

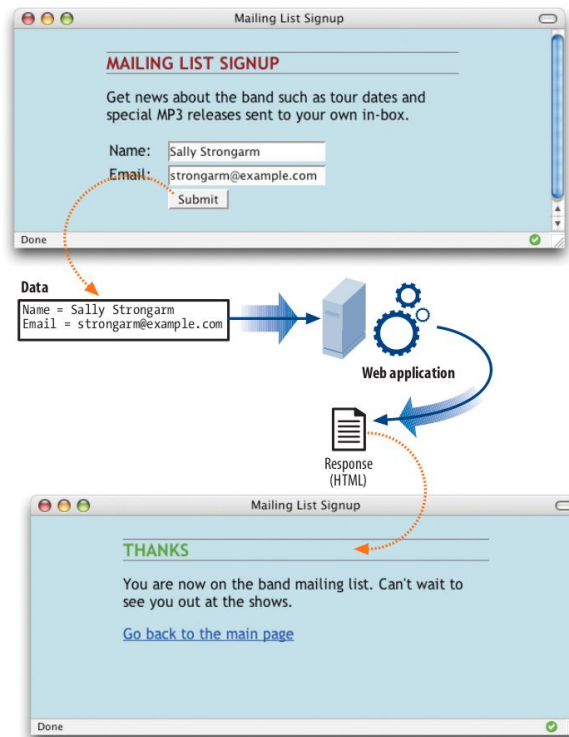
Forms

Web development I: Front-end engineering

How forms work

Two parts:

1. Client side: form controls
2. Server side: form processing



URL encoding

URLs can only be sent over the Internet using the [ASCII charset](#).

[Unsafe characters](#) are replaced with a "%" + two hex digits.

Example: `Hi Günter` becomes `Hi+G%C3%BCnter` or `Hi%20G%C3%BCnter`

(the plus sign is a special case)

<form>

Section with interactive controls

<fieldset>

Controls group

<legend>

Fieldset caption

<input>

Several types of text input

<textarea>

Multi-line text input

<label>

Item caption

<select>

Selectable menu

<optgroup>

Group of menu options

<option>

Menu option

<label>

Caption for labelable elements

<button>

Clickable button

<output>

Results of a calculation

<datalist>

List of suggestions

<progress>

Progress indicator

<meter>

Range indicator

<dialog>

Modal pop-up

<details>

Disclosure widget

<summary>

Caption of a disclosure widget

Basic markup

```
<form action="/save"  
method="post">
```

...

```
</form>
```

`action` is the URL that processes the data

`method` is the HTTP verb: GET or POST

Variables and Content

```
<input type="text" name="comment"  
value="Pre-filled text" />
```

Use the `name` attribute to create variables

The `value` attribute stores the content of the variable

```
<input type="checkbox"  
name="genre[]" value="Pop" />
```

Store multiple values as *arrays* with the bracket notation

```
<input type="checkbox"  
name="genre[]" value="Rock" />
```

```
<input type="text" value="Pre-filled  
text" />
```

No `name`? No data will be sent

GET submission

```
<form action="/find.cgi" method="get">
```

```
  <input type="text" name="t" />
```

```
  <input type="search" name="q" />
```

```
  <input type="submit" />
```

```
</form>
```

Form data go in the URL

/find.cgi?t=cats&q=fur

POST submission

```
<form action="/find.cgi" method="post">  
  <input type="text" name="t" />  
  <input type="search" name="q" />  
  <input type="submit" />  
</form>
```

Form data go in the request *body*

t=cats&q=fur

Default encoding is

application/x-www-form-urlencoded

POST submission

```
<form action="/find.cgi"
method="post"
enctype="multipart/form-data">
  <input type="text" name="t" />
  <input type="search" name="q" />
  <input type="submit" />
</form>
```

Data go in the request *body*

```
-----WebKitFormBoundarywq34JC9MCF9OoYKz
```

```
Content-Disposition: form-data; name="t"
```

```
cats
```

```
-----WebKitFormBoundarywq34JC9MCF9OoYKz
```

```
Content-Disposition: form-data; name="q"
```

```
fur
```

```
-----WebKitFormBoundarywq34JC9MCF9OoYKz-
-
```

POST submission

```
<form action="/find.cgi"  
method="post"  
enctype="text/plain">  
  
  <input type="text" name="t" />  
  
  <input type="search" name="q" />  
  
  <input type="submit" />  
  
</form>
```

Data go in the request *body*

t=cats

q=fur

text/plain is only useful for debugging

disabled and readonly attributes

Disabled

Cannot be modified

Cannot receive focus

Is not sent with the form

All form elements can be disabled

Readonly

Cannot be modified

Can receive focus

Is sent with the form

Only a few form elements can be
readonly

Specialized text entry fields

`<input type="password">`

Mask user input

`<input type="checkbox">`

Binary (on/off) choice

`<input type="radio">`

Only one value allowed

`<input type="hidden">`

Hidden input field

`<input type="color">`

Color selector

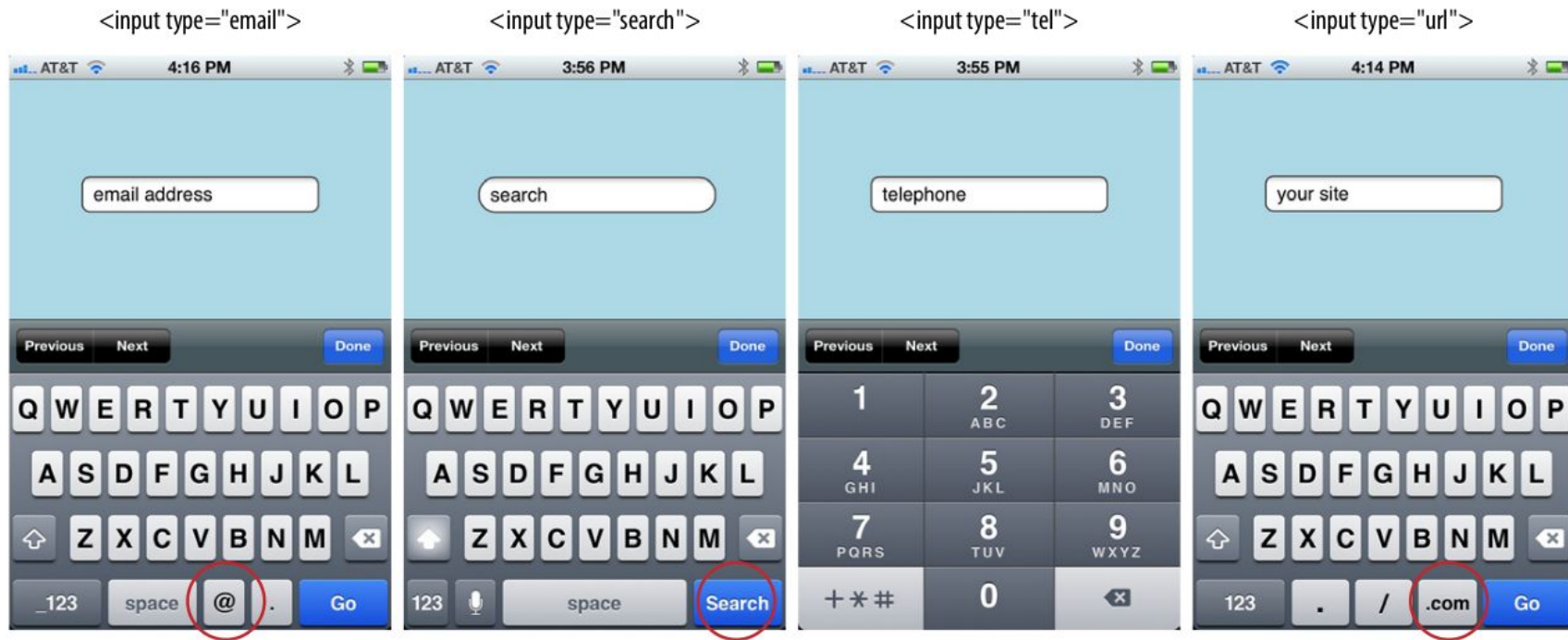
`<input type="number">`

Numerical input

`<input type="range">`

Numerical range (slider)

Specialized text entry fields



Specialized text entry fields

`<input type="date">`

A date picker interface for December 2011. It shows a calendar grid with days of the week (Mon-Sun) and dates (1-31). The date 4 is highlighted in red. Below the calendar is a 'Today' button.

`<input type="time">`

01:14

`<input type="datetime">`

A datetime picker interface for March 2012. It shows a calendar grid with days of the week (Mon-Sun) and dates (1-31). The date 4 is highlighted in red. Above the calendar is a date/time input field showing '2011-12-0' and '00:03'. Below the calendar is a 'Today' button.

`<input type="datetime-local">`

A datetime-local picker interface for December 2011. It shows a calendar grid with days of the week (Mon-Sun) and dates (1-31). The date 4 is highlighted in red. Above the calendar is a date/time input field showing '2011-12-0' and '05:00'. Below the calendar is a 'Today' button.

`<input type="month">`

A month picker interface for December 2011. It shows a calendar grid with days of the week (Mon-Sun) and dates (1-31). The date 4 is highlighted in red. Below the calendar is a 'Today' button.

`<input type="week">`

A week picker interface for March 2012. It shows a calendar grid with days of the week (Mon-Sun) and dates (1-31). The date 4 is highlighted in red. Below the calendar is a 'Today' button.

Specialized text entry fields

```
<input type="submit">
```

Send form

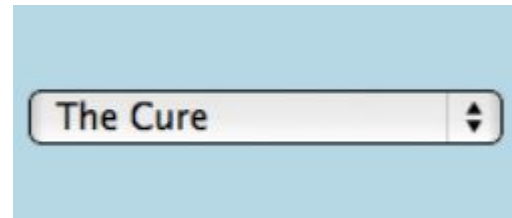
```
<button type="submit">
```

```
<input type="reset">
```

Reset form variables

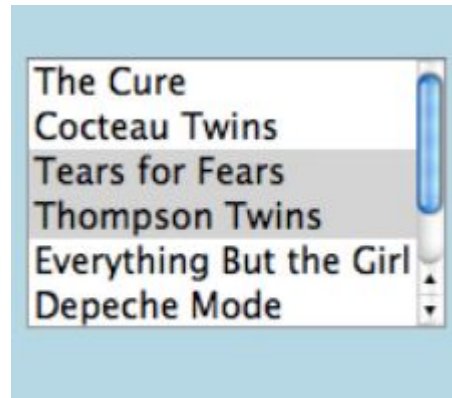
Dropdown menu

```
<select name="favs">  
  <option>The Cure</option>  
  
  ...  
</select>
```



Scrolling menu

```
<select name="favs" multiple>  
  <option>The Cure</option>  
  ...  
</select>
```



Grouping menu

```
<select name="favs" multiple>  
  <optgroup label="traditional">  
    <option>vanilla</option>  
    ...  
  </optgroup>  
</select>
```



traditional
vanilla
chocolate
fancy
Super praline
Nut surprise
Candy corn

File selection

```
<form action="/find.cgi"  
method="post"  
enctype="multipart/form-data">
```

```
  <input type="file" ... />
```

...

```
</form>
```

File input (Firefox)

Send a photo to be used as your online icon (*optional*):

File input (Chrome)

Send a photo to be used as your online icon (*optional*):

 No file chosen

```
<fieldset>
```

Logical group of form controls

```
<legend>
```

Caption of the fieldset

```
<label><input ... /></label>
```

Implicit label association

```
<label for="me">Name</label>
```

Explicit label association

```
<input id="me" ... />
```