

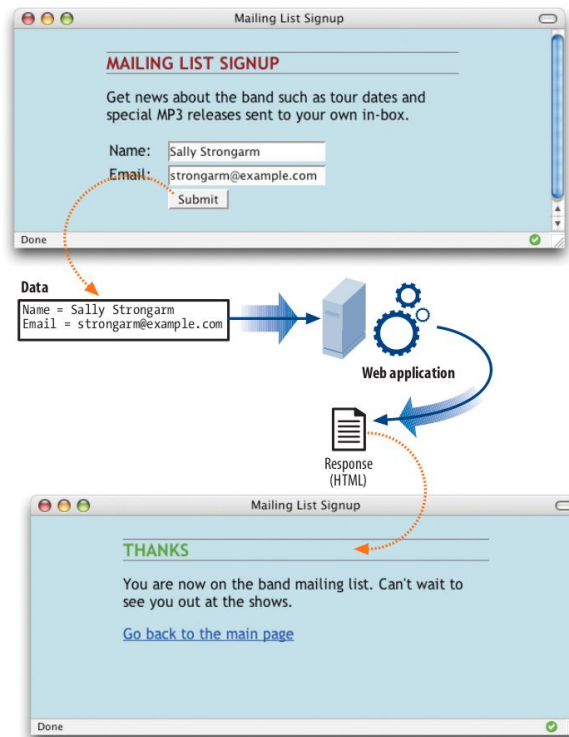
Forms

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>

Caption for labelable elements

<select>

Selectable menu

<optgroup>

Group of menu options

<option>

Menu option

<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

Note: URLs have a [limited number of characters](#)
(in practice ~2k)

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>
```

multipart/form-data is for file uploads

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>
```

text/plain is only useful for debugging
(if at all)

Data go in the request *body*

t=cats

q=fur

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

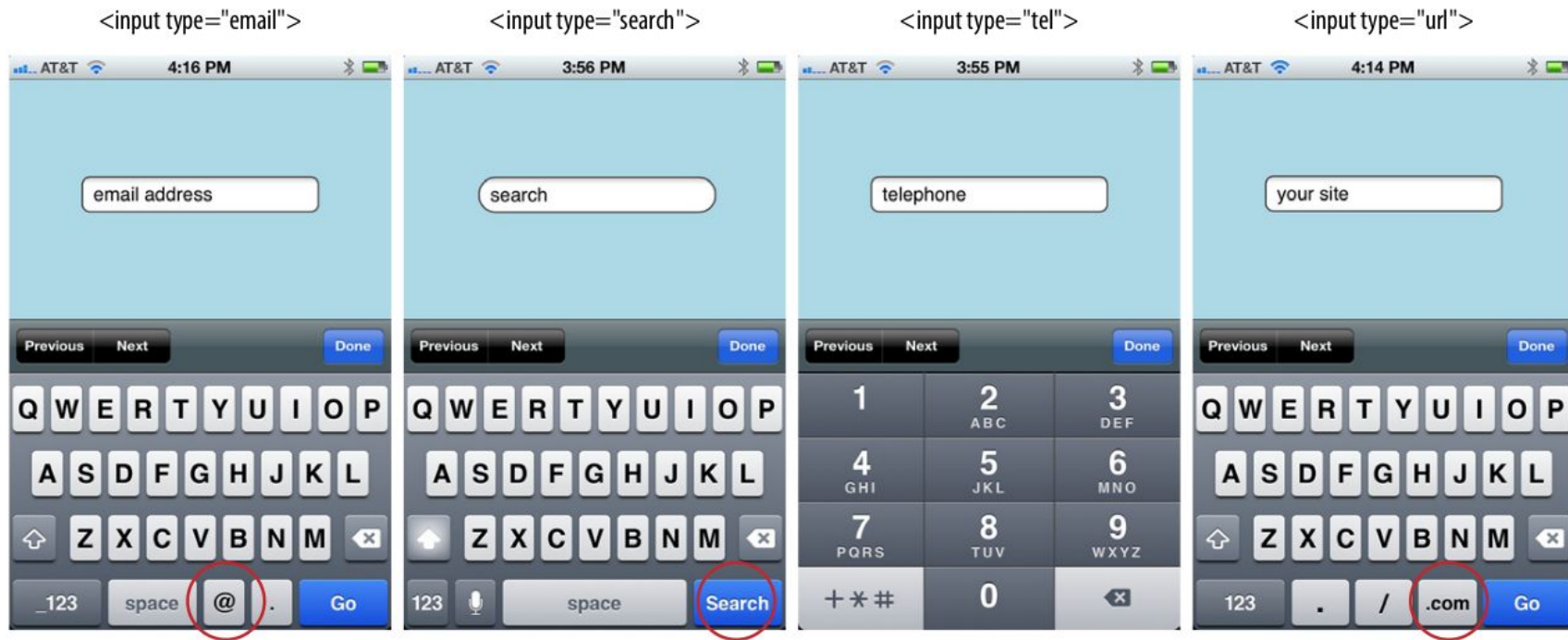
`<input type="number">`

Numerical input

`<input type="range">`

Numerical range (slider)

Specialized text entry fields



Specialized text entry fields

`<input type="date">`

A date picker UI showing a calendar for December 2011. The days of the week are listed at the top: Mon, Tue, Wed, Thu, Fri, Sat, Sun. The dates are arranged in a grid. The date 4 is highlighted in red. A 'Today' button is at the bottom.

`<input type="time">`

A time picker UI showing the time 01:14. The time is displayed in a small box with up and down arrows for adjustment.

`<input type="datetime">`

A datetime picker UI showing a calendar for March 2012. The date 4 is highlighted in red. The time 00:03 is displayed above the calendar. A 'Today' button is at the bottom.

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

A datetime-local picker UI showing a calendar for December 2011. The date 7 is highlighted in red. The time 05:00 is displayed above the calendar. A 'Today' button is at the bottom.

`<input type="month">`

A month picker UI showing a calendar for December 2011. The date 11 is highlighted in red. A 'Today' button is at the bottom.

`<input type="week">`

A week picker UI showing a calendar for March 2012. The date 25 is highlighted in red. A 'Today' button is at the bottom.

Specialized text entry fields

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

Send form

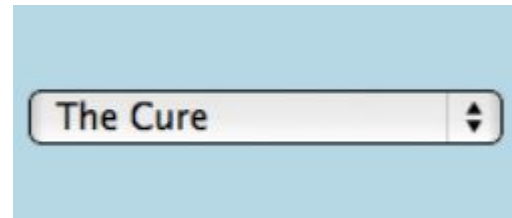
```
<button type="submit">
```

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

Reset form variables

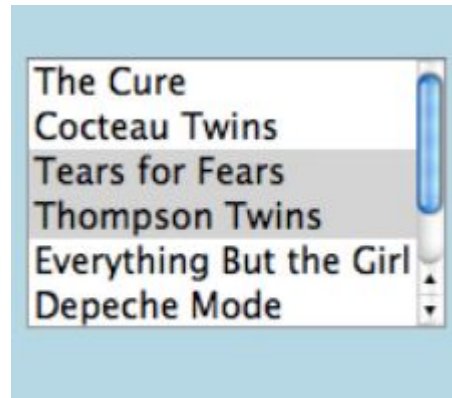
Dropdown menu

```
<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>
```



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 ... /> Name</label>`

Implicit label association

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

Explicit label association

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