Deveopment of Multimeadia CD-ROM Based Courseware

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Introduction

Compact Disks (CDs) have revolutionized the educational field with their surprisingly realistic sound and animation. Since their introduction, CDs have become affordable and widely available, CD-ROMs would be good for storing database, documents, directories, and other archival information that would not need to be altered. Now the articles, photographs, and even advertisements are available in CD-ROMs. The encyclopedias, atlases and references are also available in CD-ROMs. CD-ROMs can be used as electronic catalogs. It is hugely successful medium for entertainment and games. They are available to help learners raise their scores on the academic examinations. Edutainment software are also available in CD-ROMs consists of programmes that look like games but actually teach, in a way that feels like fun. Academic libraries have also adopted CD-ROM data base containing full-text of reference works and journal articles. . .

Multimedia CD-ROMs can store a very large amount of text, pictures, audio and video materials. They are extensively used for education and training in schools, business and at home. Multimedia CD-ROMs allow one to proceed at one's own pace. They bring presentations alive with sound, movies and interactivity. They are not just an interesting technological improvement but, they have evolved into a full-fledged mass medium of their own, on the way to becoming as important as books and   films.

CD-ROM Based Courseware

CD-ROM is an abbreviation for 'Compact Disc Read-Only Memory" and a nonvolatile optical data storage medium using the same physical format as audio

compact discs, readable by a computer with a CD-ROM drive. CD-ROMs are flat, plastic disc with digital information encoded on it in a spiral from the center to the limit, the outside edge. CDs can either be burned or pressed. Small amounts are burned, larger amounts pressed. The standard CD-ROM can hold approximately 650 megabytes of data, although new technology now allows larger capacities. CD-ROM is popular for distribution of large databases, software and especially multimedia applications. The most common data format on CD holds 650 megabytes of data - about 12 billion bytes per pound weight.

The Multimedia CD-ROM based courseware can be effectively utilized in the classroom. It provides a variety of learning experiences with animation. It also increases the rate of retention among learners. The development of multimedia CD-ROM based courseware is a team work. The various steps involved in the development process are as follows.

Steps in Developing a multimedia CD-ROM Based Courseware

Multimedia CD-ROM production includes writing objectives, planning, production, programming and evaluation. The figure 1 describes these steps in detail.

Step I: Writing Objectives

Writing the objectives of Multimedia CD-ROM based Courseware is an important step. The objective should be stated in behavioural and measurable terms.

Step II: Planning

This is the most crucial stage of the entire project. To get the better final product the more effort should be taken, During this stage, the following needs to be done:

1. **Target Analysis:** It is indispensable to consider the level of the learner. The entry level knowledge required, age, education, computer literacy, disabilities, cultural background, values which need to be considered, and the environment where the learner will most likely be using the CD-ROM.

The understanding of learners' characteristics would be helpful while developing the multimedia based courseware in the following ways (Usha V. Reddy & Saujaya Mishra, 2003).

i.   To understand the language level that would be easily understand by the learners in comprehending new information, theory etc.,

ii. To understand the entry level of the learners with regard to knowledge and skills so as to build on what the learners already know or possess.

iii. To include examples those are based on learners' experiences.

iv. To include references and further readings that the learners are able to access within their learning environment.

v.   To present in a manner that would minimize their learning difficulties.

vi. To develop materials that would ensure interaction between the learner and the text.

vii. To evolve a learner support system that is sensitive to learners' needs.

viii.To develop a system that ensures regular feed back on the quality of materials that are issued as well as students' perceptions on the efficacy of the learner support system.

2. **Programme content Analysis:** Here, it is essential to identify what the learners need to know, what comes first, second, and third, etc.,

3. **Analysis of Content Presentation:** In order to give best presentation it is necessary to analyze the animations, video, text, narration, simulation, and interactivity.

4. **Analysis of Programme usage :** The CD-ROM programme can be used for self study or classroom presentation. Hence it has to be determined well in advance about the programme usage.

5. **Analysis of types of computers:** The type of computers utilized for the development of the CD-ROM programme should be identified. It may be with the help of Macintosh or ¶IBM etc.,

6. **Need of Talent and technical support:** The development of good Multimedia CDROM based courseware requires a team of talented and technical persons like instructional designer, producer, video production crew, graphic artist and programmer. It is a team work.

7. **Time Requirement:** It is essential to fix the time schedule. A highly interactive CDROM can take a year or longer to complete.

8. **Funding:** The possible sources of funding for the development of multimedia based CD-ROM courseware should be identified well in advance.

9. **Software analysis:** Based on the consultation of the software engineers, the most suitable software should be selected for the development of Multimedia based CDROM Courseware.

Step III: Production

The design and development process includes flowcharting the interactivity, content accuracy, scripting the video, storyboarding, text, audio and video, graphics and animation which are as follows;

I. Flowcharting :

Before starting production, a well established flowchart is essential. It shows a product which starts with the title screen, then moves to a main- menu screen. This hierarchical arrangement allows the user to access another menu at a second level of the programme. The second-level menu allows the user to access three more text or animation items or return to the main menu. Dependent on storage space available on the CD and the parameters of the content, one can have multiple hierarchical levels. This constitutes the overall interactive design of the multimedia courseware.

II. Content Accuracy

It is essential that the content for the CD-ROM is accurate. This stage is important for the script, narrations, graphics, and animations which may be created for the courseware.

III. Scripting

The script depends upon the content specialist and the type of script being written. If the courseware is based on dialogue or narration for a video, it is essential to have a professional script writer. On the other hand if it is based on textual information accompanying a diagram on the screen, the subject expert can himself write the script.

IV. Storyboarding

The storyboard is simply a hand-drawn visualization of every scene that will he shot. It combines the information from the script and flowcharts into a visual hard copy that the director can view during shooting. The storyboard indicates when there will be close-ups, wide-angle shots, long shots, etc. When the flowchart follows multiple paths, a storyboard is critical to help maintain visual and narrative continuity from one scene to the next.

V. Text

Text should be kept concise, informative, and interesting. Presentation of text can also be done through animation. A variety of methods are available to animate text.

VI. Graphics and animation

Graphics and animation can give the CD-ROM a special effect. They can lighten up a dry topic or illuminate a difficult and complex one. The graphic artist must know the objective of the courseware. The graphic artist must be aware of the pedagogical aspects involved in the CD-ROM. The graphics can be revised, manipulated, and improved with the help of graphics programmes such as PhotoShop, etc. The graphics and animations should be introduced only at selected place where they are essential.

VII. Audio

One of the important media in multimedia presentation is audio. It is available in different file formats and the appropriate file format should be selected. The professional sound editors can be utilized for enhancing the quality of sound. They arc enable to record audio in multiple tracks and mix them into one, add special effects and change the tone and pitch of the sound.

VIII. Video

Video is a powerful communication tool. The video files, containing both sound and moving pictures, take up a lot of space and hence it is advisable to use very short video clips in the courseware. Moreover it is always better to use highly compressed video file like 'MPEG'

Step IV: Programming

During the programming stage, one can see how well the flowcharts and interface design work. Here, a graphic artist assists in the basic screen design. This input can give courseware a polished, professional look. The on-screen buttons for movement through the programme should be easily identified and it should be in the same location on the different screens. The method of interaction should be similar throughout the courseware. It can be confusing for a user to have to use a single mouse click for one interaction and a double mouse click for another. An important aspect of any CD-ROM is the help section, These screens should supply the user with all the information needed to navigate through and to interact with the programme.

Step V: Evaluation

Evaluation of the Multimedia based Courseware can be done at two levels: One is at the level of content and another one is at the level of technology employed. Once the entire content of the programme is developed, a test CD-ROM is created. This CD-ROM should be passed to various content specialists as well as a sampling of the target audience for evaluation and feedback. The CD-ROM is tested for content accuracy, ease of use, and appeal. A time limit should be set for this evaluation phase. Once the comments return, the content specialist and learner meet with the producer of the CD to determine which suggestions to implement. These suggestions should be implemented while developing the courseware. Evaluation should not be a terminal or one time activity. It should be a continuous process.

Advantages of Multimedia CD-ROM based Courseware

The multimedia CD-ROM based courseware has a number of advantages. These advantages are as follows;

i. It is self-paced.

ii It is highly interactive.

iii CD-ROMs provide a more engaging learning experience, with text, audio, video, and animations all used to convey information, which create interest among the learner.

iv.   Video clips can be used to explain abstract concepts.

v.   Learning is optimized for all three learning styles: auditory, kinesthetic, and visual.

vi.   Learning is enhanced with multimedia CD-ROM because learners are able to see the body language and hear the voices of on-screen video participants, and interact in real-time using a greater number of senses.

vii.   The increase rate of retention is another important advantage.

Conclusion

Multimedia CD-ROM is one of the buzzwords in the field of Education. Many educational institutions are using multimedia CD-ROM based courseware for effective learning. They are using Multimedia CD-ROMs to satisfy the needs of the learner. The educational institutions should come forward to develop the multimedia CD-ROM based courseware in accordance with their needs. They should prepare teachers to utilise this technology in the classroom.

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Comparative Study Between Carnatic Music and South Indian Cinema Music

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1. Introduction

Carnatic Music is practised by the people living in South India, North Sri Lanka and by those who have Tamil, Malayalam, Kannada and Telugu as their mother tongue, living all over the world. This is their traditional classical music form. Therefore it's individuality and holiness should be maintained. Further the art and culture belonging to a particular ethnic group should be preserved for their identity. This music form has a lot of restrictions and prescribed rules.

The south Indian Cinema music is a form of commercial music. It is meant to attract all kinds of people towards itself. This music has no limitations. Hence it can grow up with it's own freedom. This research presents the similarities and differences between Carnatic music and south Indian cinema music.

Carnatic music and south Indian cinema music were originated and practised with the same community of people. Therefore there are some basic similarities. Nevertheless there are considerable differences observed in methods of performing.

2. Methodology

As a musician, the researcher compares carnatic music and south Indian cinema music with his own music knowledge.

3. Discussions - Similarities and differences

3.1 Carnatic music, cinema music and all other music forms in the world are based on seven musical notes sa, ri, ga, ma, pa, dha, ni. Both music forms are performed with voice and musical instruments. South Indian cinema music is performed in the ragas of carnatic music. But, the fine fluctuations prescribed for the carnatic music ragas couldn't be used in the cinema music.

3.2 In the competitive cinema music world, those who have natural melodious and rich musical voice, the capacity to understand and follow the music director's guidance and who have the inborn ability in music get the chance for performance. The cinema music performers are tested for their ability in pitch and rhythm using modern electronic equipments. The voices of the singers are expected to be attractive for the audience. Those who have been successful in several strict tests are allowed to sing. But in carnatic music, the ability in singing imaginative music as raga aalaapanai, niraval, kalpanai swaram is considered more valuable. Other abilities become secondary.

3.3 There are different microphone systems for music and speech. Further among the mike system for music, there are different types for vocal music and instrumental music. These modern instruments for sound system modify and provide clear and sweet sound. Cinema world has realized the importance of this modern sound system. In cinema music concerts a large sum of money and time are allocated for the sound system. In carnatic music concerts the amount of money and time allocated for sound system is much less.

3.4 Most of the Classical music concerts are conducted with violin and mruthangam. Sometimes gatam, genjira and morsing are included. In cinema music, many modern electronic equipments and computerized instruments are used and the stage is full of these instruments. These provide stage attraction and audience get a mixture of sounds at the same time.

3.5 In carnatic music, the time spent for presenting a single song is more. The audience gets only a small number of songs within a period. But in the cinema music, large numbers of songs are presented within the same period.

3.6 The cinema musicians attract audience to live concerts by improving the stage arrangements and lighting system. Further, without sitting in a place and singing as in the traditional method, the singers can stand and perform to make the audience happy. In carnatic music concerts only the traditional methods are followed.

3.7 Cinema music uses a lot of computerised musical instruments. But, there is a concept that if computerized instruments are used they would destroy the liveliness of the classical music.

3.8 In cinema music, more than one singer sing, enabling them to sing together or sing alternatively. It could be male and female. But in carnatic music, the same singer performs the entire concert.

3.9 The cinema songs are in the mother tongue of the audience. In carnatic classical music, most of the songs are in Telugu and Sanskrit. Further the singers also sing the songs without understanding the meaning. In carnatic music; the raga construction is more valuable than the meaning of the song.

3.10 Introduction music, interlude music and background music are the important categories in the cinema music. In carnatic music, these are not in use.

3.11 The south Indian classical music is built by considering the fine fluctuations called 'gamakas'. When a single musical note moves from its place to neighbouring notes and comes back to its original position, it is known as fine fluctuations. In the cinema music fine fluctuations are not considered important.

3.12 In cinema music, dance shows are accommodated with the music performances. This can express the feelings like natural facial expressions and body language. In carnatic music, these are strictly prohibited.

3.13 In the classical music concerts, there is a custom of using approximate monotonous raga applications for a single line of a song. (Sangathi) But in cinema music, these kinds of applications are not in use.

3.14 Due to the restrictions mentioned earlier, carnatic music didn't absorb the useful techniques from other music forms. But, cinema music has absorbed more techniques from various music forms like hindustani music, western music, light music and folk music.

3.15 Lyric of carnatic music is only about god. In the cinema music, human being, especially love, is the main theme used in lyrics.

3.16 In carnatic music, if some compositions become popular those compositions are used for ages. In cinema music, popularity of songs varies from time to time.

4. Conclusions

The following conclusions can be obtained from the above comparison. Due to the restrictions and the obligation to preserve the identity for the ethnic group, carnatic

music doesn't accept revolutionary changes. But the cinema music can't last long without commercial popularity. So, it has to be changed depending on the mentalities and appreciation of people.

Preservation of the ethnic identity and appreciation of art and culture are the very important needs for a community. Carnatic music and the cinema music satisfy the above needs. One is for the satisfaction of the soul and other is for entertainment. Therefore, both music forms are essential for a community.

Further research may be continuing in the enhancement of the commercial value of carnatic music as well as other classical music forms. No field of any activity can last in the world if it does not change or modify along with the new trends and developments. The fields, which satisfy the people's requirements, are the ones which can withstand the mental revolution of the people and face the modern   scientific and technical developments.   The fields, which accommodate the modern trends, can be successful and continue to be successful.

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