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**Oct 30th**

**Lab 3 – Graphics and Color, Page Layout, and Site Navigation**

**Goals:** In this lab you need to read the 3 above chapters and answer the following questions.

|  |  |  |
| --- | --- | --- |
| **Points** | **Submission** | **Due date** |
| **5** | Write your answers in this file, save it as a .pdf and submit it on or before the due date. | Monday Oct 30 |

**Part 1: Graphics and Color [2 marks]**

Create a table that compares the images formats: GIF, JPG, PNG and SVG. In the comparison you need to discuss the following 4 features for each format.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **GIF** | **JPG** | **PNG** | **SVG** |
| **Compression and file size.** | no color information is  discarded when the image is compressed | The higher the compression, the lower the image quality | lossless format compresses bit images to  smaller file sizes than GIF | generally small and efficient, especially for simple or geometric graphics. |
| **Transparency support.** | Yes | No | Yes | Yes |
| **Color depth: how many colors are supported.** | The color depth of GIF is 8-bit,  no more than 256 colors | JPGs are 24-bit RGB images that allow millions of  colors | PNG images can have a 32-bit color depth with alpha channel is added | no predefined limit of colors or shades that can be used |
| **Scalability and quality: what happens if we resize the image.** | reducing the image size significantly can lead to a loss of detail  enlarging the image size can lead to a pixelated or blocky appearance | significant reductions can result in a loss of detail and a decrease in image quality  enlarging a JPEG image often leads to visible pixelation | retains its quality, and you can reduce its dimensions without a significant loss of detail or clarity.  making it larger, can lead to quality loss, it can appear pixelated or blurry, especially if the original image has a lower resolution | No loss of detail since SVG is made up of mathematical definitions of shapes, not pixels |

**Part 2: Page layout and site navigation [3 marks]**

Consider the following HTML code:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Simple Web Page</title>

<style>

/\* Add some basic CSS styles for the header and navbar \*/

header {

background-color: #333;

color: #fff;

…

padding: 10px;}

nav {

background-color: #444;

padding: 10px;

…}

nav a {

color: #fff;

text-decoration: none;

margin: 0 10px;

display: block;}

nav a:hover {…}

p {padding: 20px;}

</style>

</head>

<body>

<header>

<h1>Welcome to My Website</h1>

</header>

<nav>

<a href="#">Home</a>

<a href="#">About</a>

<a href="#">Contact</a>

</nav>

<main>

<p>This is a simple web page with a header, a paragraph, and a navigation bar with three links. You can replace this text and customize the links as needed for your webpage. </p>

</main>

</body>

</html>

For each of the questions below, state the CSS property that should be added or removed, update the code accordingly, take a screenshot of the webpage after each update, and include it with the answer. For adding a property, add the required line of code whenever you see a highlighted 3 dots (…).

1. Which CSS property should be added to both the header and the navbar so that the text in these elements get aligned to the center of the page?

**text-align: center;**

1. Which CSS property should be deleted to make the links in the navbar displayed inline or horizonal?

**Remove display: block;**

1. Which CSS property should be added so that the navbar links appear underlined when the mouse hovers over them?

**Under nav a:hover add text-decoration: underline;**