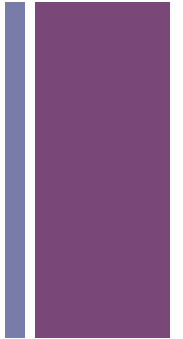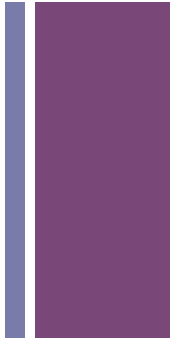# CIS 086 : Week 1

Web Development with PHP and MySQL

+ Introduction

- Instructor: Mark Brautigam

- You: Skills and Technology Survey

- You: Expectations of this class

- You: Introduce yourself on the discussion forum

+ Logistics

- Adding/Dropping Class

- Class Time Breakup:
  - 20 minute break around 8:00 pm

- BYOD(c) → Bring your own device CHARGED
  - There is a shortage of outlets in the labs
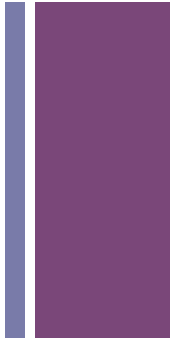
- USB flash drive or use Google Drive

- Textbook

Blog, Canvas and Materials

- http://cis086.blogspot.com

- Class Materials
  - Syllabus
  - Schedule
  - Homework 1
  - Software installation guide
  - HTML Quick Start

- Canvas
  - https://wvm.instructure.com/

- Online videos via YouTube

Canvas

- Syllabus
  - Text book required

- Lesson Tab
  - Homework submission

- Communicate Tab
  - Email me

- Grades

- Attendance
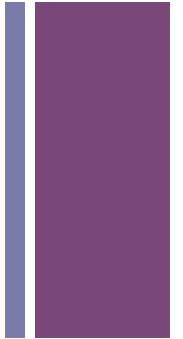
What is a computer?

- Mac or PC
- Laptop
- Tablet
- Phone
- Watch
- Music player
- Car

- Television
- Camera
- Radio
- Refrigerator
- Coffee maker
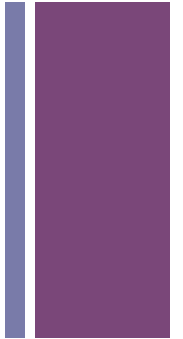- Medical device
- Fitness tracker

Why program a computer?

- Make a lot of money

- Impress your friends

- Self-satisfaction

- The same reasons you'd learn to rebuild a car, build a house, take photographs, paint landscapes, or any other things that appeal to some people but not to everyone.

What programming language should I learn?

- https://spectrum.ieee.org/computing/software/the-2017-top-programming-languages
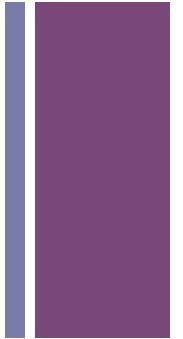
- JavaScript
- Java
- PHP
- Python
- C#
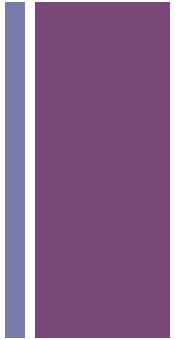
- C++
- Ruby
- HTML and CSS
- Swift

+ JavaScript

- Used on 97% of web sites worldwide

- Runs on any computer that has a web browser

- Used for web client: form validation, animation, user experience

- Sometimes used for web server (node.js and others)

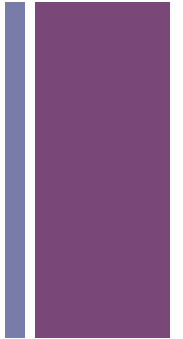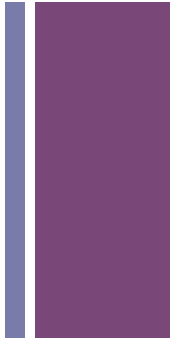- Easy to learn because no installation required.

+ Java

- General purpose language

- If you want to program Android apps, you're in the right place.

- Object-oriented and not super easy to learn.

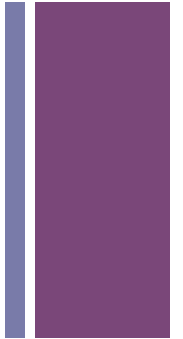- A compiled language, so you must learn the edit → compile → debug loop.

PHP

- "I can't get no respect."

- Web server scripting

- The most widely used web server language for servers that run Unix and/or Apache

- Supposedly runs about 70% of all web sites worldwide, but there are some newer alternative such as node.js and Ruby on Rails.
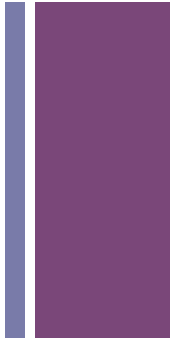
+ Python

- Very easy to learn.

- General purpose scripting language.

- Used for general scripting, QA, and IT.

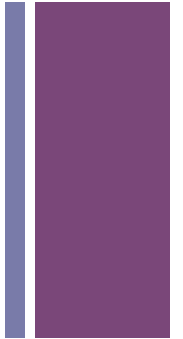- Can be used to develop web sites.

+ C#

- An object-oriented language from Microsoft.

- Used for creating Windows applications.

- A compiled language that uses the edit → compile → debug model.
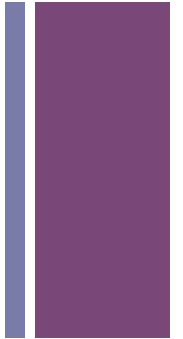
- Not easy to learn.

+ C++

- Not easy to learn as your first programming language. I suggest learning JavaScript or Python first.

- A compiled language.

- A dangerous language: easy to shoot yourself in the foot and crash your computer.
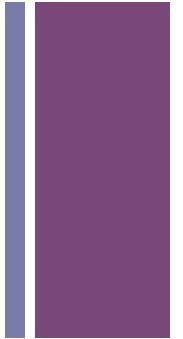
+ Ruby

- A general purpose scripting language.

- Mostly used in conjunction with Rails to create web servers.

- Can also be used for QA and IT scripting.

+ HTML and CSS

- Not really programming languages, but they are near the top of popular languages anyway.

- Strictly speaking, they are markup languages that indicate how data is to appear on a web page or printout.
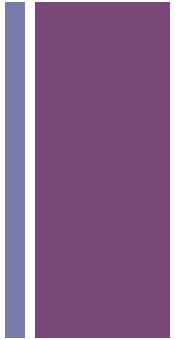
+ Swift

- Swift moved onto the list in 2017. Its predecessor, Objective-C, is no longer on the list.

- Swift is a much easier language, from Apple, that came out in 2014.

- Swift is not fully featured yet, but you can expect version 4 to come out of beta some time this fall along with the release version of Xcode 9.
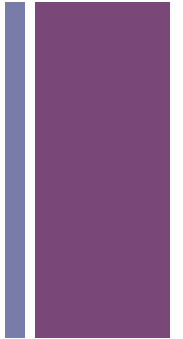
Web Sites that use PHP

- In 2017, PHP is used by over 82% of all web sites.

- PHP Version 5 is used by over 91% of web sites that use PHP.

- So even though there are alternatives, PHP remains the most-used by far.
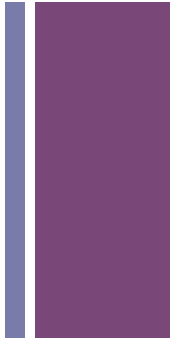
https://w3techs.com/technologies/details/pl-php/all/all

Wordpress and CMS

- Seven of the top 10 content management systems are based on PHP.

- The top four — Wordpress, Joomla, Drupal, and Magento — together account for 73% of all web sites that use a CMS.

Alternatives to PHP

- ## Node.js
  - A framework based on JavaScript. Useful when you or your team knows JavaScript well and you don't want to have learn a new language in order to develop the server side.
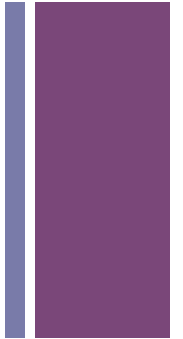
- ## Ruby on Rails
  - Ruby is an easy language to learn, and Rails is a framework that strictly enforces the MVC (model-view-controller) model. For this reason, RoR is more suitable for larger web sites; but it is mostly used to get smaller web sites online quickly.
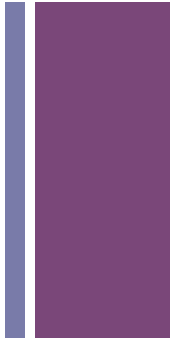
- ## Back to PHP
  - When startup companies develop their web sites quickly in another environment, they frequently go back later and re-do in PHP.

Static Web Page

- A **static web page** is a web page that is delivered to the user exactly as stored. Consequently a static web page displays the same information for all users, from all contexts.
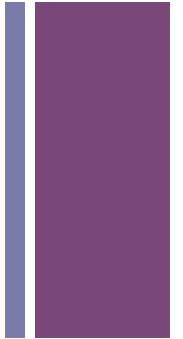
- Sample: MissionCollege.edu

Dynamic Web Page

- A **dynamic web page** is a kind of web page that has been prepared with fresh information (content and/or layout), for each individual viewing. It is not static because it changes with the time, the user, the user interaction, the context, or any combination of the above.

- Sample: Canvas

+

Two Types of Dynamic Web Pages

- **Client-side** scripting and content creation

  Using client-side scripting to change interface behaviors *within* a specific web page, in response to mouse or keyboard actions or at specified timing events.
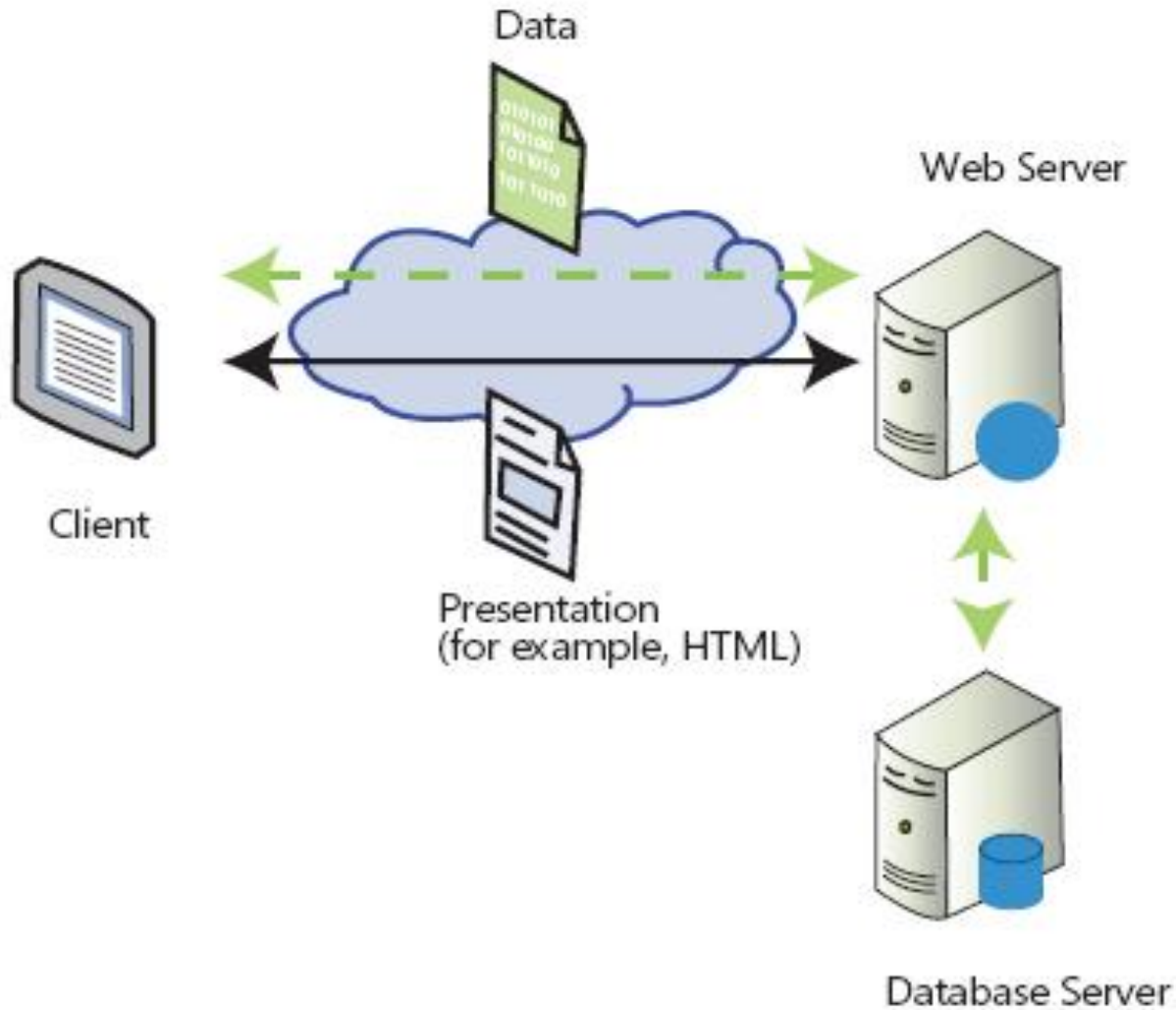
  Common tools: JavaScript

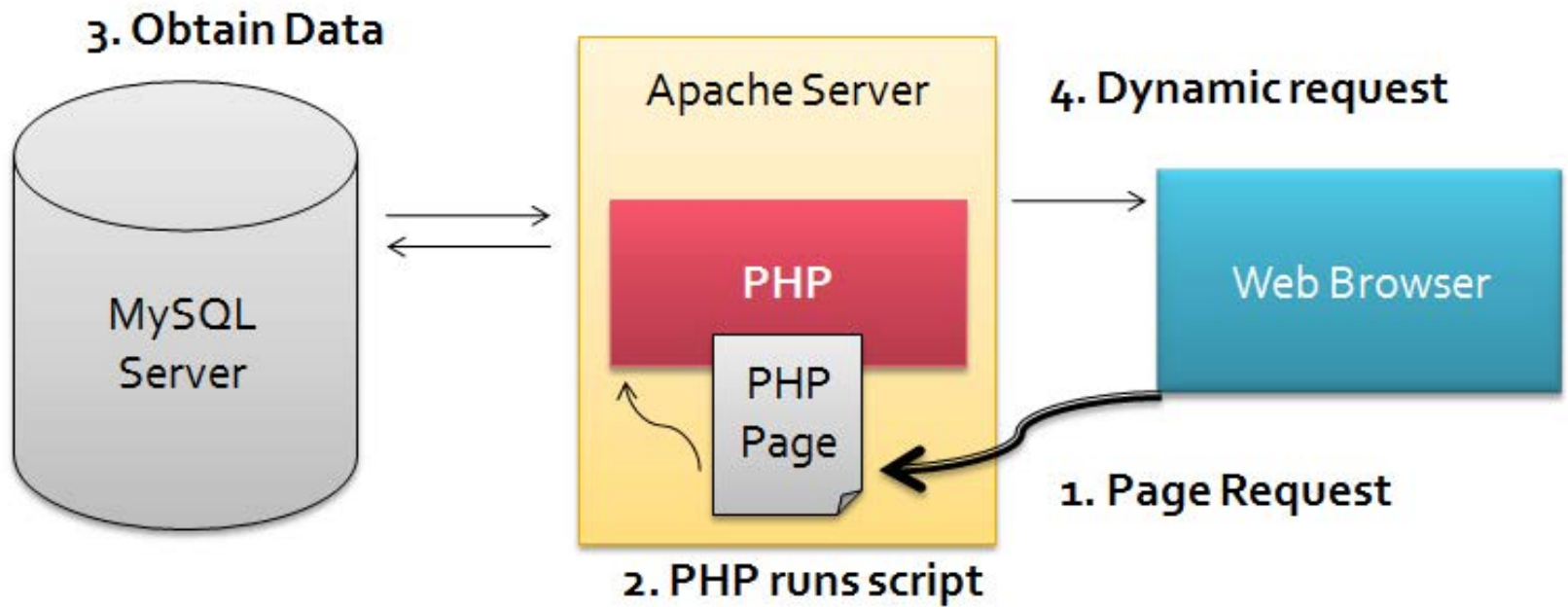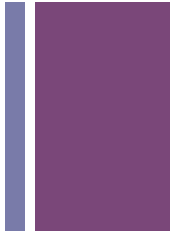- **Server-side** scripting and content creation

  Using server-side scripting to change the supplied page source *between* pages, adjusting the sequence or reload of the web pages or web content supplied to the browser

  Common tools: PHP, Perl, ASP.NET (C#.net, VB.net)

+ Web Technology

Data

Web Server

Client

Presentation
(for example, HTML)

Database Server

+ PHP and MySQL

3. Obtain Data

Apache Server

4. Dynamic request

MySQL Server

PHP

PHP Page

Web Browser
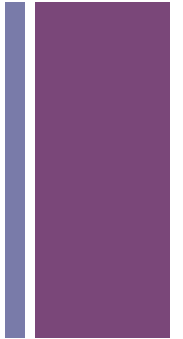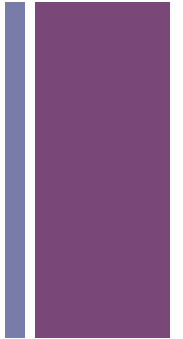
1. Page Request

2. PHP runs script

Web & Development Courses
Mission College Fall 2017

- HTML/XML: CA 097 A-B-C series

- Web Design: GDES 045 (equivalent)

- Web Design: GDES 046 (CSS & Dreamweaver)

- User Experience (GDS 070)

- Javascript: CA 088A & B (also GDS 088A & B)
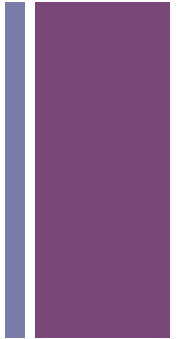
- C, C++, Java

+ Basic Topics

- Numbers

- Data types

- Operators
  - Math operators
  - Logic operators

- Strings

- Expressions

- Statements

Universal topics
in all (ok, most) programming languages

- Conditionals
  - If
  - Switch

- Loops
  - For
  - While

- Arrays

- Strings

- Files

- Functions

Tools needed for Windows

- Local installation: WAMP

  - http://www.wampserver.com

- Text Editor: NotePad++, **Brackets,** or Visual Studio Code

- File transfer tool: **FileZilla** or WinSCP

- Remote access tool: PuTTY

Please see software installation guide and video.
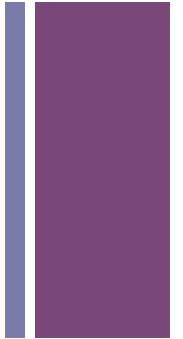
+ Tools needed for Mac

- Local installation: MAMP

  - https://www.mamp.info/

- Text Editor: TextWrangler, Brackets, or Visual Studio Code

- File transfer tool: FileZilla or Fetch

- Remote access tool: Terminal use SSH from the command line.

There is no software installation guide, but there is a video, and installation is straightforward.
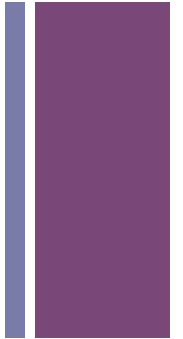
Tools needed for everyone

- Mission Apache/PHP/MySQL server:
  - php.missioncollege.edu

- Student accounts will be assigned to you later.

+ Assignments for week 1

- Install the software on your computer.
  - a WAMP or MAMP environment
  - A programmer's text editor
  - An FTP program
  - An SSH program

- Introduce yourself on the discussion forum

- Start working on your home page
  - In Week 2, we will work on web pages together