Overview

- Importance of text in a multimedia presentation
- Understanding fonts and typefaces
- Using text elements in a multimedia presentation
- Computers and text
- Font editing and design tools
- Multimedia and hypertext

Importance of Text in a Multimedia Presentation

- Words and symbols in any form, spoken or written, are the most common means of communication.
- Text is a vital element of multimedia menus, navigation systems, and content.

Importance of Text in a Multimedia Presentation (continued)

The content of text consists of the characters that make up the words, punctuation, symbols, and so on which convey the meaning or message.

The appearance of text comprises its visual attributes, such as the shape and size of characters, and their layout on the page.
Importance of Text in a Multimedia Presentation (continued)

• The power of meaning
  - Multimedia developers must use words carefully and accurately.

• Factors affecting legibility of text:
  - Size
  - Background and foreground colors
  - Style
  - Leading

Understanding Fonts and Typefaces

• A **glyph** is a graphic representation of a character’s shape. A **character** may be represented by many different glyphs.

• A **typeface** is a family of graphic characters, often with many type sizes and styles.

• A **font** is a collection of characters or glyphs of a single size and style belonging to a particular typeface family.

• Fonts may be embedded in SWF or PDF files.
• Web browsers, but may download them from a remote server.
• Fonts may be classified by their spacing (monospaced or proportional); the presence or absence of serifs (serif or sans serif); their shape (regular, italic or slant); stretch (extended or condensed); and weight (bold, normal or light).
• Fonts are grouped into families, consisting of related versions of a typeface.

Text that is set in Benbo goes well with Benbo italic and Benbo bold italic but looks quite wrong mixed with Cheltenham and Cheltenham italic. (All this text is 12 pt.)

Combining fonts from different families

Monospaced Font: Courier
  Each letter occupies the same amount of horizontal space, so that the text looks as if it was typed on a typewriter.

A monospaced font  A proportional font

Proportional Font: Benbo
  Each letter occupies an amount of horizontal space proportional to the width of the glyph, so that the text looks as if it was printed in a book.

A sans serif font

Serif Font: Univers
  The letters of a serif font often have the tiny strokes known as serifs, hence the name. They have a plain, perhaps utilitarian, appearance.

An italic font  A slanted font

Slanted Font: Lucida Bright Oblique
  The letters of a slanted font share the rightward slope of italic fonts, but lack their calligraphic quality. Slanted fonts are sometimes used when a suitable italic font is not available, but may also be preferred to italics when a more modern look is wanted.
Understanding Fonts and Typefaces (continued)

• Text fonts are intended for extended passages of text, so they must be readable and unobtrusive. Usually they are upright and serif.

• Display fonts are intended for short pieces of isolated text, such as headlines and slogans. They should be eye-catching and are often unconventional.

• Text fonts designed for print may not work well on screen.

Understanding Fonts and Typefaces (continued)

• The study of fonts and typefaces includes the following:
  – Font styles
  – Font sizes
  – Cases
  – Serif versus sans serif

Understanding Fonts and Typefaces (continued)

• Font styles include:
  – Boldface
  – Italic
  – Underlining
  – Outlining

Understanding Fonts and Typefaces (continued)

• Font sizes
  – Font size is measured in points.
  – Character metrics are the general measurements applied to individual characters.
  – Kerning is the spacing between character pairs.
  – Leading is the space between lines.
Relative units are useful for measurement:
- 1 em is equal to the body size (top of h to bottom of p)
- 1 en is .5 em
- 1 ex is equal to the x-height

Kerning is the adjustment of the space between letter pairs (e.g. AV) to make them look more uniform.

Ligatures are composite single glyphs used to replace combinations of letters (e.g. fi) that don’t look right next to each other.

Cases:
- A capitalized letter is referred to as uppercase, while a small letter is referred to as lowercase.
- Placing an uppercase letter in the middle of a word is referred to as an intercap.
Serif versus sans serif
- A serif is the little decoration at the end of a letter stroke.
- Serif fonts are used for body text.
- Sans serif fonts do not have a serif at the end of a letter stroke.
- These fonts are used for headlines and bold statements.

Anti-aliasing is often applied to type to make it appear smoother.

The text elements used in multimedia are:
- Menus for navigation
- Interactive buttons
- Fields for reading
- HTML documents
- Symbols and icons

Choosing text fonts
- Consider legibility and readability.
- Avoid too many faces.
- Use color purposefully.
• Choosing text fonts
  – Use anti-aliased text.
  – Use drop caps and initial caps for accent.
  – Minimize centered text.
  – Use white space.
  – Use animated text to grab attention.

• Symbols and icons
  – Symbols are concentrated text in the form of stand-alone graphic constructs.
  – They are used to convey meaningful messages.

• Symbols and icons
  – Symbols used to convey human emotions are called emoticons.
  – Icons are symbolic representations of objects and processes.

• Menus for navigation
  – A user navigates through content using a menu.
  – A simple menu consists of a text list of topics.
Using Text Elements in a Multimedia Presentation (continued)

- Interactive buttons
  - A button is a clickable object that executes a command when activated.
  - Users can create their own buttons from bitmaps and graphics.
  - The design and labeling of the buttons should be treated as an industrial art project.

Using Text Elements in a Multimedia Presentation (continued)

- Fields for reading
  - Reading a hard copy is easier and faster than reading from the computer screen.
  - A document can be printed in one of two orientations: portrait or landscape.
  - The taller-than-wide orientation used for printing documents is called portrait.
  - The wider-than-tall orientation that is normal to monitors is called landscape.

Layout and Formatting

- HTML documents
  - HTML stands for Hypertext Markup Language.
  - HTML documents are marked using tags – annotations that control a text document’s layout and formatting or indicate its structure.
  - An advanced form of HTML is DHTML.
  - DHTML stands for Dynamic Hypertext Markup Language.
  - DHTML uses Cascading Style Sheets (CSS)

Layout and Formatting (continued)

- In WYSIWYG editors, markup is hidden and the effects are displayed immediately.
- Markup may take the form of readable tags, which can be inserted with any text editor.
- Some of the commonly used tags are:
  - The `<B>` tag for making text boldfaced
  - The `<OL>` tag for creating an ordered list
  - The `<IMG>` tag for inserting images
In visual markup, tags specify aspects of the text’s appearance. In structural markup, they identify logical elements, such as paragraphs, lists or headings.

Structural markup allows global formatting changes to be made easily, permits the same markup to be used for different output media, allows a separation of concerns between content creation and design, and makes it easier for computer programs to analyze and process marked-up documents.

A set of styles can be collected into a style sheet, which may be attached to many documents to ensure a consistent and unified appearance.

The font wars
- PostScript
- TrueType
- OpenType

PostScript, TrueType, and OpenType outline fonts allow text to be drawn at any size without jaggies. Anti-aliasing text and graphics creates “smooth” boundaries between colors.

PostScript
- PostScript is a method of describing an image in terms of mathematical constructs.
- PostScript characters are scalable and can be drawn much faster.
- The two types of PostScript fonts are Type 3 and Type 1.
TrueType
- Apple and Microsoft developed the TrueType methodology.
- TrueType is a system of scalable outline fonts and can draw characters at low resolution.

OpenType
- Adobe and Microsoft developed OpenType, now the international standard.
- It incorporates the best features of PostScript and TrueType.

Character sets
- The American Standard Code for Information Interchange (ASCII) is a 7-bit coding system.
- The extended character set is commonly filled with ANSI standard characters.
- The ISO-Latin-1 character set is used while programming the text of HTML pages.

Character sets (continued)
- Unicode is a 16-bit architecture for multilingual text and character encoding.
- The shared symbols of each character set are unified into collections of symbols called scripts.

Mapping across platforms
- Fonts and characters are not cross-platform compatible.
- They must be mapped to the other machine using font substitution.

FontLab, Ltd.
- Creating attractive texts
Font Editing and Design Tools (continued)

- **Fontographer**
  - Fontographer is a specialized graphics editor.
  - It is compatible with both Macintosh and Windows platforms.
  - It can be used to develop PostScript, TrueType, and OpenType fonts.
  - It can also modify existing typefaces and incorporate PostScript artwork.

Multimedia and Hypertext

- **Multimedia**
  - Multimedia is defined as the combination of text, graphics, and audio elements into a single presentation.
  - When the user assumes control over the presentation, it is called *interactive* multimedia.
  - Interactive multimedia becomes *hypermedia* when a structure of linked elements is provided to the user for navigation and interaction.

- **Hypertext systems**
  - Hypertext is defined as the organized cross-linking of words, images, and other Web elements.
  - A system in which words are keyed or indexed to other words is referred to as a hypertext system.
  - A hypertext system enables the user to navigate through text in a non-linear way.
Using hypertext systems

- Information management and hypertext programs present electronic text, images, and other elements in a database fashion.
- Software robots visit web pages and index entire web sites.

Typical methods for word searching in hypermedia systems are:

- Categorical search (movies, jobs, sports, weather)
- Word relationship
  - automatically compute statistical probabilities based on semantic distance of words or phrases relative to the context of the pages they are embedded on and other similar pages
- Adjacency (within, not within, preceded by, within doc)
- Alternates (or)
- Association (and)

Typical methods for word searching in hypermedia systems are (continued):

- Negation (web multimedia –definition)
- Truncation (patriot* = patriot, patriots, patriotic…)
- Intermediate words - [Mark Bealo] vs “Mark Bealo”
- Frequency
• Hypermedia structures
  - Links
  - Nodes
  - Anchors
  - Navigating hypermedia structures

• Links
  - Links are connections between conceptual elements.
  - Links are the navigation pathways and menus.

• Nodes
  - Nodes are accessible topics, documents, messages, and content elements.
  - Nodes and links form the backbone of a knowledge access system.

• Anchors
  - An anchor is defined as the reference from one document to another document, image, sound, or file on the Web.
  - The source node linked to the anchor is referred to as a link anchor.
  - The destination node linked to the anchor is referred to as a link end.

• Navigating hypermedia structures
  - The simplest way to navigate hypermedia structures is via buttons.
  - Location markers must be provided to make navigation user-friendly.
Two functions common to most hypermedia text management systems are building (authoring) and reading.

The functions of a builder are:
- Creating links
- Identifying nodes
- Generating an index of word

Hypertext systems are used for:
- Electronic publishing and reference works
- Technical documentation
- Educational courseware
- Interactive kiosks
- Electronic catalogs

Text is one of the most important elements of multimedia.
The standard document format used for web pages is called HTML.
Dynamic HTML uses Cascading Style Sheets (CSS) for greater control over design.

Multimedia is the combination of text graphics, and audio elements into a single presentation.
A hypertext system enables the user to navigate through text in a non-linear way.