

USE OF MULTIMEDIA AND TOOLS IN ICT FOR SUSTAINABLE DEVELOPMENT.

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Abstract

The use of ICT (Information Communication Technology) in every era is the need of our today's modern variable world. Day by day technologies change. Industries become paperless and manpower less due to the invention of modern machineries and equipment. In such a scenario Information Communication Technology plays an important role to sustain and develop the system. Also information and communication technologies are useful to gather various latest information from resources using different multimedia tools and become communication very strong, informative and effective. E.g. one can send files or documents from one place to another via digital technology and tools. Due to this growth increases very rapidly with short time. We can collect and use the information globally. In short ICT is very useful in every field now a days due to its effective tools. Using Multimedia and tools using it in ICT we can sustain for better development in current advance and competitive world. This paper is focussed on what is ICT, Multimedia tools and its applications and how it is useful for sustainable development.

Keywords: *ICT, Sustain, technology, Multimedia*

1 Introduction

Information and Communication Technologies (ICT)

Information Communication Technology is the wide term for Information Technology which includes all the communication technologies. These technologies include Internet, Computer Software, middleware, Video Conferencing, wireless network, cell phones and social networking. Information technology also contains other applications like media applications which provide the services of accessing and retrieving the information, store, transmit and manipulate in a digital form.

2 What is Sustainable Development?

Sustainable development is broadly defined as: 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'. The drive for economic growth has resulted in problems such as environmental degradation and social disparities. Sustainable development prescribes for a more balanced approach to growth that progresses development across three underlying pillars: social inclusion, environmental sustainability and economic prosperity.[1]

Sustainable Development Goals (SDG)

- To promote the kind of development which reduces the environmental issues.
- To meet the desires of the existing generation without compromising with the exceptional of the surroundings for future generations.

Sustainable development can be achieved by following the above things-

- It may be carried out via limiting human activities.
 - Technological development should be input effective and not enter utilizing.
 - Therate of consumption ought to now not surpass the charge of salvation.
 - For renewable resources, the price of intake must now not surpass the price of production of renewable substitutes.
 - All kinds of pollution have to be minimised.
 - it can be finished by way of realistic use of natural resources.

3 Multimedia

Multimedia is a method of disseminating information or entertainment that incorporates a variety of communication methods. Multimedia is the use of computer to present and combine text, graphics, audio and video with links and tools that let the user navigate, interact, create and communicate.

ICT stands for Information and communication technology that refers to communications -based technologies that offer access to information. It's comparable to information technology but more focussed on communication Technology. This technology includes Internet, cell phones, wireless network and other forms of information. [2]

Components of multimedia

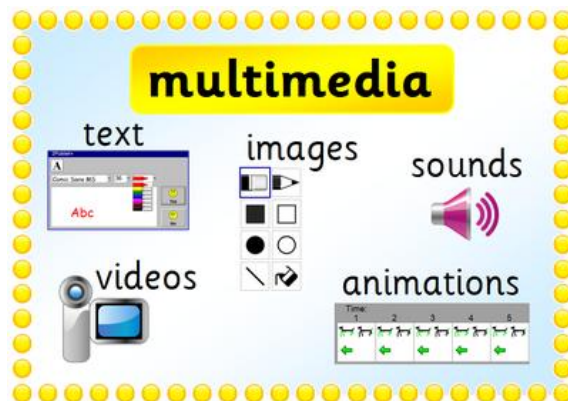


Figure 1: Multimedia Components [3]

- Graphics-Graphic is a two-dimensional figure or illusion. It could be produced manually(by drawing, painting, carving, etc) or by computer graphics technology. Graphics is used in Multimedia to show more clarity what a particular information is all about(diagrams, pictures).
- Audio:- Produced by Vibration ,as perceived by the sense of hearing. In Multimedia ,audio could come in the form of speech, sound effects and also music score.
- Video – Video is more towards photo realistic image sequence/live recording as in comparison to animation. Video also takes a lot of storage space .So plan carefully before you are going to use it.
- Animation- Animation is the technology of capturing, recording, processing, transmitting and reconstructing moving pictures.
- Text:- Text is the basic information represent element in Multimedia application that contains alphanumeric and special characters. There are different encoding text formats like ASCII (American Standard Code for International Exchange),BCD(Binary coded decimal) and EBCDIC(Extended Binary Coded Decimal Interchange Code).

The text for a multimedia title can be created by entering and formatting text in the authoring program.

• Types of Multimedia:-

1.Linear multimedia:- Project that are not interactive is called linear multimedia.E.gPoerpoint Presentation.

2. Non linear multimedia:-

Projects where users are given Navigation Control called non linear multimedia and interactive. E,g Online quizzes.

• Benefits

The benefits of Multimedia in 21st Century :-

Inthis era the development of information and communication technology ofDigital multimedia dominated various aspects of life.

Use of Multimedia helps-

- Deeper Understanding
- Improved problem solving
- Increased positive Emotions
- Access to a vast variety of information
- World exploration [4]

ICT used for-

- AI(Artificial Intelligence)
- Learning techniques.
- Entertainment
- Access to information.
- Globalization.

Importance of Multimedia and ICT in 21st century

It takes advantage of the brain's ability to make connections between verbal and visual representation of content, leading to deeper understanding, which in turn supports the transfer of learning to other situations.

It helps students in preparing for a future where higher-level thinking, problem solving and collaboration skills will be required.

Multimedia Tools

Multimedia presentation topic will help students to conceptualize the ideas of real world by integrating the theories in the practical application of real world situations.

Multimedia Tools:

- Multimedia application enabling software
- System software support for multimedia
- Hypermedia
- Performance measurement tools for multimedia
- Multimedia authoring tools
- System hardware support for multimedia
- Multimedia databases and retrieval
- Web tools and applications [5]

• Applications of Multimedia

Following are the area where Multimedia is used.

a. **Multimedia in Business:-**Multimedia can be u has opened the door for information of global work groups. Today the team members may be working anywhere and can work for various companies. Thus the work place will become global. The multimedia network should support the following facilities:

- Voice mail,
- Email
- ,Multimedia based Fax
- Office needs
- Employee Training.
- Sales and other type of group presentation
- Records Management [6]

Multimedia devices such as mobile phones, laptops etc plays an important role to grow business. Millions of online websites(form of Multimedia) are available on internet to reach end user and grow business. More and more companies are taking an advantages of world wide web to increase sales of their products. Today multimedia is very important to promote any time of business easily and effectively.

b. **Multimedia in Marketing and advertising:-**Using multimedia, anyone can sell their product anywhere in the world on internet. By placing advertisement in magazines and newspaper business can be increased effectively. Powerpoint presentation (Multimedia) is also an effective way to give details of their product. On the Internet millions of people watches videos, so we can share our product with them within seconds. Multimedia is effective and cheapest way to grab an attention of the visitors and share information about various product easily. Advertising industry uses multimedia for marketing various products.

- c. **Multimedia in Bank:-**Multimedia communication enhances global interaction and cooperation and redefines the relationship between customer and bank. In the multimedia marketplace, banks can build incipient distribution modes for financial information and accommodations that exploit the latest Internet technologies and information brokerage mechanisms.[7]
- d. **Multimedia in Education:-**Information technology and Multimedia Technology are closely related and support each other.
1. In teaching-learning field-
It helps the students to develop higher order thinking skills.
It provides easy access and fast delivery of tutorials. Course material, test and quizzes to users.
With the help of multimedia, students can learn at home without any personal instructor or teacher.
It also saves the time of writing.
ICT has enhanced distance learning in the 21st century. Successful implementation of ICT to lead change is more about influencing and empowering teachers and supporting them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipments.
Learners language experience will be enhanced by Information communication technology and multimedia which will assist them in writing more easily.
It helps the communication to be better and easy to understand and use it.
It improves the general public understanding of computers through enhancing education, entertainment and etc.
ICT widens the access of the delivery of education and information to people.
Multimedia improves the online content making useful to people.
- e. **Multimedia in Hospitals:-** Multimedia is used in hospitals for real time monitoring of conditions of patients in critical illness or accident. The conditions are displayed continuously on a computer screen and can alert the doctor/nurse on duty if any changes are observed on the screen. Extensively use multimedia presentations in training their junior staff of doctors and nurses. Multimedia displays are now extensively used during critical surgeries.
- f. **Multimedia Pedagogues:-**Pedagogues are useful teaching aids only if they stimulate and motivate students. The audio -visual support to a pedagogue can actually help in doing so. A multimedia tutor can provide multiple numbers of challenges to the students to stimulate his interest in a topic. The instruction provided by pedagogue have moved beyond providing only button level control to intelligent
- g. **Use of Multimedia in Entertainment field-**The utilizations of multimedia is more often used in the entertainment industry which is mainly utilized in creating movies, short films, 2D animations, 3D animations and VFX.
Multimedia games are the verbalize of the town these days which can be accessed online with good internet connection.
This modern multimedia is utilized in video games which needs heavy graphics, sound, and videos for better performance and better viewing. The presence of multimedia in the games gets a genuine life feeling when playing them, and engenders more excitements and thriller.
In some movies nowadays the multimedia are habituated to their full potential to engender a supernatural occurrence that should look akin to natural one.
Examples : Avatar, Equity league, Bahubali, etc.
- h. **Multimedia in Journalism:**
The evolution of multimedia has coerced other traditional media to evolve and transmute with the time afore some year's newspaper and magazine used to allow only text and low quality images in their publications.
But as the days are passing by the industry of mass communication and journalism is kened to be a highly competitive industry as the market and reach of their domain has incremented ecumenical.

Now this market is competing with the online advertising and news portal consequently they have made indispensable changes to their publication so that they can survive and give a tuff time to their counterparts.

It has been visually examined that majority of the publications hire graphic designer and multimedia designer in their team for the enhancement of their agency and to sanction users to engage more with their content which looks more utilizer amicable after the integration of multimedia.

i. **Multimedia in medicine:-** The development in the healthcare and medicine industry has brought many delectating changes to the industry.

Multimedia application are utilized by medical professionals, medicos, nurses and even patients to check their status and consummate medical and treatment records which are published on these applications. These applications are habituated to view consummate records and make changes accordingly additionally to review and enhanced the treatment given to patients.

These applications are withal subsidiary in maintaining the consummate records of patient's treatment and diagnosis. They are withal auxiliary in training incipient joining and works in rehabilitations. [8] Also The use of Multimedia is in medical field is increased very rapidly. This is used by doctors to get trained by simply watching a surgery being done on a virtual platform. Simulation technology is used to develop human anatomy and study how it gets affected by different illnesses and then accordingly develop medicines and other remedial measures. Furthermore, the other applications of multimedia in medicine allow patients to consult a doctor online to get medical intervention and treatment for their sickness. Nowadays doctors are makes their website and take patients appointments on it.

j. In E commerce:-Using pictures, colourful text we can upload any product with their various angles. We can upload features .One can compare two product using multimedia .Some animation or picture can use for better marketing. Some videos of clothes are uploaded on any site so that customer can see actual look and colour. We can create our website creative using text, pictures, videos and graphics so that customer can attract.

These are some applications but multimedia is used everywhere.

Communication Technologies and Multimedia services:-

The advancement of high computing abilities, communication ways and relevant standards has started the beginning of an era where you will be provided with multimedia facilities at home.

These services may include:-

- Basic television services
- Interactive entertainment
- Digital Audio
- Video on demand
- Home shopping
- Financial Transactions
- Interactive multiplayer or single player games
- Digital Multimedia Libraries
- Newspaper, E-magazines.[8]

There are various apps which are used everywhere. Some of them are-

1. Biomatrix

4 Conclusions

Use of Multimedia is very useful and essential in today's modern digital world. It is the bridge between information giver and information taker for better communication. You can efficaciously present your views, your conceptions or your project utilizing multimedia in ICT. Instead of only text or written format audio video predicated presentation is always understandable and efficacious.

Due to its advanced features and implements, multimedia is utilized in every era for information communication technology which promotes the magnification and amendment of business and ultimately increases economic system. Day by day incipient implements and features are integrated which increases the value of Information communication system through which we can communicate efficaciously. Multimedia plays a paramount role in Information communication technology and propagates day by day. It sustains the digital technology in every era and for better amelioration and ultimately increases the world economy. Multimedia is the effective communication key for sustainable development.

5 References

1. <https://www.monash.edu/>
2. <https://cdn5.mindmeister.com/>
3. <https://simonhaughton.typepad.com>
4. <https://www.nuiteq.com/>
5. <https://www.springer.com/journal/11042/aim>
6. <https://egyankosh.ac.in/>
7. <https://www.chtips.com/>
8. Multimedia and Tools-International Journal **Editor-in-Chief** Borko Furht **Publishing model** Hybrid (Transformative Journal).
9. Mrs. A. Pavithra, Mr. M. Aathilingam, Mr. S. Murukanantha Prakash , Multimedia and its applications (2018), International Journal for Research & Development in Technology , Volume-10, Issue-5 (Nov-18) ISSN (O) 2349-3585