University of East London

IM3026
Current Issues in Multimedia

Chapter 5

Multimedia Authoring

Topics

- Definition of Multimedia Authoring
- Multimedia Authoring System
- Multimedia Authoring Paradigms
- Issues in Multimedia Application Design

Multimedia Authoring System

Multimedia Authoring

- **Authoring** means assembly and synchronization of all the media components that have been prepared for final **multimedia** application.
- Two basic features:
  - Ability to create and edit a product
  - Presentation scheme for delivering product

Multimedia Authoring System

Multimedia Authoring System

- Multimedia systems are different from other systems in two main respects:
  - the variety of information objects used in applications
  - the level of integration achieved in using these objects in complex interconnected applications

Multimedia Authoring System

What is Multimedia Authoring System?

- An **Authoring System** is a program which has pre-programmed elements for the development of interactive multimedia software titles.

Multimedia Authoring System

Why Should you use an Authoring System?

- It generally takes about 1/8th the time to develop an interactive multimedia project.

Multimedia Authoring System

Why Should you use an Authoring System?

- Authoring systems for multimedia applications are designed for two primary target user groups:
  - **professionals** who prepare documents, images, audio and full-motion video clips for wide distribution
  - **average users** who prepare documents and other multimedia objects for stored messages or presentations

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

- The **authoring paradigm**, or **authoring metaphor**, is the methodology by which the authoring system accomplishes its task.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

- Scripting Language
- Iconic/Flow Control
- Frame
- Card/Scripting
- Cast/Score/Scripting
- Hierarchical Object
- Tagging

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Scripting Language

- The authoring method closest in form to traditional programming.
- The scripting paradigm tends to be longer in development time (it takes longer to code an individual interaction), but generally more powerful interactivity is possible.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Scripting Language

- Examples:
  - Lingo (Director)
  - ActionScript (Flash)
  - OpenScript (Toolbook)

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Scripting Language

- Here is an example lingo script to jump to a frame :

```
global gNavSprite
on exitFrame
        go the frame
        play sprite gNavSprite
end
```

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Iconic/Flow Control

- The speediest (in development time) authoring style.
- It is best suited for rapid prototyping and short-development time projects.
- The core of the paradigm is the **Icon Palette** and **Flow Line**.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

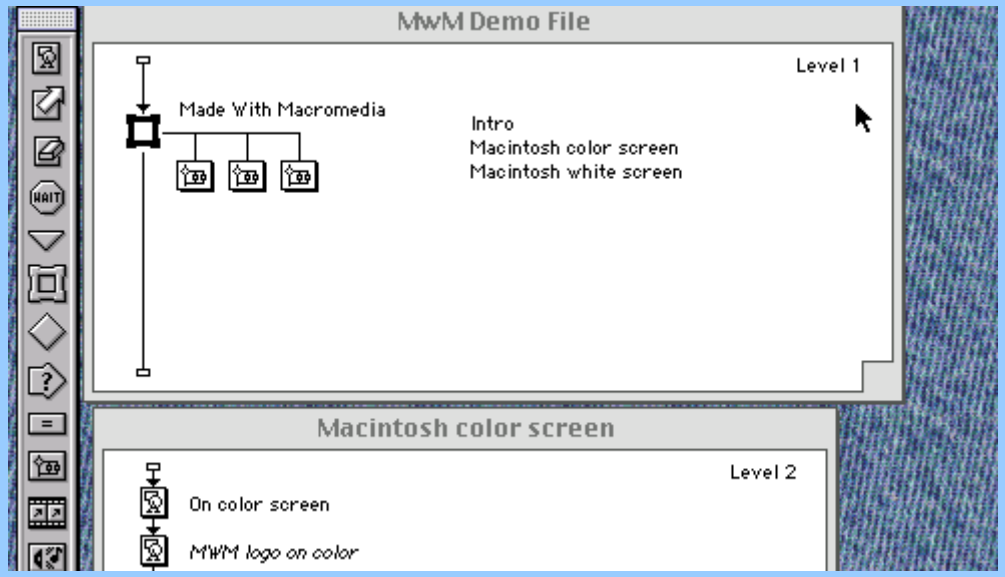
Iconic/Flow Control

- Icon Palette - containing the possible functions/interactions of a program.
- Flow Line - shows the actual links between the icons.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Iconic/Flow Control



Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Iconic/Flow Control

- Example:
  - Macromedia Authorware
  - IconAuthor

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Frame

- Is similar to the Iconic/Flow Control paradigm.
- The links drawn between icons are conceptual and do not always represent the actual flow of the program.
- This is a very fast development system, but requires a good auto-debugging function.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Frame

- Examples:
  - Quest
  - Apple Media Kit

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Card/Scripting

- The Card/Scripting paradigm provides a great deal of power (via the incorporated scripting language) but suffers from the index-card structure.
- It is excellently suited for Hypertext applications.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Card/Scripting

- Examples:
  - SuperCard
  - HyperCard by Apple

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

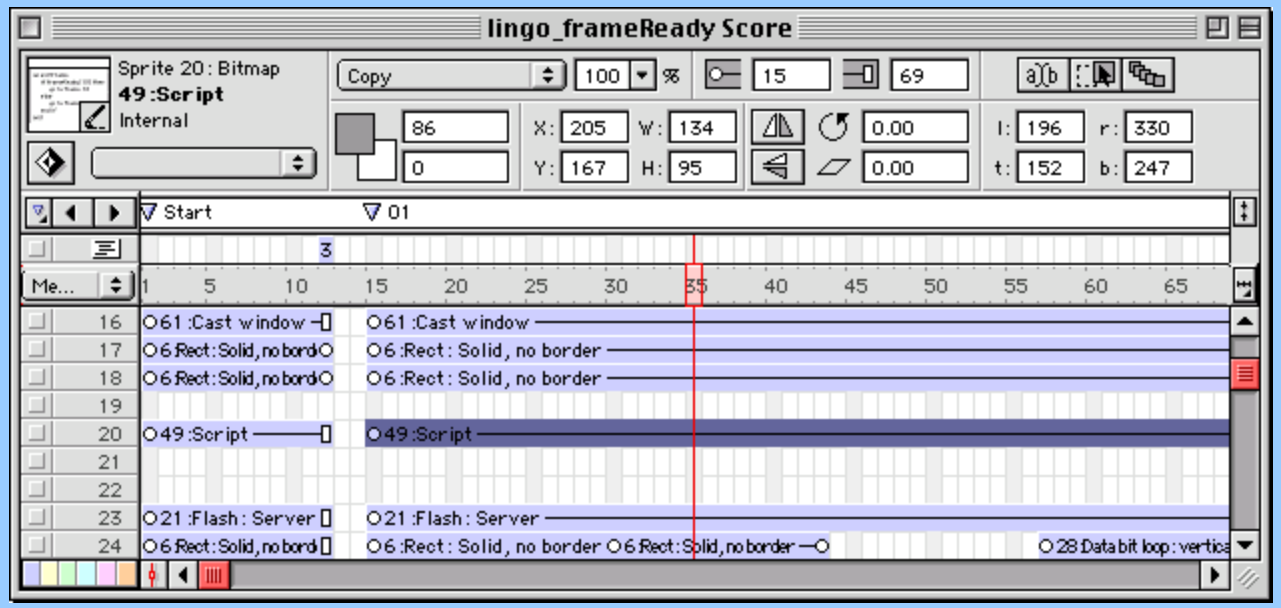
Cast/Score/Scripting

- The Cast/Score/Scripting paradigm uses a music score as its primary authoring metaphor.
- It has the ability to script the behavior of each of the cast members.
- These programs are best suited for animation-intensive or synchronized media applications.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Cast/Score/Scripting



Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Cast/Score/Scripting

- Examples:
  - Adobe Director
  - Adobe Flash

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Hierarchical Object

- The Hierarchical Object paradigm uses a object metaphor (like OOP) which is visually represented by embedded objects and iconic properties.
- Organized into a tree structure.
- Seen often in menu-driven applications.

Multimedia Authoring Paradigms

Multimedia Authoring Paradigms

Tagging

- The Tagging paradigm uses tags in text files to link pages, provide interactivity and integrate multimedia elements.
- Examples:
  - HTML
  - SMIL
  - VRML

Multimedia Authoring Paradigms

Authoring vs. Programming

- **Authoring** involves the assembly and bringing togther of Multimedia with possiby high level graphical interface design and some high level scripting.
- **Programming** involves low level assembly and construction and control of Multimedia and involves real languages like C and Java.

Issues in Multimedia Application Design

Issues in Multimedia Application Design

- There are various issues in Multimedia authoring:
  - Content design
  - Technical design
  - Visual design

Issues in Multimedia Application Design

Content Design

- "In multimedia, there are five ways to format and deliver your message. You can **write it, illustrate it, wiggle it, hear it, and interact with it.**" -- D.E. Wolfgram

Issues in Multimedia Application Design

Content Design

- Content design involve:
  - Scripting (Writing)
  - Graphics (Illustrating)
  - Animation (Wiggling)
  - Audio (Hearing)
  - Interactivity (Interacting)

Issues in Multimedia Application Design

Content Design

Scripting (Writing)

1. Understand your audience and correctly address them.
2. Keep your writing as simple as possible. (e.g., write out the full message(s) first, then shorten it.)
3. Make sure technologies used complement each other.

Issues in Multimedia Application Design

Content Design

Graphics (Illustrating)

- Make use of pictures to effectively deliver your messages.
- Create your own (draw, (color) scanner, PhotoCD, ...), or keep "copy files" of art works.
- Color Themes -- be consistent with the contents.

Issues in Multimedia Application Design

Content Design

Animation (Wiggling)

- Types of animation:
  - Character Animation - humanize an object
  - Highlights and Sparkles
  - Moving Text
  - Video - live video or digitized video

Issues in Multimedia Application Design

Content Design

Audio (Hearing)

- Types of Audio:
  - **Music** - set the mood of the presentation, enhance the emotion, illustrate points
  - **Sound effects** - to make specific points, e.g., squeaky doors, explosions, wind, ...
  - **Narration** - most direct message, often effective

Issues in Multimedia Application Design

Content Design

Interactivity (Interacting)

- Types of Interactive Multimedia Application:
  - Menu driven programs/presentations
  - Hypermedia
  - Simulations / Performance-dependent Simulations

Issues in Multimedia Application Design

Technical Design

- Video Mode and Computer Platform
- Memory and Disk Space Requirement
- Delivery

Issues in Multimedia Application Design

Visual Design

- Some factors that should be considers in the visual design:
  - Themes and Styles
  - Pace and Running length
  - Basic Layout

Issues in Multimedia Application Design

Visual Design

- Themes and Styles:
  - Cartoon theme
  - Traditional theme
  - High tech theme
  - Technical theme

Issues in Multimedia Application Design

Visual Design

- Pace and Running length:
  - Allow a block of text to be slowly read twice.
  - Transition time should be an indication of real-time.
  - Running length.

Issues in Multimedia Application Design

Visual Design

- Basic layouts:
  - make sure that the information delivery path in the layout is smooth, not irregular/jumpy
  - use headlines/subtitles, additional shapes, buttons, fonts, backgrounds and textures to enhance the visual appearance.