CS 2441W 31
Database Systems & Team Projects Laboratory

PHP continued

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**HTML is static and boring**

HTML is great if you just want to share a picture of your pet, but not so great if you want to interact with visitors to your site.

The HTML code in these pages is determined when the web developer creates the pages.

Static HTML pages are only changed when a web developer edits a .html file and uploads it to their web server.

The web server is limited to serving up one static HTML page after another.

These people are looking for interaction!
PHP scripts are stored on the web server, where they're processed and then delivered to the browser as HTML pages.

The HTML code in these pages is generated by PHP and can change dynamically depending on what the web application needs.

The browser still receives regular HTML pages, but the code's been dynamically generated by PHP on the server.

PHP scripts contain both HTML code and PHP script code that determines how the HTML code's manipulated.

Dynamic HTML pages change in response to programmatic logic in PHP scripts, making them incredibly flexible.

PHP stores and retrieves data from a database and incorporates the data into the HTML code that it generates.
Dogs in Space

Meet Owen. Owen’s lost his dog, Fang. But finding his dog isn’t just a matter of searching the neighborhood. You see, Fang was abducted by aliens, which expands Owen’s search to the entire galaxy.

Owen knows some HTML
Aliens Abducted Me - Report an Abduction

Share your story of alien abduction:

First name:
Last name:
What is your email address?
When did it happen?
How long were you gone?
How many did you see?
Describe them:
What did they do to you?
Have you seen my dog Fang?

Owen wants a physical description of the aliens!!!

Yes ☐ No ☐

Owen hopes someone will answer yes, that they saw Fang on the alien spacecraft.

Anything else you want to add?

Owen wants to receive an e-mail message when the user submits the form.
Share your story of alien abduction:

<form method="post" action="mailto:owen@aliensabductedme.com">
  <label for="firstname">First name:</label>
  <input type="text" id="firstname" name="firstname" />
  <br/>
  <label for="lastname">Last name:</label>
  <input type="text" id="lastname" name="lastname" />
  <br/>
  <label for="email">What is your email address?</label>
  <input type="text" id="email" name="email" />
  <br/>
  <label for="whenithappened">When did it happen?</label>
  <input type="text" id="whenithappened" name="whenithappened" />
  <br/>
  <label for="howlong">How long were you gone?</label>
  <input type="text" id="howlong" name="howlong" />
  <br/>
  <label for="howmany">How many did you see?</label>
  <input type="text" id="howmany" name="howmany" />
  <br/>
  <label for="aliendescription">Describe them:</label>
  <input type="text" id="aliendescription" name="aliendescription" size="32" />
  <br/>
  <label for="whattheydid">What did they do to you?</label>
  <input type="text" id="whattheydid" name="whattheydid" size="32" />
  <br/>
  <label for="fangspotted">Have you seen my dog Fang?</label>
  Yes <input id="fangspotted" name="fangspotted" type="radio" value="yes" />
  No <input id="fangspotted" name="fangspotted" type="radio" value="no" />
  <br/>
  <img src="fang.jpg" width="100" height="175" alt="My abducted dog Fang." />
  <br/>
  <label for="other">Anything else you want to add?</label>
  <textarea id="other" name="other"></textarea>
  <br/>
  <input type="submit" value="Report Abduction" name="submit" />
</form>
In class exercise

- Open report.html page in a text editor
- Change the email address to yours!
- Open the modified web page in a browser
- Fill the alien abduction form
- Submit the form by clicking the button
**Steps:**

- Accept the GitHub assignment here: https://classroom.github.com/a/7qVs_NsX
- Open MobaXterm and start local terminal
SSH connection

- Use your GW netID to connect to the gwupyterhub.seas.gwu.edu server

  ```
  ssh -Y GWnetID@gwupyterhub.seas.gwu.edu
  ```

- Change directory to public_html

  ```
  cd public_html
  ```
Clone the repository

* On the server clone your repository in the public_html folder
  
  ```
  git clone https://github.com/GWU-CSCI-2541W/lab2-php-UserName
  ```

* You can edit files directly on the server by using `sublime_text file_name.html`

* Check your website at
  
  `http://gwupypyterhub.seas.gwu.edu/~GWUnetID/lab2-php-UserName/report.html`
Problems?

Submitting the form results in the form data getting emailed... sort of.

The HTML form doesn't know how to actually send an email, so it delegates the task to the user's own email program.
I'd like Owen's Report an Abduction web page, please.

The browser asks for Owen's web page, which includes the form.

Here you go. Owen's software runs here, also known as SERVER.

The server returns the HTML code for the web page.

The user fills out the web page.

The user's email program creates an email with the form data - it's up to the user to actually send it to Owen.

The form action tag tells the browser to ask the user's email program to create an email.

Um, I don't get involved here.

The server never touches the data entered into web forms that use mail to.

Now, I'd like to submit Owen's form with the data the user entered, please.

Owen may or may not get the email.
I'd like Owen's Report an Abduction web page, please.

Here you go.

Now, I'd like to submit Owen's Report an Abduction form, please.

I process the form information and send the email myself.

User fills out and submits the form, passing form data to a PHP script on the server.

The server sends an HTML confirmation to the browser.

The PHP script generates an HTML confirmation page and emails the form data to Owen.

Owen is guaranteed to get a nicely formatted email.
PHP overview

* PHP runs on different platforms (Windows, Linux, Unix, etc.)
* PHP is compatible with almost all servers used today (Apache, IIS, etc.)
* PHP files can contain text, HTML tags and scripts
* PHP is compatible with almost all servers used today
* Comments in PHP:
  * // for single line comment
  * /* comment */ - for multiple line
PHP overview

* Single quote and double quote are different

Example:

$email_addr=roxana@gwu.edu

```php
<?php	echo "My email: $email_addr"; ?>
```

displays: My email: roxana@gwu.edu

```php
<?php	echo ‘My email: $email_addr’; ?>
```

displays: My email: $email_addr
Running a PHP Script

When the user clicks the Report Abduction button in the form, the form action causes the report.php script to be run ON THE SERVER to process the form data.

The action attribute of the <form> tag is what causes the PHP script to run on the server when the form is submitted.
Accessing form data using PHP

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This entire block of script is PHP... the rest is normal HTML.

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Ah, there's where things get interesting - this is the beginning of the actual PHP code.

---

This chunk of PHP code grabs the form data so that it can be displayed as part of a confirmation page.

---

Here we use PHP to generate HTML code from the form data.

---

Just like a normal web page, this PHP script finishes up by closing out open HTML tags.
In-class Exercise

- Create report.php file

- To connect the html to php, open report.html and change the action.

- Open report.html in the browser and fill out the form and submit it.
Aliens Abducted Me - Report an Abduction

Share your story of alien abduction:

First name:  Roxana
Last name:  Leontie
What is your email address?  roxana@gwu.edu
When did it happen?  friday
How long were you gone?  3 days
How many did you see?  none
Describe them:
What did they do to you?  Yes  No
to sleep
Have you seen my dog Fang?

Anything else you want to add?

Report Abduction

Problems?

Depending on your browser you might see a web page with some weird text in it, or just the PHP source code for report.php script.
PHP files reside on the server

There's usually one folder on the web server where most web files are stored.

Most PHP scripts appear alongside other files in the same folder on the web server.

Images sometimes have their own folder.

* Now try again to access your web page and see the results!!
Analyzing the PHP script

Yes, this HTML code is pretty minimal - ideally you'd have a DOCTYPE, <meta> tag, etc., but we're keepings things simple.

Each line of PHP code assigns the data from a field to a new variable.

This PHP code blends variables into HTML code that's output to the browser.
What is $_POST?

- It's a storage container (array,) known as a superglobal because it is built into PHP and it is available throughout an entire script.
- $_POST already exists when your script runs.
- It can store a collection of variables under a single name.
- $_POST variable is used to collect values from a form sent with method="post".
$_POST vs $_GET

* $_GET variable is used to collect values from a form sent with method="get"

* information sent with $_GET is visible to everyone and has limited

* information sent with $_POST is invisible to others and has no limits on the amount of information sent.
Problems?! 

※ Some data is missing in the confirmation page.
※ What are the related lines of code?!
※ Any ideas on what is wrong?

```php
<?php
$when_it_happened = $_POST['whenhappened'];
$how_long = $_POST['howlong'];
$alien_description = $_POST['description'];
$fang_spotted = $_POST['fangspotted'];
$email = $_POST['email'];

echo 'Thanks for submitting the form.<br />';  
echo 'You were abducted ' . $when_it_happened . ' and were gone for ' . $how_long . '<br />';  
echo 'Describe them: ' . $alien_description . '<br />';  
echo 'Was Fang there? ' . $fang_spotted . '<br />';  
echo 'Your email address is ' . $email;
?>
```

```html
<html>
<head>
<title>Aliens Abducted Me - Report an Abduction</title>
</head>
<body>
<h2>Aliens Abducted Me - Report an Abduction</h2>
</body>
</html>
```
PHP mail() function

* Go to https://www.w3schools.com/php/func_mail_mail.asp and read about mail function

* Add a mail() function call to your php file to send an email like

Note! Use your own GWU email
References

* www.w3schools.com

* Head first PHP & MySQL book.