

## Web Design Tools and Planning Principles

Name \_\_\_\_\_

### A01 Network Media

1. A \_\_\_\_\_ is the channel between the sender and a receiver.
2. Some computer network media
  - a. \_\_\_\_\_ - type of network wire
  - b. \_\_\_\_\_ - through the air
  - c. \_\_\_\_\_ - using glass
  - d. \_\_\_\_\_ - long distance tower to tower
  - e. \_\_\_\_\_ - in space
  - f. \_\_\_\_\_ - for phones
3. Two kinds of computers on a network are \_\_\_\_\_ and \_\_\_\_\_.
4. A LAN is \_\_\_\_\_.
5. A WAN is \_\_\_\_\_.

### A02 Internet Addresses

1. IP stands for \_\_\_\_\_.
2. An example of an IP address looks like \_\_\_\_\_.
3. DNS stands for \_\_\_\_\_.
4. URL stands for \_\_\_\_\_.
5. A DNS server does what? \_\_\_\_\_.
6. These top level domain names stand for what?
  - a. Com \_\_\_\_\_
  - b. edu \_\_\_\_\_
  - c. org \_\_\_\_\_
  - d. net \_\_\_\_\_
  - e. gov \_\_\_\_\_
7. Use <https://who.is> to find who the following IP addresses belong to.
  - a. 68.180.131.16 \_\_\_\_\_
  - b. 69.171.239.12 \_\_\_\_\_
  - c. 136.8.33.21 \_\_\_\_\_

### Domain Name Exercise

1. Go to [www.godaddy.com](http://www.godaddy.com)
2. Check to see if you can register a domain name for you own name such as [www.andewhopkins.com](http://www.andewhopkins.com) or [www.joebrown.org](http://www.joebrown.org)
3. What would it cost to register a .com or .org name? \_\_\_\_\_

### A03 Internet Packets and Routing

1. A division of pieces of data sent independently is a \_\_\_\_\_.
2. A packet has two main parts: \_\_\_\_\_ and \_\_\_\_\_.
3. Reasons to split data into packets:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
4. The computer on a network that connects the organization to the outside is called either a \_\_\_\_\_ or a \_\_\_\_\_.
5. What does a fault tolerant network design allow for?  
\_\_\_\_\_
6. Three problems with packet delivery
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
7. What does the name lookup service do?  
\_\_\_\_\_
8. Use \_\_\_\_\_ to see if a server is turned on and connected to the network.
9. A \_\_\_\_\_ attack tries to overwhelm a server with too many requests from too many clients.
10. A \_\_\_\_\_ shows you which routers are being used to connect two different computers.
11. Go to <http://who.is> and find the statistics for cnn.com
  - a. How many DNS servers do they have? \_\_\_\_\_
  - b. When was the domain name registered? \_\_\_\_\_
  - c. When will the domain name expire? \_\_\_\_\_  
(Be ready to register the name if they forget to renew!)

d. What city is the company located in? \_\_\_\_\_

### **B1 World Wide Web**

1. The \_\_\_\_\_ is much larger than the \_\_\_\_\_.
2. HTML stands for \_\_\_\_\_
3. Name four brand names of web browsers
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
4. HTTP stands for \_\_\_\_\_
5. \_\_\_\_\_ is usually the name for the initial web page stored on a web server.
6. CSS stands for \_\_\_\_\_
7. The most widely-used programming language on the Internet is \_\_\_\_\_.
8. What do the following HTML tags indicate?
  - a. `<h1>` \_\_\_\_\_
  - b. `<p>` \_\_\_\_\_
  - c. `<em>` \_\_\_\_\_
  - d. `<img>` \_\_\_\_\_
  - e. `<body>` \_\_\_\_\_
  - f. `<title>` \_\_\_\_\_
9. Choose a simple web page and examine it's source. You should see HTML and CSS tags.
  - Wikipedia articles
  - <https://en.wikipedia.org/wiki/Football>
  - School Web page
  - <http://www.tuhsd.org/>

### **C01 Tools for a Web Developer**

1. Name some text editors for writing HTML, CSS and JavaScript code
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_

2. A \_\_\_\_\_ provides a server, software and connectivity for your website.
3. FTP stands for \_\_\_\_\_
4. Read <http://www.sitepoint.com/5-most-popular-frontend-frameworks-compared/> Some Web Development JavaScript frameworks include
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_

### **C02 Ten Web Design Principles**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

### **C03 Five tips for using colors on your website**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### **C05 Design Trends**

The following pages are examples of creative designs using CSS and JavaScript effects.

- Single page design with infinite scrolling
1. <http://www.apple.com/iphone-6/>
  2. <http://bellroy.com/live-life-outside>

3. <https://pixelgrade.com/demos/rosa/>
4. <http://www.spaceneedle.com/home/>  
Horizontal Scrolling
5. <http://www.quoplus.com/>
6. <http://www.rawnet.com/>  
Multimedia
7. <http://raisetheriver.org/>
8. [http://www.nike.com/us/en\\_us/c/better-world/](http://www.nike.com/us/en_us/c/better-world/)  
Break all the rules about scrolling and menus
9. <http://www.world-of-swiss.com/en>
10. <http://www.dementialab.org/discovery-lab/>  
Story Telling – Similar to a Prezi
11. <http://akita.co.uk/movement-of-data/>
12. <http://poppyspend.britishlegion.org.uk/>
13. <http://www.flatvsrealism.com/>

Choose three of the examples as favorites write specifically what you liked. Consider usability and artistic style.

Site Name ->	1.	2.	3.
What site you liked and what feature makes it good?			

### ***D01 Static vs Dynamic Sites***

1. A \_\_\_\_\_ site only changes when the author modifies a page.
2. A \_\_\_\_\_ site changes when users or other computers add data.
3. A \_\_\_\_\_ server paired with a \_\_\_\_\_ server can create a dynamic site.
4. \_\_\_\_\_ is a keyword to describe Web 1.0
5. \_\_\_\_\_ is a keyword to describe Web 2.0

6. \_\_\_\_\_ is a keyword to describe Web 3.0
7. Web developers often are placed into one of these two categories
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
8. Some common languages used for back-end development are
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
9. CMS stands for \_\_\_\_\_
10. Three common CMS programs are
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_

### ***E01 10 SEO Tips***

1. What does SEO stand for?  
\_\_\_\_\_
2. 10 SEO tips
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  - f. \_\_\_\_\_
  - g. \_\_\_\_\_
  - h. \_\_\_\_\_
  - i. \_\_\_\_\_
  - j. \_\_\_\_\_

### **Inbound Links (backlinks) experiment**

1. Open the site <http://www.wholinks2me.com>
2. Enter the URL for your school. How many backlinks does it have? \_\_\_\_\_

3. Enter [www.nytimes.com](http://www.nytimes.com) How many backlinks links does it have? \_\_\_\_\_

### F01 Security and Encryption

1. The symbol in the URL that tells you the computer is using encryption is \_\_\_\_\_
2. What does VPN mean? \_\_\_\_\_
3. A \_\_\_\_\_ is a program that checks packet source and destination before allowing them in or out of a computer.
4. A \_\_\_\_\_ makes internet requests for clients, hiding the IP address of the client.
5. A \_\_\_\_\_ is when a user executes unauthorized database code.
6. \_\_\_\_\_ should not be permitted input for general purpose data forms on a web page.
7. Passwords more than \_\_\_\_\_ letters are considered secure.

### Password Cracking Exercise

Complete the password cracking 101 page at

[http://www.studyoffice.org/index.php?option=com\\_content&view=article&id=33:password-cracking-101&catid=19&Itemid=187](http://www.studyoffice.org/index.php?option=com_content&view=article&id=33:password-cracking-101&catid=19&Itemid=187)

8. How much time did the computer take to crack each of these password lengths?
  - a. 5 characters \_\_\_\_\_
  - b. 6 characters \_\_\_\_\_
  - c. 7 characters \_\_\_\_\_
  - d. 8 characters \_\_\_\_\_

### G01 IT Careers

Four common IT careers include

- i. \_\_\_\_\_

- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. Which career track would lead you to do each of these activities?
  - a. Manage a server \_\_\_\_\_
  - b. Program an operating system \_\_\_\_\_
  - c. Develop a social media app \_\_\_\_\_
  - d. Defend a network from attacks \_\_\_\_\_

Use the following link

- <http://www.bls.gov/ooh/computer-and-information-technology/home.htm>
- Compare four careers and fill in the following table:

Career	Salary Range	Amount of Education Needed	Number of Jobs in USA	Job Growth % Estimate
Network Computer Systems Admin				
Web Developer				
Computer Programmer				
Information Security Analyst				

### College Career Exercise

Choose two of the programs of study below and make a list of required classes in the table

Web and Graphic Design

<https://aztransmac2.asu.edu/cgi-bin/WebObjects/acres.woa/wa/freeForm3?id=63317>

Computer Programming

<https://aztransmac2.asu.edu/cgi-bin/WebObjects/acres.woa/wa/freeForm3?id=26042>

Computer and Network Technology

<https://aztransmac2.asu.edu/cgi-bin/WebObjects/acres.woa/wa/freeForm3?id=47189>

1.	2.
Required core classes...	Required core classes...

- Which degree looks easiest? \_\_\_\_\_
- Which degree looks more interesting to you? \_\_\_\_\_

### 03 Programming Languages

1. What is a programming language? \_\_\_\_\_
2. What are four names of common languages? \_\_\_\_\_
3. What is the lowest level of programming? \_\_\_\_\_
4. What is the language of CPU instructions? \_\_\_\_\_

5. What does the process of compiling do? \_\_\_\_\_
6. What was the first compiled high-level language? \_\_\_\_\_
7. What is the main advantage of a bytecode language like Java that runs on a virtual machine? \_\_\_\_\_
8. Name three advantages of an interpreted language \_\_\_\_\_
9. Name three advantages of a compiled language \_\_\_\_\_
10. Why was the visual programming method invented? \_\_\_\_\_
11. What is HTML/CSS used for? \_\_\_\_\_
12. What is SQL used for? \_\_\_\_\_
13. What is XML used for? \_\_\_\_\_
14. What is JSON used for? \_\_\_\_\_

### 04 Types of Programming Languages

1. What languages can be used to create a Windows PC application? \_\_\_\_\_
2. What languages can be used to create a Macintosh application? \_\_\_\_\_
3. What languages can be used to create a Web-based application? \_\_\_\_\_
4. What languages can be used to create a Windows PC application? \_\_\_\_\_
5. What languages can be used to create an Android application? \_\_\_\_\_
6. What languages can be used to create an iPhone or iPad application? \_\_\_\_\_
7. Increasingly, what is JavaScript being used to build? \_\_\_\_\_
8. What languages can be used to create a server back-end application? \_\_\_\_\_
9. What languages can be used to create an embedded application? \_\_\_\_\_