

**Lecture one: Introduction to Multimedia I**

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**Objectives:**

**At the end of the lecture students will be able to:**

- Define Multimedia.
- Define Multimedia system.
- List the Elements of Multimedia.
- Recognize Benefits of Multimedia
- enumerate the different applications of multimedia.
- Classify Multimedia forms.
- Describe the different stages of multimedia software development.

## Introduction

Multimedia has become an inevitable part of any presentation. It has found a variety of applications from entertainment to education. The evolution of the internet has also increased the demand for multimedia content.

## Definition

**Multimedia is the integration of multiple forms of media.**

**Multimedia:** involves the computer-controlled integration of text, graphics, still and moving images, animation, sounds and any other medium where every type of information can be represented, stored, transmitted, and processed digitally.

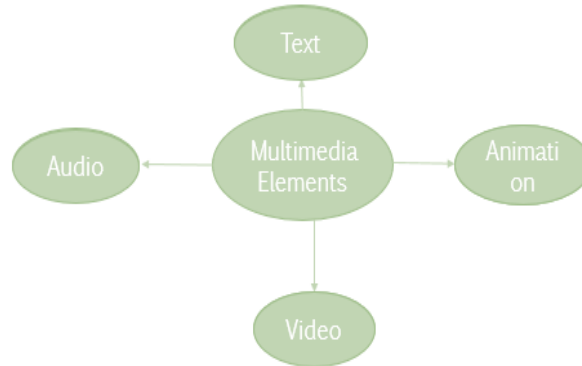
**Multimedia** is the media that uses multiple forms of information content and information processing (e.g. text, audio, graphics, animation, video, interactivity) to inform or entertain the user. Multimedia also refers to the use of electronic media to store and experience multimedia content. Multimedia is similar to traditional mixed media in fine art, but with a broader scope. The term "rich media" is synonymous for interactive multimedia.

**Multimedia System:** is a system capable of processing multimedia data and applications.

**Multimedia System** is characterized by the processing, storage, generation, and manipulation of Multimedia information Multimedia information.

## Elements of Multimedia System

Multimedia means that computer information can be represented through audio, graphics, image, video and animation in addition to traditional media (text and graphics). Hypermedia can be considered as one type of particular multimedia application.



### Elements of Multimedia System

#### Advantages of Multimedia

1. it enhances effective presentations.
2. it is an effective and flexible communication tool.
3. it is conducive to cooperative work environment.
4. it facilitates high retention rate, hence high recall of knowledge content.
5. its supports large audience.
6. it encourages participatory learning through interactivity.
7. it stimulates audience or learners' interest in the subject.
8. it is easy to use, learn and understand.

#### Categories of Multimedia

Based on how multimedia programs are used, multimedia can be divided into two forms:

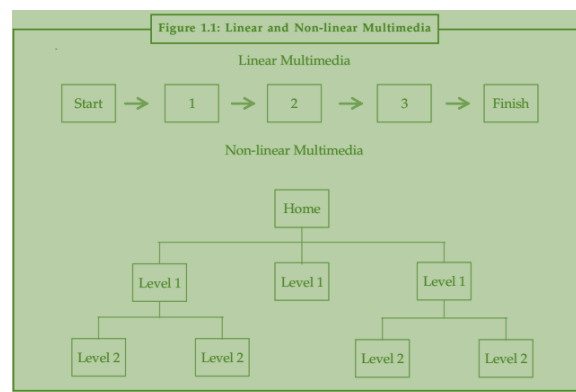
1. linear multimedia
2. non-linear multimedia.

1. **Linear multimedia**, information is read or viewed in a continuous **sequence**. Usually, these presentations begin at a predetermined starting point and end at a predetermined endpoint. They can be automated so that each screen comes after a fixed time interval.

**Example: A PowerPoint presentation is one of the most common examples of linear multimedia.**

2. **Non-linear multimedia** information is **not presented in a sequential or chronological manner**. Non-linear multimedia programs are usually interactive and require audience interaction.

**Example: One of the most common examples of this form of multimedia is the Web.**



**Linear and Non-Linear Multimedia**

### Applications of Multimedia

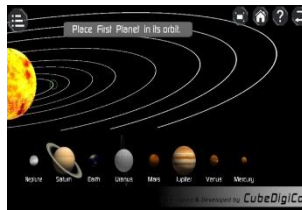
Multimedia can be used in a variety of ways in myriad fields. A multimedia presentation can be put together in varied formats. Some of the most common applications are given below:

**Business:** Multimedia is used for advertising and selling products on the Internet.

**Research and Medicine:** Multimedia is increasingly used in research in the fields of science, medicine and mathematics. It is mostly used for modelling and simulation.

**Entertainment:** Multimedia is used to create special effects in films, TV serials, radio shows, games and animations.

**Education:** Multimedia is used as a source of information in the field of education. Pupils can research various topics such as solar systems or information technology using different multimedia presentations. To make teaching more interesting and fun for pupils, teachers can make multimedia presentations of chapters. Visual images, animation, diagrams, etc., have more effect on pupils.



**Multimedia in Public Places:** In railway stations, hotels, museums, grocery stores and shopping malls multimedia will become available at stand-alone terminals to provide information and help.

**Virtual Reality (VR):** the use of a computer to create an artificial environment that appears and feels like a real environment and allows you to explore a space and manipulate the environment.



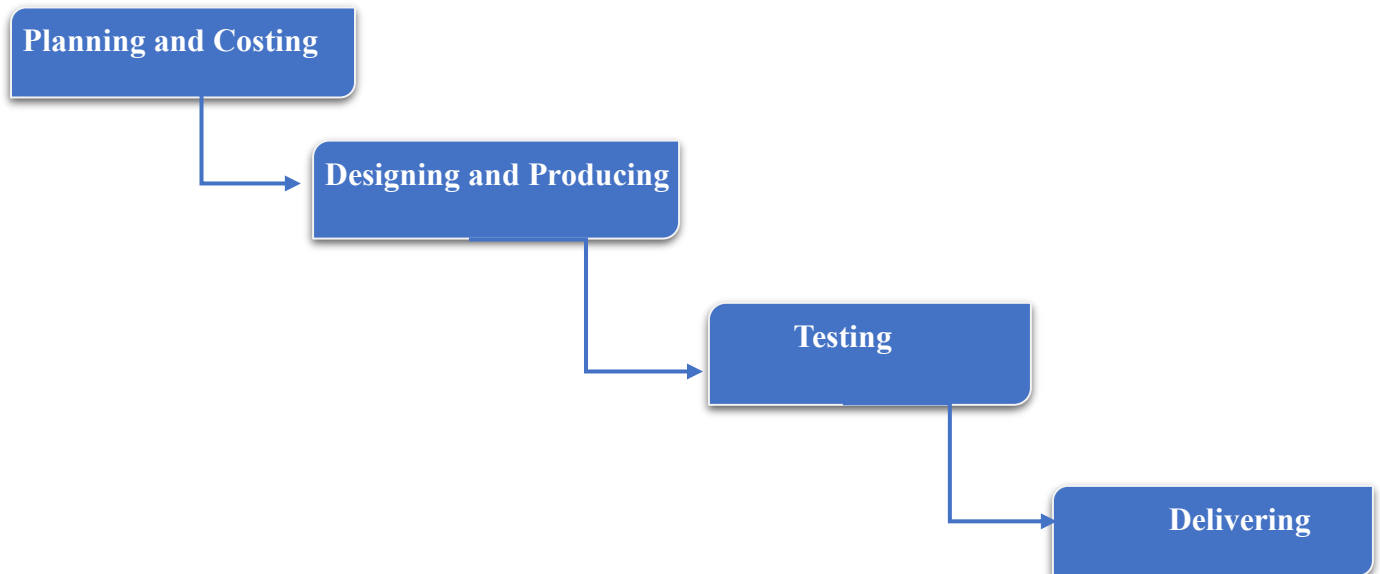
**Kiosks:** a computerized information or reference center that allows you to select various options to browse through or find specific information (usually uses a touch screen). E.g., Target's gift registry, Information centers at malls, hospitals, museums, airports etc.



## Stages of Multimedia Application Development

A Multimedia application is developed in stages as all other software is being developed. In multimedia application development, a few stages have to be completed before other stages begin, and some stages may be skipped or combined with other stages. Following are the four basic stages of multimedia project development:

1. **Planning and Costing:** This stage of multimedia application is the first stage which begins with an idea or need. This idea can be further refined by outlining its messages and objectives. Before starting to develop the multimedia project, it is necessary to plan what writing skills, graphic art, music, video and other multimedia expertise will be required. It is also necessary to estimate the time needed to prepare all elements of multimedia and prepare a budget accordingly. After preparing a budget, a prototype or proof of concept can be developed.
2. **Designing and Producing:** The next stage is to execute each of the planned tasks and create a finished product.
3. **Testing:** Testing a project ensures the product is free from bugs. Apart from bug elimination, another aspect of testing is to ensure that the multimedia application meets the objectives of the project. It is also necessary to test whether the multimedia project works properly on the intended delivery platforms, and they meet the needs of the clients.
4. **Delivering:** The final stage of the multimedia application development is to pack the project and deliver the completed project to the end user. This stage has several steps such as implementation, maintenance, shipping and marketing the product.



### Stages of Multimedia Application Development

#### Activity:

Choose one project from the following:

- design poster
- design cover book
- design logo
- design flash card
- design brochure and apply the stages of multimedia project development.

## References

Li, Z. N., Drew, M. S., & Liu, J. (2004). *Fundamentals of multimedia* (pp. 253-265). Upper Saddle River (NJ):: Pearson Prentice Hall.