Web Technologies - Module A Project
Time: 02:30

Speed Test

IFSC2024_TP17_EN

Iran's first International
Friendly Skills Competition

Introduction

In this speed Test Project. You only need to complete the randomly picked one during the competition. Please follow the instructions to know which one to implement.

For each Easy, it is worth 0.5 point.

For each Medium (Normal), it is worth 1 point.

For each Difficult (Hard), it is worth 1.5 points.

Part B

B1: CSS Counter (Medium)

Develop a HTML page with a few boxes containing numbers. Each box should be 80px by 80px. And the numbers are centralized in the box. Upon clicking each box, the sum will be tallied and displayed below. Eg, if the user clicks on both 10 and 64, the sum should display 74. You are only allowed to use **HTML and CSS** for this program. Upon clicking each box, the box should be highlighted in gold color and the border width becomes thicker.

B2: 9–Images (Medium)

Create an image grid container using CSS only. The maximum capacity of the container is nine. If the number of images is overloaded, the number of excess–images is displayed in the last grid.

You can only edit the style.css file.

Tips: the "Remove First Image" button is the function provided.

1

Lorem ipsum dolor, sit amet consectetur adipisicing elit. Blanditiis fugit magni ad cum beatae vero deleniti, sequi repellat qui saepe dolore, perferendis illum, dolorem quisquam repellendus. Consequuntur ab architecto amet?

+ 2

Remove First Image

B3: Particle Button (Medium)

Create an interactive animation using CSS only. When a user clicks "Click Me!" Button, many particles with diffusion effect will be displayed around the button.

You can only edit the style.css file.

Click Me!   Click Me!   Click Me!

B4: Dice Roller (Hard)

Create a 3D random dice roller. **(use HTML/CSS only)**

Clicking on the screen will trigger a rotation animation starting from the current dice eye.

The rotation animation must rotate at least three times in any direction (x,y,z).

The dice results are random.

When the result of the dice is rolled, the current number of eyes on the dice should appear above the dice.

Use the dice image provided.

B5: 5 Stars Rating Animation (Medium)

Create a 5 Stars Rating UI using the provided "stars.png" image. **(Use HTML/CSS only)**

When you hover your mouse over a star, an animation that smoothly fills in from the left to the star's score proceeds.

Score 0.5 point unit: 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5

Example

Refer to animation.mp4 for the star filling animation.

B6: CSS marquee effect (Hard)

Please create the animation shown in the video.

The animation must run infinitely, **without visible "jump effect" between iterations**.

You are not allowed to use <marquee></marquee> nor JavaScript to complete this task.

B7: Scroll Indicator (Medium)

Implement a scroll indicator that fills in the width from 0% to 100% based on the scrolled amount of the page.

Note that you are not allowed to use Javascript or modify the HTML file to do this.

B8: Card Flip (Easy)

According to the provided animation, create a two-sided card that rotates 180 degrees when the mouse hovers over it and displays the back of the card.

You are not allowed to use the position command in doing this project.

Part C

C1: Keyword Highlighter (Medium)

In the media file, you are provided with a paragraph of text. You are expected to copy the text into your HTML page and implement a search keyword function. When the search button is clicked, highlight all the words that match the search string. The highlight color should be random. Kindly note that the search is case-sensitive.

Contents

This is a WorldSkills Competition Paper D. In this paper, you are expected to design a poster to welcome visitors to your country.

[_____] [Search]

C2: Color Transform (Easy)

Develop a color transform application, when you input HEX or RGB format color value. The result area will show the color format and transformed (HEX or RGB) value.

Input your color

Result

The color type is : { RGB ‖ HEX }
HEX value : { Value sample : #ffffff }
RGB value : { Value sample : rgb(255,255,255) }

When the input value is not HEX or RGB value, the result area should show "Error".

Input your color

#abcdefj

Result

Error

C3: Particle Clock (Hard)

Develop a particle clock effect. The clock should be created by many particles. When the time is changed, the changed number will have a colorful particle animation. The effect sample was provided in the clock.gif file.
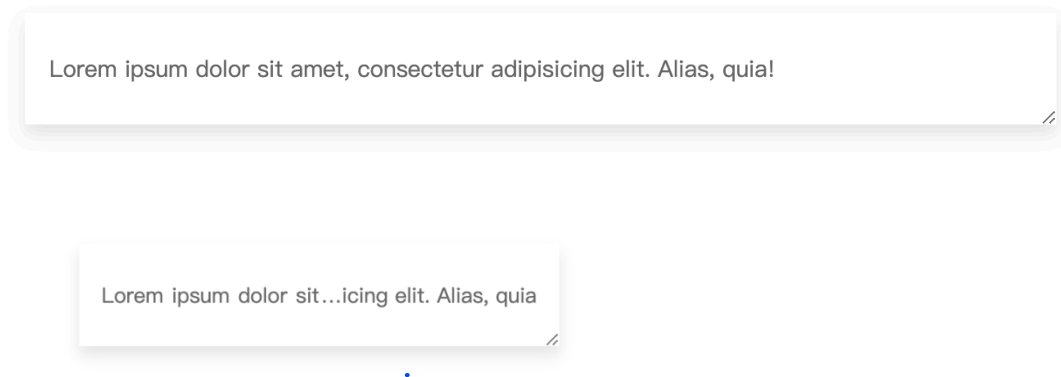
You can modify any files.

C4: Text Ellipsis (Medium)

When the text container resizes, we keep the text online and have ellipsis in the middle.

You can edit any files to implement the effect. The effect sample was provided in ellipsis.gif file.

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Alias, quia!

Lorem ipsum dolor sit…icing elit. Alias, quia

C5: Like button (Hard)

You have been provided with a web page that has several fake user comments. There is a "thumbs up" and "thumbs down" button associated with each comment, but there is no functionality associated with the buttons.

Your task is to make these buttons functional. There are several requirements for the buttons:

A user can only have one button selected for each comment (either the "thumbs up" or "thumbs down" but not both)

A user can click back and forth between each button.

The user should be provided feedback for which button is selected.

Clicking the same button again will remove the selection from that comment (i.e. no like or unlike selected)

In addition to the buttons associated with each comment, there is a button at the bottom of the page called "check ratings". At any time when this button is clicked, the user should be presented with summary information that includes the total number of "thumbs up" and "thumbs down" buttons that are selected.C12: Native JavaScript Routing (Medium)

Three html files have been provided, named as follows: a.html, b.html, and c.html.

- Each html file imports myScript.js.
- Each html contains different contents, with links that can be linked separately to a.html, b.html, and c.html.

You are to complete myScript.js so that when links are clicked the page is not refreshed but the URL and body area of the page changes correspondingly. Packages are not allowed.

C6: Markdown Preview (Hard)

You are to create a webpage with two sections (left and right).

Inputting Markdown scripts on the left section should lead to a "live" preview of the result on the right section.

Definition of "live": any character inputted in the left section should be immediately executed and shown on the right section.

Supported functions (in order of priority):

1. Paragraphs and line breaks format: (support tab not needed)
2. Heading format: Ex: # Heading
3. Bold format: Ex: **bold**
4. Horizontal rule format: Ex: ---
5. List format: Ex: - item
6. Link format: Ex: [example link] (http://example.com/)
7. Image format: Ex: ![alt text](img.jpg)

Note: Markdown is a lightweight markup language for creating formatted text using a plain-text editor. John Gruber and Aaron Swartz created Markdown in 2004 as a markup language that is appealing to human readers in its source code form. Currently, it is commonly used on platforms such as GitHub and SourceForge, etc. (No media file)

C7: Roman Converter (Hard)

Create a function that will take either a string containing a roman numeral, or an integer.

I → 1

V → 5

X → 10

L → 50

C → 100

D → 500

M → 1000

Given a string, return the integer value of that roman numeral.

Given an integer, return the equivalent roman numeral.

No media is provided.

Part D

D1: Answer Checker (Medium)

You are provided with two CSV files. One file contains the actual answers, and the other file contains the submitted answers. You are expected to develop a web page, displaying a table showing the question number, actual answer and submitted answer. At the bottom of the table, display the scores for this submission. Eg, if there are 8 correct answers and there are 10 questions. Display the score as "8/10".

Question	Actual Answer	Submitted Answer
1	A	A
2	B	A
3	B	C
4	C	C
5	D	D
6	A	C
7	B	B
8	C	A
9	D	D
10	C	C

Score: 6/10

D2: Array manipulation (Easy)

You are NOT allowed to use PHP loop for this question (e.g. while, do while, for, foreach)

In your index.php program, create an array containing the numbers 1 to 40.

When the file is run using index.php?factor=n, the content of the array changes to indicate which are the numbers that are multiple of n.

Example:

For example index.php?factor=4

```
Modified Array
(
    [0] => 1
    [1] => 2
    [2] => 3
    [3] => 4 is a multiple of 4**
    [4] => 5
    [5] => 6
    [6] => 7
    [7] => 8 is a multiple of 4**
    [8] => 9
    [9] => 10
    [10] => 11
    [11] => 12 is a multiple of 4**
    [12] => 13
    [13] => 14
    [14] => 15
    [15] => 16 is a multiple of 4**
    [16] => 17
    [17] => 18
    [18] => 19
    [19] => 20 is a multiple of 4**
    [20] => 21
    [21] => 22
    [22] => 23
    [23] => 24 is a multiple of 4**
    [24] => 25
    [25] => 26
    [26] => 27
    [27] => 28 is a multiple of 4**
    [28] => 29
    [29] => 30
    [30] => 31
    [31] => 32 is a multiple of 4**
    [32] => 33
    [33] => 34
    [34] => 35
    [35] => 36 is a multiple of 4**
    [36] => 37
    [37] => 38
    [38] => 39
    [39] => 40 is a multiple of 4**
)
```

D3: Tic-Tac-Toe (Hard)

{{ X || O }} Win!

Reset

Create a Tic-Tac-Toe game, according to the following requirements:

1. When you click a cell, your piece "X" is placed in the cell, and the robot who operates the "O" will place a piece randomly.
2. If you click the reset button, the game will be initialized, the win prompt will be hidden.
3. The win prompt will be hidden at initial status.
4. If you refresh the page, game status should not be initialized.
5. All data should be stored in the backend.
6. The page data should be taken from the backend asynchronously.

D4: Video List Page (Hard)

Create a Preview Video List Page using the provided layout.

Items in "videos.json" should be displayed correctly on the page.

Title, preview media, duration, and views are shown for each piece of video information.

It plays when the mouse enters the preview media and pauses when the mouse leaves. When the mouse enters again, it plays from the paused point.

Animated Abstract Burning Effect

🕐 01:14:48   👁 768,546
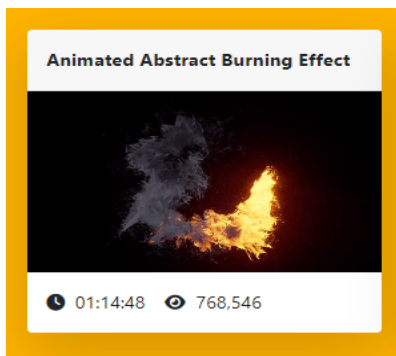
D5: Write a Secure Login (Hard)

Security is a key consideration when writing web applications. In this task, you are provided with a small website that includes an authentication system. However, upon reviewing this code you notice several issues including:

- Passwords are stored in plain text
- Cookies contain information about the user
- There is no accommodation for SQL injection attacks
- There is no accommodation for brute force attacks
- No feedback is provided to the user on bad logins

Your task is to fix the highlighted issues with the existing system to make it more secure.

You have been provided with a basic user table for your database, but you will need to add fields to implement your updates.

The functionality for checking if a user is logged in as well as handling the login request is also provided but is also insecure.

When you are finished, please ensure you **provide the judges with valid login information** for your secure website!

D6: API Request Logger (Medium)

Create a PHP endpoint that accepts application/json as POST data payload.

Each time it is called, the request body must be stored in a text file in the folder,
named HH:MM:SS-request.txt (replace HH:MM:SS with the current hour, minute and second).

You can create a README.txt file to indicate which URL to call and where the files are stored.

(No media files)

Instructions to the Competitor

- Please ensure your name the files according to the description and organize your files for assessment.
- All assessment is done on server. No assessment process in workstation.
- After that push to git on your repository (Module A)