

# FUNDAMENTAL OF E-CONTENT

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## ABSTRACT

*As number of electronic devices increased rapidly, the information available through them is very desirable and accessible. The information or content available electronically is known as E-content. As large number of users are connected electronically, the information required and available electronically is enormous. Due to advantages provided by E-contents like accessibility, repeatability and intangibility, E-content is a growing sector in the field of Information and Communication. For the purpose of electronically content development, dedicated software are required for targeted users. As the number of users and information is mountainous, a worldwide legal organization is also required. The purpose of this paper to introduce some of the fundamentals of E-contents.*

**Keyword:** - E-content, Information and Communication, OER

## 1 INTRODUCTION

With tremendous growth in Information and Communication Technologies (ICT) the education system has changed. Integrating education with ICT is very essential task to provide better knowledge and skills. The greatest challenge in this task is lack of quality in E-content. To obtain digitization in education system it is crucial that better e-content is provided to learner. The evolution of internet has effected every aspect of society. Due to World Wide Web (WWW) information sharing has become very easy. The greatest challenge of this transaction is to provide better quality of E-content.

### 1.1 E-CONTENT

Internet provides wide variety of information, among them plenty of information can be used for the educational purposes. The nature of this material is varied depending upon the restrictions provided by the source. Some of them are available freely and modified by number of experts and student depending upon their knowledge and experiences, while some of the contents can be obtained with minimum restrictions especially for the educational purpose. [1] The quality of this contents must be examined and checked properly at the time of teaching, as some of this information can be easily altered by any user. Oxford dictionary provide definition of E-content which states that 'e-content is the digital text and images designed to display on web pages'. Students and teachers are increasingly using accessing information online to support their learning and teaching. Now a days, the trend is of "blended learning" [2][3]

### 1.2 E-content Standards

As a large amount of information and users are engaged in this particular subject, special standards and rules are developed which abide every developer and user. According to the definition of standards provided by International Organization for Standardization (ISO) these standards and rules must be documented by experts containing every small technical details. These standards also abide the end user and provide proper guideline and also ensure the proper quality of materials, products, documents, processes, services etc. for specified purpose. The most common two standards which should be followed in this subject are:

Share-able Content Object Reference Model (SCORM): It is a powerful tool. Content can be created and used in many different systems.[4][5]

Institute of Electrical and Electronics Engineers (IEEE) IMS Standards: This enables high quality accessible and affordable learning experiences. This standard is mainly used today in schools, colleges, universities, government institutions etc.[6]

### 1.3 E-content Tools

For accessing contents available in this particular method must be properly developed and easily available to the person who has negligible technical knowledge[7]. E-content can be created in a variety of ways by using variety of tools and software. The development of E-content combines Content Management System (CMS) and Learning Management System (LMS). Different class of software are used for E-content development which are listed below. Depending upon the software class the accessibility of the content also varies. Though software class and quality of content is two independent matter, but in most of the cases one can easily relate them.

**Freeware:** It can be used without any monetary charges. In this source code is not provided. This tool can be passed on to any one free of cost. This is the most common method for the E-content development and used for mass portion of users.

**Open Source Software (OSS):** In this class of software the code of the software and software available to the public, i.e. all the users. It is licensed with an open source license. The developer and owner of the content provides the rights of the software code for free of cost to anyone for any specifies reason.

**Proprietary software:** This type of software is owned by an individual or a company. It will have major restrictions on its use and its source code usually kept secret. These are exclusive property of their developers and can't be copied or distributed without complying with their licensing agreements.

**Public domain software:** The copy right holder donates it to the public. It is available free of cost to every one and it can be used by any one for any purpose and only with very minimal restrictions. Most of the government document or contents targeted for the civilians are provided through this type of software class.

## 2 GRAPHICS, AUDIO AND VIDEO-CREATING AND EDITING

As primary use of the E-content is educational, graphics based contents can serve its purpose very effectively. For this purpose several audio, video and graphic creators and editors available online. Among them some are free and some are proprietary. Some of them are listed below.

- Wevideo is a video creator and editor which allows us to edit and make video in an easy and intuitive way on this cloud-based app. It allows you to control the video sections easily in areas like the transition, fast and slow motion, adding effects etc.
- Magisto is a video editor that can help you make your video in just a few steps. Upload the video, than you can choose one of the premade editing styles, add a sound track, add a title and the video will be ready for download or for sharing on the social media.
- DrawPad is a Graphics editor and an easy-to-use image composition and manipulation program for all types of graphic design projects.
- WavePad is an audio editing software. When editing audio files, you can cut, copy and paste parts of recordings, and then add effects like echo, amplification and noise reduction.
- VideoPad is a powerful and easy-to-use video editor that lets you import videos, add music and effects, then burn to DVD. More than 50 visual and transition effects are available to add a professional touch to your video. You create videos for DVD, HD, YouTube etc
- Authoring Tools are software packages which can be used to create and modify web content for the targeted users. Authoring tool or author-ware is a programme that helps to write hypertext or use multimedia applications. Authoring tools allow authors or e-content developers to integrate or use any array of media to create professional, engaging and interactive e-content. The main advantage of authoring tools is their easier and faster use. These authoring tools have some common features which are listed below.

### 2.1 Scope for interactivity

- Navigation-ability to move throughout the content based on the content menu.

- Editing -e-content developers can make changes or update the material easily.
- Preview or play back -it is possible to preview or play back the material.
- Cross platform and cross browser inter offer-ability - it is possible to run on all platforms and different browsers.
- eXe Learning can generate interactive content and it allows one to create easily navigable web pages including text, images, interactive activities, image galleries or multimedia clips. All the educational material generated with eXe Learning can be transferred to different digital formats.
- Xerte is a free and open source authoring tool which provides a full suite of open source tools for e-Learning developers and content authors producing interactive learning materials.
- Adobe Captivate is proprietary software. It is a rapid responsive authoring tool that is used for creating e-learning contents such as software demonstrations, software simulations, branched scenarios, and randomized quizzes in Small Web Formats (.swf) and HTML5 formats.
- Adobe Author-ware (previously known as Macromedia Author ware) was an interpreted, flowchart-based, graphical programming language. Author ware is used for creating interactive programs that can integrate a range of multimedia content, particularly electronic educational technology (also called e-learning) applications.

### 3 OPEN EDUCATIONAL RESOURCES (OER)

According to UNESCO Open educational resources are "teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions." Based on these definitions we can say that OERs are openly licensed digital teaching, learning and research materials that are available in the public domain or under an open license and can be used, re-used and re-purposed for teaching, learning and research. OER movement led to the origin of Massive Open and Online Courses (MOOC). Importance of Open Educational Resources (OER) are listed below.[8][9]

- OERs are useful in improving education across the globe.
- They offer free access to some of the world's best courses.
- OERs allow us to bring the excellent teaching learning materials in to our education system
- They offer equal access to knowledge and re-usability.
- They provide self-paced learning.
- They offer flexibility in study time i. e. any where and any time the learner can study.
- Provide access to huge amount of study materials.
- Help in enhancement of content knowledge.
- Accessible and affordable for all.
- OERs are adaptable and allow others to reproduce them for their use.
- Help in advancing knowledge and widening participation.
- Help in one's own professional advancement.
- Promote life long learning.
- Bridge the gap among formal, informal and non-formal education.
- Offers for sharing and reusing resources.
- OER promote informal learning.

### 4 CREATIVE COMMON LICENSING





To manage such large number of users and information an organization was required for the legal and many other purposed. Creative commons (CC) is a global nonprofit organization which provides free legal tools i.e. Copy right licenses. These copy right licenses enable sharing and reuse of creativity and knowledge. It is for rights holders who wish to put their work into the public domain before the expiration of copy right. Advantages of using Creative Commons License are as follows.[10]

- They are easily understood and commonly used.

- It is easy for others to find a CC licensed resource on the Web.
- They have Legal code, Commons code and Digital code.

All Creative Commons Licenses are constructed from a combination of four specific “rights” or conditions that can be reserved by the creator or author of the resource.

**Table – 1**

<b>Rights or Conditions</b>	<b>Symbol</b>	<b>Explanation</b>
Attribution(BY)		Licensees may copy, distribute, display and perform the work and make derivative works based on it only if they give the author the credits in the manner specified by these.
Share-alike(SA)		Licensees may distribute derivative works only under a license identical to the license that governs the original work.
Non-commercial (NC)		Licensees may copy, distribute, display, and perform the work and make derivative works based on it only for non-commercial purposes.
No Derivative Works (ND)		Licensees may copy, distribute, display and perform only verbatim copies of the work, not derivative works based on it.

## 5 CONCLUSION

E-content can play very vital role in the case of education field, as the information is available electronically. Therefore the accessibility and usability of this information increase dramatically. Different type of software class are discussed here to create E-content for specific or all users. In the case of education, graphically representation plays very effective role, so information available in audio/video format is very desirable. Different type of software to create such content also introduced. The document edit softwares are also discussed. For the proper legal maintenance a Creative Common Licensing is also introduced for the legal purposes and advantages of it also listed. So, E-content can be used in innumerable fields and by using proper software and licensing tools it can create a proper knowledgeable world.

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