Multimedia 1 – Mid Term

1. Give an example of a difference between analog and digital and explain why this distinction is important in multimedia production.
2. In base 10 (our ‘regular’ number system, the place of the digits stands for ones, tens, hundreds, thousands, ten thousands, hundred thousands, etc. What are the first 8 places in the binary number system?
3. In the first lecture I challenged you collectively by stating that you didn’t have any pictures or music or videos on your computers, tablets or phones.   
    a) Why is this true, and   
    b) why is this critical to understand as a multimedia professional?
4. What are the primary factors that determine the overall file size of a digital image?
5. You have three visually identical images. All images are 800 pixels wide by 600 pixels high.

* One image is a JPEG set at lowest quality
* One image is 24 bit color BMP
* One image is 8 bit color BMP

Place the images in rank from largest file size to smallest file size and   
**Explain why** you think that is the most reasonable order

1. Describe indexed color in images and identify which image formats use indexed color.
2. Describe how 24 bit color (or true color) works and how 16.7 million colors are possible with it.
3. Consider one of your screen designs for Project 1 and sketch it as a high-fidelity wireframe, showing the main regions of the screen. Comment on the overall screen layout with respect to your use of Contrast, Alignment, Repetition and Proximity. (That is to say, if you used these principles, explain how, and if you didn’t, explain how the page could be better designed to reflect these ideas.)
4. Convert from Binary to Hexadecimal  
     
   a) 00001010  
     
     
   b) 00011111  
     
     
   c) 10000111  
     
     
   d) 11110000  
     
     
   e) 01010101

f) 00001011  
  
  
g) 00011110  
  
  
h) 10000110  
  
  
i) 11110001  
  
  
j) 01010100

1. Convert from Hexadecimal to Binary  
     
   a) 77  
     
   b) AD  
     
   c) 0F  
     
   d) F8  
     
   e)FEA4
2. Careful now! What is ?
3. What are the RGB Values for the following colors (you may use *hexadecimal* or *decimal* notation, just be consistent!). Put each color’s individual value in the appropriate column:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Red value: | Green value: | Blue value: |
| Black |  |  |  |
| White |  |  |  |
| Red |  |  |  |
| Green |  |  |  |
| Blue |  |  |  |
| Cyan |  |  |  |
| Magenta |  |  |  |
| Yellow |  |  |  |

1. Text seems almost too mundane to consider when developing multimedia, but we learned that Typefaces can be a pitfall. What can you do to ensure that your multimedia screens appear as you intend when you move your project off your development system to a client’s system?
2. Why is it important to save your original media files uncompressed or using lossless compression?
3. Sketch three possible screen wireframe layouts for a multimedia presentation about yourself. One for the home screen, one for your biography, and a third for your hobbies. Annotate them to show what elements you’re using where:
4. Considering images, what are the possible ways to reduce the size of the file that is stored in memory.
5. Considering audio files, what are the possible ways to reduce the size of the file that is stored in memory?
6. Considering video, what are the possible ways to reduce the size of the file that is stored in memory?
7. Explain how sound gets digitized with respect to sampling and quantization. Feel free to draw diagrams to help you illustrate it.
8. What was the most surprising thing you discovered about the multimedia production process as you attempt to complete project 1 and how will that inform your planning and scheduling of project 2?