Multimedia Systems and Design: Review Questions

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Chapter #1

Short Questions

1. What is Multimedia?
2. What are the main methods used for delivering multimedia content?
3. What is VRML, and what are some applications of Virtual Reality (VR)?
4. Define common multimedia terms such as multimedia, integration, interactive, HTML, and authoring and qualify various characteristics of multimedia: nonlinear versus linear content
5. What is the difference between linear and nonlinear multimedia?
6. What is web browser?
    - **Answer:**
    - A web browser is a software application used to access and view websites on the internet. It allows users to retrieve, display, and interact with web pages, which can include text, images, videos, and other multimedia content. Common web browsers include Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari. They work by interpreting and rendering HTML, CSS, and JavaScript code from web servers, enabling users to navigate the web via hyperlinks and other interactive elements.
7. Write a note on 'interactive multimedia' and 'hypermedia.'

Long Questions:

1. Describe several different environments in which multimedia might be used, and several different aspects of multimedia that provide a benefit over other forms of information presentation.
2. What is Virtual Reality(VR)?

Answer: Virtual Reality (VR) is a cutting-edge convergence of technology and creative invention in multimedia. It involves using devices like goggles, helmets, gloves, and other interfaces to immerse users in a lifelike experience. In a VR environment, users can interact with the virtual world; for example, moving closer to an object, turning their head to change their viewpoint, or using their hands to interact with virtual objects.

On the World Wide Web, standards for transmitting virtual reality worlds or scenes in VRML (Virtual Reality Modeling Language) documents (with the filename extension .wrl) have been developed. Intel and software makers such as Adobe have announced support for new 3-D technologies.

VR has practical applications in various fields. For example, high-end flight simulators allow pilots to practice flying aircraft, such as F-16s and Boeing 777s, in a controlled virtual environment before attempting real-life operations. Similarly, merchant marine officer training uses simulators to teach the complex processes of loading and unloading large vessels.

Overall, VR represents a significant extension of multimedia, combining imagery, sound, and animation with interactive feedback, making it one of the most immersive forms of interactive multimedia.

Chapter #2

Short Questions

1. Serif vs. Sans Serif
2. Portrait vs. Landscape
3. Symbols and Icons
4. What are five common extensions used for text files?
5. What is an HTML document, and what are at least four common tags used to create an HTML page or document?
6. What is a typeface?
7. How does a font differ from a typeface?

A typeface is a family of graphic characters that usually includes many type sizes and styles. It is the overall design of the characters. For example, Helvetica, Times, and Courier are typefaces.

A font is a specific style and size within a typeface family. It refers to a collection of characters of a single size and style belonging to a particular typeface family. For example, Times 12-point italic is a font within the Times typeface family.

8. What is x-height, and how can it vary between two fonts?
9. How are type sizes usually expressed, and what is the size of one point in inches?
10. What does ASCII stand for, and what is it used for?
11. What is Unicode, and why was it developed?

Long Questions:

1. Describe the difference between a typeface and a font and list at least three attributes of a font, for example, upper/lowercase, serif/sans serif, PostScript/TrueType/OpenType
2. Write a note on the ASCII Character Set and the Extended Character Set.
3. Define hypermedia, hypertext, links, and anchors.

Chapter #3

Review Questions

1. What is Bitmaps?
2. What are the bitmaps sources?
3. What is vector drawing, and how does it work?
4. Define software used for creating and editing bitmaps.
5. What are shading and rendering?
6. What is subtractive color?
7. What is Additive Color?
8. Discuss the difference between bitmap and vector graphics.
9. What are computer color models, and how does the RGB color model work?
10. Write the name of four types of image file formats.
11. Write a note on color palettes.

Chapter #4

Review Questions

1. What are acoustics and decibels (dB)?
2. What is sound in Multimedia and how to measure it.
3. What is digitized sound, and how is it represented in digital form.
4. Explain the terms "sampling rate" and "bit depth" in digital audio. How do they affect the quality of a digital recording?
5. Differentiate between trimming and splicing in sound editing.
6. What is resampling or downsampling of sound?
7. How does file size relate to the quality of sound?
8. What is MIDI Audio?
9. Compare and contrast the use of MIDI and digitized audio in a multimedia production
10. Write a note on audio file formats.
11. List the important steps and considerations in recording and editing digital audio.
12. Determine which audio file formats are best used in a multimedia project.
13. Write two copyrigh issues in Multimedia.
14. What is timestreching and digital singal processing.

Chapter #5

- What is Cel Animation technique?
- What is tweening in animation?
- What is kinematics?
- Enlist five animation file formats?
- Discuss the principles of animation
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Chapter #6

1. What are three types of connectors used for video?
    - **Answer:** Three types of video connectors are HDMI, DisplayPort, and VGA.

Question: What is MPEG, and how does it work?

Answer: MPEG, or the Moving Picture Experts Group, is a standard for video and audio compression. It allows for efficient storage and transmission of digital video and audio by compressing the data while maintaining quality. MPEG standards are widely used in various multimedia applications, including streaming, digital television, and DVDs.

Question: What are video format converters, and why are they used?

Answer: Video format converters are tools or software used to change a video file from one format to another. They are used to ensure compatibility with different devices or software, reduce file size, or improve quality. Converting video formats can help with playback issues, optimize files for various platforms, and streamline video editing processes.

What are Chroma Keys, and how do they work?

Chapter #7

1. What are the stages involved in a multimedia project?
2. What are the key differences between Windows and Macintosh operating systems?
3. What are memory and storage devices, and how do they differ?
4. Provide an overview of text editing and word processing tools.
5. What is OCR software, and why is it used?
6. Explain the purpose of painting and drawing tools.

Chapter #12

1. Define what a computer network is and how Internet domains, addresses, and interconnections work
2. write the note on Internet History.
3. "Explain the following terms: network, server, LAN, and WAN.
4. What is bandwidth and explain type of connections.
5. "Why do we use web servers, and what services do they provide?"
6. What is web browser and the purpose of search engines.

Chapter #13

Here are some review questions about HTML for an exam:

1. What does HTML stand for?
2. **What is the purpose of the `<head>` and `<body>` elements in an HTML document?
3. What is the function of the `<a>` tag, and how do you create a hyperlink in HTML?
4. How do you insert an image into an HTML document? What attributes are required for the `<img>` tag?
5. Explain the role of the `<div>` and `<span>` elements in HTML layout. How are they different?
6. How do you create an ordered and unordered list in HTML? Provide examples.
7. What is the `<form>` element used for in HTML? Explain the key attributes of form elements like `<input>`, `<select>`, and `<button>`.
8. Write the HTML code for a basic web page.

Answer:

```
<!DOCTYPE html>
<html>
<head>
    <title>My Basic Web Page</title>
</head>
<body>
    <h1>Welcome to My Web Page</h1>
    <p>This is a simple HTML page with a title and some text content.</p>
</body>
</html>
```

This HTML code creates a basic web page with a title in the browser tab ("My Basic Web Page") and displays a heading ("Welcome to My Web Page") along with a paragraph of text.