Problem Set 5: Multimedia

due Monday, 17 November 2007, by 7:35 P.M

This problem set requires the use of (any version of) Adobe Photoshop, which is installed on computers in the Science Center and at 53 Church Street; it is also available for download as expiring freeware on the course's website.

You must submit this problem set via email to **psets@computerscience1.org**.

Multiple Choice (without the choice). (10 points each.)

What file format is each of the descriptions below describing? For each description, write the name (or, if appropriate, acronym) of the file format being described. Rest assured that more than one file format might be described by some description; you need name only one. However, you should not name the same file format more than once.

1.   supports transparency
2.   lossy compressed graphics format
3.   streaming video format
4.   file format on store-bought DVDs
5.   format of Windows wallpapers

Things that make you go hmmmmmm.   (10 points each.)

6.   Many institutions have strategic initiatives in place to make more full and innovative use of technology. Harvard University films some courses' lectures and makes them available to students online. Potential buyers can view sample book chapters online at Amazon.com. Customers at some Starbucks can burn music to CD-Rs. MIT offers many of its undergraduate course materials online for free via OpenCourseWare. Cite at least three changes, upgrades, or initiatives that an institution of your choice (*e.g.*, your business, school, employer, club, *etc*.) has recently implemented or could implement to utilize more innovatively or fully existing *multimedia* technology. In a sentence or two, explain why each change, upgrade, or initiative is helpful.

7.   In recent years, the Recording Industry Association of America (RIAA) has monitored illegal file-sharing and pursued legal action against its participants. In a short paragraph, how, technically speaking, might the RIAA be able to know who is sharing what? (Never mind discovery through lawsuits; focus only on technological means.)
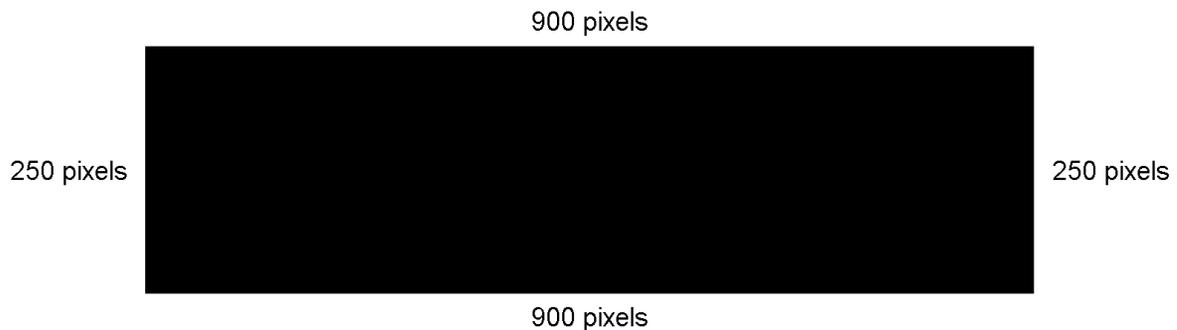
Your First Exhibit! (20 points.)

8.   If you haven't noticed already, the banner atop E-1's website changes all by itself sometimes (as do the site's colors). Moreover, you can manually change the banner yourself, simply by clicking on it.

In the sections following Lecture 6, you were introduced to Adobe Photoshop, the de facto standard graphics-design tool for Mac OS and Windows. Your mission for this question, if you choose to accept it—just kidding, you have to accept it—is to design your own, "signed" banner for the course's website! Even though our banners are photographs, yours need not be! While the design of your banner is almost entirely up to you, here are just a few requirements.

- You must save and submit your banner in .psd format as well as in .gif or .jpg format.[1] You should name your GIF or JPEG surname.gif or surname.jpg, where surname is your last name.
- The resolution of your banner must be 900 pixels wide by 250 pixels tall at 72 dots per inch.
- Your banner must be more than just, say, a photograph cropped to size. You must utilize at least one other feature (*e.g.*, some tool or filter) of Photoshop whilst designing your banner.
- Your name, your initials, or "by Anonymous" must somehow be incorporated into your banner.

To be clear, the below depicts (a shadow of) the banner you're to design!

You will not be graded on the artistic merits of your graphic. However, you will be graded on the basis of your fulfillment of this problem's guidelines as well as on the extent to which you took advantage of the design techniques taught in section.

More importantly, though, have fun playing with Photoshop!

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[1] If your files are too large to fit in an email, please try to burn your images to a CD-R or DVD-R or loan us a USB stick with your files on it. If uncertain how to make any of these alternatives happen, though, simply drop us a note, and we will advise!

Your First Critic. (10 points.)

9.   In one or more paragraphs, each of five sentences or more, describe the work that went into your banner's design. You may want to use one or more of the following questions as points for departure. What decisions did you make during the design process? What techniques did you use? What effects did you deploy? What filters did you try out but decide not to use? What features of Photoshop did you stumble upon during your work?

Extra Credit.   (5 points.)

10.   It is not uncommon for graduates of Computer Science E-1 to exclaim, the moment they submit their final project,

<div align="center">

"I survived Computer Science E-1!"

</div>

Never mind those other things they say.

Anyhow, it is in expectation of this sentiment that we launch a contest—a contest to determine the author of this year's "I survived Computer Science E-1!" mousepad. Come semester's end, each student will exit E-1 with this souvenir in hand: a mousepad bearing the winning design.

For up to five points of extra credit and a shot at having your work immortalized, design a candidate for Fall 2008's mousepad, with your name or initials somehow incorporated. Your design should somehow incorporate the notion of surviving E-1, and it must explicitly contain the phrase "I survived Computer Science E-1," "I survived CSCI E-1", or "I survived E-1." Your design's resolution must be 9.25 inches wide by 7.75 inches wide at 300 dots per inch. Moreover, it must allow for a bit of curvature around the edges, as suggested by the figure below.

In fact, be sure to keep any text or important content at least 0.75 inches away from the mouse pad's edges, lest any requisite cropping detract from your design.

You must submit a .psd version of your final work as well as a .jpg version.[2] These files should be named surname-survival.psd and surname-survival.jpg, where surname is your last name.

Go on, give it a shot. You have nothing to lose!

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[2] If your files are too large to fit in an email, please try to burn your images to a CD-R or DVD-R or loan us a USB stick with your files on it. If uncertain how to make any of these alternatives happen, though, simply drop us a note, and we will advise!