Unit 5 : jQuery

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Topics

- What is jQuery, jQuery Syntax,

- Selector: Element Selector, Class Selector, id Selector

- jQuery Events:

- Click, dbclick, keypress, keydown, keyup, submit, change, focus, blur, load, resize, scroll, unlode

- jQuery Effects hide show, fade, slide

- jQuery Methods:

- CSS: height, width, innerWidth, innerHeight, outerWidth, outerHeight

- HTML: text, append, prepend, after, before, addClass, toggle Class, remove, empty

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jQuery

▶ jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

▶ jQuery is a lightweight, "write less, do more", JavaScript library.

▶ The purpose of jQuery is to make it much easier to use JavaScript on your website.

▶ jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.

▶ jQuery also simplifies a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.

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jQuery Syntax

▶ A jQuery statement typically starts with the dollar sign ($) and ends with a semicolon (;).

▶ In jQuery, the dollar sign ($) is just an alias for jQuery. Let's consider the following example code which demonstrates the most basic statement of the jQuery.

▶ <script>

```
$(document).ready(function(){

    // Some code to be executed...

    alert("Hello World!");

});
```

</script>

Cont..

▶ The **<script>** element — Since jQuery is just a JavaScript library, so the jQuery code can be placed inside the **<script>** element. However, if you want to place it in an external JavaScript file, which is preferred, you just remove this part.

▶ The **$(document).ready(handler);** — This statement is typically known as ready event. Where the handler is basically a function that is passed to the ready() method to be executed safely as soon as the document is ready to be manipulated i.e. when the DOM hierarchy has been fully constructed.

▶ The jQuery **ready()** method is typically used with an anonymous function.

jQuery Selectors

▶ jQuery selectors allow you to select and manipulate HTML element(s).

▶ jQuery selectors are used to "find" (or select) HTML elements based on their name, id, classes, types, attributes, values of attributes and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors.

▶ All selectors in jQuery start with the dollar sign and parentheses: $().

The element Selector

▶ The jQuery element selector selects elements based on the element name.

▶ You can select all <p> elements on a page like this:

▶ $("p")

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The #id Selector

▶ The jQuery #id selector uses the id attribute of an HTML tag to find the specific element.

▶ An id should be unique within a page, so you should use the #id selector when you want to find a single, unique element.

▶ To find an element with a specific id, write a hash character, followed by the id of the HTML element:

▶ $("#test").hide();

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The .class Selector

- The jQuery .class selector finds elements with a specific class.

- To find elements with a specific class, write a period character, followed by the name of the class:

- $(".test")

What are Events?

▶ All the different visitors' actions that a web page can respond to are called events.

▶ An event represents the precise moment when something happens.

▶ Examples:

▶ moving a mouse over an element

▶ selecting a radio button

▶ clicking on an element

▶ The term "fires/fired" is often used with events. Example: "The keypress event is fired, the moment you press a key".

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$(document).ready()

- The $(document).ready() method allows us to execute a function when the document is fully loaded.

click()

▶ The click() method attaches an event handler function to an HTML element.

▶ The function is executed when the user clicks on the HTML element.

▶ $("p").click(function(){
    $(this).hide();
});

dblclick()

▶ The dblclick() method attaches an event handler function to an HTML element.

▶ The function is executed when the user double-clicks on the HTML element:

▶ ```
$("p").dblclick(function(){
  $(this).hide();
});
```

# keypress()

▶ The jQuery keypress () event is occurred when a keyboard button is pressed down. This event is similar to keydown() event. The keypress() method is executed or attach a function to run when a keypress() event occurs.

▶ $(document).ready(function(){

$("input").keypress(function(){

$("span").text (i += 1);

});

});

# keydown()/keyup()

▶ When you press a key on the keyboard, the keydown() event is occurred and once the keydown() event is occurred, it executes the function associated with keydown() method to run.

▶ keyup() event occurs when a keyboard button is released after pressing. This method is executed or attach a function to run when a keyup() event occurs.

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# Cont..

- $(document).ready(function(){

$("input").keydown(function(){

$("input").css("background-color", "green");

});

$("input").keyup(function(){

$("input").css("background-color", "violet");

});

});

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# submit()

▶ submit event is sent to the element when the user attempts to submit a form.

▶ This event is only attached to the <form> element. Forms can be submitted either by clicking on the submit button or by pressing the enter button on the keyboard when that certain form elements have focus. When the submit event occurs, the submit() method attaches a function with it to run.

# change()

▶ Change event occurs when the value of an element is changed. It works only on form fields. When the change event occurs, the change () method attaches a function with it to run.

▶ Note: This event is limited to <input> elements, <textarea> boxes and <select> elements.

▶ **For select boxes, checkboxes, and radio buttons**: The event is fired immediately when the user makes a selection with the mouse.

▶ **For the other element types**: The event is occurred when the field loses focus.

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# focus()

- The focus() method attaches an event handler function to an HTML form field.

- The function is executed when the form field gets focus:

- $("input").focus(function(){

-   $(this).css("background-color", "#cccccc");

- });

# blur()

▶ The blur() method attaches an event handler function to an HTML form field.

▶ The function is executed when the form field loses focus:

▶ $("input").blur(function(){

▶    $(this).css("background-color", "#ffffff");

▶ });

# load()

▶ load () method is used to load a specific element. It attaches an event handler to load event. It was deprecated in jQuery 1.8 version of jQuery library.

▶ The load event occurs when a specific element is loaded. It is generally used with a URL (image, script, frame, iframe), and the window object.

▶ Note: On some browsers, the load event did not trigger if the image is cached.

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# unload()

▶ The jQuery unload() method is used to unload a specific element. It attaches an event handler to unload event. The unload event is sent to the window element when the user navigates away from the page. It was deprecated in jQuery 1.8 version of jQuery library.

▶ **Ways to trigger unload event**

▶ Click on a link which leads to leave the page.

▶ Use the forward or back button.

▶ Type a new URL in the address bar.

▶ Close the browser window.

▶ Reload the page.

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# resize()

▶ The jQuery resize() method triggers a resize event when the size of the browser window changes. It binds the event handler to resize an event or trigger that event on an element. This method can be used to perform some required actions such as avoiding scrollbars when adjusting the elements of the page on window resize, and many more.

▶ If the resize event triggers and the element's dimension changes, the content inside the elements also adjusts as well.

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# scroll()

▶ scroll() method is used to trigger the scroll event or attach a function to run when scrolling occurs.

▶ The scroll event occurs when a scrollbar is used for an element. The event is triggered when the user moves the scrollbar up or down. We can use the CSS overflow property for creating a scrollbar. The scroll event fires for window objects or for all scrollable elements.

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# width()

- jQuery width() method is used to return or set the width of matched element.

- To return width: When this method is used to return the width, it returns the width of first matched element.

- To set width: When this method is used to set the width, it sets the width for every matched element.

- This method is one of a jQuery dimension.

# height()

▶ The jQuery height() method is used to return the current computed height for the first element or set the height of every matched element. In other words, you can say that the height() method is used for two purposes:

▶ To return height: When this method is used to return height, it returns the height of first matched element.

▶ To set height: When this method is used to set height, it sets height of all matched elements.

▶ This method is a very common jQuery dimension.

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# innerWidth()

▶ jQuery innerWidth() method is used to return the inner width of the first matched

▶ element without including border and margin.

▶ This method includes padding but excludes border and margin.

▶ This image explains that jQuery innerWidth () method includes padding but not border and margin.

# innerHeight()

▶ The jQuery innerHeight () method is used to return the inner height of first matched element. It includes padding but not border and margin.

▶ In the above image, you can see that innerHeight () method includes padding but not border and margin.

# outerWidth()

- jQuery outerWidth() method is used to return the outer width of the first matched
- element with padding and border.
- The jQuery outerWidth () method works for both visible and hidden elements.
- In the above image, you can see that jQuery outerWidth() method includes border and padding both.

# outerHeight()

▶ The jQuery outerHeight () method is used to return the outer height of first matched element. This method includes padding and border both.

▶ In the above example, you can see that border and padding both are included in the outerHeight() method.

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# text()

- The jQuery text() method is used to set or return the text content of the selected elements.
- **To return content:** When this method is used to return content, it returns the combined text content of all matched elements without the HTML markup.
- **To set content:** When this method is used to set content, it overwrites the content of all matched elements.
- Difference between jQuery text() method and jQuery html() method
- Sometimes, this confusion is occurred because both of the methods are used to set or return the html content. But, the jQuery text() method is different from html() method.
- Following is the main differences:
- The jQuery text() method is used to set or return html content without HTML markup while, html() method is used to set or return the innerHtml (text + HTML markup).
- The jQuery text() method can be used in both XML and HTML document while jQuery html() method can't.

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# append()

▶ The jQuery append() method is used to insert specified content as the last child (at the end of) the selected elements in the jQuery collection.

▶ The append () and appendTo () methods are used to perform the same task. The only difference between them is in the syntax.

# prepend()

▶ The jQuery prepend() method is used to insert the specified content at the beginning (as a first child) of the selected elements. It is just the opposite of the jQuery append() method.

▶ If you want to insert the content at the end of the selected elements, you should use the append method.

# after()

▶ The jQuery after() method is used to insert specified content after the selected element. It is just like jQuery append() method.

▶ If you want to insert content before the selected element, you should use jQuery before() method.

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# before()

▶ The jQuery before() method is used to insert the specified content before the selected elements. It adds the content specified by the parameter, before each element in the set of matched elements.

▶ The before() and insertBefore() both methods are used to perform same task. The main difference between them is in syntax, and the placement of the content and the target.

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# addClass()

▶ The addclass() method is used to add one or more class name to the selected element. This method is used only to add one or more class names to the class attributes not to remove the existing class attributes.

▶ If you want to add more than one class separate the class names with spaces.

# toggleClass()

▶ The jQuery toggleCLass() method is used to add or remove one or more classes from the selected elements. This method toggles between adding and removing one or more class name. It checks each element for the specified class names. If the class name is already set, it removes and if the class name is missing, it adds.

▶ In this way, it creates the toggle effect. It also facilitates you to specify to only add or only remove by the use of switch parameter.

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# remove()

- The jQuery remove() method is used to remove the selected elements out of the DOM. It removes the selected element itself, as well as everything inside it (including all texts and child nodes). This method also removes the data and the events of the selected elements.

- If you want to remove elements without removing data and events, you should use the detach() method. If you want to remove only data and events, use the empty() method.

# empty()

▶ The jQuery empty() method is used to remove all child nodes and content from the selected elements. This method doesn't remove the element itself.

▶ If you want to remove the element without removing data and events, you should use the detach() method.

▶ If you want to remove the element as well as its data and events, you should use the remove() method.