

Web Lab

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Introduction

In this work, I completely finished the three tasks based on HTML, CSS and JavaScript by following all the instructions. I created a currency converter which allows users can get the product of two entered number. I also created a searching engine which allows users to filter the list with student name or module name. In the end, I created a space shooting game based on the animations and functions.

1. Currency converter

In this part, I created three files as instruction. In the html file, I used `<h1>` to show the title, `<input>` to enter amount and show result, and a `<button>` to call the function. Later I used "onchange" attribute to automatic update the result. To link the three file together, I used `<link rel="stylesheet" href="style.css">` and `<script src="converter.js">`

2. Searching elements

In this part, I used nested list. One list has the student names and each student has his own list of modules. To only get the student name, I set each name between a `` label. And then get the all list of modules of that student by selecting with class name. Based on the same index, I compared which string contains the entered string by using `string.search(target string)`. (So it's **Case Sensitive**.) For searching modules, it's something similar. I compared the entered string with the entire list of modules. Then I used `element.style.visibility = "hidden/visible"` to show or hide the corresponding list.

3. Animations

In this part, I first implement the move of spaceship by setting its position to absolute and get the element position by using `window.getComputedStyle`. I changed the `element.style.position` and `setInterval` with this function in `window.onload()`. Later I tried with `python -m http.server 8080` and it did work. Then, by using the same strategy of task 1, I got the input number to allow users to control the move speed and applied `Math.random()` to move the spaceship up and down at each step. By adding the `onclick()` attributes to the spaceship image, users can change the direction by clicking on the image. In the end, I created a little shooting game and write the instruction in a label showing in the middle top of the page. The game has some additional features, for example, the users could move the gun left or right by pressing on the key. Also, they can press on the "Space" key to start or stop shooting. And if the bullet hits the spaceship, it will show a boom effect and the spaceship stops moving. The users can click "restart" button to get the spaceship move again.

Conclusion

By following all the steps, I had a better understanding of web development technology and I find myself really interested in it. By practicing and searching a lot myself, I feel I'm confident enough to welcome any web development task and challenge. Hope I can get more chance work on it!