

INFO / CS 2300

Intermediate Web Programming

Pick up a sheet from the half wall
in the middle of the room

Most seats will be filled

The waitlist is now working

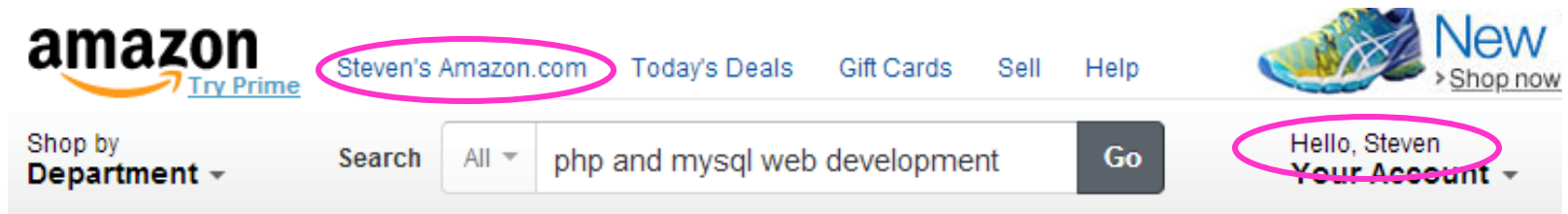
In a nutshell...

1300 is about how web sites **look**

2300 is about how web sites **work**

We're working with technologies that
allow you to make websites more
interactive, useful and engaging

How do they remember me?



And my stuff?

Your Orders

Search for title, department, ,

Orders

Open Orders

Digital Orders

Cancelled Orders

2 orders placed in past 6 months ↕

ORDER PLACED
December 10, 2014

TOTAL
\$73.57

SHIP TO
[Steve Mohlke](#) ▼

Delivered

Delivered on: Thursday, December 18, 2014



[Highwave JOEmoXL 16 oz. Stainless Steel Travel Mug](#)
Sold by: [Modern Everyday](#)

[Buy it Again](#)

Delivered

Delivered on: Monday, December 22, 2014



[2 of Plugable USB 3.0 SuperSpeed SATA III Lay-Flat Hard Drive Docking Station \(ASMedia ASM1053E SATA III to USB Chipset, UASP and 6TB+ Drive Support\)](#)
Sold by: [Plugable Technologies](#)

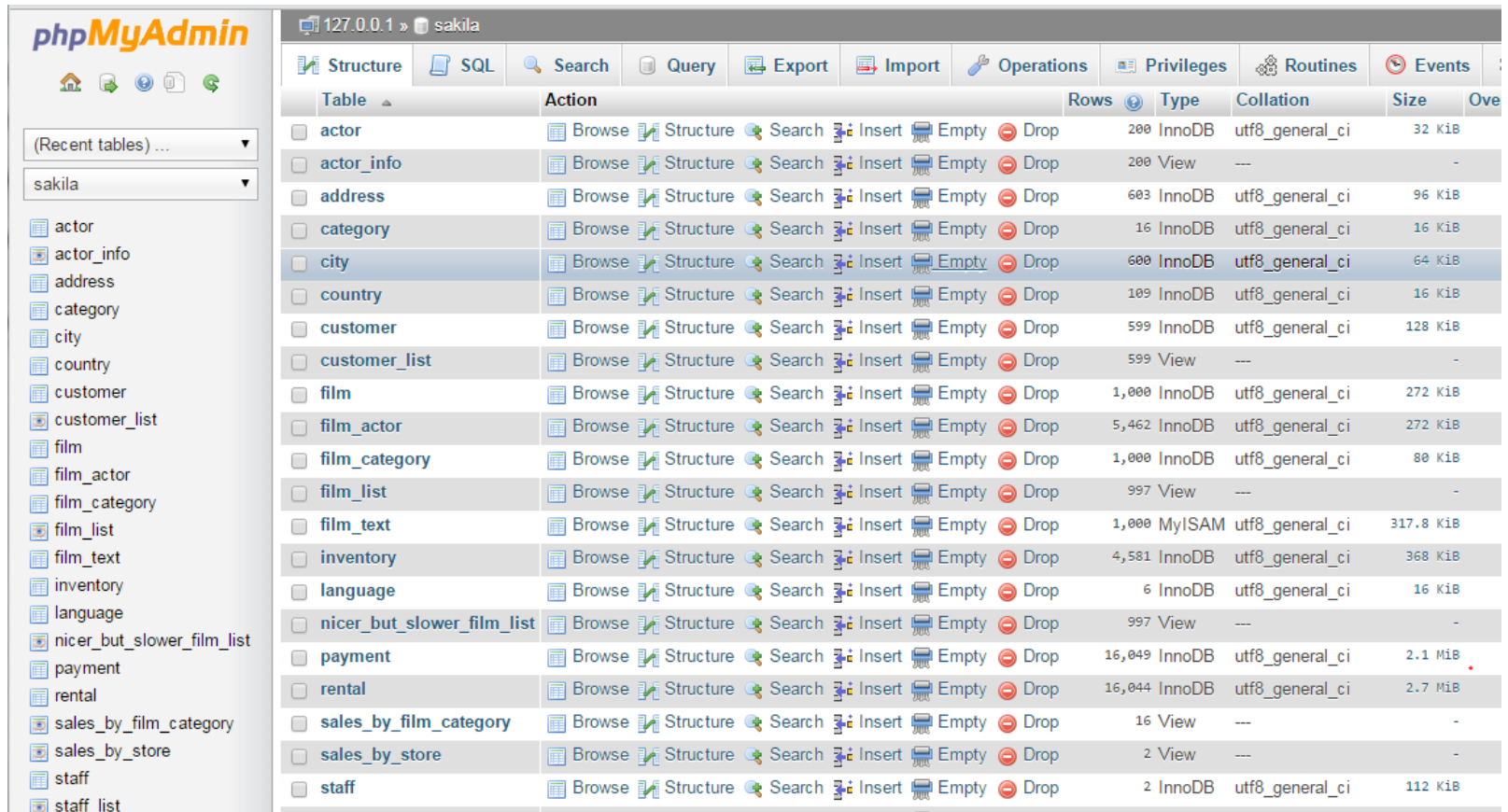
[Buy it Again](#)

You'll understand Ajax

< >		today		January 2017		month week	
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
11:00 am Winter Chill 5K #1 2017							
15	16	17	18	19	20	21	
9:00 am January 2017 Indoor Track Meet						10:00 am Hartshorne Masters Mile 2017	
11:00 am Winter Chill 5K #2							
11:00 am Winter Chill 5K #2 2017							
22	23	24	25	26	27	28	
11:00 am Winter Chill 5K #3 2017							
1:00 pm Chilly Chili 5K							
29	30	31	1	2	3	4	
11:00 am Winter Chill 5K #4						10:00 am Super Frosty Loomis	
Subscribe		Submit an event					

<http://fingerlakesrunners.org/>

And understand a database



The screenshot displays the phpMyAdmin web interface for a MySQL database named 'sakila'. The left sidebar shows a list of tables, and the main panel shows the 'Structure' view of the database. The table 'city' is selected and highlighted in blue.

Table	Action	Rows	Type	Collation	Size	Over
<input type="checkbox"/> actor	Browse Structure Search Insert Empty Drop	200	InnoDB	utf8_general_ci	32 KiB	
<input type="checkbox"/> actor_info	Browse Structure Search Insert Empty Drop	200	View	---	-	
<input type="checkbox"/> address	Browse Structure Search Insert Empty Drop	603	InnoDB	utf8_general_ci	96 KiB	
<input type="checkbox"/> category	Browse Structure Search Insert Empty Drop	16	InnoDB	utf8_general_ci	16 KiB	
<input type="checkbox"/> city	Browse Structure Search Insert Empty Drop	600	InnoDB	utf8_general_ci	64 KiB	
<input type="checkbox"/> country	Browse Structure Search Insert Empty Drop	109	InnoDB	utf8_general_ci	16 KiB	
<input type="checkbox"/> customer	Browse Structure Search Insert Empty Drop	599	InnoDB	utf8_general_ci	128 KiB	
<input type="checkbox"/> customer_list	Browse Structure Search Insert Empty Drop	599	View	---	-	
<input type="checkbox"/> film	Browse Structure Search Insert Empty Drop	1,000	InnoDB	utf8_general_ci	272 KiB	
<input type="checkbox"/> film_actor	Browse Structure Search Insert Empty Drop	5,462	InnoDB	utf8_general_ci	272 KiB	
<input type="checkbox"/> film_category	Browse Structure Search Insert Empty Drop	1,000	InnoDB	utf8_general_ci	80 KiB	
<input type="checkbox"/> film_list	Browse Structure Search Insert Empty Drop	997	View	---	-	
<input type="checkbox"/> film_text	Browse Structure Search Insert Empty Drop	1,000	MyISAM	utf8_general_ci	317.8 KiB	
<input type="checkbox"/> inventory	Browse Structure Search Insert Empty Drop	4,581	InnoDB	utf8_general_ci	368 KiB	
<input type="checkbox"/> language	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8_general_ci	16 KiB	
<input type="checkbox"/> nicer_but_slower_film_list	Browse Structure Search Insert Empty Drop	997	View	---	-	
<input type="checkbox"/> payment	Browse Structure Search Insert Empty Drop	16,049	InnoDB	utf8_general_ci	2.1 MiB	
<input type="checkbox"/> rental	Browse Structure Search Insert Empty Drop	16,044	InnoDB	utf8_general_ci	2.7 MiB	
<input type="checkbox"/> sales_by_film_category	Browse Structure Search Insert Empty Drop	16	View	---	-	
<input type="checkbox"/> sales_by_store	Browse Structure Search Insert Empty Drop	2	View	---	-	
<input type="checkbox"/> staff	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8_general_ci	112 KiB	

And handle website data



<https://www.its.ny.gov/sites/default/files/photoimages/CyberSecurityAwareness.png>

Plan for today

- About me
- Course mechanics
- Initial assignments
- Begin PHP

About Me

Heat



Electricity



Steve's Garden



Steve's Garden



Car

Steve's Garden



Cornell University
College of Agriculture and Life Sciences

NOTES

[HOME](#)[STUDY NOTES](#)[LAB NOTES](#)[FIELD NOTES](#)[MEDIA NOTES](#)[NOTABLES](#)[DEAN'S DESK](#)[MARGINALIA](#)

How much does your garden grow?



As part of the [Food Dignity Project](#), 18 home gardeners and 32 community gardeners are measuring the amount of produce they grow in one season. Researchers want to find out if gardeners are producing nutritionally and economically significant amounts of food. Based on preliminary data from 22 gardens last year, they are indeed! They

ABOUT CALS

Faculty, students, and staff of Cornell University's [College of Agriculture and Life Sciences \(CALS\)](#) discover, disseminate, and apply knowledge about food and energy systems, the life sciences, the environmental sciences, and the social sciences as a basis for sustainable improvement in the lives of people throughout New York, the nation, and the world. [Learn more »](#)

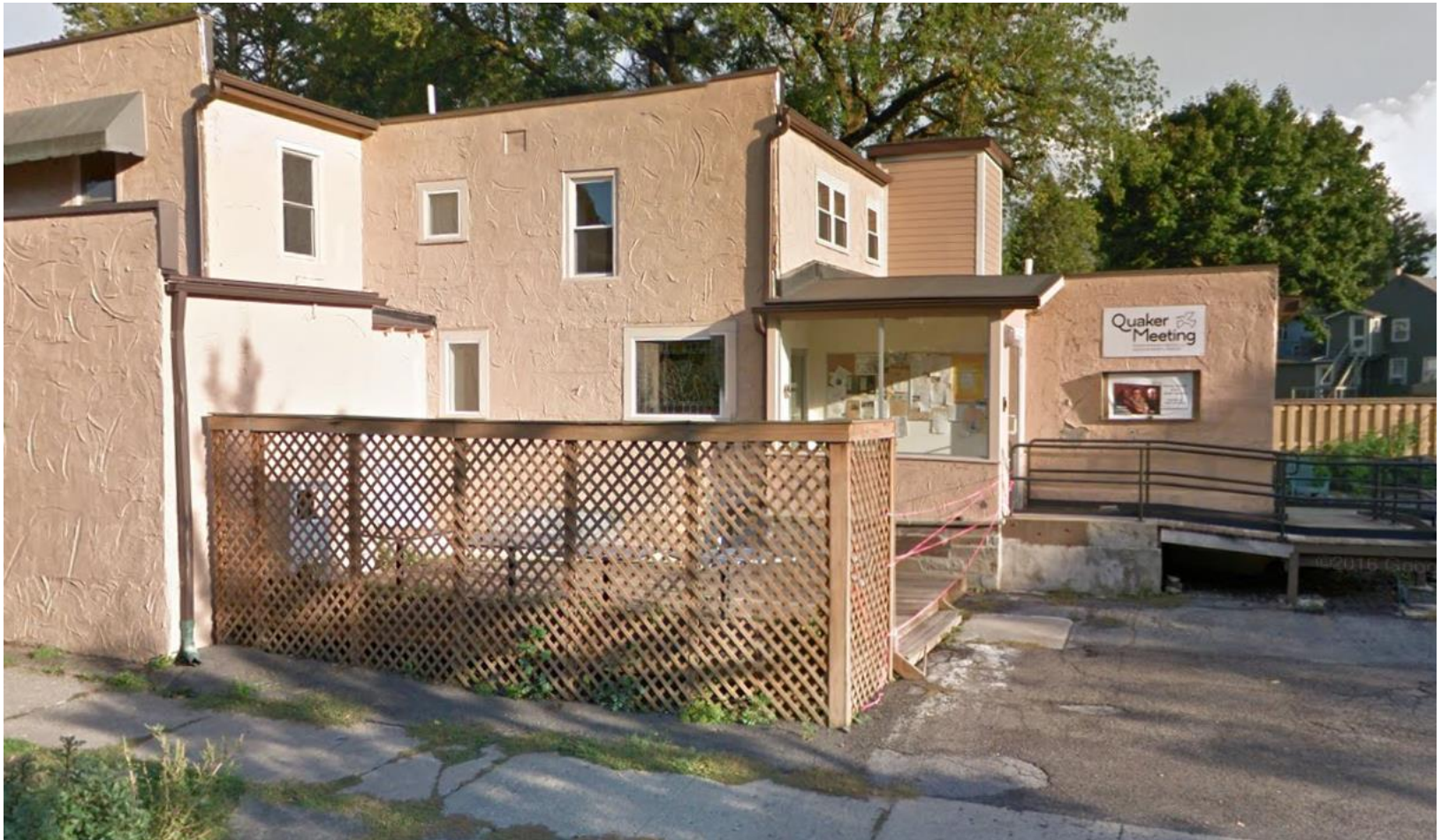
PASS US A NOTE

Have you been keeping your own notes on what's happening in CALS? We want to see them! [Email us](#) to contribute stories, quotes, images and video to CALS Notes, and share your unique perspective of the college with the world.

Not all Quakers look like this

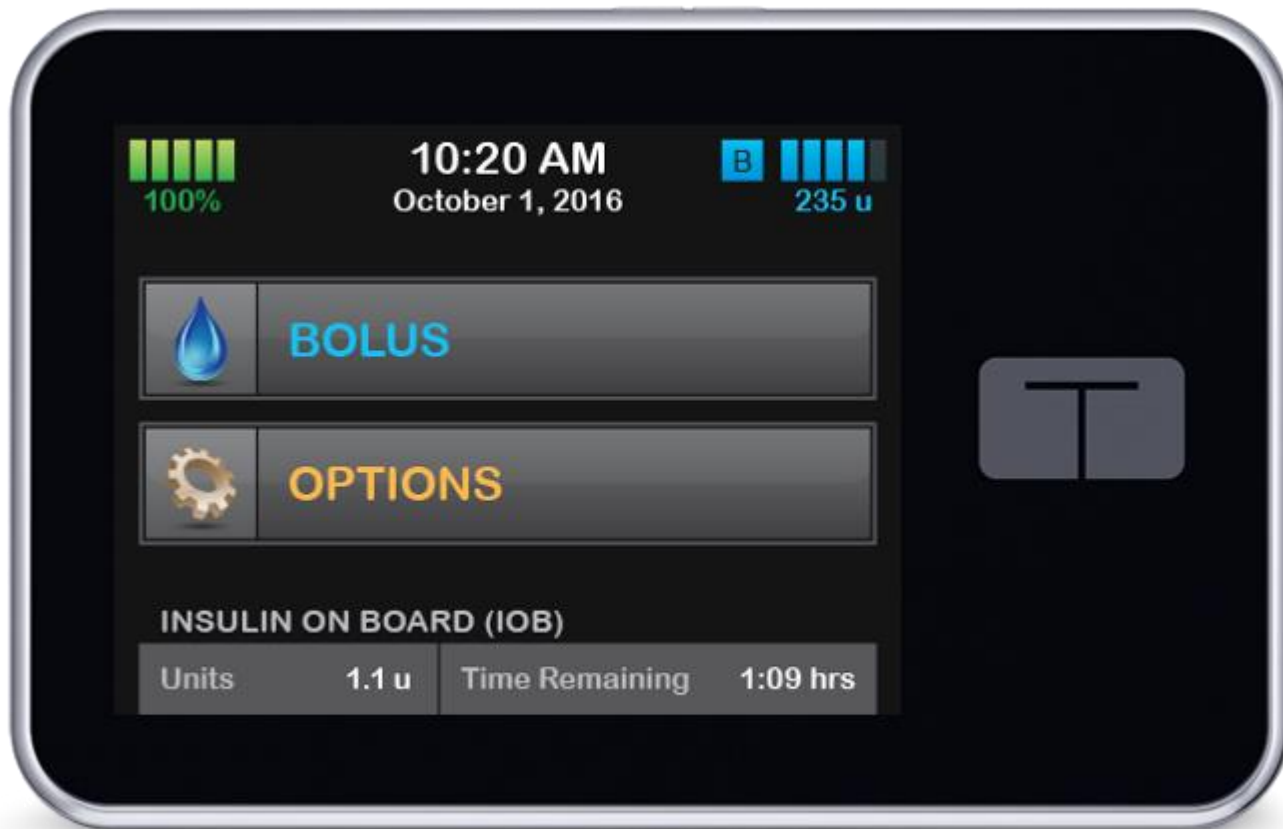


Quakers in Ithaca



https://www.google.com/maps/@42.4453284,-76.5047346,3a,48.1y,125.13h,86.51t/data=!3m6!1e1!3m4!1s-U_KfZ4B9-0ugqR3dp4OqA!2e0!7i13312!8i6656

Wearable technology



Some of my work

irp.dpb.cornell.edu

climatesmartfarming.org

earthpattern.com

Course Mechanics

Lecture

Monday, Wednesday

2:30 – 3:20

Klarman KG70

Section

- Attend **your** section
- If you must change, be careful about dropping because some are having trouble getting back in. Should be resolved soon.
- Sections start this Friday
- Short quiz starts most sections – be prompt!

The course is full

- Enrollment is limited by sections
- We can't add sections
- Something is wrong with the wait list in student center
- At some point the wait list will be fixed and we'll use it to start enrolling in spaces that open up.

What if I am not enrolled?

Priority

1. Students who were enrolled but lost their place when trying to change sections.
2. InfoSci majors
3. Wait list order

Until you are enrolled, don't attend section; we'll waive quiz scores/attendance for those sections if you end up being able to enroll.

If you find you need to drop

Please do so promptly. There may be students who can't get in to the course until you do.

Why you don't need this course

Content management systems like WordPress, Squarespace and OrgSync make it possible to create a decent web site in a few hours.

Why you do need this course

What happens when those systems don't do what you want because **something breaks** or they **aren't flexible** enough?

We're teaching the building blocks upon which those systems are based so you'll know your options.

Intermediate level web technologies

- PHP
- JavaScript / jQuery
- Databases: SQL, ER diagrams, Normalization, MySQL
- AJAX
- Regular expressions
- And more

Assumptions

You can **design an HTML web page**

1300 or equivalent

already know HTML/CSS

– OR –

do some extra catching up in the next few weeks

You have **some programming experience** with a language (like C, C++, Java) at the level of an intro class (CS 1100 and Python OK)

What's wrong with this?

```
<h2>Sports</h2>
```

```
<ul style="font-size: .8em">
```

```
  <li>Hockey</li>
```

```
  <li>Basketball</li>
```

```
  <li>Volleyball</li>
```

```
</ul>
```

Inline style and syntax

```
<h2>Sports</h2>
```

```
<ul style="font-size: .8em">
```

```
  <li>Hockey</li>
```

```
  <li>Basketball</li>
```

```
  <li>Volleyball</li>
```

```
</ul>
```

Grading

Homeworks & Data Design (14%)

Section (10%)

Lecture participation - clickers (3%)

Projects (73%)

See syllabus for more details

I'll be asking clicker questions about the syllabus next lecture

Warning to procrastinators

This class is hard on those who consistently leave things to the last minute.

- Hard to predict how long debugging
- Office hours full near deadlines
- Technologies sometimes don't cooperate

Final Group Project

In a group chosen by course staff, create a substantial, database-driven website for some external client chosen by the group.

Start thinking about who you know that needs a website.

What do I buy?

Books: None. Lecture notes will be available online.

You need a clicker for lecture – details in syllabus

Online Class Resources

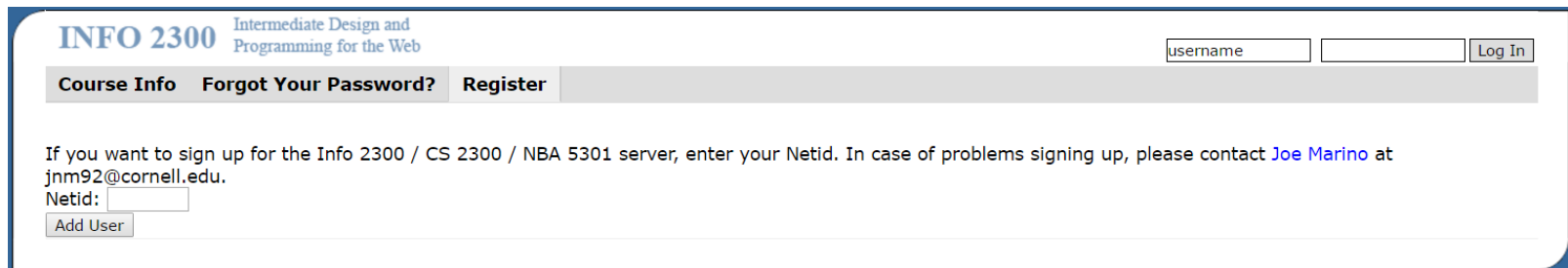
Piazza: class forum, announcements,
resources

Course Server: for sites and homework

CMS: for grading

Start Here

<http://info2300.coecis.cornell.edu>



The screenshot shows the top section of the INFO 2300 website. At the top left, it says "INFO 2300" in a large blue font, followed by "Intermediate Design and Programming for the Web" in a smaller blue font. To the right of this, there are two input fields: one labeled "username" and another empty field, followed by a "Log In" button. Below this, there is a horizontal navigation bar with three tabs: "Course Info", "Forgot Your Password?", and "Register". The "Course Info" tab is currently selected and highlighted. Below the navigation bar, there is a paragraph of text: "If you want to sign up for the Info 2300 / CS 2300 / NBA 5301 server, enter your Netid. In case of problems signing up, please contact [Joe Marino](#) at jnm92@cornell.edu." Below this text, there is a label "Netid:" followed by an input field and an "Add User" button.

Register with your netid in lower case, then you'll get an email with a username like this netidsp17

The “Course Info” tab has a link to Piazza
The first assignment on Piazza has a link to CMS

How Can I Get Help?

1. Forums on Piazza
2. Internet search
3. TA office hours (mostly in Rhodes)
Starting Saturday – will be posted on Piazza
4. Instructor's office hours
Steve Mohlke, 231 Gates Hall
After class - Mon, Wed 4 – 5.
5. Email (You'll get faster answers on Piazza)
6. Talk to us before/after class/section

Lecture Notes

All course lecture notes and code examples will be posted on...

Piazza

Mini Crash Courses

CSS for those of you who want some help catching up.

Time/Place: TBA (To Be Announced)

XAMPP - Watch for announcements.

Questions?

Read the syllabus on Piazza

Initial assignments

Assignments

- Posted on Piazza – usually on Wednesday
- Usually due Tuesdays at 5 PM by uploading files.
- Easiest way to lose points: upload to the wrong places ... **read directions carefully**

Homework 0 – Course Technologies

Start with the [2300 server](#) which links to [Piazza](#) where the assignment is posted.

Help available in Friday section or Office Hours.

Due Tuesday January 31 at 5 pm.

Project 1

Create a 4-5 page website that promotes something – maybe you.

Use your knowledge of HTML & CSS, and integrate some basic PHP.

More detail will be posted on Piazza soon.

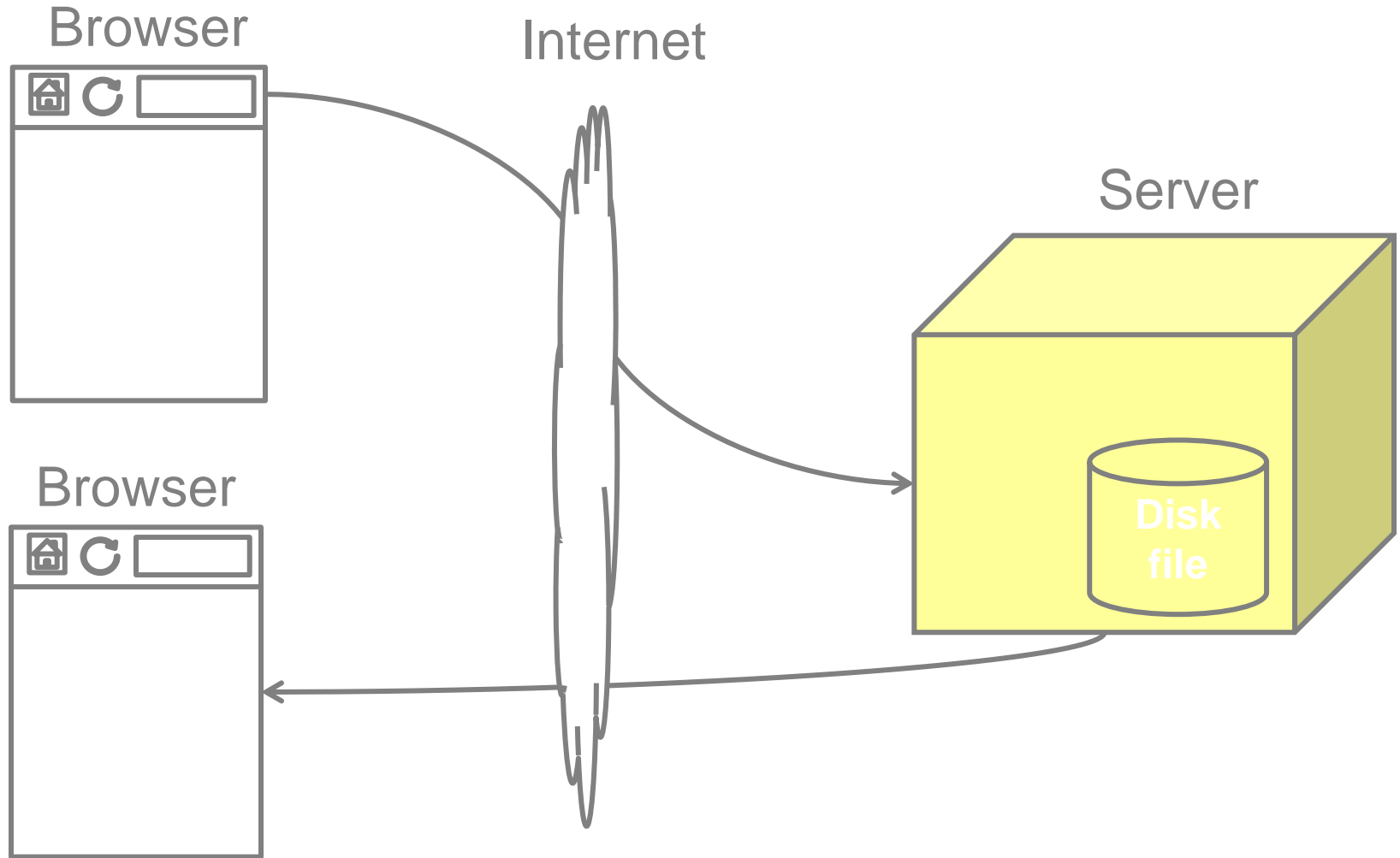
Due Tuesday February 7 at 5 pm.

You can start thinking about the content today.

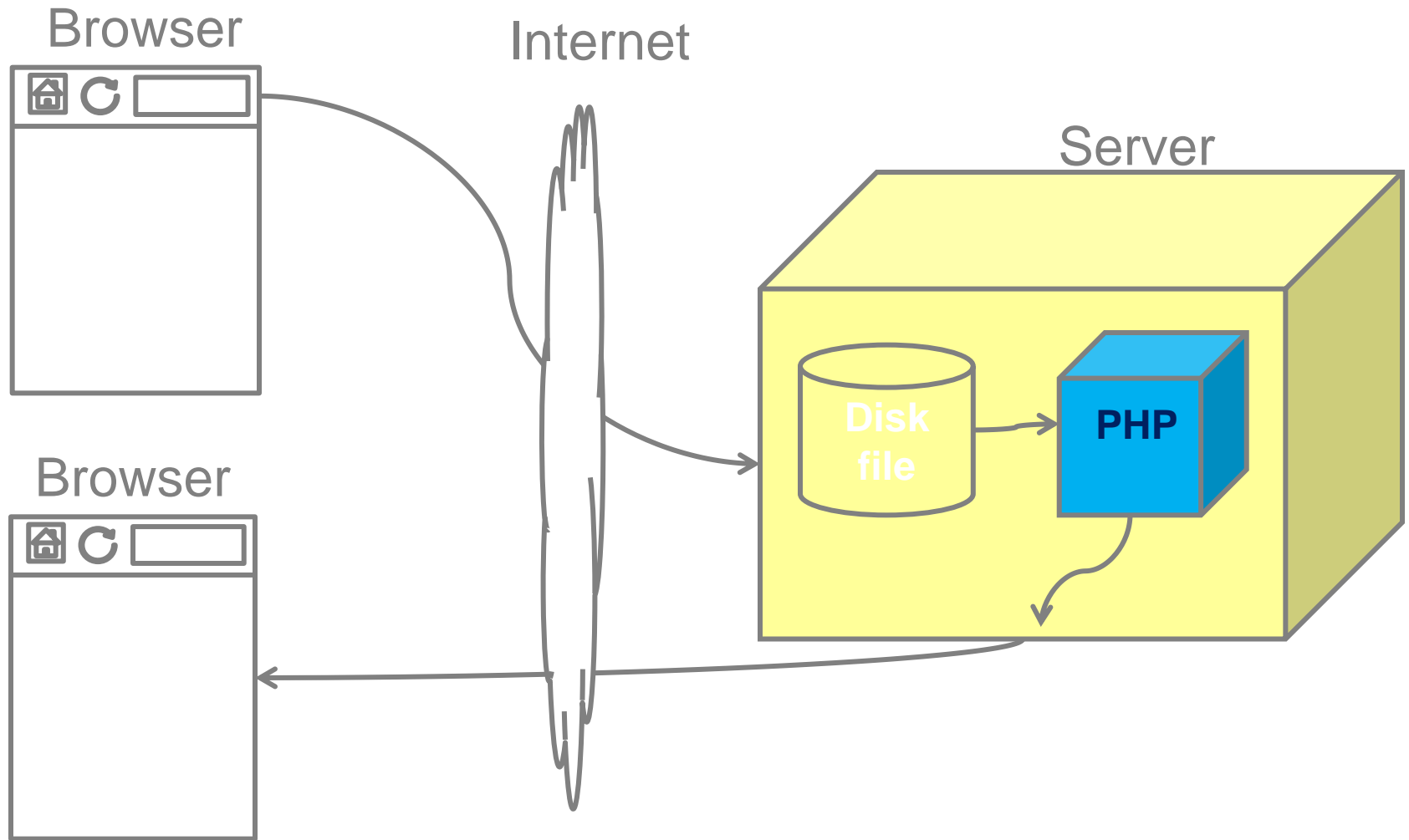
PHP

PHP: Hypertext Preprocessor

How the web works with HTML



How the web works with PHP



What can you do with PHP?

Automatically generate HTML files when accessed.

Allows for:

- Personalization
- Respond to form inputs
- Automate repetitive HTML coding
- And much, much more...

A very basic PHP file

```
<!DOCTYPE html>
<html>
  <head>
    <title>A Teeny Page</title>
  </head>
  <body>
    <p>Not much in here</p>
  </body>
</html>
```

What makes this PHP?

```
<!DOCTYPE html>
<html>
  <head>
    <title>A Teeny Page</title>
  </head>
  <body>
    <p>Not much in here</p>
  </body>
</html>
```

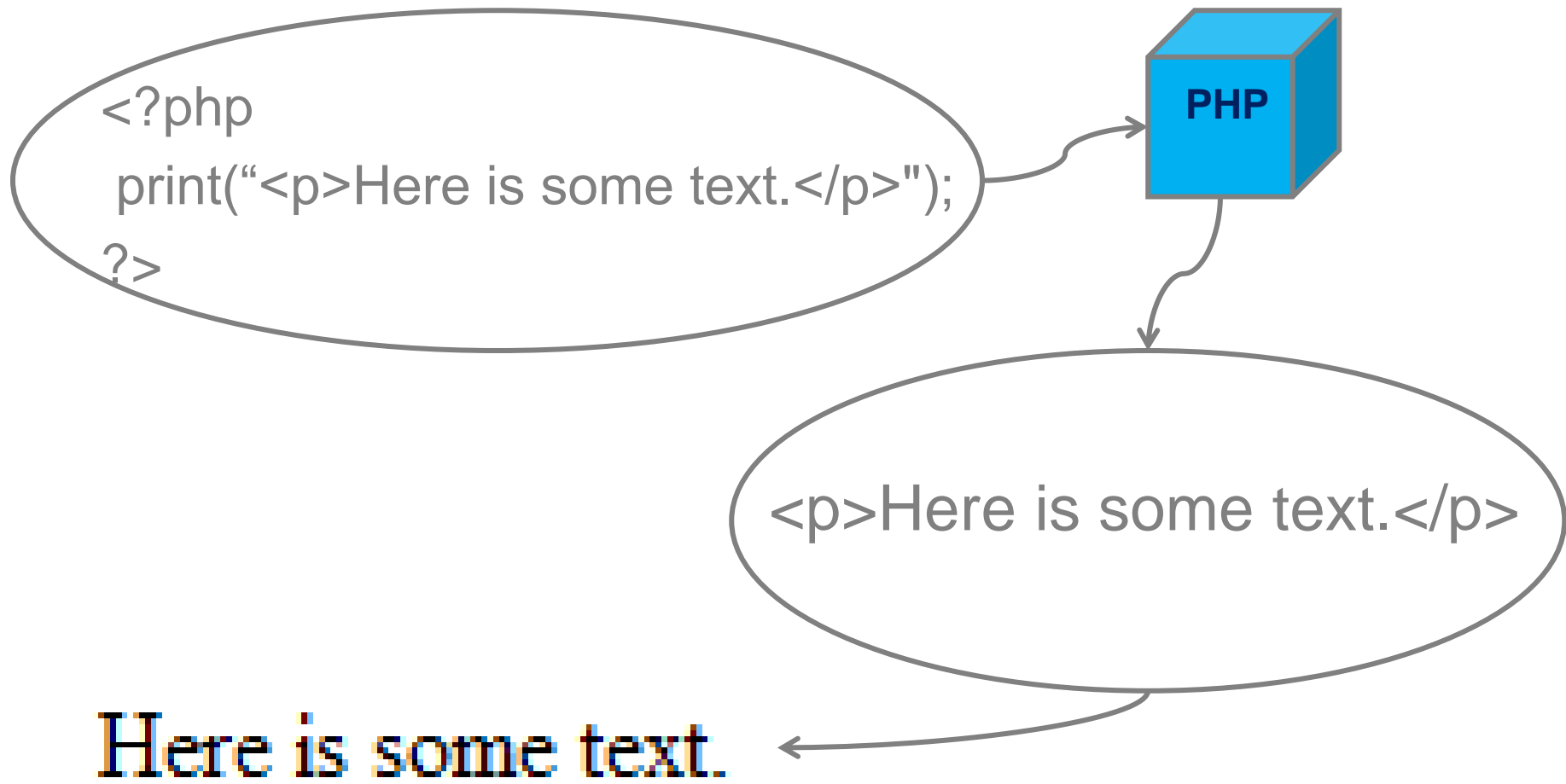
File saved as
teeny.php, not
teeny.html

Server scans file
before returning

A PHP file with PHP code

```
<!DOCTYPE html>
<html>
  <head>
    <title>A Teeny Page</title>
  </head>
  <body>
    <?php
      print("<p>Not much in here</p>");
    ?>
  </body>
</html>
```

PHP generates HTML



PHP exercise

Try to figure out (as best you can) what HTML is generated, and then what appears in the webpage.

We'll then look at each part of the exercise.

var1

The value of \$var1 is:

A. 50

B. 60

C. 10

D. $5^{10}+10$

E. None of the above

var1

The value of \$var1 is:

A. 50

B. 60

C. 10

D. $5^{10}+10$

E. None of the above

var2

- The value of \$var2 is
 - A. “one_hot”
 - B. “one_hotdog”
 - C. “one_hot_hotdog”
 - D. “one_dog”
 - E. None of the above

var2

- The value of \$var2 is
 - A. “one_hot”
 - B. “one_hotdog”
 - C. “one_hot_hotdog”
 - D. “one_dog”
 - E. None of the above

var3

- The value of \$var3 is
 - A. “one”
 - B. “two”
 - C. “three”
 - D. None of the above

var3

- The value of \$var3 is

A. “one”

B. “two”

C. “three”

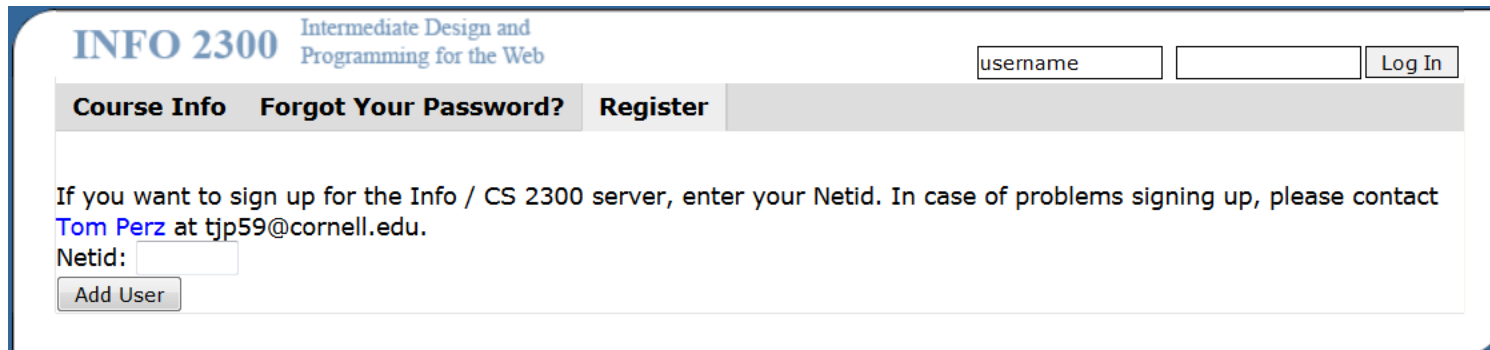
D. None of the above

Next time

Wednesday: PHP – variables,
conditionals, arrays, loops, forms

Reminder: Start Here

<http://info2300.coecis.cornell.edu>



The screenshot shows the top section of the INFO 2300 website. The header includes the text "INFO 2300 Intermediate Design and Programming for the Web". To the right of the header are two input fields, one labeled "username", followed by a "Log In" button. Below the header is a navigation bar with three links: "Course Info", "Forgot Your Password?", and "Register". The main content area contains a paragraph of text: "If you want to sign up for the Info / CS 2300 server, enter your Netid. In case of problems signing up, please contact Tom Perz at tjp59@cornell.edu." Below this text is a "Netid:" label followed by an input field and an "Add User" button.

INFO 2300 Intermediate Design and Programming for the Web

username Log In

Course Info **Forgot Your Password?** **Register**

If you want to sign up for the Info / CS 2300 server, enter your Netid. In case of problems signing up, please contact Tom Perz at tjp59@cornell.edu.

Netid:

Add User

Then register on Piazza