Implement and Manipulate Document Structures and Objects

Essa parte está marcada para cair em 24% do teste.

[Implement and Manipulate Document Structures and Objects](http://www.bloggedbychris.com/2012/09/19/microsoft-exam-70-480-study-guide/)

### Create the document structure.

This objective may include but is not limited to: structure the UI by using semantic markup, including for search engines and screen readers (Section, Article, Nav, Header, Footer, and Aside); create a layout container in HTML

* [HTML5 Tag Reference](http://www.w3schools.com/tags/default.asp) (W3Schools), [<section>](http://www.w3schools.com/tags/default.asp) (W3Schools), [<area>](http://www.w3schools.com/tags/default.asp) (W3Schools), [<article>](http://www.w3schools.com/tags/default.asp) (W3Schools), [<header>](http://www.w3schools.com/tags/default.asp) (W3Schools), [<aside>](http://www.w3schools.com/tags/default.asp) (W3Schools)  
  The entirety of these links will help you with the section: “structure the UI by using semantic markup, including for search engines and screen readers (Section, Article, Nav, Header, Footer, and Aside)”
* [HTML Layouts](http://www.w3schools.com/html/html_layout.asp) (W3Schools), and [Document Outlines](http://html5doctor.com/outlines/) (Other: HTML Doctors)  
  Covers “create a layout container in HTML”

### Write Code that Interacts with UI controls

This objective may include but is not limited to: programmatically add and modify HTML elements; implement media controls; implement HTML5 canvas and SVG graphics

* [DOM Element Object](http://www.w3schools.com/jsref/dom_obj_all.asp) & [XML DOM – The Element Object](http://www.w3schools.com/jsref/dom_obj_all.asp) (W3Schools)  
  Covers “programmatically add and modify HTML elements”
* [HTML5 Canvas](http://www.w3schools.com/html/html5_canvas.asp) (W3Schools) & [HTML5 Canvas getContext(“2d”) Reference](http://www.w3schools.com/tags/ref_canvas.asp) (W3Schools)  
  Covers “implement HTML5 canvas”
* [SVG Tutorial](http://www.w3schools.com/svg/default.asp) (W3Schools)  
  Covers “implement … SVG graphics”
* [HTML5 Audio](http://www.w3schools.com/html/html5_audio.asp) (W3Schools) & [HTML5 Video](http://www.w3schools.com/html/html5_video.asp) (W3Schools)  
  Covers “implement media controls”

### Apply Styling to HTML Elements Programmatically

This objective may include but is not limited to: change the location of an element; apply a transform; show and hide elements

* [CSS Positioning](http://www.w3schools.com/css/css_positioning.asp) (W3Schools) and [HTML DOM Style object](http://www.w3schools.com/jsref/dom_obj_style.asp) (W3Schools)  
  Covers “change the location of an element”
* [CSS Display](http://www.w3schools.com/css/css_display_visibility.asp) (W3Schools) and [HTML DOM Style object](http://www.w3schools.com/jsref/dom_obj_style.asp) (W3Schools)  
  Covers “show and hide elements”
* [jQuery Effect hide() Method](http://www.w3schools.com/jquery/eff_hide.asp) (jQuery)  
  Covers “alternative show and hide elements”
* [CSS3 2D Transforms](http://www.w3schools.com/css/css3_2dtransforms.asp" \t "_blank) (W3Schools), [CSS3 3D Transforms](http://www.w3schools.com/css/css3_3dtransforms.asp) (W3Schools), [CSS3 Transitions](http://www.w3schools.com/css/css3_transitions.asp) (W3Schools), [CSS3 Animations](http://www.w3schools.com/css/css3_animations.asp) (W3Schools), [Skewing Web Page Elements Using The CSS3 Skew Transform](http://www.developerdrive.com/2012/02/skewing-web-page-elements-using-the-css3-skew-transform/) (developerdrive.com)  
  Covers “apply a transform”

### Implement HTML5 APIs

This objective may include but is not limited to: implement storage APIs, AppCache API, and Geolocation API

* [HTML5 Geolocation](http://www.w3schools.com/html/html5_geolocation.asp) (W3Schools)  
  Covers “Geolocation API”
* [HTML5 Web Storage](http://www.w3schools.com/html/html5_webstorage.asp) (W3Schools)  
  Covers “storage APIs”
* [HTML5 App Cache](http://www.w3schools.com/html/html5_app_cache.asp) (W3Schools)  
  Covers “AppCache API”

### Establish the scope of objects and variables

This objective may include but is not limited to: define the lifetime of variables; keep objects out of the global namespace; use the “this” keyword to reference an object that fired an event; scope variables locally and globally

* [Global Variables in JavaScript](http://snook.ca/archives/javascript/global_variable) (Other: snook.ca)  
  Convers “scope variables locally and globally”
* [JavaScript Closures](http://jibbering.com/faq/notes/closures/#clScCh) (Other: jabbering.com)  
  Covers “define the lifetime of variables; keep objects out of the global namespace; use the “this” keyword to reference an object that fired an event; scope variables locally and globally”
* [JavaScript Closures (Better Link)](http://www.codeproject.com/Articles/108786/Encapsulation-in-JavaScript) (Other: jabbering.com)  
  Covers “define the lifetime of variables; keep objects out of the global namespace; use the “this” keyword to reference an object that fired an event; scope variables locally and globally”

### Create and implement objects and methods

This objective may include but is not limited to: implement native objects; create custom objects and custom properties for native objects using prototypes and functions; inherit from an object; implement native methods and create custom methods

* [JavaScript Native Objects](http://www.yaldex.com/javascript_tutorial_3/LiB0035.html) (Other: yaldex.com)  
  Covers “implement native objects”
* [Extending JavaScript Native](http://javascriptweblog.wordpress.com/2011/12/05/extending-javascript-natives/) (Other: javascriptweblog.wordpress.com)  
  Covers sections “create custom objects and custom properties for native objects using prototypes and functions” & “implement native methods and create custom methods”
* [Classical Inheritance in JavaScript](http://www.crockford.com/javascript/inheritance.html) (Other: crockford.com)  
  Covers sections: “inherit from an object” & “implement native methods and create custom methods”

Implement Program Flow

Essa parte está marcada para cair em 25% do teste.

[Implement Program Flow](http://www.bloggedbychris.com/2012/09/19/microsoft-exam-70-480-study-guide/)

### Implement program flow

This objective may include but is not limited to: iterate across collections and array items; manage program decisions by using switch statements, if/then, and operators; evaluate expressions

* [JavaScript Array Object](http://www.w3schools.com/js/js_arrays.asp) (W3Schools) & [JavaScript For…In Statement](http://www.w3schools.com/js/js_loop_for.asp) (W3Schools)  
  Covers “iterate across collections and array items”
* [JS Switch](http://www.w3schools.com/js/js_switch.asp) (W3Schools)  
  Covers “manage program decisions by using switch statements”
* [JS If…Else](http://www.w3schools.com/js/js_if_else.asp) (W3Schools)  
  Covers “if/then, and operators”
* [JavaScript search() Method](http://www.w3schools.com/jsref/jsref_search.asp) (W3Schools)  
  Covers “evaluate expressions”

### Raise and handle an event

This objective may include but is not limited to: handle common events exposed by DOM (OnBlur, OnFocus, OnClick); declare and handle bubbled events; handle an event by using an anonymous function

* [HTML DOM Events](http://www.w3schools.com/jsref/dom_obj_event.asp) (W3Schools), [onclick](http://www.w3schools.com/jsref/event_onclick.asp) (W3Schools), [onblur](http://www.w3schools.com/jsref/event_onblur.asp) (W3Schools), [onfocus](http://www.w3schools.com/jsref/event_onfocus.asp) (W3Schools), etc  
  Covers “handle common events exposed by DOM (OnBlur, OnFocus, OnClick)”
* [bubbles Event Attribute](http://www.w3schools.com/jsref/event_bubbles.asp) (W3Schools) & [Event Bubbling and Event Propagation: Demo](http://www.javascripter.net/faq/eventbubbling.htm) (Other: javascripter.net)  
  Covers “declare and handle bubbled events”
* [Advanced event registration models](http://www.quirksmode.org/js/events_advanced.html) (Other: quirksmode.org)  
  Covers “handle an event by using an anonymous function”

### Implement exception handling

This objective may include but is not limited to: set and respond to error codes; throw an exception; request for null checks; implement try-catch-finally blocks

* [JS Try…Catch](http://www.w3schools.com/js/js_errors.asp) (W3Schools), & [JS Throw](http://www.w3schools.com/js/js_errors.asp) (W3Schools)  
  Covers sections: “throw an exception” and “implement try-catch-finally blocks”
* [JavaScript undefined vs. null](http://saladwithsteve.com/2008/02/javascript-undefined-vs-null.html) (Other: saladwithsteve.com)  
  Covers “request for null checks”

### Implement a callback

This objective may include but is not limited to: receive messages from the HTML5 WebSocket API; use JQuery to make an AJAX call; wire up an event; implement a callback by using anonymous functions; handle the “this” pointer

* [The WebSocket API](http://www.w3.org/TR/2009/WD-websockets-20091222/) (W3C) and [Introducing WebSockets](http://www.html5rocks.com/en/tutorials/websockets/basics/) (HTML5Rocks)  
  Covers “receive messages from the HTML5 WebSocket API”
* [jQuery.ajax()](http://api.jquery.com/jQuery.ajax/) (jQuery), [jQuery.get()](http://api.jquery.com/jQuery.get/" \t "_blank) (jQuery), and [jQuery.post()](http://api.jquery.com/jQuery.post/" \t "_blank) (jQuery)  
  Covers “use JQuery to make an AJAX call”, and “implement a callback by using anonymous functions”
* [The this keyword](http://www.quirksmode.org/js/this.html) (Other: quirksmode.org)  
  Covers “handle the “this” pointer”

### Create a web worker process.

This objective may include but is not limited to: start and stop a web worker; pass data to a web worker; configure timeouts and intervals on the web worker; register an event listener for the web worker; limitations of a web worker

* [HTML5 Web Workers](http://www.w3schools.com/html/html5_webworkers.asp) (W3Schools), and [Using web workers](https://developer.mozilla.org/en-US/docs/DOM/Using_web_workers) (Mozilla)  
  Covers all topics: “start and stop a web worker”, “pass data to a web worker”, “configure timeouts and intervals on the web worker”, “register an event listener for the web worker”, and “limitations of a web worker”

Access and Secure Data

Essa parte está marcada para cair em 26% do teste.

[Hide - Access and Secure Data](http://www.bloggedbychris.com/2012/09/19/microsoft-exam-70-480-study-guide/)

### Validate user input by using HTML5 elements

This objective may include but is not limited to: choose the appropriate controls based on requirements; implement HTML input types (for example, , , ) and content attributes (for example, required) to collect user input

* [HTML5 Input Type](http://www.w3schools.com/html/html_forms.asp) (W3Schools)  
  Covers sections: “choose the appropriate controls based on requirements”, “implement HTML input types and content attributes to collect user input”
* [HTML5 New Form Attributes](http://www.w3schools.com/html/html_forms.asp) (W3Schools)  
  Covers “implement HTML … content attributes to collect user input”

### Validate user input by using JavaScript

This objective may include but is not limited to: evaluate a regular expression to validate the input format; validate that you are getting the right kind of data type by using built-in functions; prevent code injection

* [KB: Validate an Email Address using Regular Expressions](http://www.consultsarath.com/contents/articles/KB000007-validate-an-email-address-using-regular-expressions.aspx) (Other: consultsarath.com) & [jQuery Plugins/Validation](http://docs.jquery.com/Plugins/Validation) (jQuery)  
  Covers “evaluate a regular expression to validate the input format”
* [Checking Your Work: Validating Input — The Cool Stuff](http://www.htmlgoodies.com/beyond/javascript/article.php/3850921/Checking-Your-Work-Validating-Input----The-Cool-Stuff.htm) (Other: htmlgoodies.com)  
  Covers sections: “evaluate a regular expression to validate the input format”, “validate that you are getting the right kind of data type by using built-in functions”, and “prevent code injection”

### Consume data

This objective may include but is not limited to: consume JSON and XML data; retrieve data by using web services; load data or get data from other sources by using XMLHTTPRequest

* [XMLHttpRequest Level 2](http://www.w3.org/TR/XMLHttpRequest/) (W3C)  
  Covers all topics
* [XML HTTP Request](http://www.w3schools.com/ajax/ajax_xmlhttprequest_create.asp) (W3Schools) and [XML Parser](http://www.w3schools.com/xml/dom_intro.asp) (W3Schools)  
  Covers all topics

### Serialize, deserialize, and transmit data

This objective may include but is not limited to: binary data; text data (JSON, XML); implement the JQuery serialize method; Form.Submit; parse data; send data by using XMLHTTPRequest; sanitize input by using URI/form encoding

* [3D models and parsing binary data with JavaScript](http://fhtr.blogspot.com/2009/12/3d-models-and-parsing-binary-data-with.html) (Other: fhtr.bloggspot.com)  
  The best I could find that covers “binary data”
* [JSON HOME](http://www.w3schools.com/json/default.asp) (W3Schools) (and all introductory sub-topics) and [XML HOME](http://www.w3schools.com/xml/default.asp) (W3Schools) (and all introductory sub-topics)  
  Covers “text data (JSON, XML)”
* [XML HTTP Request](http://www.w3schools.com/ajax/ajax_xmlhttprequest_create.asp) (W3Schools) and [XML Parser](http://www.w3schools.com/xml/dom_intro.asp) (W3Schools)  
  Covers “send data by using XMLHTTPRequest”
* [.serialize() – jQuery API](http://api.jquery.com/serialize/) (jQuery)  
  Covers “implement the JQuery serialize method”
* [DOM Form](http://www.w3schools.com/jsref/dom_obj_form.asp) (W3Schools) and [Form submit() Method](http://www.w3schools.com/jsref/met_form_submit.asp) (W3Schools)  
  Covers “Form.Submit”
* [decodeURI()](http://www.w3schools.com/jsref/jsref_decodeuri.asp) (W3Schools), [decodeURIComponent()](http://www.w3schools.com/jsref/jsref_decodeuricomponent.asp) (W3Schools), [encodeURI()](http://www.w3schools.com/jsref/jsref_encodeuri.asp) (W3Schools), and [encodeURIComponent()](http://www.w3schools.com/jsref/jsref_encodeuricomponent.asp" \t "_blank) (W3Schools)  
  Covers “sanitize input by using URI/form encoding”

Use CSS3 in Applications

Essa parte está marcada para cair em 25% do teste.

[Use CSS3 in Applications](http://www.bloggedbychris.com/2012/09/19/microsoft-exam-70-480-study-guide/)

### Style HTML text properties

This objective may include but is not limited to: apply styles to text appearance (color, bold, italics); apply styles to text font (WOOF and @font-face, size, understudy fonts); apply styles to text alignment, spacing, and indentation; apply styles to text hyphenation; apply styles for a text drop shadow

* [Styling Text](http://www.w3schools.com/css/css_text.asp) (W3Schools)  
  Covers “apply styles to text appearance (color, bold, italics)” and “apply styles to text alignment”
* [Styling Fonts](http://www.w3schools.com/css/css_font.asp) (W3Schools) and [CSS3 Fonts](http://www.w3schools.com/css/css3_fonts.asp) (W3Schools)  
  Covers “apply styles to text font (WOOF and @font-face, size, understudy fonts)”
* [Styling Links](http://www.w3schools.com/css/css_link.asp) (W3Schools)  
  Covers “apply styles to text hyphenation”
* [CSS3 Text Effects](http://www.w3schools.com/css/css3_text_effects.asp) (W3Schools)  
  Covers “apply styles to text appearance (color, bold, italics)” and “apply styles for a text drop shadow”
* [CSS Selectors](http://www.w3schools.com/cssref/css_selectors.asp) (W3Schools)  
  Covers “applies to all topics indirectly”

### Style HTML box properties

This objective may include but is not limited to: apply styles to alter appearance attributes (size, border and rounding border corners, outline, padding, margin); apply styles to alter graphic effects (transparency, opacity, background image, gradients, shadow, clipping); apply styles to establish and change an element’s position (static, relative, absolute, fixed)

* [CSS3 Borders](http://www.w3schools.com/css/css3_borders.asp) (W3Schools) & [CSS Border](http://www.w3schools.com/css/css_border.asp) (W3Schools)  
  Covers “apply styles to alter appearance attributes (border and rounding border corners)”
* [CSS Box Model](http://www.w3schools.com/css/css_boxmodel.asp) (W3Schools)  
  Covers “apply styles to alter appearance attributes (size, border and rounding border corners, outline, padding, margin)”
* [CSS Dimension](http://www.w3schools.com/css/css_dimension.asp) (W3Schools)  
  Covers “apply styles to alter appearance attributes (size …)”
* [CSS Outline](http://www.w3schools.com/css/css_outline.asp) (W3Schools), [CSS Margin](http://www.w3schools.com/css/css_margin.asp) (W3Schools), & [CSS Padding](http://www.w3schools.com/css/css_padding.asp) (W3Schools)  
  Covers “apply styles to alter appearance attributes (outline, padding, margin)”
* [CSS3 Backgrounds](http://www.w3schools.com/css/css3_backgrounds.asp) (W3Schools)  
  Covers “apply styles to alter graphic effects (background image)”
* [background-clip](http://www.w3schools.com/cssref/css3_pr_background-clip.asp) (W3Schools)  
  Covers “apply styles to alter graphic effects (clipping)”
* [CSS Image Opacity](http://www.w3schools.com/css/css_image_transparency.asp) (W3Schools)  
  Covers “apply styles to alter graphic effects (transparency, opacity)”
* [CSS3 Text Effects](http://www.w3schools.com/css/css3_text_effects.asp) (W3Schools)  
  Covers “apply styles to alter graphic effects (shadow)”
* [CSS3 Gradient Backgrounds](http://css-tricks.com/examples/CSS3Gradient/) (W3Schools)  
  Covers “apply styles to alter graphic effects (gradients)”
* [CSS Positioning](http://www.w3schools.com/css/css_positioning.asp) (W3Schools)  
  Covers “apply styles to establish and change an element’s position (static, relative, absolute, fixed)”

### Create a flexible content layout

This objective may include but is not limited to: implement a layout using a flexible box model; implement a layout using multi-column; implement a layout using position floating and exclusions; implement a layout using grid alignment; implement a layout using regions, grouping, and nesting

* [box-flex](http://www.w3schools.com/css/css3_flexbox.asp) (W3Schools), [box-flex-group](http://www.w3schools.com/css/css3_flexbox.asp) (W3Schools), [CSS3 Flexible Box Layout Explained](http://coding.smashingmagazine.com/2011/09/19/css3-flexible-box-layout-explained/) (coding.smashingmagazine.com)  
  Covers “implement a layout using a flexible box model”
* [CSS3 Multiple Columns](http://www.w3schools.com/css/css3_multiple_columns.asp) (W3Schools), [CSS3: Multiple Column](http://www.zenelements.com/blog/css3-multiple-columns/) (zenelements.com)  
  Covers “implement a layout using multi-column”
* [CSS Exclusions](http://html.adobe.com/webstandards/cssexclusions/) (Adobe), [CSS Exclusions W3C Specification](http://dev.w3.org/csswg/css3-exclusions/) (W3C)  
  Covers “implement a layout using position floating and exclusions”
* [CSS Regions Module](http://dev.w3.org/csswg/css3-regions/) (W3C)  
  Covers “implement a layout using regions, grouping, and nesting”

### Create an animated and adaptive UI

This objective may include but is not limited to: animate objects by applying CSS transitions; apply 3-D and 2-D transformations; adjust UI based on media queries (device adaptations for output formats, displays, and representations); hide or disable controls

* [CSS3 Transitions](http://www.w3schools.com/css/css3_transitions.asp) (W3Schools)  
  Covers “animate objects by applying CSS transitions”
* [CSS3 2D Transforms](http://www.w3schools.com/css/css3_2dtransforms.asp) (W3Schools)  
  Covers “apply […] 2-D transformations”
* [CSS3 3D Transforms](http://www.w3schools.com/css/css3_3dtransforms.asp) (W3Schools)  
  Covers “apply 3-D […] transformations”
* [Media Queries](http://www.w3.org/TR/css3-mediaqueries/) (W3C)  
  Covers “adjust UI based on media queries (device adaptations for output formats, displays, and representations)”
* [CSS Display and Visibility](http://www.w3schools.com/css/css_display_visibility.asp) (W3Schools)  
  Covers “hide or disable controls”

### Find elements by using CSS selectors and JQuery

This objective may include but is not limited to: choose the correct selector to reference an element; define element, style, and attribute selectors; find elements by using pseudo-elements and pseudo-classes (for example, :before, :first-line, :first-letter, :target, :lang, :checked, :first-child)

* [CSS Selector Reference](http://www.w3schools.com/cssref/css_selectors.asp) (W3Schools) and [Selectors – jQuery API](http://api.jquery.com/category/selectors/) (jQuery)  
  Covers “choose the correct selector to reference an element”
* [Attribute selectors](http://www.w3.org/TR/CSS21/selector.html#attribute-selectors) (W3C), [ID selectors](http://www.w3.org/TR/CSS21/selector.html#id-selectors) (W3C),, [Type selectors](http://www.w3.org/TR/CSS21/selector.html#type-selectors) (W3C),, and [Selectors – jQuery API](http://api.jquery.com/category/selectors/) (jQuery)  
  Covers “define element, style, and attribute selectors”
* [Pseudo-elements and pseudo-classes](http://www.w3.org/TR/CSS21/selector.html#pseudo-elements) (W3C) and [Selectors – jQuery API](http://api.jquery.com/category/selectors/) (jQuery)  
  Covers “find elements by using pseudo-elements and pseudo-classes (for example, :before, :first-line, :first-letter, :target, :lang, :checked, :first-child)”

### Structure a CSS file by using CSS selectors

This objective may include but is not limited to: reference elements correctly; implement inheritance; override inheritance by using !important; style an element based on pseudo-elements and pseudo-classes (for example, :before, :first-line, :first-letter, :target, :lang, :checked, :first-child)

* [CSS Structure and Rules](http://htmlhelp.com/reference/css/structure.html) (htmlhelp.com)  
  Covers “reference elements correctly”
* [6 Assigning property values, Cascading, and Inheritance](http://www.w3.org/TR/CSS21/cascade.html) (W3C)  
  Covers “implement inheritance” and “override inheritance by using !important”
* [Pseudo-elements and pseudo-classes](http://www.w3.org/TR/CSS21/selector.html#pseudo-elements) (W3C)  
  Covers “style an element based on pseudo-elements and pseudo-classes (for example, :before, :first-line, :first-letter, :target, :lang, :checked, :first-child)”