Lab 02

First Semester 2014 Sharat

CS 251: Lab 02: [Presentation Contd.] HTML5, Javascript, LaTeX

- Handed out: 02/08 Due: 06/08 Wed 11pm
- Please write (only if true) the honor code. If you used any source (person or thing) explicitly state it. You can find the honor code on the web page.

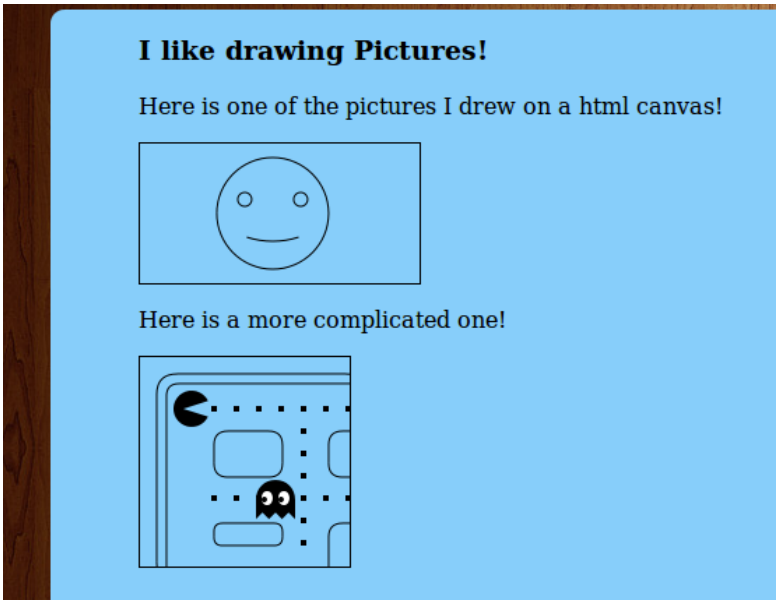
The Tasks

1. The purpose of this task is to present your work like in the first lab. However, we will try to do a couple of more fancy, geeky things. (I wouldn't do some of this in a course for minor seeking other department folks, for example).

   (a) In this part, you will upload your web page to the mars web server so that everyone can access your page. However, you want a page more cool than your Lab 01.

   HTML has been around, and there has not been too much going on between HTML 1 (1990) and HTML 4 (1997). The new kid on the block is HTML5 coming as a competition to proprietary works like Flash, and so you want to have these ingredients

   - Media player. Include your favourite video here. It'd be good to have something about you, e.g., your receiving an award somewhere. No offensive videos, and no videos which are proprietary, please.
   - HTML Canvas (see more below and see example below), and HTML table (see even more below).



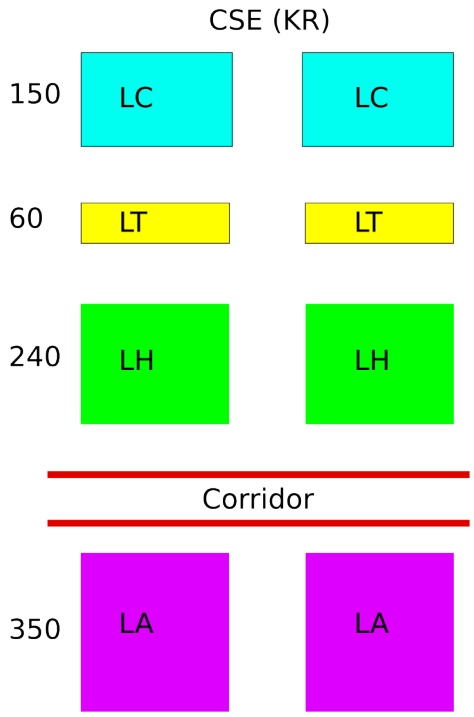
How we will score you: This section carries 30 marks.

- Basic HTML5 compliant page that runs when we do http://www.cse.iitb.ac.in/~X when X is submitting. Recall Lab 01 which contains an index.html file (which also had a phantom link to Lab 02). What should happen – a user will visit your Lab 01 page and then using hobbies.html, (s)he will come to this HTML 5 compliant page. So go back and fix your Lab 01 so that Lab 02 works and that hobbies.html is correctly linked. So the subpart here is linking.
  What should the HTML 5 contain? It should have the media mentioned above, and it should also contain a HTML table that has your current time table (similar to what you get when you go to the ASC page and visit your timetable).
  If you do this right, you get 10 marks for (essentially) loading on mars, linking, and having an HTML 5 page with the ingredients listed (the canvas itself can be blank for this part).
- hobbies.html has a HTML Canvas. This canvas contains a simple drawing which you should emulate. It need not be identical (e.g. the eyes could be looking to the right) but it should have at least 3 drawn elements.
  If you do this right, you get 20 marks

(b) A picture is worth a 1000 words, and these days no document is considered good unless you have pictures. (Contrast images vs pictures). Now pictures like the one you have created above are all fine, but to create more complex ones in vector format you need a tool like Inkscape. In this task, you will be using Inkscape to make a model of the lecture hall complex (LHC). You will also make a very tiny LaTeXdocument.

- Make a diagram indicating the layout of one floor of the lecture hall complex. You may have to visit the LHC for this. Pick the most interesting floor which has optimal number of rooms (optimal is defined to be room multiplied by average number of people).
- Indicate corridors and rooms properly
- Display this image on a web page and link that page to your timetable created in Part (a). Name the image as lhc.png

An example is shown here. This example is very crude so do not to copy the exact design but be creative!



How we will score you: This section carries 40 marks.

- Here we want a basic 2D schematic like the one shown. You probably want to show where the instructor is, what facilities are there in the room. This part carries 15 marks. You should create this file in a the `svg` vector format and upload the vector file also.
- We are expecting something interesting here such as a 3D projection (e.g. isometric). At least one thing should be shown (e.g., when clicked). For example, I'd like to see the whole building so that we know where LC 102 is and where LC 202 is. Or you click a part of the image and something interesting should happen. See `http://www.cse.iitb.ac.in/page191?Building=KR&floor=0` and `http://www.cse.iitb.ac.in/page191?Building=KR&floor=1` for inspiration. This part carries another 15 marks.
- In your submission to upload include a LaTeXdocument called lab2.tex which contains the same image as that appearing on your page. Also create a table of some cool mathematical formulae (perhaps some of this you could not do in Javascript). This part carries 10 marks. Your LaTeXdocument should correctly refer to the same image file, so do not duplicate the image file.

(c) Challenge question. All of you most likely have played the game of tic-tac-toe when you were children (and maybe even now in my class!). For those of you who are not familiar with the game see http://en.wikipedia.org/wiki/Tic-tac-toe. The goal of this task is to create the game of tic-tac-toe in Javascript and place it in on the HTML page.

This part carries 30 marks.

How we will score you:

- A tic-tac-toe board in which X's and O's appear on clicking on a particular square (10 marks)
- In the previous step, we simply have items appearing on clicks. Next, take care of turns (i.e., fill X's and O's alternately) (10 marks)
- Finally detect when the game finishes and declare the winner (10 marks)
- Other cool things like music, reset, etc. (extra credit – goes to your Karma. We will record it but if you don't do this you can still earn 100 marks out of 100)

The board should look something like this