

CS 6314, Fall 2015
Dr. Mithun Balakrishna
Homework 1
Due September 25th, 2015 11:59 pm

A. Submission Instructions:

- Submit your solutions via eLearning.
- Please submit a single zip file with the following files:
 - For programming questions:
 - Source code/script file(s).
 - A ReadMe file with instructions on how to access the demo.
 - For all other questions, a PDF/Doc/PS/Image file with the solutions.
- Late Submission Penalty:
 - up to 2 hours late — 10% deduction
 - 2 - 4 hours late — 20% deduction
 - 4 - 12 hours late — 35% deduction
 - 12 - 24 hours late — 50% deduction
 - 24 - 48 hours late — 75% deduction
 - more than 48 hours late — 100% deduction (zero credit)

B. Problems:

1. Initial Home Page (75 points)

Create an initial home page named index.html and placed in the public_html directory under your UTD student home folder. The URL to access this page will be:

<http://www.utdallas.edu/~studentnetid>

In the above URL, replace “studentnetid” with your own student netid.

Note: It is acceptable if the page is hosted and accessible on a non-UTD network or as a local file(s) as well.

The index.html should be a valid and well-formed XHTML document.

*The page is to be created using a plain text editor such as WordPad, NotePad, Emacs, VI, etc. You **CANNOT** use any graphical web-page authoring application such as FrontPage, DreamWeaver, etc.*

Please include the following components/features in your home page:

- atleast three (3) meta tags
- atleast five (5) HTML5 semantic/structural tags

- image (please use a small image that is under 100 KiloBytes in size)
 - an image map with atleast four (4) areas
- unordered list
- ordered list
- definition list
- table with at least three (3) columns and three (3) rows
- form with the following elements:
 - text input box
 - checkbox
 - radio buttons
 - reset button
 - atleast five (5) HTML5 input control and validation elements
- link to the UTD CS department webpage
- HTML5 Geolocation API
- HTML5 Drag and Drop API
- HTML5 Storage API
- Create an external style sheet (firststyle.css) that should customize the styles for at least ten (10) elements
 - Include atleast two (2) class based style selectors
 - Include atleast four (4) ID based style selectors

2. Define in your own words the following (25 points):

- a. (5 points) CSS Box Model with an example
- b. (20 points) Design a scalable, service-oriented architecture for a website that provides the following services:
 - File upload
 - File download
 - File Search/Browsing

The architecture should include the following features:

- Redundancy
- Sharding
- Distributed caching
- Indexing
- Distributed Queuing