Using the HTML5 Forms API

In this chapter, we’ll explore all the new capabilities at your command with a longstanding technology: HTML Forms. Forms have been the backbone of the explosion of the Web since they first appeared. Without form controls, web business transactions, social discussions, and efficient searches would simply not be possible.

Sadly, HTML5 Forms is one of the areas in greatest flux in both specification and implementation, in spite of having been in design for many years. There’s good and bad news. The good news is that the progress in this area, while incremental, is increasing fairly rapidly. The bad news is that you’ll need to tread carefully to find the subset of new form controls that will work in all your target browsers. The forms specification details a large set of APIs, and it is not uncommon to find that each major new release of an HTML5-compliant web browser adds support for one or more form controls and some of the helpful validation features.

Regardless, we’ll use this chapter to help you navigate through the virtual sea of controls and find which ones are ready to use today, and which are nearing release.

Overview of HTML5 Forms

If you are already familiar with forms in HTML—and we assume you are if you are interested in pro HTML programming—then you will find the new additions in HTML5 to be a comfortable fit on a solid foundation. If you aren’t yet familiar with the basics of form usage, we recommend any of the numerous books and tutorials on creating and handling form values. The topic is well covered at this point, and you will be happy to know that:

- Forms should still be encapsulated in a `<form>` element where the basic submission attributes are set.
- Forms still send the values of the controls to the server when the user or the application programmer submits the page.
- All of the familiar form controls—text fields, radio buttons, check boxes, and so on—are still present and working as before (albeit with some new features).
- Form controls are still fully scriptable for those who wish to write their own modifiers and handlers.
HTML Forms vs. XForms

You may have heard references to XForms in the last few years, long before the HTML5 effort gained much traction. XForms is an XML-centric, powerful, and somewhat complex, standard for specifying client-side form behavior that has been developed in its own W3C working group for nearly ten years. XForms harnesses the full power of XML Schema to define precise rules for validation and formatting. Unfortunately, no current major browser supports XForms without additional plugins.

Functional Forms

HTML5 Forms has instead focused on evolving the existing, simple HTML Forms to encompass more types of controls and address the practical limitations that web developers face today. There is an important note to keep in mind, especially as you compare form implementations across different browsers.

Note The most important concept to grasp about HTML5 Forms is that the specification deals with functional behavior and semantics, not appearances or displays.

For example, while the specification details the functional APIs for elements such as color and date pickers, number selectors, and email address entry, the specification does not state how browsers should render these elements to end users. This is a great choice on multiple levels. It allows browsers to compete on innovate ways to provide user interaction; it separates styling from semantics; and it allows future or specialized user input devices to interact in ways that are natural to their operation. However, until your targeted browser platforms support all the form controls in your application, make sure you provide enough contextual information for the user to know how to interact with a fallback rendering. With the right tips and descriptions, users will have no trouble with your application, even if it falls back to alternate content when presented with unknown input types.

HTML5 Forms encompasses a great number of new APIs and elements types, and support for them is all over the map now. In order to wrap our heads around all the new functionality, we will address it by breaking it into two categories

- New input types
- New functions and attributes

However, before we even start with that, let’s take a quick assessment of how the HTML5 Form specifications are supported in today’s browsers.

Browser Support for HTML5 Forms

Browser support for HTML5 Forms is growing, but limited. It appears that many browser vendors besides Opera have not put significant effort into their new form controls yet. However, the WebKit browsers have recently increased support for forms, perhaps because of the introduction of the iPhone