

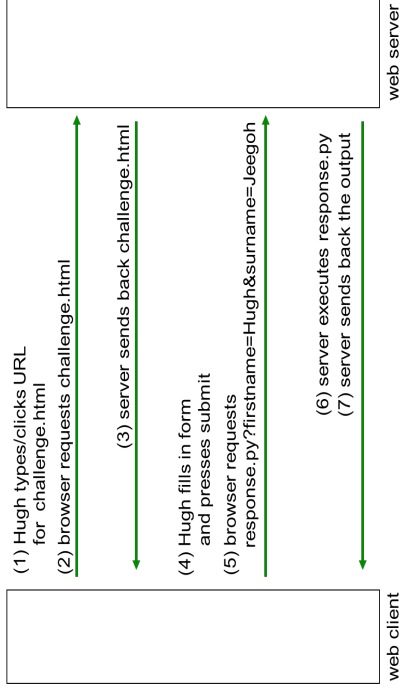
CS1116/CS5018

Web Development 2

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Handling a form



A web page that contains a form

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8" />
    <title>Challenge</title>
  </head>
  <body>
    <p> Halt! Who goes there? </p>
    <form action="response.py" method="get">
      <input type="text" name="firstname" />
      <input type="text" name="surname" />
      <input type="submit" />
    </form>
  </body>
</html>
```

When the user presses submit...

- When the user presses the submit button, the browser arranges the data in name/value pairs
 - E.g. the user types Hugh and Jeegoh into the form
 - The browser arranges the data as follows:

```
firstname=Hugh&surname=Jeegoh
```

...and behind the scenes

- The browser also *encodes* the data using **standard URL encoding**:
 - This replaces spaces, slashes and other characters that are not allowed in URLs by their hexadecimal equivalents
 - E.g. spaces are replaced by %20 (which may display as '+');
 - slashes by %2F
 - E.g. if the user types Ann and O Domini into the form, the browser arranges and encodes the data as follows:

```
firstname=Ann&surname=O%20Domini
```

And then...

- The browser then creates an HTTP request
 - The command comes from the form's `method` attribute
 - The URL comes from the form's `action` attribute
 - If the `method="get"`, the data is added to the end of the URL after a question mark:

```
GET response.py?firstname=Hugh&surname=Jeegoh
```

The server-side program, `response.py`

```
#!/usr/local/bin/python3
from cgi import FieldStorage
print('Content-Type: text/html')
print()
form_data = FieldStorage()
fname = form_data.getfirst('firstname')
sname = form_data.getfirst('surname')
print("""
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8" />
<title>Response</title>
</head>
<body>
<p> Hello, %s. You may go on your way.
</p>
</body>
</html>""") % (fname, sname))
```

Class exercise

- I have written a web page that contains a form:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8" />
<title>Your message</title>
</head>
<body>
<form action="to_morse.py" method="get">
<label>Type your message: </label>
<input type="text" name="message" />
<input type="submit" value="Submit" />
</form>
</body>
</html>
```

- Your task is to write a program that takes the user's data and outputs a web page that contains an HTML table that contains the user's input data and its translation into Morse code
- FYI: 'A' is '·-'; 'B' is '····'; 'C' is '·-·-'; and so on

Incomplete solution

```
#!/usr/local/bin/python3
from cgi import FieldStorage
print('Content-Type: text/html')
print()

print("""
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <title>Your message in Morse code</title>
</head>
<body>
  <table>
    <tr>
      <th>Original: </th><td>%s</td>
    </tr>
    <tr>
      <th>Morse: </th><td>%s</td>
    </tr>
  </table>
</body>
</html>""" % (message, morse))
```