Planning and Costing: The Process of making multimedia-Scheduling-Estimating-RFP's and Bid Proposals. Designing and Producing-Content and Talent: Acquiring Content- Ownership of Content created for project-Acquiring Talent.

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Chapter 7:Planning and Costing

- ❖ Multimedia project, you must first develop a sense of its scope and content,
- ❖ Through the various methods available to get your message across to your viewers.
- ❖ A plan that is rational in terms of the skills, time, budget, tools, and resources
- ❖ Proper project planning is as important as planning the layout and content.
- ❖ Plans should be in place before start to render graphics, sounds, and other components, and should refer to them throughout the project's execution.

The Process of Making Multimedia

- ❖ Plan for the entire process: beginning with your first ideas and ending with completion and delivery of a finished product.
- ❖ The stepwise process of making multimedia

Idea Analysis

- ❖ The purpose or goal against the feasibility and cost of production and delivery. Use whiteboard, notepaper, and scratch pads as you flesh out your idea, or use a note-taking or outlining program on your computer.
- ❖ The proper elements:
  - What is the essence of what you want to do? What is your purpose and message?
  - Who is your intended audience? Who will be your end users?
  - What do they already know about the subject? Will they understand industry terms (jargon), and what information do they need your project to communicate to them?
  - What will their multimedia playback platforms be, and what are the minimal technical capabilities of those platforms?
  - How can you organize your project?
  - What multimedia elements (text, sounds, and visuals) will best deliver your message?
  - Do you already have content material with which you can leverage your project, such as old videotapes or video files, music, documents, photographs, logos, advertisements, marketing packages, and other artwork?
  - Will interactivity be required?
  - Is your idea derived from an existing theme that can be enhanced with multimedia, or will you
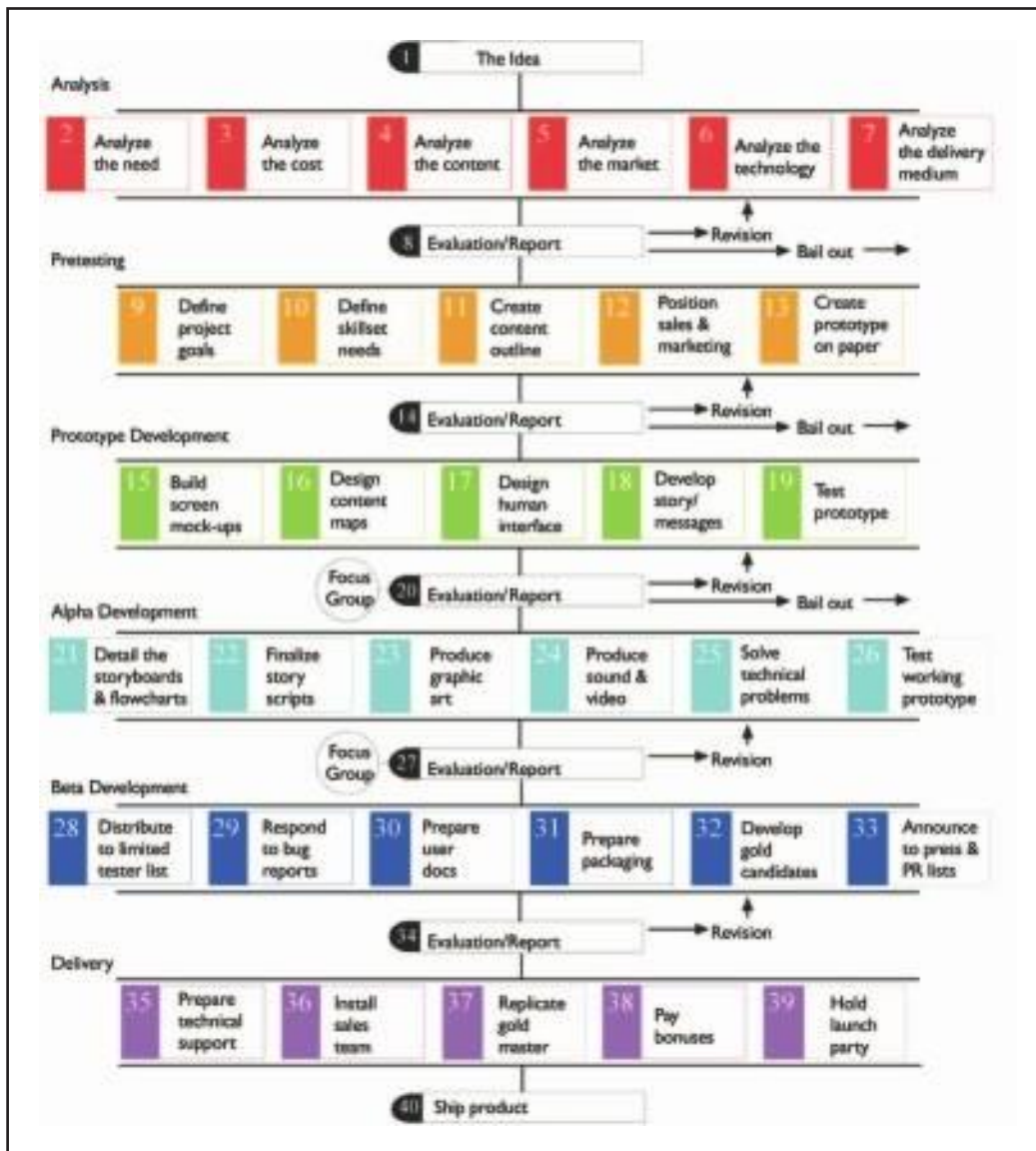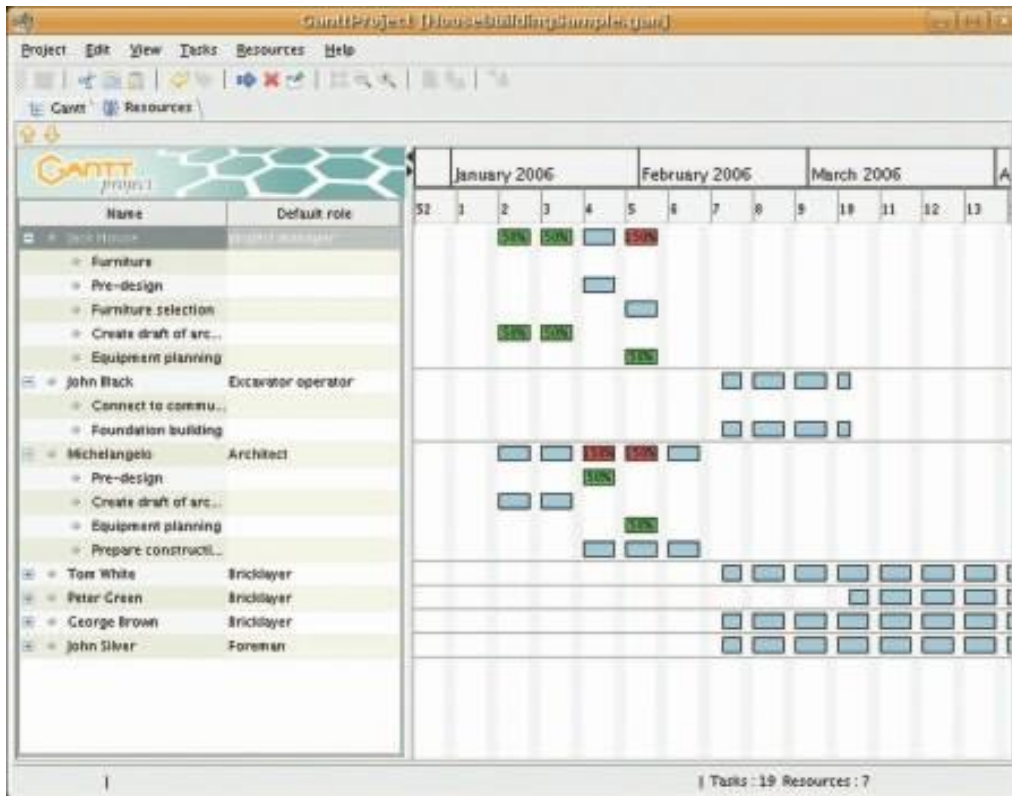
create something totally new?

FIGURE 9.1 THE PROCESS OF MAKING MULTIMEDIA

- What hardware is available for development of your project? Is it enough?
- How much storage space do you have? How much do you need?
- What multimedia software is available to you?
- What are your capabilities and skills with both the software and the hardware?
- Can you do it alone? Who can help you?
- How much time do you have?

- How much money do you have?

- How will you distribute the final project?

- Will you need to update and/or support the final product?

- Maintain balance between purpose and feasibility by dynamically adding and subtracting multimedia elements as stretch and shape the idea.

Idea Management Software

- Software such as dotProject, kForge, OpenProj, GanttProject (see Figure 9-2), outlining programs, and spreadsheets such as Excel can be useful for arranging ideas and the many tasks, work items, employee resources, and costs required of your multimedia project.

- Project management tools provide the added benefit of built-in analysis to help stay within your schedule and budget during the rendering of the project itself.

- Project management software typically provides Critical Path Method (CPM) scheduling functions to calculate the total duration of a project based upon each identified task, earmarking tasks that are critical and that, if lengthened, will result in a delay in project comple- tion.

- Program Evaluation Review Technique (PERT) charts provide graphic representations of task relationships, showing prerequisites, the tasks that must be completed before others can commence.

- Gantt charts depict all the tasks along a timeline.

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Figure 9.2: The Process of Making Multimedia

The Paper Napkin

- A more complete plan and cost estimate for full implementation would be developed, and the project would be launched in earnest.

Pretesting

- Define the project goals in greater detail and spell out what it will take in terms of skills, content, and money to meet these goals.

Task Planning

- There may be many tasks in your multimedia project.
- Here is a checklist of action items for which should plan ahead as think through the project:

- ☐ Design Instructional Framework
- ☐ Hold Creative Idea Session(s)
- ☐ Determine Delivery Platform
- ☐ Determine Authoring Platform
- ☐ Assay Available Content
- ☐ Draw Navigation Map
- ☐ Create Storyboards
- ☐ Design Interface
- ☐ Design Information Containers
- ☐ Research/Gather Content

- ☐ Assemble Team
- ☐ Build Prototype
- ☐ Conduct User Test
- ☐ Revise Design
- ☐ Create Graphics
- ☐ Create Animations
- ☐ Produce Audio
- ☐ Produce Video
- ☐ Digitize Audio and Video

- ☐ Program and Author
- ☐ Test Functionality
- ☐ Fix Bugs
- ☐ Conduct Beta Test
- ☐ Create Golden Master
- ☐ Replicate
- ☐ Prepare Package
- ☐ Deliver or Install at Web Site
- ☐ Award Bonuses

☐ Take Still Photographs   ☐ Throw Party

Building a Team

- Multimedia is an emerging technology requiring a set of skills so broad that multimedia itself remains poorly defined.
- Building a matrix chart of required skills is often helpful to describe the makeup of team.
- The skills and software capabilities available to you are not as limiting as list of required hardware

Task	Percentage of Effort
Analyze need	3%
Draft mission statement	1%
Create audience profile	2%
Write objectives	2%
Analyze and outline content	6%
Lay out course map	2%
Define treatment	2%
Select learner activities	2%
Storyboard the course	19%
Author the course	28%
Evaluate the course	20%
Produce media	3%

Figure 9-4 A matrix of available skills can assist you in planning for your project.

Experience and Capabilities Matrix

Company Blue
Company Green
Company Red
Company Purple

■ = Area of Expertise

Columns: Training (Business), Training (Product), Presentations (Support Materials), Performance Support Tools, Product Simulations/Prototypes, Advertising, Electronic Publishing, Visual Databases/Catalogs, Kiosks, Tools/Applications (end user), GUIs, Titles: Education, Titles: Home/Retail Consumer, Titles: Business, Print Documents/Manuals, Writing (Books/Periodicals), Speaking

Rows: Project Manager, Subject Matter Expert, Researcher, Writer/Editor, Instructional Designer, Interface/Info Designer, Human Factors Specialist, Document Designer, Graphic Artist, Image Specialist, Illustrator, Authorware Specialist, Director Specialist, Lingo Scripter, Programmer, Videographer, Photographer, Sound Designer

Prototype Development

- At the computer, building screen mock-ups and a human interface of menus and button clicks.
- Messages and story lines will take shape as explore ways of presenting them. For the prototype, sometimes called a proof-of-concept or feasibility study.

Alpha Development

- Define the tasks ahead, because were navigating a supertanker, should be aware of the reefs and passages that will appear along course and prepare .
- With an alpha stage prototype in hand and a commitment to proceed, the investment of effort will increase and, at the same time, become more focused.

Beta Development

- Idea reaches the beta stage of development, committed serious time, energy, and money.

- Concern should be simply successfully steering the project to its well-defined goal.

Delivery

- By the time to reach the delivery stage, producing the final product.

Scheduling

- Plan that encompasses the phases, tasks, and work items feel will be required to complete the project, need to lay out these elements along a timeline.
- This will usually include milestones at which certain deliverables are to be done.
- Working for a client, these are work products that are delivered to the client for approval.
- To create this schedule, you must estimate the total time required for each task and then allocate this time among the number of persons who will be asynchronously working on the project (see, for example, Figure 9-6).
- Again, the notion of balance is important: if we can distribute the required hours to perform a task among several workers, completion should take proportionally less time.
- Scheduling can be difficult for multimedia projects because so much of the making of multimedia is artistic trial and error.
- A recorded sound will need to be edited and perhaps altered many times.
- Animations need to be run again and again and adjusted so that they are smooth and properly placed. A QuickTime or MPEG movie may require many hours of editing and tweaking before it works in sync with other screen activities.

Project Calc Sheet C. 5 5	$112,000 Origination Fee	Salary	March 1	2	3	4	April 5	6	7	8	May 9	10
1 Content	Director	40	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	cost		0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
	Editor	20					1	1				
	cost		0.00	0.00	0.00	0.00	1.12	1.12	0.00	0.00	0.00	0.00
	Writer A	40	1	1	1	1	1					
	cost		2.24	2.24	2.24	2.24	2.24	0.00	0.00	0.00	0.00	0.00
	Researcher	16										
	cost		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	subtotal number personnel		1.1	1.1	1.1	1.1	2.1	1.1	1.1	0.1	0.1	0.1
	cost		2.46	2.46	2.46	2.46	3.58	1.34	0.22	0.22	0.22	0.22
2 Art	Director	35	1	1	1	1	1	1	1	1	1	1
	cost		1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
	Art 1	18								1	1	1
	cost		0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	1.01	1.01
	Art 2	13										
	cost		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	subtotal number personnel		1	1	1	1	1	1	1	2	2	2
	cost		1.40	1.40	1.40	1.40	1.40	1.40	1.40	2.41	2.41	2.41
3 Technical	Director	35								1	1	1
	cost		0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	1.40	1.40

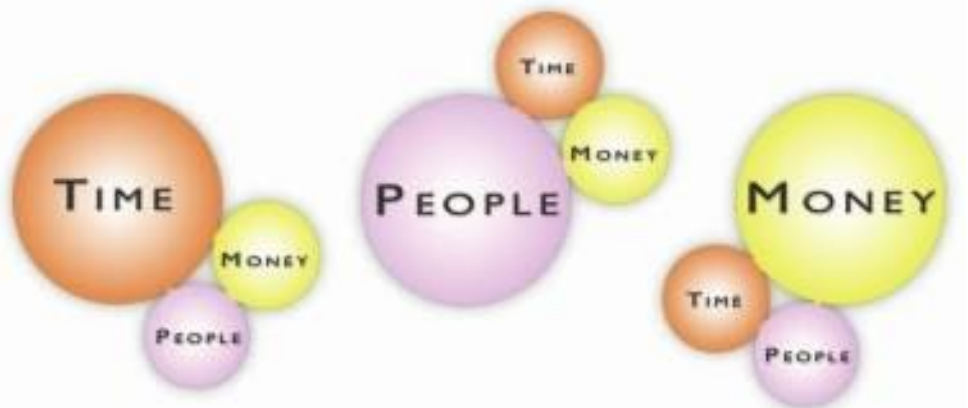**FIGURE 9-6 PORTION OF A SPREADSHEET USED TO SCHEDULE MANPOWER AND PROJECT COSTS**

> Scheduling can be difficult for multimedia projects because so much of the making of multimedia is artistic trial and error.
- Scheduling multimedia projects is also difficult because the technol- ogy of computer hardware and software is in constant flux, and upgrades while your project is under way may drive new installations and concomitant learning curves.
- The general rule of thumb when working with computers and new technology under a deadline

Estimating

- In production and manufacturing industries, it is a relatively simple matter to estimate costs and effort.
- To make chocolate chip cookies, for example, you need ingredients, such as flour and sugar, and equip- ment, such as mixers, ovens, and packaging machines.

- Once the process is running smoothly, can turn out hundreds of cookies, each tasting the same and each made of the same stuff.
- Control   by fine-tuning known expenses, like negotiating deals on flour and sugar in quantity, installing more efficient ovens, and hiring personnel at a more competitive wage. In contrast, making multimedia is not a repeti- tive manufacturing process.

- It will cost more money in overtime and premium sweat, and it may take more people. have a good number of people, the project should take less time.
- By increasing the money spent, you can actually decrease the number of people required by purchasing efficient (but costly) experts; this may also reduce the time required.

Billing Rates

- Billing rate should be set according to your cost of doing business plus a reasonable profit margin.
- Everyone who contributes to a project should have two rates associ- ated with their work: the employee's cost to the employer (including salary and benefits), and the employee's rate billed to the customer.

Example Cost Sheets

- It contains groups of expense categories for producing multi- media.
- Use these in your own work, be sure to temper your guesses with experience; new to multimedia production, get some quali- fied advice during this planning stage.

PROJECT DEVELOPMENT COSTS

Salaries

Client meetings Acquisition of content
Communications Travel

Research

Proposal & contract prep Overhead

PRODUCTION COSTS

Management

Salaries Communications Travel
Consumables

Content Acquisition Salaries

Research services

Fees for licensing content Content Creation

All content categories Salaries
Hardware/software Consumables

Graphics Production

Fees for licensing images or animation
clips Audio Production

Studio fees Talent fees

Fees for licensing music rights Data
storage

Video Production Studio fees Talent fees

Fees for licensing stock footage Location
fees

Equipment rental Digital capture & editing

Authoring

Salaries Hardware/software Consumables

TESTING COSTS

Salaries Focus groups

Facility rental Printing costs

Food and incentives

Coop fees (payment for participation)
Editing

Beta program

DISTRIBUTION COSTS

Salaries Documentation Packaging
Manufacturing Marketing Advertising
Shipping

There are many costs associated with producing multimedia.

RFPs and Bid Proposals

- Enough information during this initial discussion to accurately estimate time or cost, so be prepared to answer these queries in vague terms while present available skill-sets and capabilities in the most favorable light.
- If the client is serious and instruction well received, in short time may be able to guide this client into good choices and reasonable decisions, working together to conceive and design an excellent product.
- Formal Request for Proposal (RFP). These are typically detailed documents from large corporations that are "outsourcing" their multimedia development work.
- The backbone of the proposal is the estimate and project plan that have created up to this point.

An example is shown in Figure 9-9. Terms should include the following:

- A description of your billing rates and invoicing policy (for example, what percentage is to be paid up front, how much at certain mile- stones, and how much upon delivery)
- Policy on client sign-offs and change order costs.
- Policy for billing out-of-pocket expenses for travel, telephone, courier services, and so forth.
- Specific statements of who owns what upon completion of the project.
- An assurance to the client that you will not disclose proprietary information.
- Right to display your credits appropriately within the work.
- Unlimited right to work for other clients.
- A disclaimer for liability and damages arising out of the work.
- It is a significant task to write a project proposal that creatively sells
- A multimedia concept, accurately estimates the scope of work, and pro- vides realistic budget costs.

The Cover and Package

1. For designing the look and feel of the proposal. There are two strategies for avoiding this negative first impression:
- Develop your own special style for a proposal cover and package, including custom fonts, cover art and graphics, illustrations and figures, unique section and paragraph styles, and a clean binding.
- Make the entire package plain and simple, yet businesslike. The plain part of the approach means not fussing with too many fonts and type styles. This austerity may be particularly successful for proposals to government agencies, where 12-point Times New Roman or12-point Courier may be not just a de facto standard, but a required document format.
- If must submit hardcopy documents in addition to PDF or DOC files, a stapled sheaf of papers is adequate.

Table of Contents

- A table of contents or index is a straightforward way to present the elements of proposal in condensed overview.
- In some situations, may also wish to include an executive summary—a prelude containing no more than a few paragraphs of pithy description and budget totals.
- The summary should be on the cover page or immediately following.
- In an electronic submission, hotlink to the Table of Contents and to important sections.

Needs Analysis and Description

- In many proposals, it is useful to describe in some detail the reason the project is being put forward.
- This needs analysis and description is particularly common in proposals that must move through a company's executive hierarchy in search of approval and funding.

Target Audience

- All multimedia proposals should include a section that describes the target audience and target platform.
- When the end user's multimedia capabilities have a broad and uncertain range, it is crucial to describe the hardware and software delivery platform
- For instance, if your project requires a special browser plug-in,will need to adjust the multimedia strategy by revising the design or by requiring the end user to download the plug-in.

Creative Strategy

- A creative strategy section—a description of the look and feel of the project itself—can be important to proposal, especially if the execu- tives reviewing proposal were not present for creative sessions or did not participate in preliminary discussions.

Project Implementation

- A proposal must describe the way a project will be organized and sched uled.
- Estimate of costs and expenses will be based upon this descrip tion.
- The Project Implementation section of your proposal may contain a detailed calendar, PERT and Gantt project planning charts, and lists of specific tasks with associated completion dates, deliverables, and work hours.

Budget

- The budget relates directly to the scope of work have laid out in the project implementation section.

Chapter 8:Designing And Producing

- CD-ROM and DVD projects, design input is never over until the product is actually frozen and shipped.

Designing

- The design part of the project is where your knowledge and skill with computers; your talent in graphic arts, video, and music; and your ability to conceptualize logical pathways through information are all focused to create the real thing.
- Design is thinking, choosing, making, and shaping, smoothing, reworking, polishing, testing, and editing.
- Design project, ideas and concepts are moved one step closer to reality.

- Competence in the design phase is what separates amateurs from professionals in the making of multimedia.

Designing the Structure

- A multimedia project is no more than an arrangement of text, graphic, sound, and video elements (or objects). The way compose these elements into interactive experiences is shaped by your purpose and messages.
- Organize your material for a project will have just as great an impact on the viewer as the content itself.
- HTML documents that can be linked to millions of other similar documents in the cyberspace of the Web, designs and inven tions may actually contribute to the new media revolution
- Both the designer and the programmer.

Navigation

- Mapping the structure of your project is a task that should be started early in the planning phase, because navigation maps outline the connections or links among various areas of your content and help you organize your content and messages.
- A navigation map (or site map) provides with a table of contents as well as a chart of the logical flow of the interactive interface.
- While with web sites a site map is typically a simple hierarchical table of contents with each heading linked to a page, as a more detailed design document map may prove very useful to project, listing multimedia objects and describing what happens when the user interacts.
- A few basic structures for multimedia projects will cover most cases:
    - ❖ **Linear navigation,**
    - ❖ **Hierarchical navigation**
    - ❖ **Nonlinear navigation, and**
    - ❖ **Composite navigation.**

Figure 10-1 illustrates the four fundamental organizing struc- tures used in multimedia projects, often in combination:

- ❖ **Linear** :Users navigate sequentially, from one frame or bite of infor- mation to another.

- ❖ **Hierarchical** : Also called "linear with branching," since users navi- gate along the branches of a tree structure that is shaped by the natural logic of the content.

- ❖ **Nonlinear**: Users navigate freely through the content of the project, unbound by predetermined routes.

- ❖ **Composite**: Users may navigate freely

linear presentations of movies or critical information and/or to data that is most logically organized in a hierarchy.

- The method provide to your viewers for navigating from one place to another in project is part of the user interface.

- The nature of your interface will vary depending on its purpose
  - Browsing
  - Data- base access,\
  - Entertainment
  - Information
  - Instruction
  - Reference
  - Marketing, and gaming projects require different approaches and different navigation strategies.
- ❖ Work with two types of structure:
  - **Depth structure and**
  - **Surface structure.**
- ➢ Depth structure represents the complete navigation map and describes all the links between all the components of your project (see Figure 10-1).
- ➢ Surface structure, on the other hand, represents the struc- tures actually realized by a user while navigating the depth structure. Thus the following depth structure
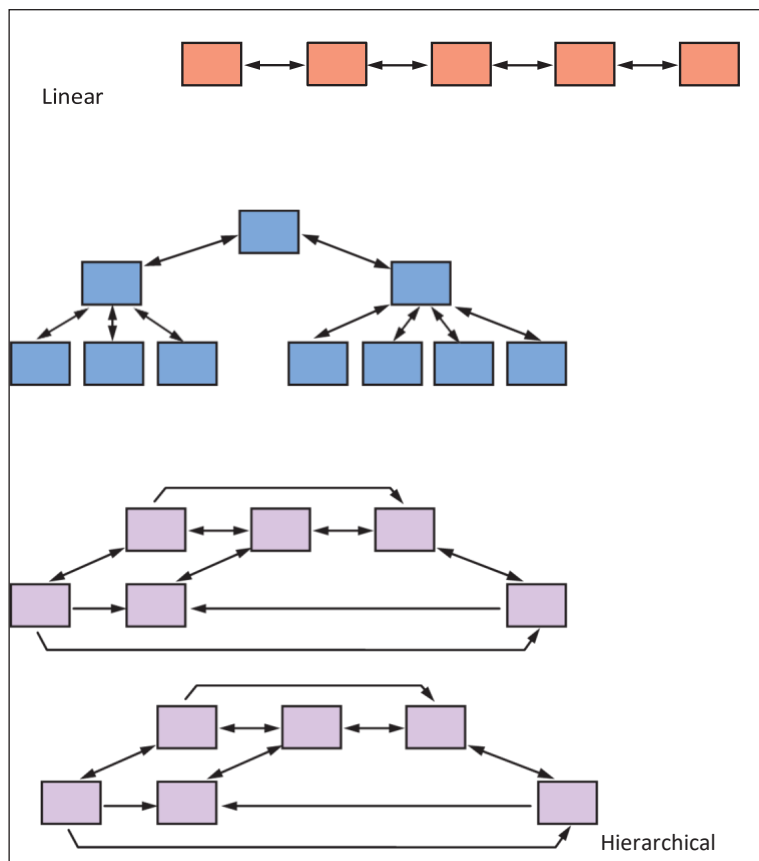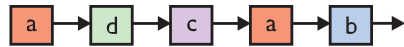
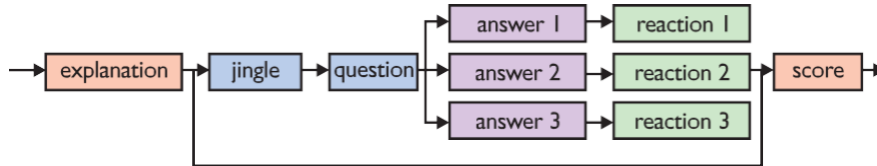Figure 10-1 The four primary navigational structures used in multimedia

Structural Depth

- ➢ The two types of structure:
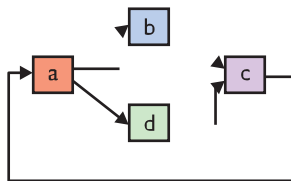 - o Depth structure surface structure. Depth structure represents the complete navigation map and

  describes all the links between all the components of your project (see Figure 10-1).
- ➢ Surface structure, on the other hand, represents the structures actually realized by a user while navigating the depth structure. Thus the following depth structure

- ➢ When design navigation map, it helps to think about surface structure—to view the product from a user's perspective. Surface stru tures are of particular interest to marketing firms in tracking users' routes through a web site to determine the effectiveness of the site's design and to profile a user's preferences.

- ➢ When a user's preferences are known, a custom web site experience can be dynamically tailored and delivered to that user.
- ➢ Acquisition and management of such profiling data is a hot topic, with pri vacy advocates claiming the personal information revealed in these surface structures is akin to a person's medical and health records.
- ➢ Many navigation maps are essentially nonlinear.

 In these navigational systems, viewers are always free to jump to an index, a glossary, various menus, Help or About . . . sections, or even to a rendering of the map itself.

- ➢ It is often important to give viewers the sense that free choice is available; this empowers them within the context of the subject matter.
- ➢ Should still provide consistent clues regarding importance, and direction by varying typeface size and look, colorizing, indenting, or using special icons.
- ➢ The architectural drawings for your multimedia project are the story- boards and navigation maps.
- ➢ The storyboards are married to the navigation maps during the design process, and help to visualize the information architecture.

 Figure 10-2, where the subject matter of a small project to teach the basics of animation was organized schematically.
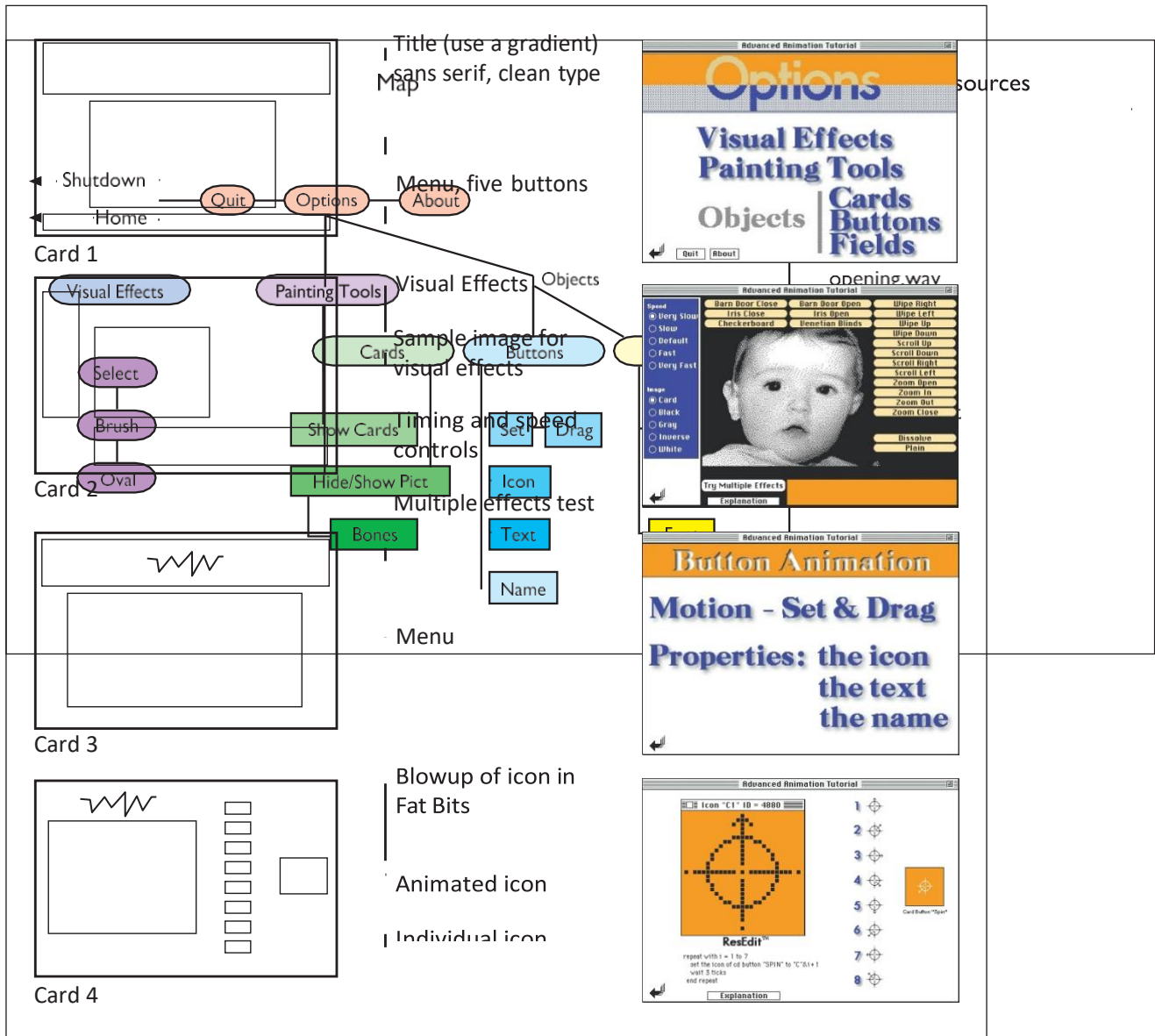
- ➢ The items in boxes are not only descriptions of t but also active buttons that can take users directly to

that content.

Figure 10-2 A simple navigation map

- ➢ A storyboard for this same project, originally built for a small black- and-white low-resolution display, is organized sequentially, screen by screen, and each screen is sketched out with design notes and specifications before rendering.
- ➢ On the left, in Figure 10-3, are parts of the storyboard for this project; on the right are corresponding finished screens.

Figure 10-3 Storyboards on the left, with finished screens on the right

Figure 10-3 Storyboards on the left, with finished screens on the right Hot Spots, Hyperlinks, and Buttons

- ➢ Multimedia authoring systems allow to make any part of the screen, or any object, into a hot spot.
- ➢ When users hover over or click a hot spot at that location, something happens, which makes multimedia

not just interactive, but also exciting.

➢ Hot spots can be given more specific names based upon either their function or form. For example, if clicking the hot spot connects the user to another part of the document or program or to a different program or web site, it is referred to as a link or hyperlink.

➢ If the hot spot is a graphic image designed to look like a push button or toggle switch, it is called a **button,** more formally defined as a meaningful graphic image.

➢ Hot spots can be text or graphic images.

➢ Text buttons and their fonts and styles .

➢ **Graphic buttons** can contain graphic images or even parts of images—for example, a map of the world with each country color coded, and a mouse click on a country yields further information.

➢ **Icons** are graphic objects designed specifically to be meaningful as buttons and are usually small size

➢ Highlighting a button or object, or changing its state, when the cursor rolls over it or the button is clicked, is the most common method of distinguishing it as the object of interest.

➢ Depending upon how high- light can make a button appear off (not pressed) or on (pressed) as illustrated on the left.

➢ Use an animated GIF image that animates when the mouse hovers over it. The dove in the illustration begins flying when the mouse passes over the word "Habitat."

➢ Hot Spots in Web Pages HTML documents do not directly support interactive graphic buttons that follow the rules of good interface design— by highlighting or otherwise confirming a hover or mouse-down action.

➢ The simplest hot spots on the Web are the text anchors that link a document to other documents.

➢ Default colors for anchor text   are a user-defined preference, though you can override the default in the
    <BODY> tag.

➢ Using CSS in web site design, text can be easily colored and high- lighted on hover and hyperlinked or anchored to other document URLs on clicking.

➢ Drop-down text menus (see Figure 10-6) allow for a dense hierarchy of menu choices to be displayed.
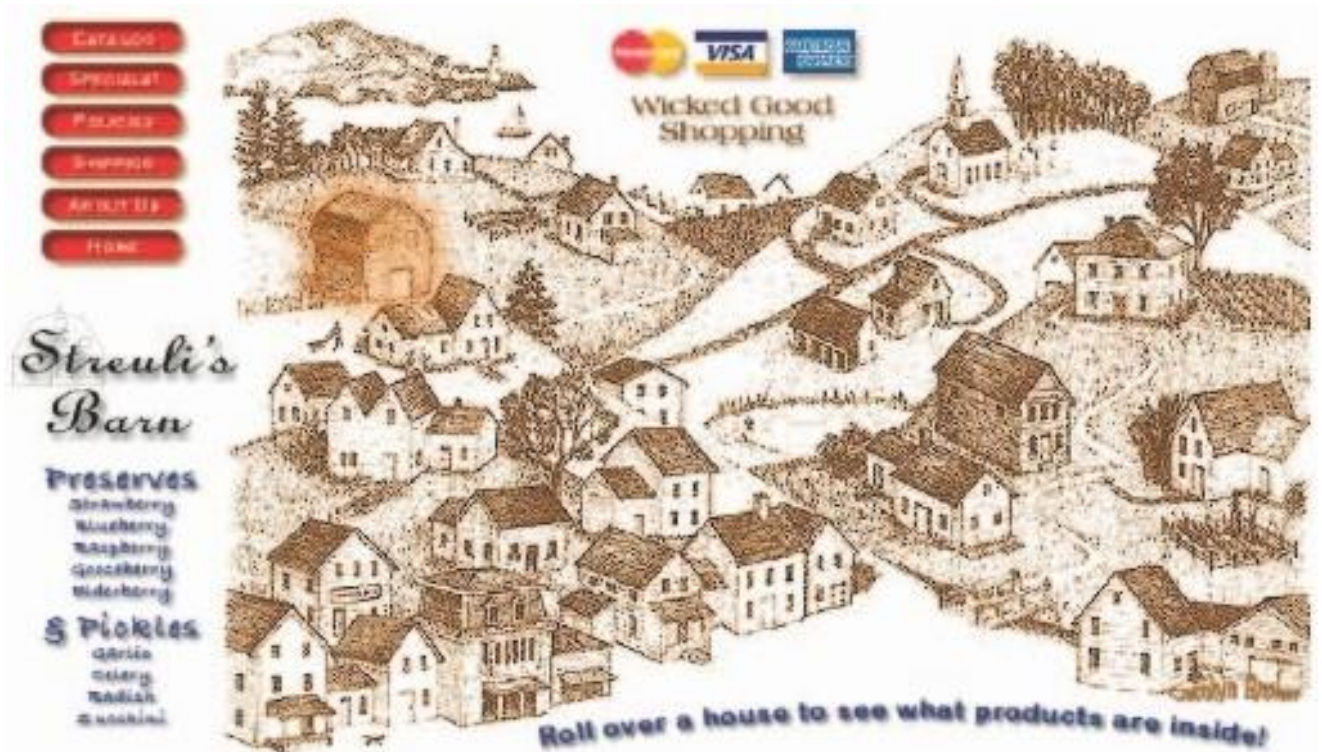

Figure 10-6 Drop-down menus at web sites are built using a combination of HTML, CSS, and

JavaScript

➢ Larger images may be sectioned into hot areas with associated links; these are called **image maps.**

Figure 10-7 shows a graphic image of a village that has been programmed in HTML to have 32 hot spots with links (the document to open when clicked) and a JavaScript routine called **"set"** that will place an image into the frame at the left when the mouse rolls over that area. The code looks like this:

<AREA shape="rect" coords="180,85,230,135" href=" ../vendors/v25/index.html" onmouseover="set('../vendors/v25/images/logomenu.gif');">

- ➢ Using a large image map and JavaScript embedded in a normal HTML web page, when the mouse rolls over a house or barn, the content of that building is displayed as a separate graphic at the left.
- ➢ Users can actively explore this seaside village to discover what's hidden behind its doors.
- ➢ Most authoring systems pro- vide a tool for creating text buttons of various styles (radio buttons, check boxes, or labeled push buttons, for example), as well as graphic buttons.

Icons

- ➢ Macintosh and Windows operating systems, icons have a special meaning, in that they constitute a suite of image resources that are linked to and identify an application, file, volume, or service.
- ➢ On the Macintosh, icon image files (.icns) can contain one or more images of 16×16, 32×32, 48×48, 128×128, 256×256, and 512×512pixels as well as alpha channels for transparency masking.
- ➢ The Mac operating system automatically scales the image(s) to display at other sizes. To use your own icon for a file or folder, open the Get Info . . . dialo
- ➢ Building and saving icon files is simpler using an icon editor such as IcoFX (http://icofx.ro/) or the ICOformat plugin for Photoshop ww.telegraphics.com.au/sw/#icoformat).
- ➢ Add a link tag in the <HEAD> element of your web page that identifies your icon image to the browser:
 <link rel="icon" type="image/gif" href="http://www.yourwebsite.com/yourIcon.gif">

- ➢ Apple's handheld touch devices such as iPod(touch), iPhone, and iPad use a custom Safari browser to display web clips on a Home screen;

- They will display a custom icon for your web site if you include in the <HEAD> tag of your page a <LINK> tag to an appropriate image.
- Apple recommends a flat (not shiny) and simple 57 × 57 pixel image in .png format with sharp 90º corners. The display software will then render your icon with rounded corners, a drop shadow, and a reflective shine, as shown here.

Designing the User Interface

- The user interface of your multimedia product is a blend of its graphic elements and its navigation system.
- If your messages and content are disorganized and difficult to find, or if users become disoriented or bored, project may fail.
- Poor graphics can cause boredom. Poor navigational aids can make viewers feel lost and unconnected to the content; or, worse, viewers may sail right off the edge and just give up and quit the program.

Novice/Expert Modes

There are two types of end users: those who are computer literate and those who are not.

- The simplest solution for handling varied levels of user expertise is to provide a modal interface, where the viewer can simply click a Novice/ Expert button and change the approach of the whole interface— to be either more or less detailed or complex.
- Modal interfaces are common on bulletin boards, for example, allowing novices to read menus and select desired activities, while experts can altogether eliminate the time- consuming download and display of menus and simply type an activity code directly into an executable command line.
- Both novices and experts alike may quickly learn to click the mouse and skip the annoying ragtime piece you chose for background music.

GUIs

- The Macintosh and Windows graphical user interfaces (GUI, pronounced "gooey") are successful partly because their basic point-and-click style is simple, consistent, and quickly mastered.
- Both these GUIs offer built-in help systems, and both provide standard patterns of activity that produce standard expected results.
- The following actions, for example, are consistently performed by similar keystrokes when running most programs on the Macintosh or in Windows:

Action	Macintosh Keystroke	Windows Keystroke	
New file	#-N	alt-f-n or	ctrl-n
Open file	#-O	alt-f-o or	ctrl-o
Save file	#-S	alt-f-s or	ctrl-s
Quit	#-Q	alt-f-x or	ctrl-q
Undo	#-Z	alt-e-u or	ctrl-z

Cut	#-X	alt-e-t or	ctrl-x
Copy	#-Calt-e-c or		ctrl-c
Paste	#-V	alt-e-r or	ctrl-v

Graphical Approaches

➢ Designing excellent computer screens requires a special set of fine art skills, and not every programmer or graduate in fine arts may be suited to creating computer graphics.

➢ Programmers who must keep up with current operating systems and languages, computer graphic artists must also stay informed about the rapidly changing canvas of new features, techniques, applications, and creative tools.

➢ The artist must make broad design choices: cartoon stick figures for a children's game, rendered illustrations for a medical reference, scanned bit- maps for a travel tour of Europe. The graphic artwork must be appropriate

Audio Interfaces

➢ A multimedia user interface may include important sound elements that reflect the rhythm of a project and may affect the attitude of your audience.

➢ Sounds can be background music, special effects for button clicks, voice-overs, effects synced to animation, or they may be buried in the audio track of a video clip.

➢ The tempo and style of background music can set the "tone" of a project. Vivaldi or Bach might be appropriate for a banking or investment annual report delivered on DVD. Comic laughs and screeching effects might be appropriate for a clothing web site aimed at preteens.

➢ Choose music that fits the content and the atmosphere you wish to create. In all cases, use special effects sparingly.

➢ Always provide a toggle switch to disable sound. (Many AOL users prefer to disable the "You've Got Mail!" voice, for example.) And always test a project that contains sound with potential users.

A Multimedia Design Case History

➢ Design process for a simple multi- media project about the construction and launch of a 31-foot ocean-going sailboat.

➢ The project was initially crafted in SuperCard (a Macintosh-only, page-based, authoring tool), but it was later ported to Adobe's Director (a time-based tool) so that it could be played on both Mac and Windows platforms.
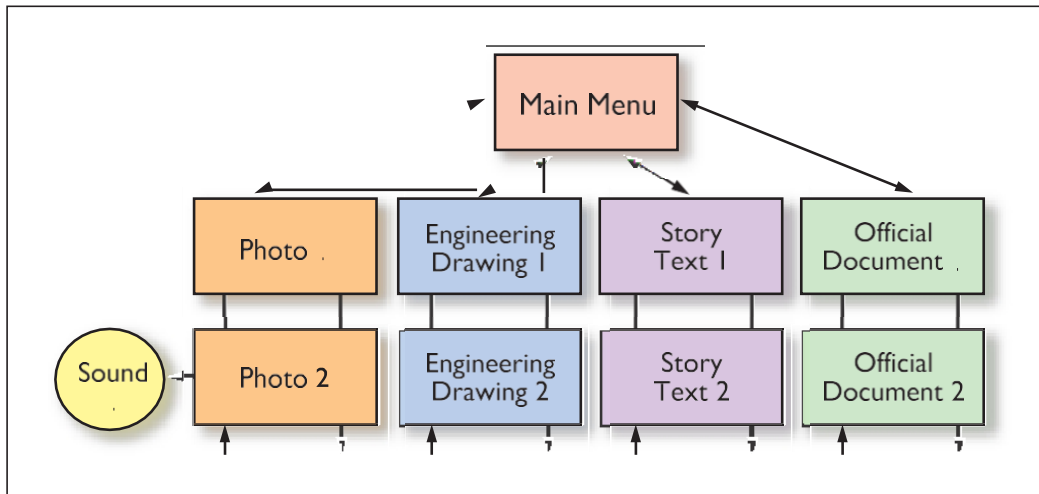
Storyboarding a Project

➢ **T**he source material (all that was available) practically sorted itself into logical groups: a pile of old photographs, a magazine article and news- paper clippings, engineering drawings, official documents, and some recorded sounds.

➢ The first storyboard was a simple hierarchical structure with branches to each subject area, as shown in Figure 10-10.
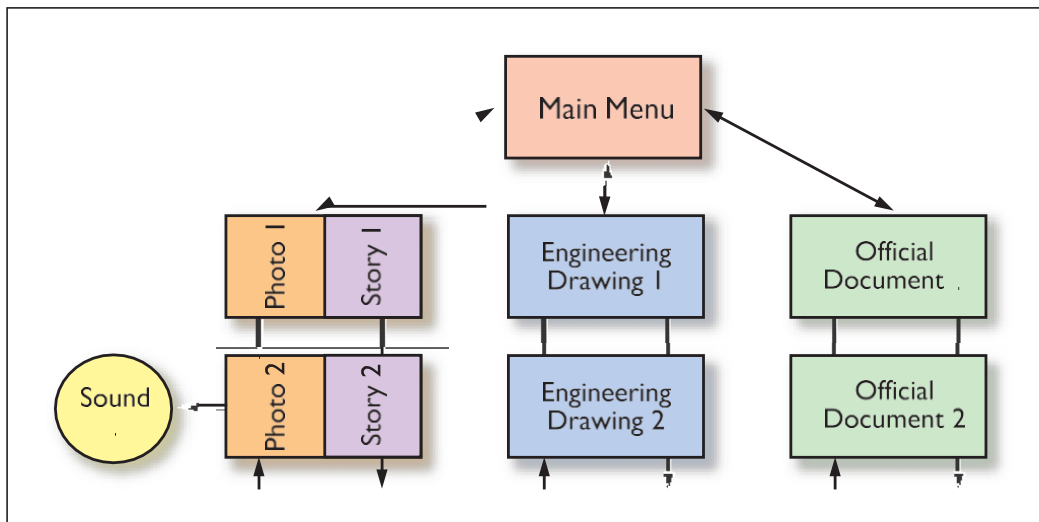
Figure 10-10 The first storyboard

Putting It Together

➢ The most eye-catching photograph was chosen as a background for the main menu, and, as shown in Figure 10-11, the main menu was planned to contain clearly labeled buttons navigating to linear presentations of each topic area.

➢ From every screen in the project, users would be able to return to the main menu. Where sound bites were appropriate, clicking buttons on screens would play sounds.

➢ Adding a Quit button was necessary, also on the main menu, so that users would never be more than two button clicks from exiting the project (back to the main menu, and then quit).

Figure 10-12 The second storyboard

Producing

➢ By the time you reach the development phases of your multimedia project and start building, should

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already have taken care to prepare your plan and to get organized.

➢ The project plan now becomes your step-by-step instruction manual for building the product.

➢ For many multimedia developers, following this plan and actually doing the construction work—being down in the trenches of hands-on creation and production—is the fun part of any project.

Production is the phase when your multimedia project is actually rendered.

Starting Up

➢ Before begin your multimedia project, it's important to check your development hardware and software and review organizational and administrative setup, are working alone.

■Desk and mind clear of obstructions?

■ Best computers you can afford?

■Time-accounting and management system in place?

■Biggest (or most) monitors you can afford?

■Sufficient disk storage space for all work files?

■System for regular backup of critical files?

■Conventions or protocols for naming your working files and managing source documents?

■Latest version of your primary authoring software?

■Latest versions of software tools and accessories?

■Communication pathways open with client?

■Breathing room for administrative tasks?

■Financial arrangements secure (retainer in the bank)?

■Expertise lined up for all stages of the project?

■Kick-off meeting completed?

Working with Clients

➢ Making multimedia for clients is a special case.
➢ Be sure that the organization of your project incorporates a system for good communication between you and the client as well as among the people actually building the project.
➢ Many projects have turned out unhappily because of communication breakdowns.

Client Approval Cycles

➢ Provide good management oversight to avoid endless feedback loops
➢ Manage production so client is continually informed and formally approves by signing off on artwork

and other elements as you build them.

- ➢ The technology will improve during development and you may be able to offer new features that will improve your project.
- ➢ Develop a scheme that specifies the number and duration of client approval cycles, and then provide a mechanism for change orders when changes are requested after sign-off.
- ➢ For change orders, remember that the client should pay extra and the changes should be costly.

Data Storage Media and Transportation

- ➢ It's important that the client be able to easily review your work.
- ➢ Remember that either you and the distant site need to have matching data transfer systems and media, or need to provide a web or FTP site for the project.
- ➢ Organize your system before begin work, as it may take sometime for both and the client to agree on an appropriate system and on the method of transportation.
- ➢ Because multimedia files are large, your means of transporting the project to distant clients is particularly important.
- ➢ The most cost- and time-effective method for transporting your files is on DVD- ROM by an overnight courier service (FedEx, DHL, or Postal Service Express Mail).

Tracking

- ➢ Organize a method for tracking the receipt of material that you will incorporate into your multimedia project.
- ➢ Even in small projects, dealing with many digital bits and pieces.
- ➢ Develop a file-naming convention specific to your project's structure.
- ➢ Store the files in directories or folders with logical names.
- ➢ Version control of your files (tracking editing changes) is critically important, too, especially in large projects.
- ➢ If more than one person is working on a group of files, be sure that you always know what version is the latest and who has the current version.

Copyrights

- ➢ Commonly used authoring platforms may allow access to the software programming code or script that drives a particular project.
- ➢ The source code of HTML pages on the Web may also be easily viewed.
- ➢ In such an open-code environment insert a copyright statement in your project that clearly (and legally) designates the code as your intellectual property (see Figure 10-17), but the code, tricks, and programming techniques remain accessible for study, learning, and tweaking by others.

Figure 10-17 Typical copyright and ownership statements embedded in <meta> tags at the top of an HTML page

Hazards and Annoyances

- ➢ Even experienced producers and developers commonly run into at least some light chop and turbulence during the course of a project's development.
- ➢ Small annoyances, too, can become serious distractions that are counterproductive. The production stage is a time of great creativity, dynamic intercourse among all contributors, and, above all, hard work.

Be prepared to deal with some common irritants, for example:

- o Creative coworkers who don't take (or give) criticism well
- o Clients who cannot or are not authorized to make decisions
- o More than two all-nighters in a row
- o Too many custom-coded routines
- o Instant coffee and microwaved corn dogs
- o Too many meetings; off-site meetings
- o Missed deadlines
- o Software and hardware upgrades that interrupt your normal operations

Chapter 9: Content and Talent

> Multimedia project includes content. It is the "stuff" from which you fashion messages. It is also the information and material that forms the heart of your project, and it is that which defines what is the project is about.
> Content can have low and high production value.

Acquiring Content

Content acquisition can be one of the most expensive and time-consuming tasks in organizing a multimedia project. You must plan ahead, allocating sufficient time (and money) for this task.

> If your project describes the use of a new piece of robotics machinery, for example, will you need to send a photographer to the factory for the pictures? Or can you digitize existing photographs?
> Suppose you are working with 100 graphs and charts about the future of petroleum exploration. Will you begin by collecting the raw data from reports and memos, or start with an existing spreadsheet or data- base? Perhaps you have charts that have already been generated from the data and stored as TIFF or JPEG files?
> Developing an interactive guide to the trails in a national park, complete with video clips of the wildlife that hikers might encounter on the trails. Will you need to shoot original video footage, or are there existing tapes for you to edit?

Using Content Created by Others

> When a work is created, certain rights, such as for the work's public display or performance, its use in a broadcast, or its reproduction, are granted to its creator.
> Among the rights most relevant to a multimedia producer are electronic rights—the rights to publish a work in a computer-based storage and delivery medium such as a CD-ROM or on the Web.
> Since the late 1980s, investors in the multimedia marketplace have been quietly purchasing electronic rights (the right to reproduce works in electronic form) to the basic building blocks of content—including films, videos, photographic collections, and textual information bases—knowing that in the future these elements.
> Depending on the type and source of your content, the negotiations for usage rights can be simple and straightforward, or they may require complicated contracts and a stack of release forms.
> Each potential content provider you approach will likely have his or her own set of terms that you need to look at carefully, so that the terms are broad enough not to con- strain the scope of your multimedia project.

Locating Preexisting Content

> Preexisting content can come from a variety of sources, ranging from a trunk of old photographs in your neighbor's attic to a stock house or image bank offering hundreds of thousands of hours of film

and video or still images, available for licensing for a fee.

- If your needs are simple and fairly flexible, you may be able to use material from collections of clip art. Such collections of photographs, graphics, sounds, music, animation, and video are becoming widely avail- able from many sources, for anywhere from fifty to several hundred dollars.
- Part of the value of many of these packages is that you are granted unlimited use, and you can be comfortable creating derivative versions tailored to your specific application.
- Carefully read the license agreement that comes with the collection before assuming you can use the material in any manner. In the six-point italicized type on the back of the agreement, you may discover that the licensor offers no guarantee that the contents of the collection are original works.
- Stock photos and videos clips, there are whole collections of flash animations and components, web site templates, sound effect libraries, and even 3-D models available for downloading and integration into multimedia projects. Many are not free, but stock material may save you many hours of effort.

Copyrights

- Copyright protection applies to "original works of authorship fixed in any tangible medium of expression." The Copyright Act of 1976, as amended (17 U.S.C.A. §101 et. seq.) protects the legal rights of the creator of an original work.
- Several changes in the law have created confusion over copyright protections.
- One change is that works now come under copyright protection as soon as they are created and presented in a fixed form. Prior to 1976, protection was only granted upon registration, but now works do not have to be registered with the U.S. Copyright Office to be protected.
- Digital Rights Management (DRM) As rights and ownership are redefined for the information age, various rights management technologies are emerging and competing to become industry standard. Apple's iTunes Store has sold more than six billion songs since going online in 2003.
- Songs downloaded from iTunes were protected with a DRM scheme called FairPlay, which works within Apple's QuickTime container structure and limits the number of devices upon which the tune can be played (in 2009, Apple removed the DRM restriction for music tracks, but continues to protect movies and television shows).
- Microsoft Windows Media Rights Manager (Windows only) and the Windows Media Player 12 for- mat incorporate extensive DRM capabilities.
- The Association of American Publishers is promoting DRM methodologies for protecting unauthorized copying of e-books. The Internet Streaming Media Alliance (ISMA) offers a content protection specification designed to provide a single, end-to-end encryption scheme for streaming media and file downloading that can be integrated with different key and rights management soft- ware and licensed content protection devices.
- A Digital Object Identifier (DOI), which has been proposed for identifying and exchanging intellectual property, provides a framework for managing intellectual content, linking customers with content suppliers, facilitating electronic commerce, and enabling automated copyright management for all types of media.
- The Digital Millennium Copyright Act of 1998 has set the rules. For an over- view of this emerging battle, check out these URLs:

Obtaining Rights

- License the rights to use copyrighted material before you develop a project around it. Able to negotiate outright owner- ship of copyrighted material. If the owner does not wish to give up or sell ownership

rights, however, you may still be able to license the rights to use that material

- ➢ There are few guidelines for negotiating content rights for use in multimedia products. If you are dealing with content providers who are professionals familiar with electronic media, you may be given a standard rate card listing licensing fees for different uses, formats, and markets. Other content providers or owners may be less familiar with multimedia and electronic uses, and you will need to educate them.

The following items are but a few of the issues you need to consider when negotiating for rights to use preexisting content:

- ➢ How will the content be delivered? If you limit yourself to CD-ROMs or DVDs, for example, you may not be able to distribute your product over the Internet without renegotiation.

Is the license for a set period of time?

- ➢ Is the license exclusive or nonexclusive? (In an exclusive use arrangement, no one else would be able to use the material in the manner stipulated.)
- ➢ Where will your product be distributed? There may be different rates for domestic and international distribution.
- ➢ Do you intend to use the material in its entirety, or just a portion   of it?

Derivative Works

- ➢ **Any** text taken verbatim, or any image or music perfectly copied, clearly requires permission from its owner to incorporate it into your work.

Permissions

- ➢ Permission must also be obtained to use copyrighted text.
- ➢ Sample language follows for requesting permission to reprint copyrighted text material and sample terms that you might expect from the copyright owner.

Dear Sirs:

I am currently producing a computer-based multimedia presentation with a working title of (Title). My publisher is (Publisher, Publisher's Address). The anticipated completion date of the work   is (Month/Year).

It will be used for (Use).

This letter is to request your permission to incorporate into this work a brief passage from: (Title, Author, Edition, ISBN, Page).

The text I wish to reproduce is: (Text).

Please process this request at your earliest convenience and use this letter or your own form to return your approval by mail or fax to: (Your Name/Address).

The undersigned, having full authority, hereby grants permission to (Your Name) to copy and reproduce the referenced text for use in the work cited above.

Signed:

Here are some typical terms you might expect to receive from a large publishing company:

1.	To give full credit in every copy printed, on the copyright page or as a footnote on the page on which the quotation begins, or if in a magazine or a newspaper, on the first page of each quotation covered by the permission, exactly as "Reprinted with the permission of (Publisher) from (Title) by (Author). Copyright (Year) by (Publisher)."

2.	To pay on publication of the work, or within 24 months of the date of granting the permission, whichever is earlier, a fee of: $	.

3.	To forward one copy of the work and payment on publication to the Permissions Department of (Publisher).

4.	To make no deletions from, additions to, or changes in the text, without the written approval of (Publisher).

5.	That the permission hereby granted applies only to the edition of the work specified in this agreement.

6.	That permission granted herein is nonexclusive and not transferable.

7.	That this permission applies, unless otherwise stated, solely to publication of the above-cited work in the English language in the United States, its territories and dependencies and throughout the world. For translation rights, apply to the International Rights Department of (Publisher).

8.	That unless the work is published within two years from the date of the applicant's signature (unless extended by written permission of (Publisher)) or, if published, it remains out of print for a period of six months, this permission shall automatically terminate.

9.	This permission does not extend to any copyrighted material from other sources which may be incorporated in the books in question, nor to any illustrations or charts, nor to poetry, unless otherwise specified.

10.	That the work containing our selection may be reproduced in Braille, large type, and sound recordings provided no charge is made to the visually handicapped.

11.	That unless the agreement is signed and returned within six months from the date of issue, the permission shall automatically terminate.

Copyleft Antipodal to copyright is copyleft. While perhaps a cute play on words, copyleft represents a serious and growing worldwide

Ownership of Content Created for a Project

➤ In the process of developing your multimedia project, interfaces will be designed, text written, lines

of code programmed, and original artwork illustrated with photographs, animations, musical scores, sound effects, and video footage.

➢ Each of these elements is an original work. If you are creating a project single-handedly for yourself, you own the copyright outright. If other persons who are not your employees also contribute to the final product, they may own copyright of the element created by them or may share joint ownership of the product unless they assign or license their ownership rights to you.

➢ Never rely on an oral agreement for assignment of rights.

➢ Should make it your practice in every project to get all assignments of rights or licensing terms in writing to protect everyone involved.

➢ Best friend may collaborate on a project today based on a handshake, but if there is a falling out that results in a dispute over ownership, having the terms in writing will save both of you from an expensive legal battle over who owns what.

➢ The ownership of a project created by employees in the course of their employment belongs solely to the employer if the work fits the requirements of a "work made for hire." To meet the definition of a work made for hire, several factors must be weighed to determine whether the individual is legally an employee or an independent contractor. Among these factors are where the work is done, the relationship between the parties, and who provides the tools and equipment.

Acquiring Talent

➢ After tested everybody you know and you still have vacant seats in the project, may need to turn to professional talent.

➢ Getting the perfect actor, model, or narrator's voice is critical. You don't want to settle for a voice or an actor who is not quite polished or is ill suited to the part, or your whole project may have an amateurish feel.

➢ Professional voice-over talents and actors in the United States usually belong to a union or guild, either AFTRA (American Federation of Television and Radio Artists) or SAG (Screen Actors Guild). They are usually represented by a talent agent or agency that you can find in the yellow pages.

Locating the Professionals You Need

➢ Before you can safely put a professional in front of a camera or a micro- phone, you have to find the talent first and then deal with hiring and union contracts.

Working with Union Contracts

➢ The two unions, AFTRA and SAG, have similar contracts and terms for minimum pay and benefits. AFTRA has approved an Interactive Media Agreement to cover on- and off-camera performers on all interactive media platforms. Figure 11-4 shows some AFTRA definitions related to interactive media.

Definitions

"Material": includes all products (audio or visual) derived from the recordation of the live-action performances of performers, whether or not such performances are incorporated into the final version of the fully-edited Interactive Program produced hereunder by Producer.

"Interactive": Interactive describes the attribute of products which enables the viewer to manipulate, affect or alter the presentation of the creative content of such product simultaneous with its use by the viewer.

"Interactive Media" means: any media on which interactive product operates and through which the user may interact with such product including but not limited to personal computers, games, machines, arcade games, all CD-interactive machines and any and all analogous, similar or dissimilar microprocessor-based units and the digitized, electronic or any other formats now known or hereinafter invented which may be utilized in connection therewith;

"Performers": Persons whose performances are used as on or off-camera, including those who speak, act, sing, or in any other manner perform as talent in material for Interactive Media.

Acquiring Releases

➢ A union talent contract explicitly states what rights you have to the still and motion images and voices you make and use.