

QUICK TIP...

THE "SECURITY HACK" AT THE END OF
THIS PRESENTATION IS SOMETHING
THAT **EVERYONE** SHOULD KNOW!

GETTING INFORMATION FROM USERS

HTML FORMS

WEBDEV@RGU

- HTML Forms
- Form Presentation
- Form Elements
 - Input Types
 - Input Attributes
- Form Security

OVERVIEW

HTML FORMS

- Capturing user input
 - registering user information
 - entering username and password for login
 - posting status updates to social networks
 - submitting a search query
 - taking a questionnaire
- Transmitting user input elsewhere
 - send to client side JavaScript for validation
 - send to server side process (PHP, Java, JavaScript)

PURPOSE OF HTML FORMS

FORM

PRESENTATION

Please leave a comment...

Name:

Email:

Comment:

A SIMPLE HTML FORM

- The form tag contains all the input elements
 - `<form> ... </form>`
- Input elements can be of `<input type="" />`
 - Text/password/file or textarea
 - Radio button or Checkbox
 - Select boxes
- All input elements should be given a form label
 - Improves accessibility if using a screen reader
 - `<label> ... </label>`
- Fieldsets can be used to graphically group input elements together
 - `<fieldset> ... </fieldset>`

BASIC FORM ELEMENTS

<form>

<fieldset>

<legend>Please leave a comment...**</legend>**

<label for="name">Name:**</label>**

<input type="text" name="name" value="" **/>**

<label for="email">Email:**</label>**

<input type="text" name="email" value="" **/>**

<label for="comments">Comment:**</label>**

<textarea name="comments" **cols**="45" **rows**="5"**>**

</textarea>

<input type="submit" value="Submit" **/>**

</fieldset>

</form>



Please leave a comment...

Name:

Email:

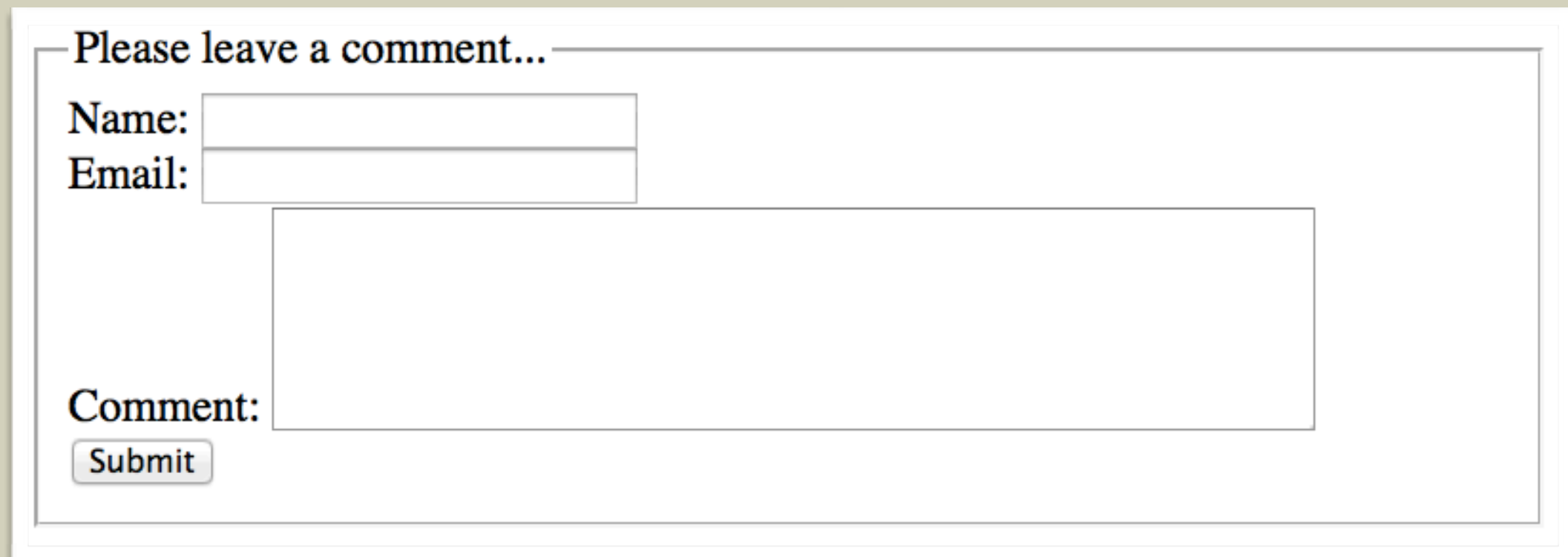
Comment:

Submit

- Best practice is to use CSS
- However, tables are still used a lot for layout of form elements
 - better than a messy form

FORM PRESENTATION

```
<form>
  <fieldset>
    <legend>Please leave a comment...</legend>
    <label for="name">Name:</label>
    <input type="text" name="name" value="" />
    <br>
    <label for="email">Email:</label>
    <input type="text" name="email" value="" />
    <br>
    <label for="comments">Comment:</label>
    <textarea name="comments" cols="45" rows="5"></textarea>
    <br>
    <input type="submit" value="Submit" />
  </fieldset>
</form>
```



Please leave a comment...

Name:

Email:

Comment:

```
<style> input, textarea {width: 400px;} </style>
<form>
  <fieldset>
    <legend>Please leave a comment...</legend>
    <table>
      <tr>
        <td><label>Name:</label></td>
        <td><input type="text" name="name" value="" /></td>
      </tr>
      <tr>
        <td><label>Email:</label></td>
        <td><input type="text" name="email" value="" /></td>
      </tr>
      <tr>
        <td><label>Comment:</label></td>
        <td><textarea name="comments" cols="45" rows="5">
          </textarea></td>
      </tr>
      <tr>
        <td colspan=2><input type="submit" value="Submit" /></td>
      </tr>
    </table>
  </fieldset>
</form>
```

Column 1

Column 2

Please leave a comment...

Name:

Email:

Comment:

Submit

Row 1

Row 2

Row 3

Row 4

- Best practice is to use CSS
- However, tables are still used a lot for layout of form elements
 - better than a messy form
- Next week we will look at CSS in a lot more detail so that you can get the hang of it.

FORM PRESENTATION

FORM ELEMENTS INPUT TYPES

- Provides simple text input

```
<form>  
  <label for="firstname">First name:</label><br>  
  <input type="text" name="firstname"><br>  
  Last name:<br>  
  <input type="text" name="lastname">  
</form>
```

First name:

Last name:

TEXT

- Provides text input that is hidden from the user

```
<form>  
  User name:<br>  
  <input type="text" name="username"><br>  
  User password:<br>  
  <input type="password" name="psw">  
</form>
```

User name:

John

User password:

....

PASSWORD

- Submit button for forms

```
<form action="action_page.php">  
  First name:<br>  
  <input type="text" name="firstname" value="Mike"><br>  
  Last name:<br>  
  <input type="text" name="lastname" value="Crabb"><br><br>  
  <input type="submit" value="Submit">  
</form>
```

First name:

Mike

Last name:

Crabb

Submit

SUBMIT

- The `<input type="date">` is used for input fields that should contain a date.

```
<form>  
  Birthday:  
  <input type="date" name="bday">  
</form>
```

Birthday:

DATE

- Provides for a selection of zero or more items from a list of options

```
<input type="checkbox" name="pets" value="loveCats">I love cats <br>  
<input type="checkbox" name="pets" value="loveDogs">I love dogs
```

☐ I love cats
☐ I love dogs

CHECKBOXES

- Provides for only one selection from a list of options

```
<input type="radio" name="cats" value="loveCats">I love cats <br>  
<input type="radio" name="cats" value="hateCats">I have no soul
```

☐ I love cats
☐ I have no soul

RADIO BUTTONS

- Choose from a list of options
 - use the <select> tag
 - list <options>

```
<label for="degreeTitle">Degree Title:</label>
<select name="degreeTitle">
  <option value="cs">Computer Science</option>
  <option value="dm">Digital Media</option>
  <option value="cnmd">Computer Network Management</option>
</select>
```

Degree Title ✓ Computer Science
Digital Media
Computer Network Management and Design

SELECTION (DROP DOWN) BOX

- Provides for only one selection from a list of options

```
<form>  
  Select your favorite color:  
  <input type="color" name="favcolor">  
</form>
```



Select your favorite color:



Submit

COLOUR

- Provides for only one selection from a list of options

```
<form>  
  E-mail:  
  <input type="email" name="email">  
  <input type="submit">  
</form>
```

E-mail:

⚠ Please include an '@' in the email address. 'mikecrabb.com' is missing an '@'.


E-mail:

EMAIL

- Provides for only one selection from a list of options

```
<form>  
  Add your homepage:  
  <input type="url" name="homepage">  
</form>
```

Add your homepage:

 Please enter a URL.

Add your homepage:

URL

EMAIL

check input is valid email address
(something@something.something)

URL

check input is valid web address
(http://www.something.something)

RESET

Clears everything on the page

COLOR

Select a colour

american spelling



HTML5 FORM IMPROVEMENTS

FORM

ELEMENTS

INPUT ATTRIBUTES

- The value attribute specifies the initial value for an input field:

```
<form action="">  
First name:<br>  
<input type="text" name="firstname" value="John">  
<br>  
Last name:<br>  
<input type="text" name="lastname">  
</form>
```

First name:

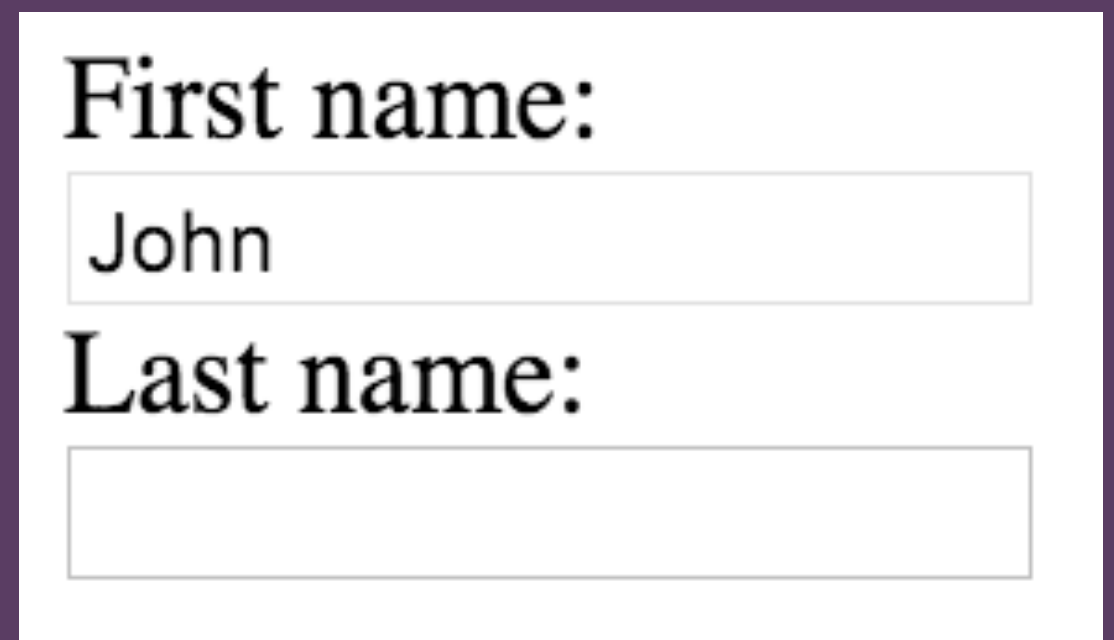
John

Last name:

VALUE

- The readonly attribute specifies that the input field is read only (cannot be changed)

```
<form action="">  
First name:<br>  
<input type="text" name="firstname" value="John" readonly>  
<br>  
Last name:<br>  
<input type="text" name="lastname">  
</form>
```



First name:

John

Last name:

READ ONLY

- The disabled attribute specifies that the input field is disabled.
- A disabled element is un-usable and un-clickable.
- Disabled elements will not be submitted

```
<form action="">
```

```
First name:<br>
```

```
<input type="text" name="firstname" value="John" disabled>
```

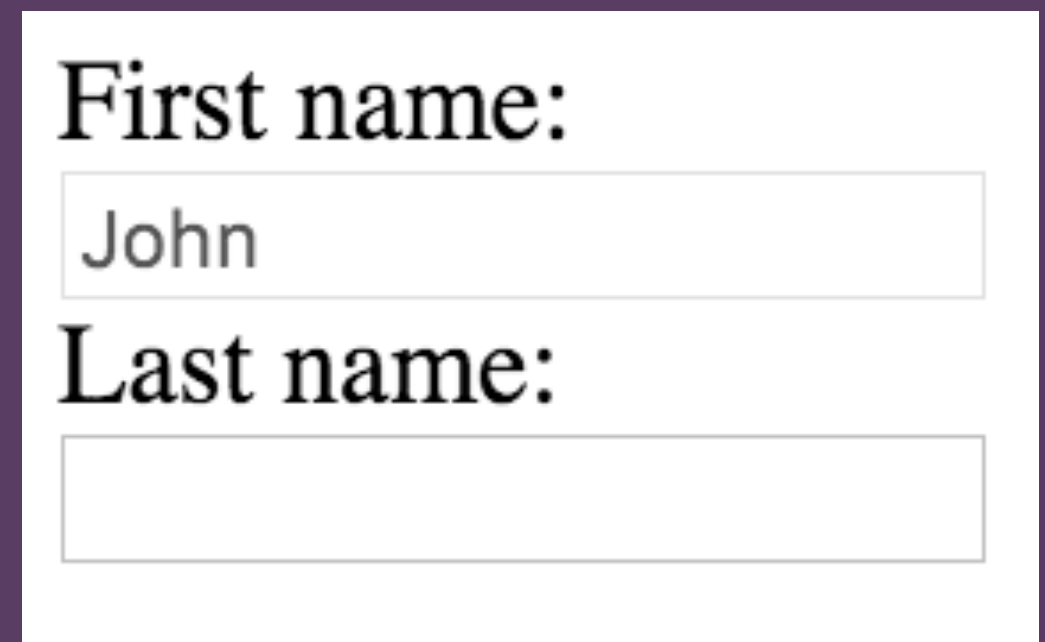
```
<br>
```

```
Last name:<br>
```

```
<input type="text" name="lastname">
```

```
</form>
```

DISABLED



First name:

Last name:

- The size attribute specifies the size (in characters) for the input field

```
<form action="">  
First name:<br>  
<input type="text" name="firstname" value="John" size="40">  
<br>  
Last name:<br>  
<input type="text" name="lastname">  
</form>
```

First name:

Last name:

SIZE

- The maxlength attribute specifies the maximum allowed length for the input field:

```
<form action="">
```

```
First name:<br>
```

```
<input type="text" name="firstname" maxlength="10">
```

```
<br>
```

```
Last name:<br>
```

```
<input type="text" name="lastname">
```

```
</form>
```

First name:

Last name:

MAXLENGTH

- The autocomplete attribute specifies whether a form or input field should have autocomplete on or off

```
<form autocomplete="on">
```

```
  First name:<input type="text" name="fname"><br>
```

```
  Last name: <input type="text" name="lname"><br>
```

```
  E-mail: <input type="email" name="email"
```

```
  autocomplete="off"><br>
```

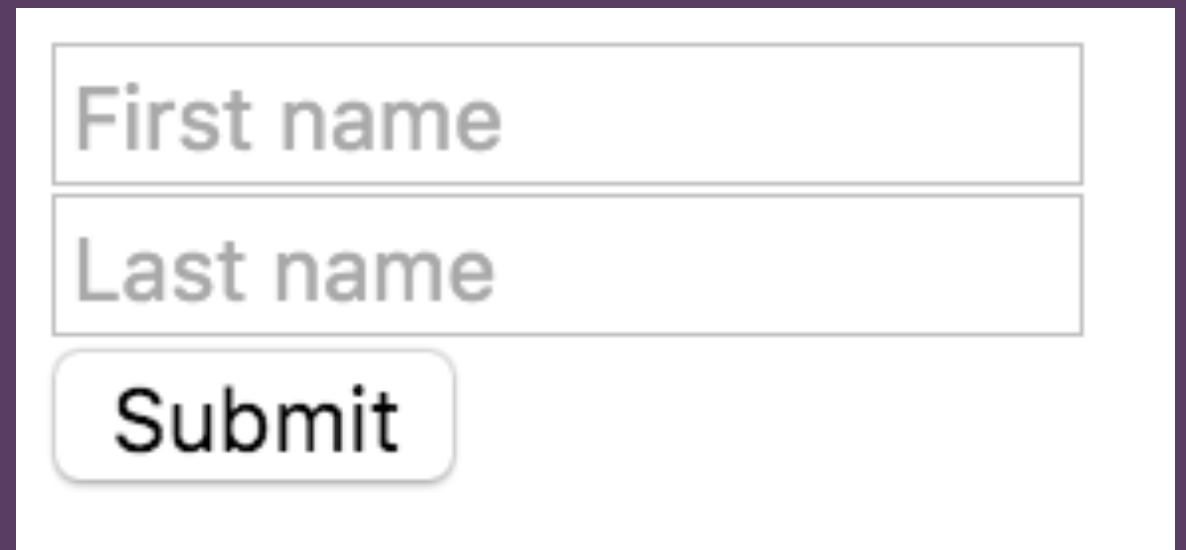
```
  <input type="submit">
```

```
</form>
```

AUTOCOMplete

- The placeholder attribute specifies a hint that describes the expected value of an input field (a sample value or a short description of the format).

```
<input type="text" name="fname" placeholder="First name">
```

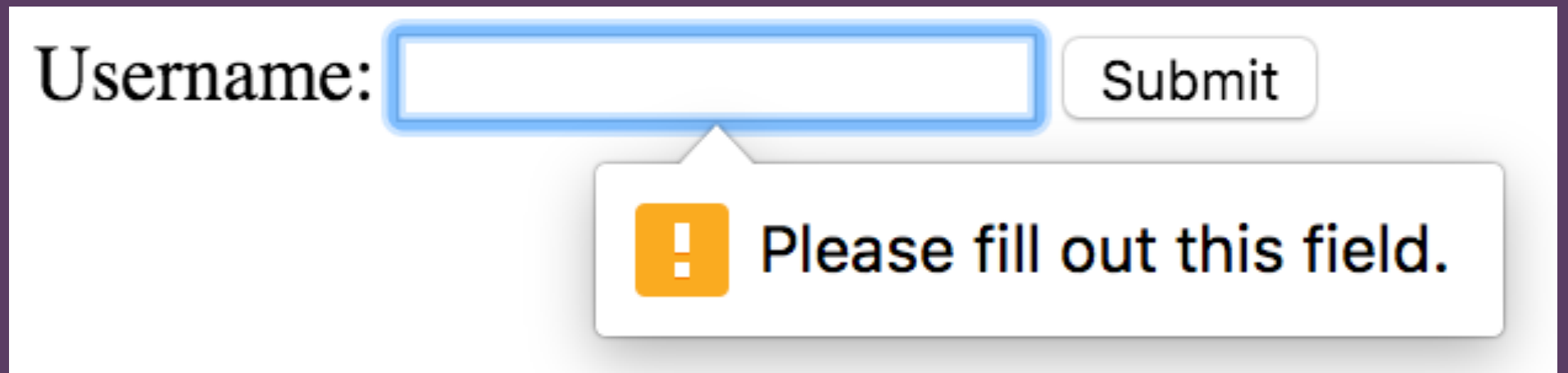


A screenshot of a web form. It contains two text input fields stacked vertically. The first field has the placeholder text "First name" in a light gray font. The second field has the placeholder text "Last name" in a light gray font. Below these fields is a rounded rectangular button with the text "Submit" in a bold black font.

PLACEHOLDER

- When present, it specifies that an input field must be filled out before submitting the form.
- The required attribute works with the following input types: text, search, url, tel, email, password, date pickers, number, checkbox, radio, and file.

Username: <input type="text" name="username" required>



Username:

! Please fill out this field.

REQUIRED

← This one is important

FORM SECURITY

- Forms can be quite insecure when we are using them, we need to make sure that the right data is being seen by the right people
 - and that no-one can get access to the really sensitive data!

For example...here's how to find out a password on an unsecured computer

**PS - DON'T DO THIS ONE SOMEONE ELSE'S
COMPUTER - YOU'LL GET INTO A LOT OF TROUBLE!!**

FORM SECURITY

I'VE VISITED A WEBSITE AND HAVE PUT IN MY USERNAME AND PASSWORD INTO THE BOX PROVIDED. LET'S SAY THAT NOW I HAVE TO STEP AWAY FROM MY COMPUTER FOR 5 SECONDS...

campusmoodle.rgu.ac.uk: L x

https://campusmoodle.rgu.ac.uk/login/index.php

CAMPUSMOODLE
ROBERT GORDON UNIVERSITY

MY MOODLE ▾ Library Study Skills Careers

Username

Password

☐ Remember username

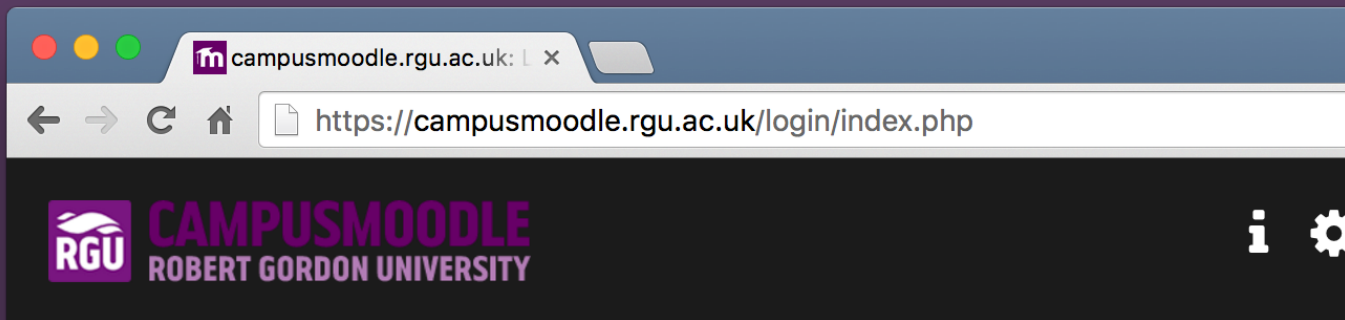
[For help logging into RGU services click here.](#)

Cookies must be enabled in your browser ?

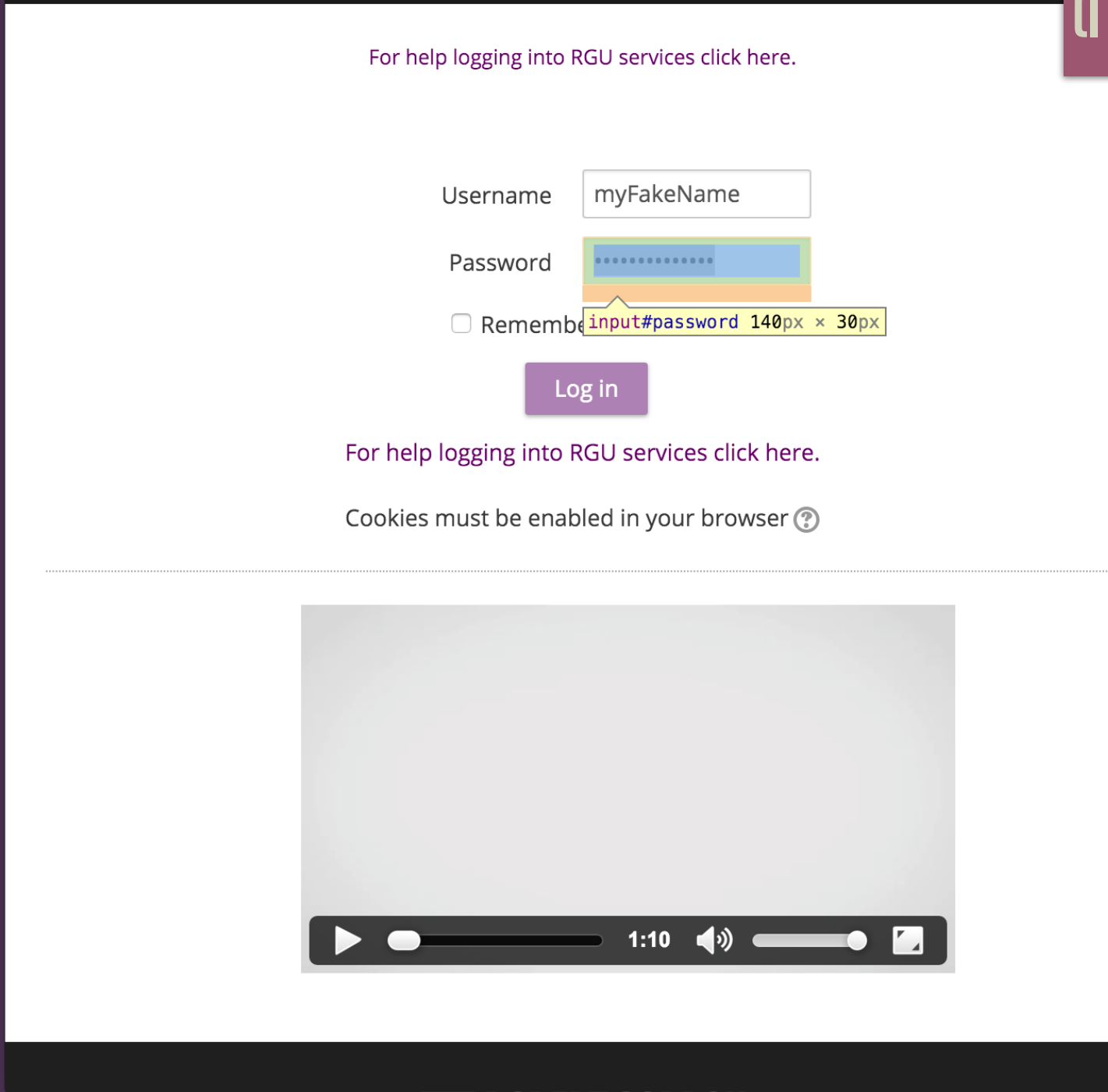


SOME UNSAVOURY CHARACTER COMES ALONG
AND LOOKS AT MY SCREEN. THEY RIGHT CLICK ON
THE PASSWORD FIELD AND THEN GO TO INSPECT, I
WONDER WHAT THEY ARE UP TO?

The screenshot shows a web browser window with the address bar displaying `https://campusmoodle.rgu.ac.uk/login/index.php`. The page header features the Robert Gordon University (RGU) logo and the text "CAMPUSMOODLE ROBERT GORDON UNIVERSITY". Below the header is a navigation bar with links: "MY MOODLE", "Library", "Study Skills", and "Careers". The main content area contains a login form with fields for "Username" (containing "myFakeName") and "Password" (masked with dots). There is a checkbox for "Remember username" and a "Log in" button. Below the login form, there is a link for help and a message about cookies. A right-click context menu is open over the password field, showing options like "Undo", "Redo", "Cut", "Copy", "Paste", "Paste and Match Style", "Select All", "Writing Direction", "Language Settings...", "EditThisCookie", "Inspect" (highlighted), and "Services". In the background, a video player is visible with a progress bar at 1:10.



NOW THEY ARE LOOKING AT THE HTML FOR THIS WEB PAGE AND HAVE AN INTEREST IN THE FIELD THAT MY PASSWORD IS IN. IT'S OK...ITS SECURE (IT REALLY ISN'T).



```
<div class="form-label">...</div>
<div class="form-input" id=
"yui_3_17_2_3_1455895040486_107">...</div>
<div class="clearer">...</div>
<div class="form-label">...</div>
<div class="form-input">
  <input type="password" name="password" id=
    "password" size="15" value>
</div>
</div>
<div class="clearer">...</div>
<div class="rememberpass">...</div>
<div class="clearer">...</div>
<input type="submit" id="loginbtn" value="Log in">
<div class="forgetpass">...</div>
</form>
<div class="desc">...</div>
</div>
<div class="signuppanel">...</div>
```

... #login #yui_3_17_2_3_1455895040486_108 div input#password

Styles Event Listeners DOM Breakpoints Properties

Filter + -

```
element.style {
}
.loginbox .loginpanel
.loginform .form-input input {
  width: 70%;
}
.loginbox .loginform .form-
input input {
  width: 6em;
}
select, textarea,
input[type="text"],
input[type="password"],
input[type="datetime"],
input[type="datetime-local"],
input[type="date"],
input[type="month"],
input[type="time"], input[type="week"],
input[type="number"]
```

margin -

border 1

padding 4

126 x 20

4

1

10

Filter Show all

- background-color
rgb(255, 255, 255)
- border-bottom-color
rgb(204, 204, 204)
- border-bottom-left-radius
2px

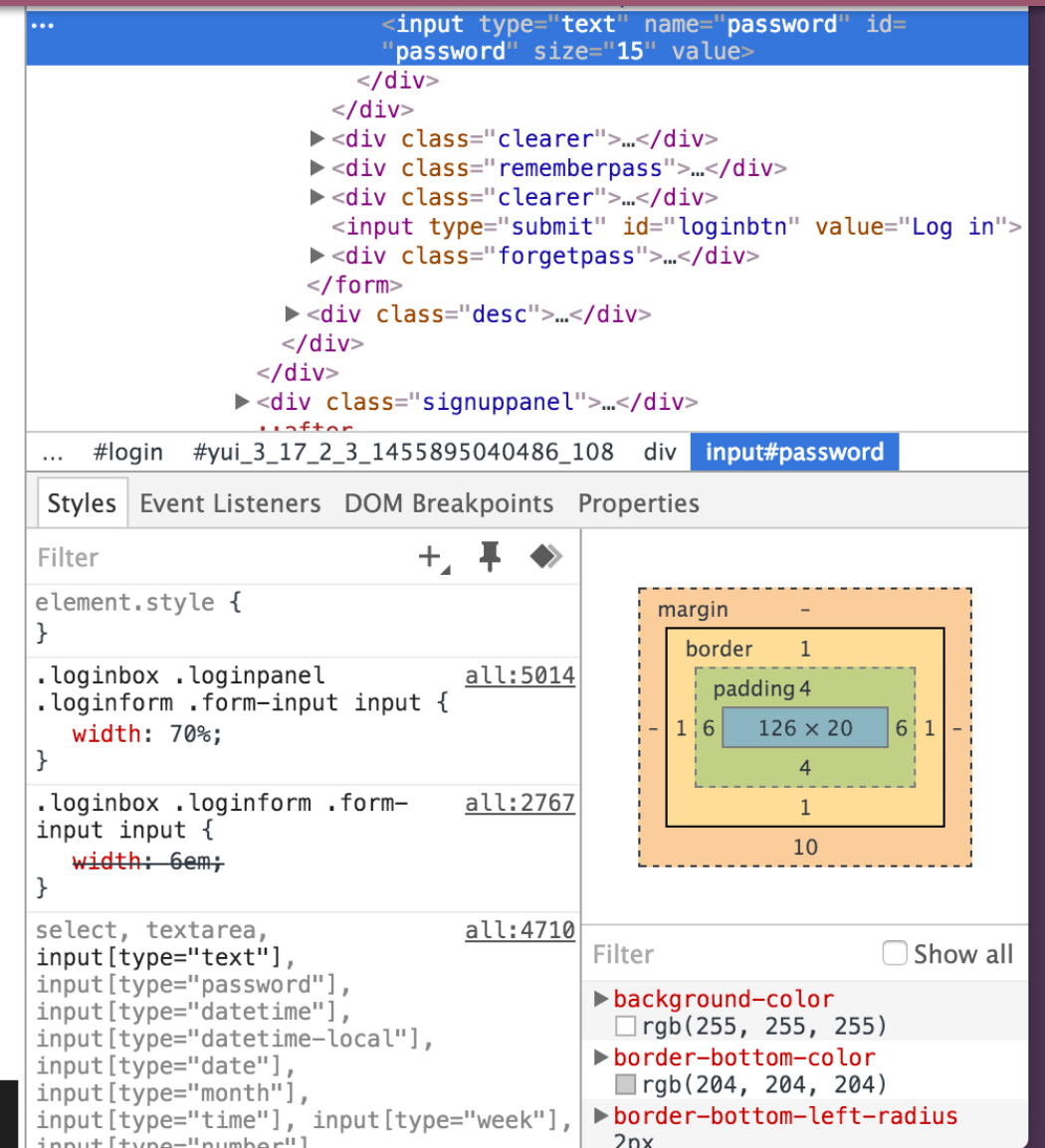
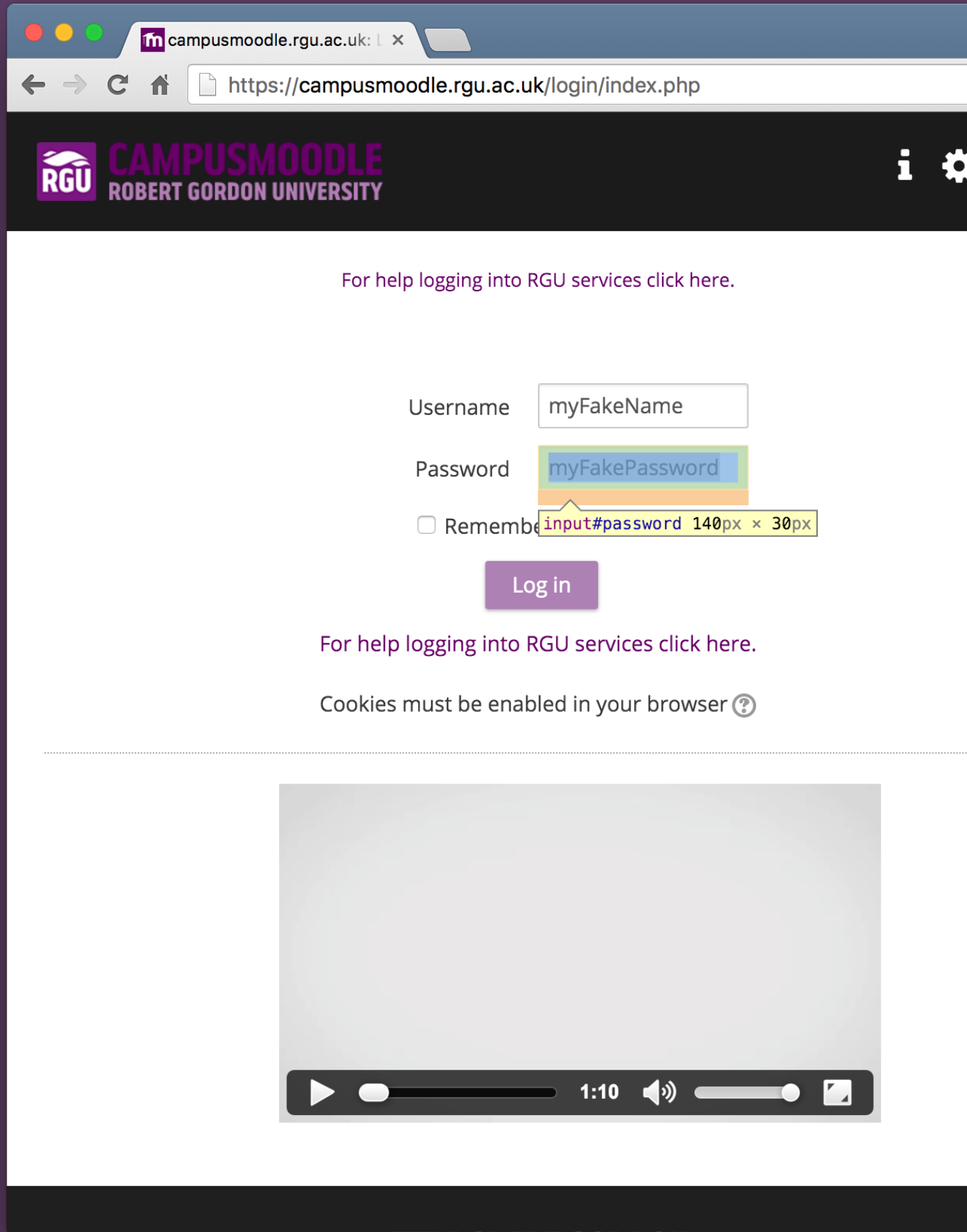
THEY CHANGE THE FORM ELEMENT FROM:

<INPUT TYPE="PASSWORD">

TO

<INPUT TYPE="TEXT">

AND NOW MY PASSWORD IS BEING SHOWN TO THE WORLD #AWKWARD!



- HTML Forms
- Form Presentation
- Form Elements
 - Input Types
 - Input Attributes
- Form Security

RECAP

GET IN TOUCH!

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