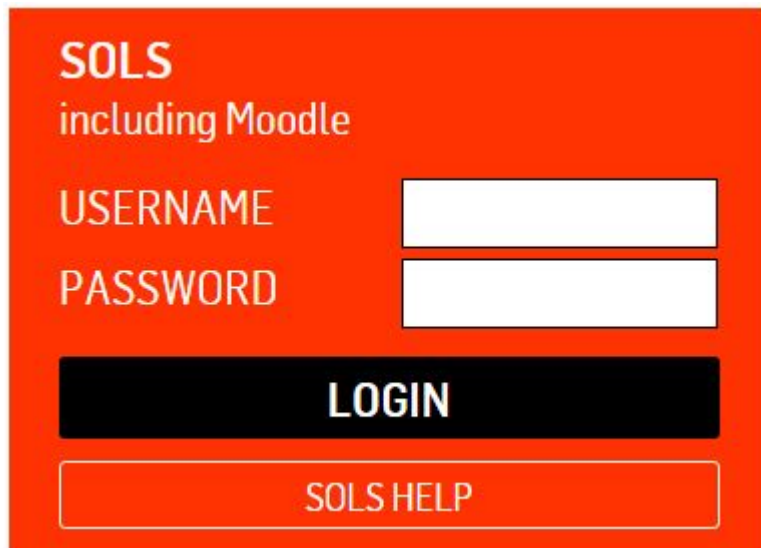# CSIT884
Web Development

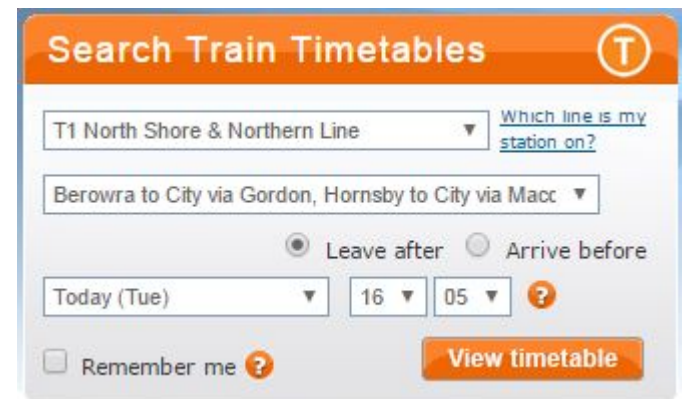**Web Form**

Web form

Objectives:

- design a web form;

- understand the web form HTML structure;

- use a web form to submit data to the server.

Form

- HTML forms are used to collect user input.

- HTML forms contain **form elements**.

- Different types of form elements: text field, textarea, checkboxes, radio buttons, option selection, submit buttons, ...

Form

- When user clicks a submit button, user input will be sent to the server to process

- The front-end form elements must match up with the server back-end program's parameters.

Example: Whosville's library book search

The server back-end program is running at: http://library.whosville/bsearch

The search engine accepts the following parameters:

- author: this parameter is to specify the author of the book.
- year: this parameter is to specify the publication year.
- sub: this parameter is to specify the subjects for the search, the search engine can accept **multiple** values. The acceptable values are:
  - mth (for mathematics),
  - cs (for computer science),
  - bio (for biology),
  - phy (for physics), and
  - chem (for chemistry).

Example: Whosville's library book search

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    - mth (for mathematics),
    - cs (for computer science),
    - bio (for biology),
    - phy (for physics), and
    - chem (for chemistry).

Whosville library book search

Author name:	tonien
Publication year:	2000
Subject:	☐ Mathematics
	☑ Computer Science
	☐ Biology
	☑ Physics
	☐ Chemistry

Search   Clear

Example: Whosville's library book search

Whosville library book search

Author name: `tonien`

Publication year: `2000`

Subject:
- ☐ Mathematics
- ☑ Computer Science
- ☐ Biology
- ☑ Physics
- ☐ Chemistry

[Search] [Clear]

When the form is submitted, we can see the following appears in the URL:

http://library.whosville/bsearch?author=tonien&year=2000&sub=cs&sub=phy

form's action

match up with the back-end
program's parameters

Example: Whosville's library book search

```html
<form action="http://library.whosville/bsearch" method="get">
```

Whosville library book search

Author name: `tonien` ← `<input type="text" name="author"/>`

Publication year: `2000` ← `<input type="text" name="year"/>`

Subject:
- ☐ Mathematics
- ☑ Computer Science
- ☐ Biology
- ☑ Physics
- ☐ Chemistry

[Search] [Clear]

```html
<input type="checkbox" name="sub" value="mth"/>
<input type="checkbox" name="sub" value="cs"/>
<input type="checkbox" name="sub" value="bio"/>
<input type="checkbox" name="sub" value="phy"/>
<input type="checkbox" name="sub" value="chem"/>
```

The front-end form elements must match up with the server back-end program's parameters:

- Use the attribute **name** to specify the back-end's parameter

Example: Whosville's library book search

```
<form action="http://library.whosville/bsearch" method="get">
```

Whosville library book search

Author name: `tonien` ← `<input type="text" name="author"/>`

Publication year: `2000` ← `<input type="text" name="year"/>`

Subject:
- ☐ Mathematics
- ☑ Computer Science
- ☐ Biology
- ☑ Physics
- ☐ Chemistry

[Search] [Clear]

```
<input type="checkbox" name="sub" value="mth"/>
<input type="checkbox" name="sub" value="cs"/>
<input type="checkbox" name="sub" value="bio"/>
<input type="checkbox" name="sub" value="phy"/>
<input type="checkbox" name="sub" value="chem"/>
```

The front-end form elements must match up with the server back-end program's parameters:

- Use the attribute **value** to specify the data sent back to the back-end

Example: Whosville's library book search

```
<form action="http://library.whosville/bsearch" method="get">
```

Whosville library book search

Author name: `tonien` ← `<input type="text" name="author"/>`

Publication year: `2000` ← `<input type="text" name="year"/>`

Subject:
- ☐ Mathematics
- ☑ Computer Science
- ☐ Biology
- ☑ Physics
- ☐ Chemistry

[Search] [Clear]

```
<input type="checkbox" name="sub" value="mth"/>
<input type="checkbox" name="sub" value="cs"/>
<input type="checkbox" name="sub" value="bio"/>
<input type="checkbox" name="sub" value="phy"/>
<input type="checkbox" name="sub" value="chem"/>
```

The front-end form elements must match up with the server back-end program's parameters:

- Sometimes the data sent back to the back-end is **different** from the data displayed to the user.

Class discussion

Go to some webforms on the Internet:

- Look at the source code of the form

- Look at the attribute **name** used to specified the

  back-end parameters

- Submit the form and look at data displayed on the URL

http://www.ebay.com/

http://www.amazon.com.au

Form - type text

```
First name:<br />
<input type="text" name="firstname" size="30"/><br />

Last name:<br />
<input type="text" name="lastname" size="30"/><br />
```

First name:

Last name:

Form - type password

```
Username:<br />
<input type="text" name="username" size="30"/><br />

Password:<br />
<input type="password" name="password" size="30"/><br />
```

Username:

Password:

Form - type checkbox

This is the value that sent to server

```
Choose journals to subscribe:<br />

<input type="checkbox" name="journal" value="AMM"/>American
Mathematical Monthly<br />
<input type="checkbox" name="journal" value="CMJ"/>College
Mathematics Journal<br />
<input type="checkbox" name="journal" value="MM"/>Mathematics
Magazine<br />
```

This is the value that get displayed

Choose journals to subscribe:
☐ American Mathematical Monthly
☐ College Mathematics Journal
☐ Mathematics Magazine

Form - type checkbox

```
Choose subscription method: <br />

<input type="checkbox" name="subscription"
  value="e" checked="checked" />eJournal <br />

<input type="checkbox" name="subscription"
  value="paper" />Hard copy
```

This should be pre-selected (checked)
when the page loads

Choose subscription method:
☑ eJournal
☐ Hard copy

Form - type radio

This is the value that sent to server

```
Select student type:<br />

<input type="radio" name="studentType" value="u"/>Undergraduate
<input type="radio" name="studentType" value="p"/>Postgraduate
<input type="radio" name="studentType" value="other"/>Other
```

This is the value that get displayed

Select student type:
◉ Undergraduate ○ Postgraduate ○ Other

Form - type radio

```
Select student type:<br />

<input type="radio" name="studentType" value="u"/>Undergraduate

<input type="radio" name="studentType" value="p"/>Postgraduate

<input type="radio" name="studentType"
      value="other" checked="checked"/>Other
```

This should be pre-selected (checked) when the page loads

Select student type:
○ Undergraduate ○ Postgraduate ● Other

Form - select

```
Select day:<br />

<select name="day">
  <option value="mon">Monday</option>
  <option value="tue">Tuesday</option>
  <option value="wed">Wednesday</option>
  <option value="thu">Thursday</option>
  <option value="fri">Friday</option>
</select>
```

This is the value that get displayed

Select day:
Monday ▾

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Form - select

```
Select day:<br />

<select name="day">
  <option value="mon">Monday</option>
  <option value="tue">Tuesday</option>
  <option value="wed">Wednesday</option>
  <option value="thu">Thursday</option>
  <option value="fri" selected="selected">Friday</option>
</select>
```

This should be pre-selected
when the page loads

Select day:
Friday ▼

Form - select multiple

```
Select day:<br />

<select name="day" multiple>
  <option value="mon">Monday</option>
  <option value="tue">Tuesday</option>
  <option value="wed">Wednesday</option>
  <option value="thu">Thursday</option>
  <option value="fri">Friday</option>
</select>
```

Form - textarea

```
Enter your comment:<br />

<textarea name="comment" rows="5" cols="30">
</textarea>
```

Enter your comment:

Form - submit

this is the program in the server that processes the form

```
<form action="handle_login" method="post">
  Username:<br />
  <input type="text" name="username" size="30"/><br />
  Password:<br />
  <input type="password" name="password" size="30"/><br /><br />

  <input type="submit" value="Login"/>
  <input type="reset" value="Reset form"/>

</form>
```

Username:

Password:

| Login | Reset form |

Form method

```
<form action="handle_login" method="post">
```

	method="get"	method="post"
Visibility	Data is visible in the URL	Data is not displayed in the URL
History	Parameters remain in the browser history	Parameters are not saved in browser history
Bookmarked	Can be bookmarked	Cannot be bookmarked
Security	get is less secure compared to post because data sent in part of the URL. **Never use get when sending passwords or other sensitive information.**	
Back button/ Reload	Harmless	Data will be re-submitted. Browser should alert the user about resubmission.

Form method

```
<form action="handle_login" method="post">
```

	method="get"	method="post"
Restrictions on data length	Yes, when sending data, the get method adds the data to the URL; and the length of a URL is limited (maximum URL length is 2048 characters)	No restrictions
Restrictions on data type	Only ASCII characters allowed	No restrictions. Binary data is also allowed.

Form - reset

```html
<form action="handle_login" method="post">
  Username:<br />
  <input type="text" name="username" size="30"/><br />
  Password:<br />
  <input type="password" name="password" size="30"/><br /><br />

  <input type="submit" value="Login"/>
  <input type="reset" value="Reset form"/>

</form>
```

When reset button is clicked all input in the form will be cleared

Username:

[   ]

Password:

[   ]

[Login] [Reset form]

Form

```
<form ...>
  First name:<br />
  <input type="text" name="firstname" size="30"/><br />
  Last name:<br />
  <input type="text" name="lastname" size="30"/><br />

  Select day:<br />
  <select name="day">
    <option value="mon">Monday</option>
    <option value="tue">Tuesday</option>
    <option value="wed">Wednesday</option>
    <option value="thu">Thursday</option>
    <option value="fri">Friday</option>
  </select>
  ...
</form>
```

Finally, an important question:
What is the purpose of the attribute name **?**

References

- http://www.w3schools.com/html

- http://www.w3schools.com/htmL/html_forms.asp

- http://www.w3.org/TR/html5/forms.html