Web Development in 2017

CPE405 - Advanced Computer Engineering Technology

Computer Engineering, Chiang Mai University

HTML / CSS

- You MUST learn these first

- The main building block of the web

- No alternatives for web frontend

- You must master these over time

- Simple to learn

Basic Tools

- **Text Editor** - Notepad++, Sublime Text, Atom.io, …

- **Image Editing** – Photoshop, ILLustrator, GIMP, …

- **FTP/SSH Tools** – Filezilla, Putty

- **Good Browser** – Chrome, Firefox, or … Chrome

- **Cloud Storage** (optional) – Dropbox, Drive, …

- **VCS** – Github, Bitbucket, Gitlab, …

Basic JavaScript

- **Basic JS** (forget Node.js and Frameworks for now)
  - Data Types: String, Number, Array, Objects, …
  - Functions, Conditionals, Loops, Operators, ...

- **Event Handling**

- **JSON**

- **jQuery**

Deploying a basic website

- Get a shared hosting
  - Hostgator
  - InMotion
  - …

- Upload your project via FTP

- Register a domain name and link to your site

A web designer

- Build simple but professional websites

- Build UIs for web applications

- PSD to HTML/CSS conversion

- Work for a company or be a freelancer

- **WIX** is taking this job from you very soon
  - https://www.wix.com/

Where to go next?

- Front End HTML/CSS Frameworks

  - Bootstrap, Foundation, …

- Server-side language (PHP, Ruby,...)

- JavaScript Frameworks (React, Angular, ...)

- Database (MySQL, PostgreSQL)

Frontend html/CSS frameworks

- <u>Twitter Bootstrap</u>

- Zurb Foundation

- Skeleton

- MUI

- Pure

- CSS Components
  - Buttons
  - Lists
  - Form / Inputs
- Helper Classes
- Grid System
- Responsive Layout
- JavaScript Widgets

Server Side Programming

- **PHP** – Not the best language but is rock solid

- **Node.js** – New, exciting and powerful
  - Some level of concurrency

- **Ruby on Rails** – Great framework but has leveled off

- **Python** – Easy to learn, many useful library
  - Not as popular

Databases

- **Relational** Databases
  - MySQL
  - PostgreSQL
  - MSSQL

- **NoSQL** Databases
  - MongoDB
  - CouchDB
  - Firebase by Google

Pick one to focus on

- PHP + MySQL
- Node.js + MongoDB

Side technologies to learn

- GIT Version Control – Github, Bitbucket, …

- SSH & Basic Command Line

- CSS PreCompilers – <u>Sass</u> / Less

- APIs / REST Services

Deploying apps

- Cloud Services
  - Heroku, Digital Ocean, AWS, …

- Deployment Tools

- Linux Command Line

- Maintenance & Updates

You are now a web developer

- Create simple to advanced web applications

- Build backend APIs

- Work with Servers

- Admin Databases

- Get a great job / Keep freelancing / Start a business

Programming Frameworks

☐ **JavaScript Frameworks**

    ☐ React [Flux, Redux]

    ☐ Angular 2, 4

    ☐ Vue.js

    ☐ Express (backend)

☐ **PHP Frameworks**

    ☐ Laravel

    ☐ Phalcon

    ☐ Codeigniter

☐ **Ruby on Rails**

MVC: Model-View-Controller

- Routing

- Database Mapping

- Helpers

- Data Binding

- Templating & UI

Content Management Systems (PHP)

- [Wordpress](#), Joomla, Drupal, Moodle

- Great for client work & maintenance

- Thousands of plugins / addons

- Fast development

- Can be very limiting

Mobile app Development

- **Native languages** – Java / Swift 3 / Objective-C

- **Just JavaScript** – React Native, Ionic, Cordova
  - Develop once and deploy on multiple platforms
  - Hybrid

Now What?

- Focus on your career

- Go back and learn another stack of technology

- Keep up to date with new technologies

- Do not leave your high level language behind
  - Java, C#, ...