a scientist can look at a molecular model of a particular substance and manipulate it to arrive at a new substance.

7. **Medicine:**

In Medicine, doctors can get trained by looking at a virtual surgery or they can simulate how the human body is affected by diseases spread by viruses and bacteria and then develop techniques to prevent it.

8. **Document Imaging:**

Document imaging is a technique that takes hard copy of an image/document and converts it into a digital format (for example, scanners).

Multimedia Team:

It is a typical team of experts for developing multimedia or it can be taken as a group of people who designs interface, scans and processes images, produces video or writes the script for a final delivery of a multimedia project.

1. **Project Manager:**

A project manager's role is at the center of the action, who is responsible for the overall development and implementation of a project as well as for day-to-day operations. Project manager budgets the project, creates schedules, manages creative sessions, regulates time sheets, invoices the project and cooperates for the team work.

A project manager has two major areas of responsibility: Design and Management. Design consists of creating a vision of the product, working out for the complete functionality with the design team and then creating the final product and adjusting it as necessary throughout the development of the product. The management side consists of scheduling and assigning tasks, running meetings, and managing the milestones that must be reached under the stipulated time. A good project manager must completely understand the strength and limitations of hardware and software so that he/she can make good decisions about what to do and what not.

2. **Multimedia Designer:**

A multimedia designer looks at the overall content of a project, creates a structure for the content, determines the design elements required to support that structure and decides which media are appropriate for presenting the pieces of content. In short, a multimedia designer prepares a blueprint for the entire project: content, media and interaction.

A multimedia designer is responsible to create a pleasing and aesthetic look in the multimedia project with appealing mix of color, shape and type. The project should maintain visual consistency and navigational clues like links should be clear and simple.

- Instructional Designer are specialists in education or training and make sure that the subject matter is clear and properly presented for the intended audience.
- Information Designer create structure content, determine user pathways and feedback, and select presentation media based on an awareness of the strengths of the many separate media that makes up the multimedia.

A multimedia designer should have following skills:

- ***Analysis and Presentations Skills:***
  - For analyzing structural content, matching with presentation methods
  - For viewing information from different points of view and should be able to shift views whenever required
- ***Interpersonal Skills:***
  - For interacting with team members, clients, and other experts
- ***Technological and Human Skills:***

3. Interface Designer:

An interface provides control to the people who use it and provides access to the media part (text, images, graphics, animation, and audio/video) of multimedia. An interface designer enables user to move within the multimedia project with simplicity, and also to use the backgrounds, icons and control panels of the multimedia project. The role of an interface designer is to create a software that organizes the multimedia content, lets the user to access or modify that content and presents the content on the screen. Any interface essentially has three areas: information design, interactive design and media design. A good interface designer creates a product that rewards exploration and encourages its use.

4. Writer:

Multimedia writes creates character, action, point of view and also creates interactivity. They are responsible for writing proposals, script voice-overs, and actor's narration. They write test screens to deliver messages and they develop characters designed for an interactive environment. Writers of text screens are also called content writers and they collect information from content experts, synthesize it and communicate it in a clear and concise manner. On the other hand, script writers write dialog, narration and voice-overs.

5. Video Specialist:

A video specialist shoots and edits all the video footage, transfers the video to a computer, and prepares a complete video file for efficient delivery on CD/DVD or Web. A video specialist still needs an entire team of videographers, sound technicians, lighting designers, set designers, script supervisor, production assistants and actors.

The workflow of a successful video project starts with good video and sound material. Post production includes mixing, adding titles, creating graphics and special effects.

6. Audio Specialist:

An audio specialist make a multimedia project come alive by designing and producing music, voice-over narrations, and sound effects. They receive help from composers, audio engineers and recording technicians. They are also responsible for locating and selecting suitable music, scheduling recording sessions, digitizing and editing recorded materials into computer files.

7. **Multimedia Programmer:**

Also known as a software engineer, a multimedia programmer, integrates all the multimedia elements of a project into final product using an authoring system or programming language. Multimedia programming functions range from coding simple display of multimedia elements to controlling devices like CD or DVD players and managing complex timings, transitions and record keeping.

8. **The Sum of Parts:**

Successful multimedia projects begin with the selection of team players and selection is the beginning of a team building process that continues throughout the project. Team Building refers to the activities that help a group and the members work at the highest levels of performance by creating a working culture. Encouragement to communication and decision making models should be developed that directly respect individual talent, expertise and personalities.