

Managing Multimedia

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Abstract

Multimedia presentations have become a favourite medium for conveying ideas, messages, project reports, products' information; describing marketing strategy; presenting annual growth, and so on in business/commercial houses. It is also being used a lot in academics and entertainment. Definitely the addition of multimedia effects certainly gives lively and interactive appearance to any presentation. This article describes application of multimedia and use of it in libraries. The various aspects of managing a multimedia presentation are discussed in detail. Planning is one of the most important part in management of any activity. The various other factors like analysis, design, development, implementation during the preparation of any multimedia presentation to be considered are discussed. Organising the multimedia team is also a very important part of management of any multimedia activity. Its various members and their roles are described.

1. INTRODUCTION

Multimedia is the seamless integration of text, audio, video, graphics, animation, etc., in the computer environment. It includes multiple media—such as text, image, audio, video, and animation—which together multiply the impact of any message.

Nowadays multimedia presentations have become a favourite media to convey ideas, messages, projects, etc. It is a popular medium in business houses, academics, etc., for conveying marketing strategy, annual growth, advertising, teaching and so on. As we know a visual is worth a thousand words, and if a presentation contains all the three components, i.e., audio, video, text, then certainly the presentation becomes effective and interesting for viewers and also the message is conveyed more effectively. Visuals are essential part of every presentation. They can add interest and excitement to our presentation and most importantly they're our key tool for helping the audience remember our message.

Video clips are useful to show products in action, company sites, instructional material, etc. around the world. A presentation should be effective which means that it should be lively, competent, telling, and practical.

2. TYPE OF PRESENTATIONS

Computer assisted presentations can be categorised in the following four types.

2.1 SlidePresentation

In a slide presentation, slides are arranged sequentially in linear order that is one after the other. Slides are primarily composed of text, clip-art images and/or pictures. No interaction or branching is possible; there cannot be any kind of linkages between different parts of presentation. They can also called self playing presentations.

2.2 Multimedia Presentation

A multimedia presentation is an extension of slides presentation. Apart from using text, clip-art images, pictures, charts, it can include

sound, digitized videos, computer animations. In this kind of presentation, no interaction i.e., exchange of ideas or message between user and computer is incorporated. The interaction can take place between the presenter and the audience.

2.3 InteractiveMultimedia Presentation

It is slightly different from the multimedia presentation, as it provides the facility of interaction between user and computer. The interaction can be in the form of data entry, selection of possible answers or alternatives like multiple choices or true/false questions, interaction with screen objects, requests and receipt of printouts, and many other possibilities. These are the best choice for information kiosks, personnel training programs and computer assisted education programs.

2.4 Multimedia Web Pages

The components used for the creation of multimedia web pages are same as for the earlier kind of presentation, with the only difference being that it needs to be compressed using specialised tool, a special authoring software to design and create such kind of presentation. This authoring tool allows the presentation to playback through a web browser. These can be made more interactive by taking the advantage of web site hypertexting capabilities or by accessing databases external to the web site.

3. MULTIMEDIA APPLICATION AREAS

The areas where multimedia has gained a lot of popularity in its applications are:

- ◆ Desktop video conferencing
- ◆ Remote training and interaction
- ◆ Customer service support
- ◆ Preparation of spreadsheets
- ◆ Presentation material (audio-visual)
- ◆ 3-D design presentations
- ◆ Multimedia education (in teaching and instruction)
- ◆ Self directed learning

- ◆ Multimedia conferencing
- ◆ Multimedia databases
- ◆ Multimedia groupware, etc.

4. USE OF MULTIMEDIA FOR LIBRARIES

Multimedia can be used in the libraries for the following reasons:

- ◆ It offers contents with striking visual appeal
- ◆ It can replace the traditional card catalogue for identification and location of documents in the libraries
- ◆ It can serve as integrated system involving total library services
- ◆ With its help a digital document becomes more interactive and live
- ◆ A multimedia document size is smaller than its paper equivalent and is convenient to preserve (A CD book)
- ◆ Task of updating is easier
- ◆ Multimedia collection is easy to maintain since a library with millions of books can easily be replaced by few CDs and are free from binding, shelving , maintenance, etc.
- ◆ Retrieval of information from CDs is simpler and faster as compared to manual systems
- ◆ Information available in multimedia is more durable as compared to print media, etc.
- ◆ Multimedia once introduced will unleash a number of new services
- ◆ Hyperlinking facility is available.

4.1 Example of Multimedia Applications in Libraries

We can create a multimedia presentation of our libraries' products and services to act as an orientation tool for new patrons of the library as well as for existing patrons. The following multimedia content can be added:

- ◆ Information regarding the type of collection such as books, journals, reports, conference proceedings, CD-ROM databases, etc., of the library/documentation centre
- ◆ Information regarding the services such as reference, document delivery, interlibrary loan, newspaper clipping services, current awareness services, etc.

- ◆ Images/animated images of products designed and developed by the library as well as acquired/purchased by the library
- ◆ Speech by the Director/Head of library welcoming and addressing the new patrons of the library along with video can be added.
- ◆ Hyperlinks can be provided to slides describing the activities of various departments/sections in the library such as acquisition, technical services, database development division, newspaper clipping section, etc.
- ◆ Information regarding personnel along with their photographs, etc., for giving the visitors an idea regarding whom to contact for their required service
- ◆ Rules and regulation to be followed in using the library can be described.
- ◆ We can link our presentation directly to its organisation web site for internet users
- ◆ Many other contents such as virtual walk-through to various sections (by digitised video and specialised authoring software) and so on can be added.

An effective and beautifully designed presentation will definitely leave impact on viewers and they will gain knowledge regarding the holdings of library leading to better use of library and thereby fulfilling the Ranganathan's laws of librarianship.

5. CREATING MULTIMEDIA PRESENTATIONS

Creation of multimedia presentation requires a significant amount of time and careful planning. Adequate planning assures that the project will proceed smoothly and follow a reasonably designed schedule for completion, and will certainly communicate the message.

The creation of a successful and thoughtful multimedia presentation can be broken in to following six phases:⁶

- (a) Planning
- (b) Designing
- (c) Development
- (d) Implementation
- (e) Evaluation

(f) Maintenance

Each phase carries important steps to carry out. These steps are discussed below:

5.1 PLANNING

Planning is the most important factor in the creation of any of the presentation. A product which is thoughtfully planned certainly shows very good results. Thoughtful planning should be made considering few aspects like—objective of presentation, content, audience, place—where will the presentation be given, displaying media of presentation, desired projection time of the presentation, sound (original voice or dubbing or background music) and last but not the least budget. They all or few must be the part of the planning process.

5.1.1 Analysis

Analysis is crucial part in planning a multimedia project. The basic framework of the entire project can be set here. The following points are to be analysed during this phase:

- ✦ Objective of the presentation
- ✦ Information regarding the main audience
- ✦ Resources to be needed
- ✦ Information regarding the available resources and the resources to be arranged
- ✦ Budget allocated and its sufficiency for completion of the project
- ✦ Team members working on the project (discussed in detail later)
- ✦ Limitations for the project
- ✦ Other problems that can be faced and their possible solution
- ✦ How the project will be delivered?
- ✦ Platform to be used to deliver the project
- ✦ Strengths and weaknesses of the project, and how they can they be maximized and minimized respectively?

5.2 Design

Arrange or prepare the type of media that will be used—audio, video, animation, text, graphics, photographs, etc. Now organise the content considering—what are the main

categories themes and ideas; how should the content be organised and accessed; how might the audience interact with the information. To start designing any multimedia project, following points are to be considered:

■ **Explore creativity**

For best designing proper time should be given to explore the creativity. Keeping the basic theme in mind what visual design will be required; The basic colour schemes, graphic elements are decided at the designing phase only and should integrate well with the project. If it is a interactive presentation what textual elements will be used for the interaction and interface. It is to be decided what sound will suit best to the presentation, if it is available or to be arranged, if the format available will be suitable or has to be converted in to some other required format; what style of animation or video treatments might work well with the rest of the interface design.

■ **Interactivity**

If it is an interactive multimedia presentation, then what will be the level of interaction; if it will be appropriate for the project; how to divide the subject matter; if the interaction way that is applied will be compelling for the audience.

■ **Visualizing the project**

A project can be visualised by creating story boards, flowcharts, preliminary scripts and interface designed wherever required. At this stage these elements can be created and tested.

5.3 Development and Production

Depending on the planning and designing, it is required to develop the project. This phase overlaps with the design phase. As some development has already been done in the designing phase to test creative ideas, the interface design.

■ **Select tools and standards**

In development phase selection of tools has to be carried out. But for that the first step is to choose—the delivery platform (Mac/

Windows; diskette/CD/Internet/Intranet/LAN/ etc.); information regarding the audience; design choices.

For example, an application that needs lots of database access will use a different authoring tool than one which uses lots of on-screen animation and graphics. An application that requires a high level of interactivity can use different tool than one which is more linear.

■ **File formats**

File format should be chosen considering the delivery plan and the package form in which it is to be distributed. For example, in case of images .Tiff or .JPG format. Although .tiff gives multiple times better results than .JPG, but .JPG are used for compression than .Tiff and are most widely used. Define where files will be stored, how they will be organised, how each set of revisions will be archived, and at what frequency backups will be conducted. Define how files will be transferred back and forth between people on the team, and the client.

■ **Collect the existing elements**

The following elements are to be collected or created as per requirement:

- ✦ Text to be incorporated can be typed or scanned using OCR software
- ✦ Audio to be incorporated can be narration, music, sound effects, etc. We can incorporate it directly if it is available in the digitised format or can digitise it for use
- ✦ Pictures can be shot or scanned from digital cameras/35mm film/photo CD
- ✦ Video clips that are to be incorporated are to be shot, digitised, edited, and compressed
- ✦ Navigational elements like graphics, button can be created or already available buttons can be used.

■ **Authoring**

Bringing and integrating all the different elements together is called authoring. Many authoring software such as PowerPoint, Dreamweaver, Harvard Graphics, etc., are available, depending on the type of

presentation, any of the authoring software can be used. The authoring software has one distinguishable feature called import. Using this feature, we can import different media into the authoring tool.

Assign colour palettes and resize images to final size. Create the interface, and position all media elements for interactivity between the user and the application.

All navigational elements that provide intuitive ways for the user to move around are to be provided. Transitional effects in video and audio can be given to differentiate one sequence from the other.

■ Testing

As it is not the final project, but only a prototype to check if the design ideas which are applied are working; if the message is communicated perfectly or not; everything that is used in the presentation is relevant to the intended audience, if not then what part is to be changed; a separate prototype can be used to check the authoring tool that might be used for the final project. The prototype testing should evaluate the following design areas:

If the user interaction that is applied is sufficient to convey the proper message considering the user as a layman; if any real media assets are required; identify elements that are working well and communicating accurately; what are the areas of weakness; if possible, implement changes to correct weak areas and test again; get feedback not only from the intended audience, but also from others.

A final and thorough testing of finished pilot product should be carried out before the mass production and distribution to ensure that everything is in place and to avert any failure after launch.

While testing, each and every component and technical aspects for smooth running of program is to be taken care of. If the product is a web site, upload it on the web to test its functioning on different browsers (Ex. Internet Explorer and Netscape Navigator). If it is a CD or diskette, let other people use it as layman. If it is a multimedia application on a

LAN or intranet, put it on the server for testing purpose.

If the presentation is to run both on PCs and Mac, test the application on both platforms to verify that the application runs smoothly on both computer platforms.

5.4 Implementation

Packaging, publicity, promotion and support materials are the components to be taken care of before implementation. A package is the thing which is first noticed by the user, it should be well. If the product is in the form of a CD or diskette make the package labels, installation guides, user guides for the overall guidance for use by the audience. Packaging and presentation should be based on similar design elements used in the application. Installation guides and user guides should be clear, concise, and helpful. To make the sale well, various marketing option can be used to publicise the product.

5.5 Evaluation

At this stage we can ask the client to evaluate. While evaluation, the things to notice are—what is working well; what are the strengths of the project; what are clients saying about it; what do they like or dislike; is the objective being accomplished; if the entire project is to be done over again, what would be done differently.

If new version is to be developed, what would be changed; what could be added or kept the same.

5.6 Maintenance

For any project being used, the maintenance is must, specially in the case of interactive media projects or products. Some maintenance tasks and issues might include:

- + Technical support
- + In the case of a web or intranet project, maintenance will include updating information in a timely manner, and responding quickly to feedback from the audience
- + To make the product best as per the requirement, revisions should be made, and maintenance cell should intimate the

users about the new changes, and features added.

6. MULTIMEDIA DEVELOPMENT TEAM

Organising is the process of managing activities and the assets (manpower, material, money, machine, etc.) in such a way to achieve maximum output with highest degree of efficiency. Organising the major asset—the manpower in a multimedia production means to organise the team members who are involved in production, to get best of their creative efforts and the hard work they do.

The production of fine quality high-end applications requires a specialised team and its best efforts. As developing a multimedia project is team work, typically, this team consists of the following members:²

- ◆ Producer
- ◆ Contentspecialist
- ◆ Multimediaarchitect
- ◆ Instructionaldesigner
- ◆ Script writer
- ◆ Computer graphic art ist
- ◆ Audioandvisualspecialist
- ◆ Computerprogrammer
- ◆ Webmaster.

6.1 Producer/Production Manager

The role of the producer is to define, coordinate and facilitate the production of the multimedia project. He or she is the person who is responsible for the quality and timely production of the application. Some of the important tasks that a producer has to perform include:

- + Defining the scope of the project
- + Negotiating with the clients
- + Securing financial resources, equipment and facilities
- + Coordinating with the development team.

Producer may or may not be an expert in the authoring process, but should have an understanding of the capabilities and limitations of the technology, as he or she is the one who interacts and discusses with the

clients regarding their requirements and resources, and define them what is feasible.

6.2 Content Specialist

A content specialist is the member responsible for performing all necessary research concerning content of the proposed application. Program content means specific information, data, graphics, or facts presented through the multimedia application. He provides the program content for the multimedia architect

6.3 Multimedia Architect

Multimedia architect integrates all the multimedia building blocks i.e., graphics, text, audio, music, video, photos, and animation by using an authoring software. He/she oversees the work of other team members, such as the graphic artists, audio specialists, video specialists and computer programmers.

A multimedia architect may or may not be an expert in the skills of the other members, but must have a basic understanding of the capabilities of the software the team members use as he advises them about the file format needed and the resolution of files.

6.4 Instructional Designer

Instructional designer is the specialist who should be involved in the case when presentation is to be created for training applications. He has to take the full information from the content specialist and decide how to present it in a variety of learning style using the best educational strategies and practices. The designer must also adjust the information to be delivered to the audience according to instructional level and age, profile and needs and carry out the developments of strategies to assess the learning of the users.

6.5 Script Writer

A multimedia production is very much like making a movie, a commercial, or a documentary video. The only difference being videos and film scripts present a linear sequence of events and in multimedia production the medium has a capability of

presenting events in a nonlinear fashion by establishing linkages between different sections or components of the program. The scriptwriter needs to be able to visualize the three dimensional environments and if needed visualize the use and integration of virtual reality into the program.

6.6 Computer Graphic Artist

A computer graphic artist is responsible for the graphic elements of the program—such as backgrounds, buttons, bullets, manipulation and editing of pictures, 3-D objects, logos, animation, renderings, etc. Scanning pictures, or slides, and their editing can be done by him. He directly interacts with the multimedia architect in the composition of slides, making sure that colours are in harmony and that slides are balanced.

When developing an interactive application where graphic elements are clickable for other slides, it is the responsibility of the graphic artist that the new screens and background should be in harmony and in balance with the rest of the screen components.

6.7 Audio and Video Specialist

These specialists are needed when narration and digitised videos are to be included into a multimedia presentation. The audio/video specialist is responsible for recording and editing narration, selecting, recording, or editing sound effects; recording and editing music and composition, video capturing, editing and digitising.

6.8 Computer Programmer

The job of computer programmer is in the programming of code lines or scripts in the authoring language. These scripts are used to code and develop special functions or capabilities of the authoring program.

His job may include developing the software to give the size and shape of video windows, controlling peripherals, calling computer software by the multimedia authoring program to execute a specific function, to search a database, displaying a result, and other tasks.

6.9 Web Master

The web master has the responsibility of creating and maintaining an internet web page. He/she converts a multimedia presentation in to web page or creates a web page with multimedia elements.

7. HARDWARE REQUIREMENT

Minimum hardware configuration for creating a multimedia presentation is:

- Microsoft Windows 9X or higher operating system
- VGA card, DirectX 5.0-compatible; 256 colour minimum
- At least 64 MB RAM
- Hard disk with sufficient free space (10 GB approx.)
- CD Read/Write drive
- Sound card, DirectX 5.0-compatible
- Speakers
- A microphone, if one wants to record voice-overs.

CONCLUSION

As multimedia presentations are not different than the ordinary presentations, but with the only difference, that they are more interactive, and include sound, video and animation effects. Specialised authoring software like PowerPoint, Dreamweaver, Harvard Graphics, etc. are used to produce them. Planning is very important aspect and is to be carried out considering objectives and the audience. Multimedia team is to be organised so that maximum output with highest degree of efficiency can be achieved.

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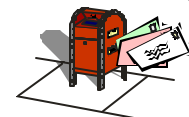
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— Editor