HTML5.3 and DOM5.3 Using TypeScript
Text, sections, forms, tables, the DOM, events, the canvas and lots more inside modern browsers

The web platform is undergoing a rapid pace of innovation and its primary standards, HTML and its DOM, are central to how modern browsers work. The HTML markup pre-populates the tree and then the DOM can be used to dynamically edit the tree's content. After a quick review of the fundamentals of HTML and the DOM, this course explores many of the the new and expanded capabilities offered by HTML5.3 & DOM5.3. These latest specs are well supported across modern web browsers from different vendors and offer an increasing range of rich functionality that significantly improve over the simple markup apps of the past.

Among the many enhancements explored in this course are the shadow DOM, the HTML canvas, better table functionality, improved event handling architecture, the idea of an HTML application with a manifest, better navigation and plenty more.

In the past developers using higher level frameworks were sometimes isolated from directly accessing HTML and the DOM, but there has been a trend in more recent frameworks to re-introduce developers to direct low-level access to the full power of HTML and the DOM - we will investigate the real benefits of this approach.

Contents of One-Day Training Course		
Target Audience Experienced developers who already know the basics of HTML (HEAD, BODY, P, DIV, etc.) and now wish to get up to speed with the latest standards for markup and programmatically editing HTML content. **Prerequisites** For the DOM5.3 part of the course, all demos and lab exercises will be in TypeScript, so attendees need to know that language.	**HTML5.3 overview** WHATWG (whatwg.org) and W3C "Living standard" vs. numbered spec Central role of HTML's 1200-page spec in standardizing the web platform Collection of specs Metadata, elements, attributes, encoding **Tour Of Elements** Exploring common elements, some we are familiar with, some new to HTML5 Page lifecycle / Uses for URIs The execution context(s) Content models **Resources, URI and IRI** Identifying resources Internationalization with IRI **DOM Overview** Correspondence between HTML markup elements and DOM tree elements (they are similar, but not exactly the same) How to interact with a tree of elements Options for parsing / serializing DOM Role of WebIDL in defining web APIs **Sections & Grouping** Sections - body, article, section, aside, h1..6, hgroup, header, footer, address Grouping – p, hr, pre, blockquote, ol, ul, menu, li, dl, dt, fig[ure|caption], main, div **Text** a, em, strong, small, s, cite, q, dfn, abbr, ruby, rt, rp, data, time, code, var, samp, sub/sup, kbd, i/b/u, mark, bdi,bdo,span,br, wbr	**Modern Tables** Evolution of HTML tables - table, caption, colgroup, col, tbody, thead, tfoot, tr, td, th **Forms** Submitting to the server form, label, input, button, select, datalist, optgroup, option, textarea, output, progress, meter, fieldset, legend **HTML Templates** Chunks of reusable markup Defining and instantiating **Event Handling** Event bubbling Defining and using events Popular DOM events Event listeners **Shadow DOM** Isolating elements for web components attachshadow() and shadow root **Specialist HTML** iframe, dialog, summary, ins/del Session history Location **HTML Canvas** Drawing context 2D immediate mode graphics Other graphics and media handling OffscreenCanvas **HTML Applications** Application Cache and manifest Offline web applications Linking and link types The Markdown DSL