Get User Credentials

Web Development

Time: 60 mins

Introduction

In this class, the student/s will be introduced to JavaScript. Student/s will learn to fetch and store the user credentials entered by the user in an HTML form into JavaScript variables. Student/s will also learn to validate user credentials and display errors dynamically using JavaScript. Student/s will also change the styling of HTML elements using JavaScript.

JavaScript Commands Introduced

● function function_name(){ }	Function definition with the keyword function followed by the function name(). The function body should be written {}
● let	Keyword to declare variables in JavaScript
● document.getElementById(id)	DOM method to access an HTML element using its id attribute
● console.log()	Prints a message/object onto the console window.

● if(condition1){}
  else if (condition2){
  }
	Syntax of if-else if in JavaScript. The block within if block will be executed if the condition1 is true. If it is false, then condition2 will be checked and the block within the else if block will be executed if condition2 returns true

● document.getElementById().innerHTML	DOM method to access the innerHTML of an HTML element using its id attribute
● !	The logical operator NOT returns true if a variable exists or a condition is true and false otherwise.
● document.getElementById().style.borderColor	DOM method to access the borderColor property of style of an HTML element using its id attribute
● document.getElementById().style.fontWeight	DOM method to access the fontWeight property of an HTML element using its id attribute

Vocabulary

● **VR :** Virtual Reality is a simulated 3D environment used for gaming, healthcare, real estate, etc

- **JavaScript:** Procedural programming language which can be used in combination with HTML to do validations and create user interactions to make a website dynamic.
- **DOM:** Document Object Model is a programming interface for HTML documents that provides methods to access HTML elements

Learning Objectives

Student/s should be able to:
- *Recognize* the basic syntax of JavaScript.
- *Demonstrate* how to fetch values entered in an HTML form in a JavaScript function.
- *Use* conditional statements to check the equality and inequality of variables.
- *Validate* user credentials entered by a user on the Sign Up page and display relevant messages on the web page.

Activities

1. **Class Narrative:** *(2 mins)*
   - Brief the student/s that VR Gamers is a gaming studio that has a website where gamers can book slots to play VR games. The website has been created using HTML and CSS. The validations for user inputs need to be done. In this class, students will validate the user credentials entered on the Sign Up page using JavaScript.

2. **Concept Introduction Activity:** *(5 mins)*
   - Let the student/s explore the VR Gamers website and understand the different features on the website. Guide students to explore the validations of the Signup page of the website.
   - Using the slides, explain that the student/s will learn:
     - to collect user credentials
     - to validate user credentials
     - to style to highlight the text fields with invalid inputs

3. **Activity 1: Collect User Credentials:** *(14 mins)*

   Teacher Activity: *(7 mins)*
   - Explain to students how user inputs on a web page have to be validated before storing in the database.
   - Explain the concept of DOM structure and the different methods provided by the DOM structure to access and modify the HTML elements.
   - Demonstrate how to write a function in JavaScript and link the JavaScript file to the HTML file.
   - Explain to students how to fetch the username from the signup page and print it in the console window.

   Student Activity: *(7 mins)*
   - Guide the student/s to fetch the password entered in the HTML form and print its value in the console window.
   - Guide the student/s with the syntax of JavaScript and also open the console window to view the output.

4. **Activity 2: Validate User Credentials:** *(10 mins)*

   Teacher Activity: *(5 mins)*

- Explain to the student/s the syntax of writing if else if statements in JavaScript.
- Explain to the student/s how to write an if else if condition to check whether a username is empty and the password is not less than 6 characters and display error messages using *innerHTML* of the DOM object.

  Student Activity: *(5 mins)*
- Guide the student/s to write an if else if condition to check whether the password is not less than 6 characters and display error messages by updating the *innerHTML* of the id "error".
  Probing question:
  Expected answer:

5. **Activity 3: Highlight Invalid Input Fields:** *(10 mins)*

   Student Activity: *(6 mins)*
- Guide the student/s to use DOM methods to change the style of the text fields of username and password if there is an error in the user input

6. **Introduce the Post class project:** *(2 min)*
   - Validate the product information in the Add Product Page of the Vendor website using JavaScript and DOM methods.

7. **Test and Summarize the class learnings:** *(5 mins)*
   - Check for understanding through quizzes and summarize learning after respective missions.
   - Summarize the overall class learning towards the end of the class.

8. **Additional activities:**
   - Encourage the student/s to add a validation to check that username and password are not equal
   - Encourage the student/s to add a validation to check that password and confirm password match.

9. **State the Next Class Objective:** *(1 min)*
   - We will learn to store the user credentials so that they can be used while signing in the user.

U.S. Standards:

CSTA: 2-AP-11, 2-AP-12, 2-AP-13,2-AP-14,2-AP-19

Links Table		
Activity	**Activity Name**	**Link**
Class Presentation	Get User Credentials	https://s3-whjr-curriculum-uploads.whjr.online/08b96b0d-3bf4-4adb-a79c-2cc24d08b85b.html
Explore Activity	VR Gamers Website	https://tynker.com/code/view/63d75fae3cf4d41a675e3e12/index.html
Teacher Activity 1	Collect User Credentials	https://tynker.com/code/project/63bd87ae15e1b24e64705c37
Teacher Reference: Teacher	Collect User Credentials -	https://tynker.com/code/project/63bd873c9914c304236acc12

Activity 1 Solution	Solution	
Student Activity 1	Collect Password from the User	https://tynker.com/code/project/63bd39ffe08c9762e91856c6
Teacher Reference: Student Activity 1 Solution	Collect Password from the User - Solution	https://tynker.com/code/project/63bd50ad7169965f8747a4a2
Teacher Activity 2	Validate User Credentials	https://tynker.com/code/project/63bd86d66ff99150e0790382
Teacher Activity 2 Solution	Validate User Credentials - Solution	https://tynker.com/code/project/63bd86baa004961e6d378f12
Student Activity 2	Display Error Messages	https://tynker.com/code/project/63bd5ef41a38717bcc40ce72
Teacher Reference: Student Activity 2 Solution	Display Error Messages - Solution	https://tynker.com/code/project/63bd7bc94f61a310ea2ec672
Student Activity 3	Highlight Invalid Input Fields	https://tynker.com/code/project/63bd80b56444bf779e01a2f2
Teacher Reference: Student Activity 3 Solution	Highlight Invalid Input Fields - Solution	https://tynker.com/code/project/63bd85d84e8915593e4ad0d2
Student's Additional Activity 1	Validate Username and Password	https://tynker.com/code/project/63c5032d2a79f34af1359062
Teacher Reference: Student's Additional Activity 1 Solution	Validate Username and Password - Solution	https://tynker.com/code/project/63c50155b658170d560ef3a2
Student's Additional Activity 2	Validate Confirm Password	https://tynker.com/code/project/63c504b4c382f8384a7d7282
Teacher Reference: Student's Additional Activity 2 Solution	Validate Confirm Password - Solution	https://tynker.com/code/project/63c69b53d2d46d5aaf4d93b2
Post Class Project	Validate Product Information	https://tynker.com/code/project/63c555e9d8f85e4e1762e412
Teacher Reference: Post Class Project Solution	Validate Product Information - Solution	https://tynker.com/code/project/63c5534c3ebd4c1582054152