REVISION HISTORY

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IEMS5718 WEB PROGRAMMING AND INTERNET SECURITY (2024-25 TERM 2)
ASSIGNMENT MARKING CHECKLIST V1

PHASE 1: LAYOUT (DEADLINE: 2 FEB 2025)   (SUBTOTAL: 14')

The appearance of a website plays a big role in attracting visitors. In Phase 1, you will create a **dummy** shopping website from scratch by hardcoding the basic elements. (**dummy** means categories and products are only for the purpose of displaying. Customers can not purchase goods at this moment.)

Figure 1 shows an example of a shopping website layout. **Note** that the layout you design must be different from the example we provide, at the meantime involving all the necessary features we list below. You can draw your inspiration by referencing popular shopping websites (I.e. https://pns.hk, https://www.walmart.com).

Declaration:

1.   JavaScript is **NOT** necessary at this phase.
2.   Front-end frameworks are allowed in designing your website.
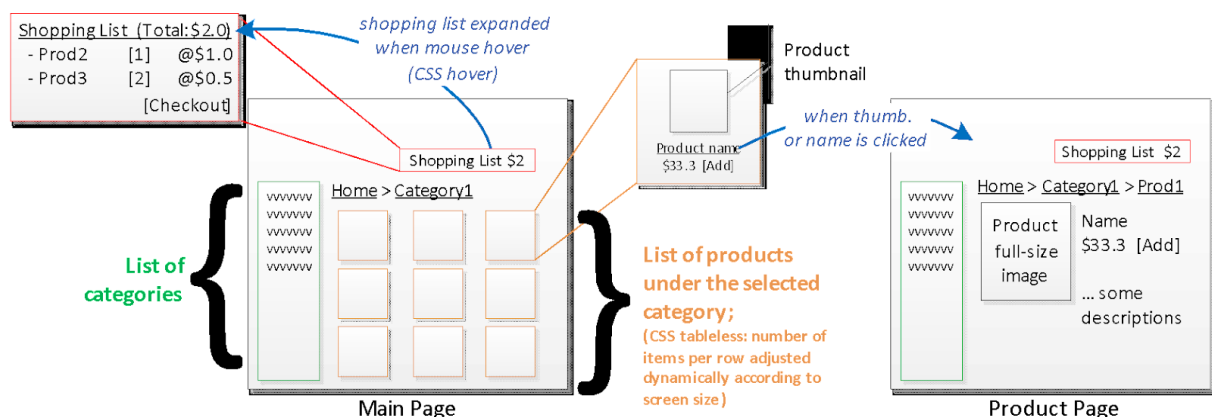
1.   HTML: Make good use of semantic HTML <u>throughout the whole assign.</u>   _____/
        2' o <header>, <nav>, <footer>, <div>, <section>, <ul>, …
2.   CSS: Clean separation of HTML, CSS and JS code and files <u>throughout the whole assign.</u>   _____/ 2'
        o   No inline CSS and JS are allowed
        o   No HTML for styling use, e.g. <center>, align="center", etc
        o   Tolerance: < 5 exceptions
3.   *Main page* demonstrates the use of "CSS **tableless**" *product list*   _____/ 2'
        o   Each product has <u>at least</u> its own thumbnail, name, price and *addToCart* button
                 •   One approach is to use flexbox
        o   When the thumbnail or name is clicked, redirect to the corresponding product page
4.   *Main page* demonstrates the use of "CSS hover" *shopping list*   _____/ 3'
        o   When displayed, it will cover any elements behind
        o   Input boxes are used for inputting quantity of each selected product
        o   A checkout button that <u>will be</u> used to submit the list to Payment Gateway
        o   The shopping list is displayed in **both** main and product pages
5.   *Product page* provides product details   _____/ 2'
        o   To show a full-size or bigger image, name, description, price, and *addToCart* button
6.   Both main and product pages should include a hierarchical navigation menu   _____/ 3'
        o   e.g. Home   or   Home > Category1   or   Home > Category1 > Product1
        o   They are hyperlinks that can redirect users to an upper level of the hierarchy

7. (Bonus) Try to host the static web page with **GitHub** or any Cloud services _____ / 2' o Zip the repository and also submit it to the BlackBoard before the deadline.

PHASE 2A: SECURE SERVER SETUP (DEADLINE: 16 FEB 2025) **SUBJECTED TO CHANGE** (SUBTOTAL: 8')

In this phase, you are required to setup a secure server for later development. Some guidance will be given in tutorial.

1. Instantiate a free **Virtual Cloud Machine** (**Amazon EC2** or other free VPS, e.g., GCP, Azure) _____ / 1'
   o Details of the Free Usage Tier: http://aws.amazon.com/free/
   o *Credit Card required
   o **Azure** student account: https://azure.microsoft.com/en-us/free/students
   o With a Linux distribution, install only Apache/Nginx, Node JS and SQL DB (e.g., MySQL, SQLite, PostgreSQL)
      ▪ To minimize attack surfaces, always install only what you need
2. Apply necessary security configurations _____ / 5'
   o Apply proper firewall settings at Cloud: block all ports but 22, 80 and 443 only
   o Apply proper updates for the server software packages in a regular manner
   o Hide the versions of OS, Web Server and Node in HTTP response headers
   o Do not display any warnings and errors to the end users
   o Disable directory index in Web Server
3. Configure the VM so that your website is accessible at http://sxx.iems5718.ie.cuhk.edu.hk _____ / 2'
   o Apply for an elastic public IP, and ALWAYS associate it with the instantiated VM
   o Submit your elastic IP (or Static IP or Domain name) through CUWebForm before the deadline
   o TA will then assign you a domain name and configure the DNS mapping for you
   o Upload all your pages to the server. They should then be accessible through:
      ▪ http://[your-own-public-IP]/, or
      ▪ http://sxx.iems5718.ie.cuhk.edu.hk/

   If you are using Azure Web Services, then your website should be accessible at [your domain].azurewebsites.net, or with a Static IP.

   Webform: https://cloud.itsc.cuhk.edu.hk/mycuform/view.php?id=2192448

   If your IP/Domain is updated after the deadline, please send an email to TA/Instructor.