LT3210 Project Report

Summary of Website's Features

In this report, some of our website's design features will be highlighted. Our group have also learned some JavaScript methods and CSS declarations that were not covered in this course on w3schools website and applied them in our project.

Overview

This Chinese-English translation game is designed to make the arduous language learning experience more fun! Good themes can give a solid design base. As such, we gave the theme "Escaping from the Tiger" to our web-based game. Imagine you are being chased by a tiger in the forest, you have to flee from it. Players can do this by inputting the correct translation within the time limit.

General Instructions

"Escaping from the Tiger" consists of 4 levels. Each level has 10 questions. Once the player has completed all 40 questions, the game will be terminated. When the game starts, a Chinese word will be randomly generated. The player needs to type the corresponding English translation into the input field and then click the "Next Word" button to check the answer and proceed to the next question. One point will be awarded for each correct answer and zero for incorrect answers. The correct answer will appear on the screen when the answer is wrong. The time limit for each question is set to 15 seconds. Players will be forced to move to the next question if they cannot finish the question within this time limit.

Feature 1: Achieving a goal at each level to proceed to the next

Players have to start from level one and successfully complete it to unlock the next level. Therefore, we use `disabled` property to disable all the buttons that lead to the other levels and only allow the players to click on "Level 1" button at the beginning of the game. When they are at level 2, "Level 1", "Level 3" and "Level 4" buttons are disabled and so on. Each level has a different goal for the players to achieve. They have to gain 7 points to unlock level 2, 15 points to level 3 and 23 points to the final level. If they fail to meet the goal, the game will be over and they will have to retry the game. The `reload()` method is used to reload the page so that players can restart the game. When a goal is met, a window that says "level up!" will pop-up and `setAttribute()` method is used to alter the value of the `onclick` attribute in the "Next Word" `button` element to the function that is responsible for the next level.

Feature 2: Hints

The hints for each level of the game are different. At the first level, the player will be provided with three alphabetically organized options. At the second level, the first 2 letters of the correct answer will be given when the player uses a hint. The `substr()` method can help us extract some parts of

a string. At the third, the player will be told the number of letters the correct answer contains. We use the `length` property to find the length of the answer. At the last level, consonant letters of the correct answer will be displayed in the input field. We use `replace()` method to replace all the vowel letters (i.e. a, e, i, o, u) with an asterisk. For example, the word "apple" will be displayed as "*ppl*". The total number of 5 hints are provided to player. When the player has used up all the hints, the "Give me a hint!" button will be disabled.

Feature 3: Animation for the timer

We use `drawImage()` method to draw an image onto a `<canvas>` element. In order to do this, we first need to put an image onto the page and hide it by adding the `hidden` attribute to the `<img>` tag. The first parameter is the image to be drawn and the second and third parameters are the X and Y coordinates of the image. We then use `setInterval()` method to repeatedly call a function that updates the coordinates of the tiger image every second so that it would look like the tiger is chasing the man. When the "Next Word" button is clicked, `clearInterval()` will clear the timer and the tiger will be put back to its original position, where the X coordinate is 0. When the time runs out, the tiger will have an "intimate contact" with the image of the player and go back to the original position as the game has yet finished.

Feature 4: Webpage layout and CSS declarations

To match the theme, we use the image of forest for the background and a tiger skin for the title background. All the elements are centered on the page for user-friendly purpose. For each of the buttons, we use the `:hover` selector for declarations. When mouse hovers over the button, the background color of the button will turn from medium sea green to dark green. In order to inform the users when buttons are disabled, we set the `opacity` property of disabled buttons to 0.5. Also, when mouse hovers over them, the cursor will turn into a no sign (⊘). We use the declaration `{cursor: not-allowed;}` to change the cursor. We also make use of `<span>` element to highlight the words "Level 1" in the instruction "Click on Level 1 to start the game". This makes it easier for the players to realize that they need to press the "Level 1" button to start the game.

Link: www4.

Statement of Contributions

Name & Student ID	Contribution (100%)	Major Tasks
CHAN SZE MING (54608125)	20	Cascading Style Sheets (CSS) design
NG WING SZE (54067330)	20	Cascading Style Sheets (CSS) design & JavaScript
SAE WONG PREESA (54721527)	20	JavaScript
WAN YUWEI (54382027)	20	Cascading Style Sheets (CSS) design
CHEUNG MAN CHI (54065728)	20	JavaScript
MA WING KA (54067389)	0	Nothing