



WELCOME TO JAVASCRIPT DEVELOPMENT

Please write your name on your
whiteboard and say hello
to your new classmates.

Wi-fi: GA-Guest
pw: yellowpencil

YOUR INSTRUCTIONAL TEAM



SASHA



Student Services

Email: **studentservicesSF@ga.co**

Slack: **Student Services SF**



Patricia Anderson

Course logistics

- Access to tools
- Feedback about the course
- Enrollment and finances
- Graduation certificates

Campus questions

- GA Facilities
- GA events outside of class
- Discounts for other courses

Others you may see



JANET LEE

Instructor Manager



NIÑA PINEDA

Front Lines Lead



VANESSA OHTA

Instruction Manager

Let's get to know each other

STRUCTURE



PAIRS



INTROS: 5 MIN
SHARING: 10 MIN

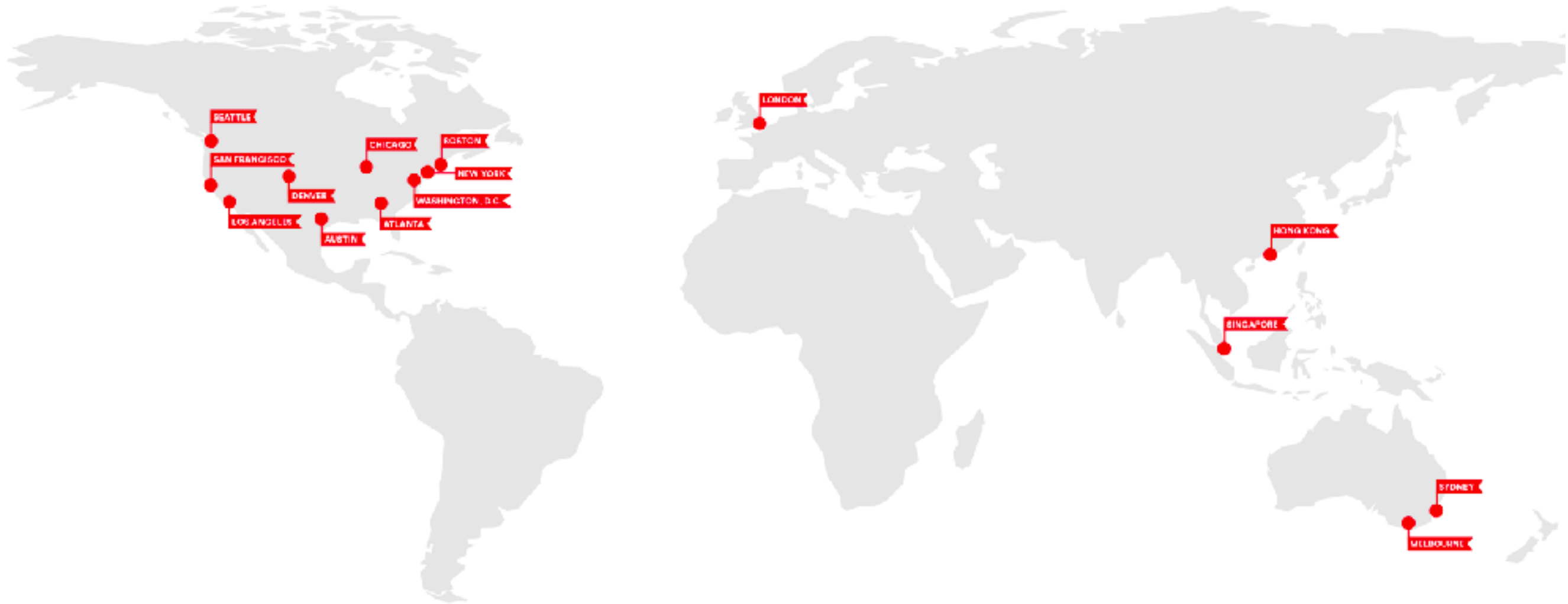
OBJECTIVES

1. Take 5 minutes to get to know your neighbor by finding out:
 - a. Their name
 - b. Why they are taking this course
 - c. A guilty pleasure
2. Be prepared to introduce your neighbor to the rest of the room



THE STUDENT EXPERIENCE

20 campuses around the world





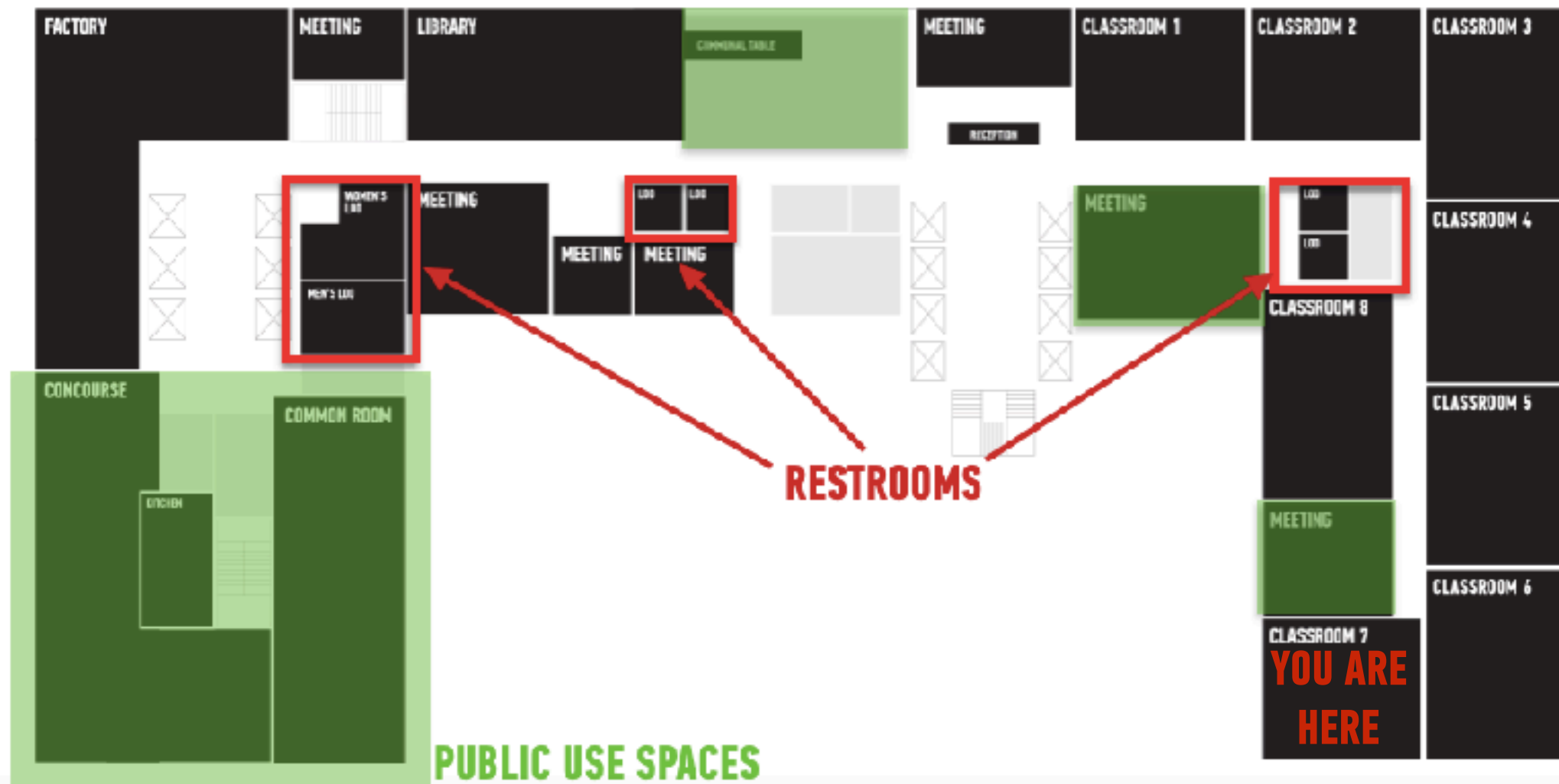
Come work on campus.

We're open:

8am - 10pm, Monday to Friday

10am - 6pm, Saturday and Sunday

San Francisco



Have a question about...

- the campus?
- lost and found?
- loaner equipment?
- free coffee and snacks?

Come here to talk to
Front Lines and they
will help you out.





COURSE EXPECTATIONS

Course dates

JavaScript Development 13

Course dates:

- Tuesdays and Thursdays, 6:30pm - 9:30pm
- November 13 - January 31

Holidays: November 22, December 25 & 27, January 1



INSTALLFEST

SYLLABUS

Lesson	Title	Lesson	Title
0	Installfest	10	Asynchronous JavaScript & callbacks
1	Command line & data types	11	Advanced APIs
2	Arrays & loops	12	Unit 2 Lab - Feedr
3	Conditionals & functions	13	Prototypal inheritance
4	Scope	14	Closures & this
5	Unit 1 Lab - Slackbot	15	Intro to CRUD & Firebase
6	Objects & JSON	16	Deploying your app
7	Intro to the DOM & jQuery	17	Instructor-student choice
8	Events & jQuery	18	Final project lab
9	Ajax & APIs	19	Final project presentations

How to get a certificate



How to get a certificate



Complete 80% of the homework

1

2

Don't miss more than 3 classes



Complete and present a final project

3

HOMEWORK

OVERVIEW:

- Assigned every Thursday, starting this week
- Due the following Sunday at 11:59pm
- Expect feedback within 5 days

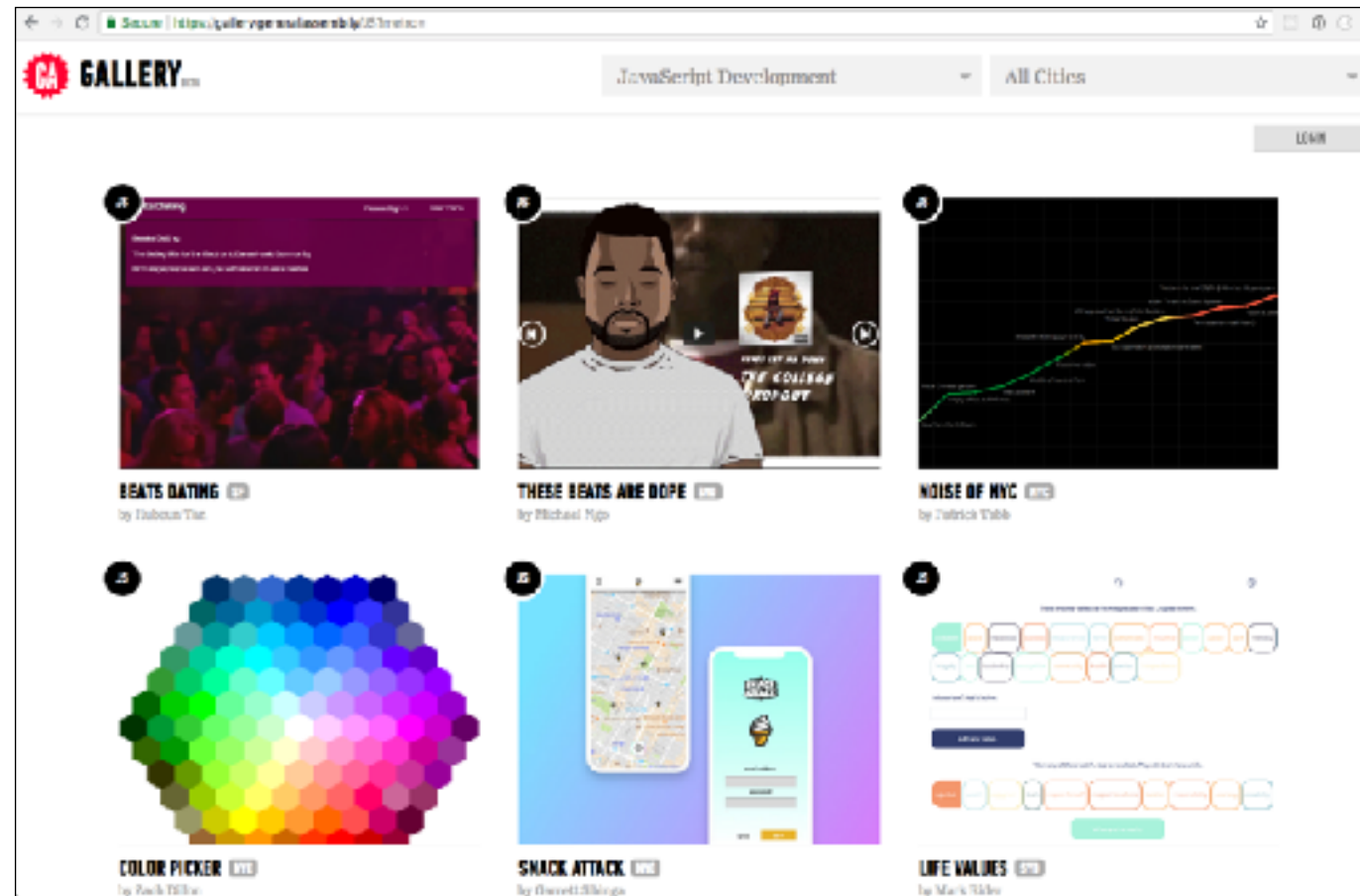
GRADING:

- Complete/Incomplete

LATE ASSIGNMENTS:

- Accepted, but will not receive feedback; schedule office hours

Final Projects



<https://gallery.generalassemb.ly/JS>

TIPS FOR SUCCESS



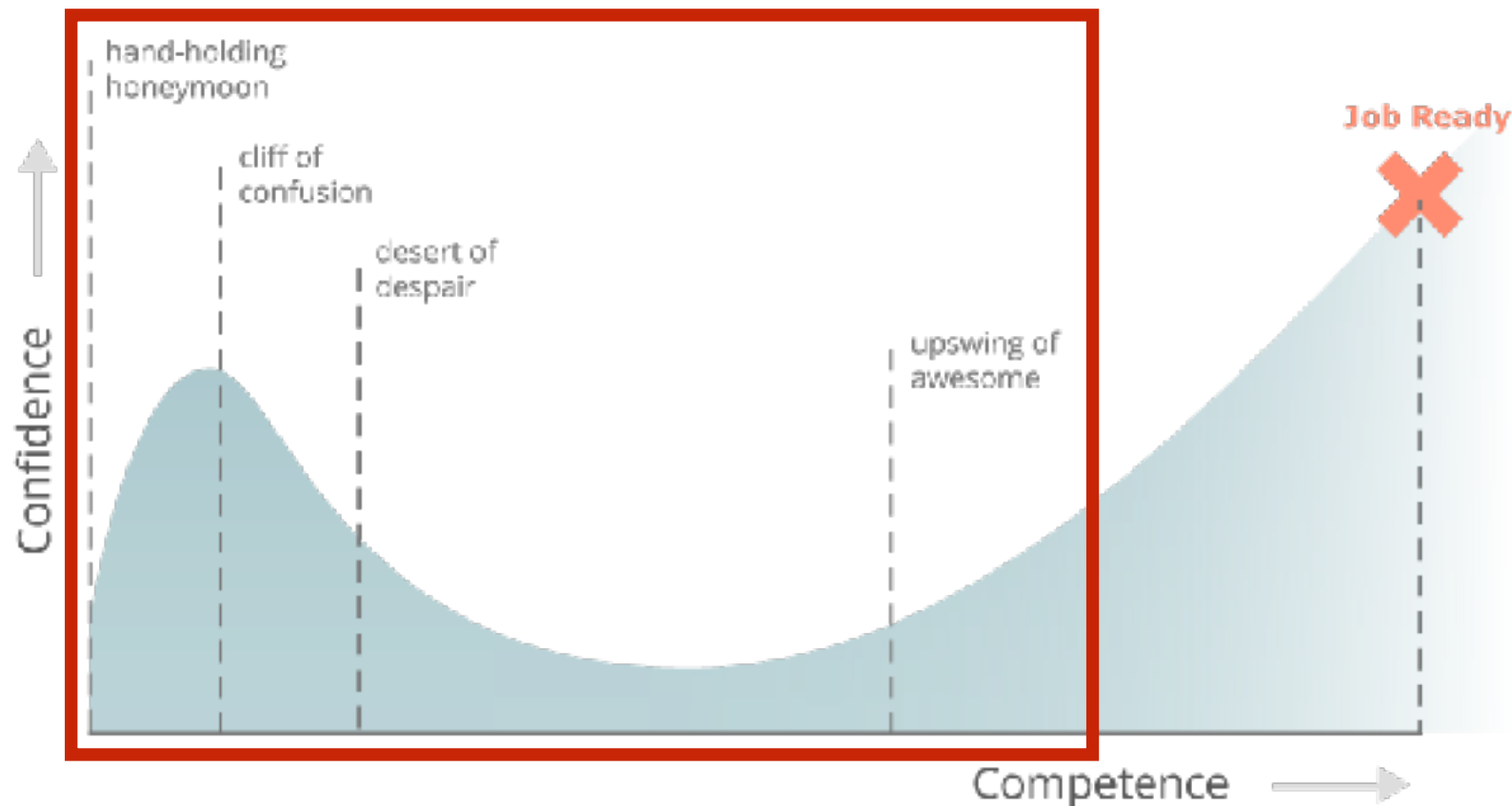
```
div  
#main  
.special
```



- Complete homework on time
- Brush up on your element, ID, and class CSS selectors
- Ask questions!

Common Misconceptions: Learning Curve

Coding Confidence vs Competence



Common Misconceptions: Googling



Common Misconceptions: Outside Tutorials



Common Misconceptions: Course Content



Goals



**YOU DON'T
KNOW
WHAT YOU DON'T
-KNOW-
UNTIL YOU KNOW IT**

INSTALLFEST

GA VALUES

- **GRIT**
- **TEAMWORK**
- **CURIOSITY**
- **RESOURCEFULNESS**
- **GENEROSITY**

INSTALLFEST

GA VALUES

- **GRIT**
- **TEAMWORK**
- **CURIOSITY**
- **RESOURCEFULNESS**
- **GENEROSITY**



GRIT

We keep going when things get tough.

INSTALLFEST

GA VALUES

- GRIT
- **TEAMWORK**
- CURIOSITY
- RESOURCEFULNESS
- GENEROSITY

A photograph of two fishermen in a small wooden boat on a calm river. They are wearing traditional conical hats and are engaged in a tea ceremony, with one pouring from a small teapot into a cup. Large, circular fishing nets are visible in the boat. In the background, a traditional stilt house sits on the riverbank, and the scene is shrouded in a light mist.

TEAMWORK

We work together to meet our goals.

INSTALLFEST

GA VALUES

- GRIT
- TEAMWORK
- **CURIOSITY**
- RESOURCEFULNESS
- GENEROSITY



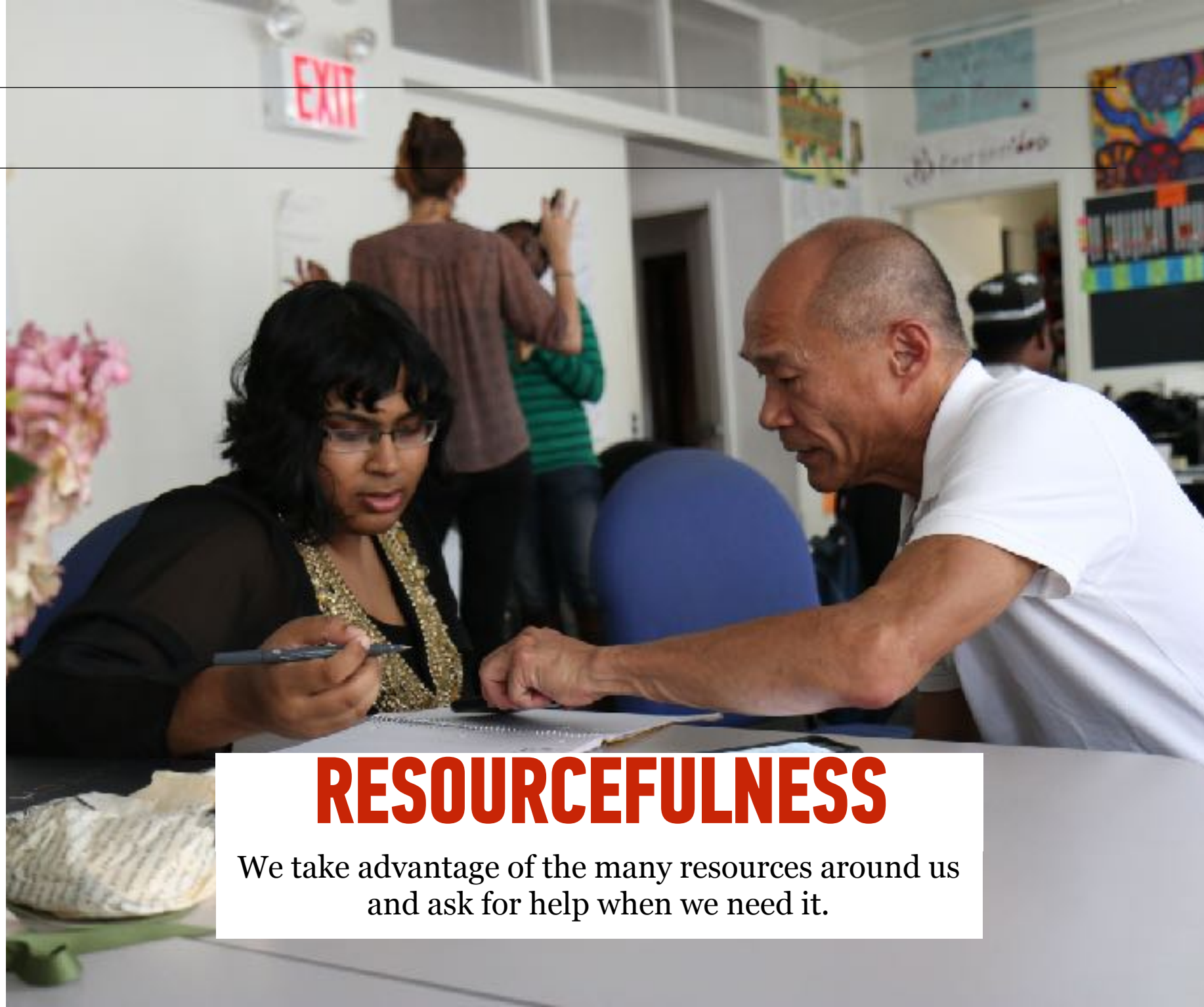
CURIOSITY

We accept feedback with poise and professionalism.

INSTALLFEST

GA VALUES

- GRIT
- TEAMWORK
- CURIOSITY
- **RESOURCEFULNESS**
- GENEROSITY



RESOURCEFULNESS

We take advantage of the many resources around us
and ask for help when we need it.

INSTALLFEST

GA VALUES

- **GRIT**
- **TEAMWORK**
- **CURIOSITY**
- **RESOURCEFULNESS**
- **GENEROSITY**



GENEROSITY

We share our experiences, skills, and gifts to help those around us.

CLASS NORMS

Let's all agree to:

- Come on time
- Participate
- Step up, step back
- Ask for help when you need it
- Help each other



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EXIT TICKETS/FEEDBACK

- GA is REALLY into feedback - and so am I!
- Helps me help you
- Two BIG feedback surveys:
 - » Midway
 - » End
- Smaller survey after every class, known as an **exit ticket**

Please write your full name:

We want to be able to contact you directly if you indicate that you need support.

Your answer

Lesson Number *

Choose

How are you feeling? *

Choose

I feel this lesson helped me make progress towards my learning goals. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

I was engaged throughout this entire lesson. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

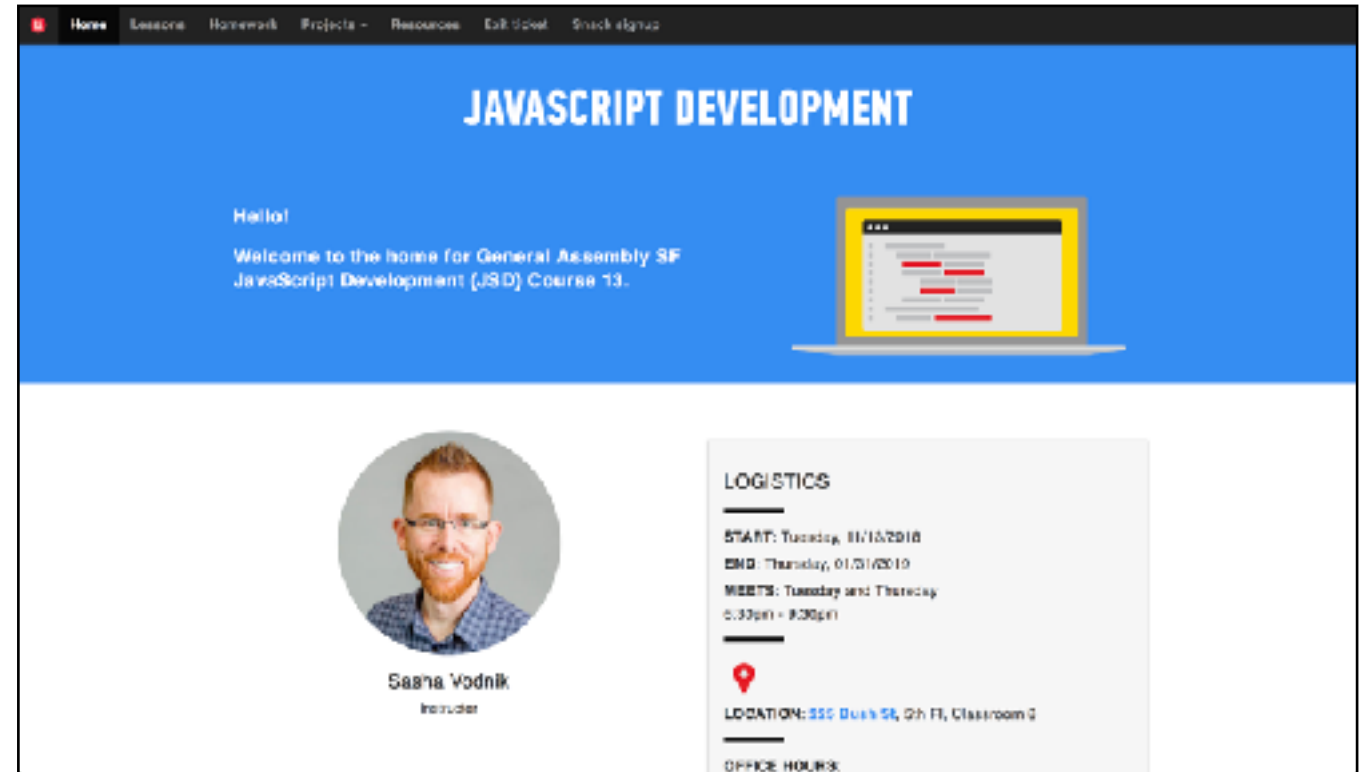
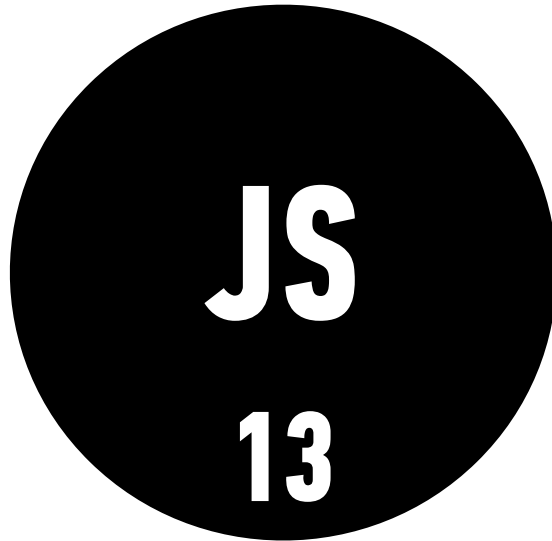
I feel prepared to continue practicing this skill outside of class. *

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

What questions do you still have after today's lesson? *

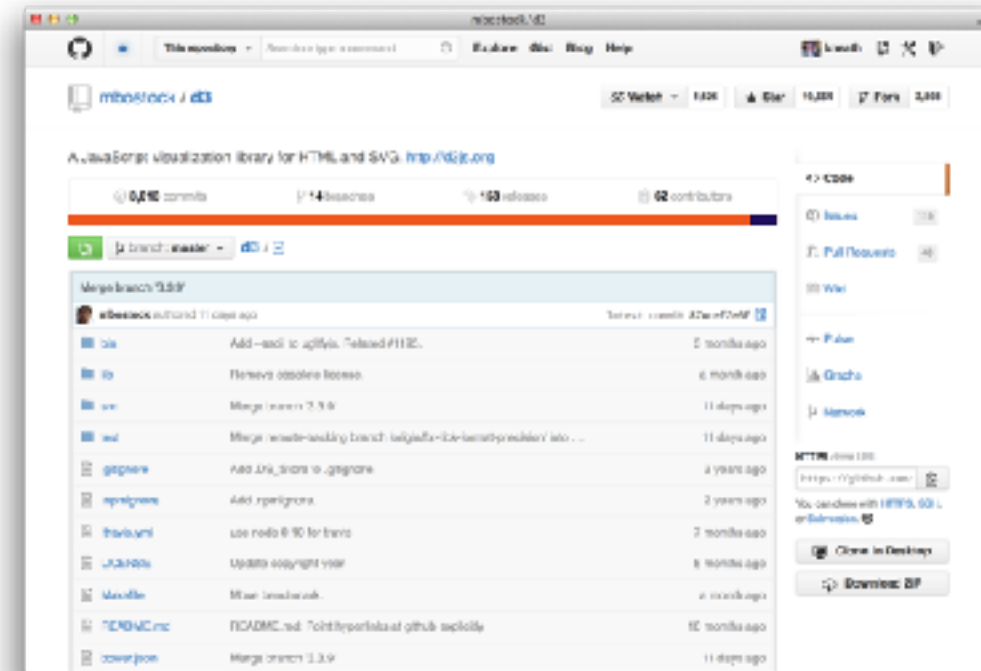
Your answer

Class website



The class website will have slide decks and handouts for each class, as well as details on assignments and projects.

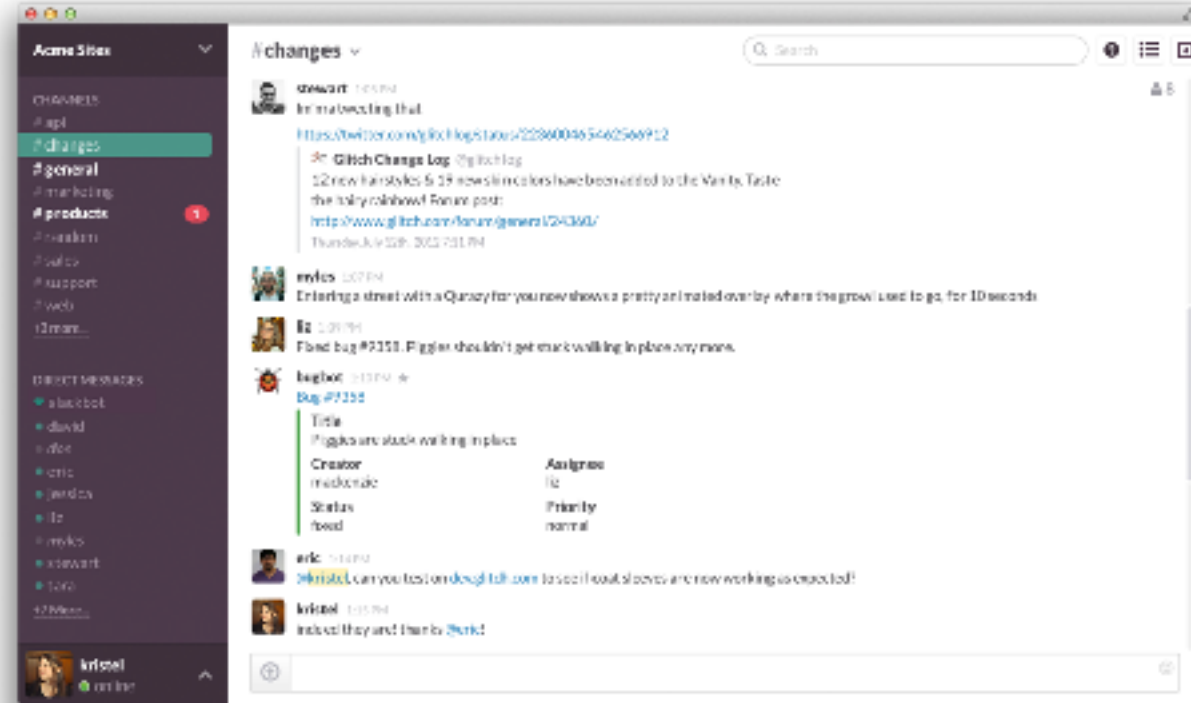
Github Enterprise



Github Enterprise will have starting code for all class activities and assignments.

You'll also use GitHub Enterprise to submit homework.

Slack



All course communication with each other and instructor will happen here.

Slackbot: HeyTaco

- allows you to give kudos to people who help you out!



Help Me Help You!

Slack me if:

- You know in advance that you will be missing a class or multiple classes
 - You're sick, overloaded at work, or something comes up and you can't make it to class last minute
 - You will be 10 or more minutes late to class
 - You need to leave early
 - You will be submitting your homework late
-

Getting Help

- ◆ 3 then me
- ◆ 30 minutes – then #homework channel on Slack
- ◆ Acknowledge those who helped you!!

A blurred background image of an office environment. Several people are visible, mostly in profile, working at desks with multiple computer monitors. The lighting is soft and indoor, typical of an office setting. The text is overlaid on the left side of the image.

INSTALLFEST

OFFICE HOURS

- Tue/Thu, 5:00-6:00pm
- Other times by appointment:
 - in-person at GA or elsewhere
 - Skype/FaceTime/Hangouts

JAVASCRIPT DEVELOPMENT

Sasha Vodnik, Instructor

JAVASCRIPT DEVELOPMENT

INSTALLFEST

INSTALLFEST

LEARNING OBJECTIVES

At the end of this class, you will be able to

- › Differentiate between the Internet and the World Wide Web.
- › Summarize the client-server model & explain how DNS lookup works.
- › Run Node.js, npm, Git, and other command line tools on your computer.
- › Write pseudocode and explain how it relates to programmatic thinking.

INSTALLFEST

AGENDA

- JavaScript & web development
- Set up Slack, Brew, Git, Node, and code editors
- Set up GitHub
- Pseudocode

JAVASCRIPT DEVELOPMENT

JAVASCRIPT & WEB DEVELOPMENT

JAVASCRIPT AND WEB TECHNOLOGIES

What is web development?

The process of building sites and applications for the web

JAVASCRIPT AND WEB TECHNOLOGIES

What is front-end development?

The development of client/browser code (HTML, CSS, JS),
i.e., what the user sees and interacts with

JAVASCRIPT AND WEB TECHNOLOGIES

What is back-end development?

The development of server-side code that handles such functions as routing, data handling, and databases (Ruby, Python, Java, JavaScript), i.e., the “stuff behind the scenes that makes web applications work”

JAVASCRIPT AND WEB TECHNOLOGIES

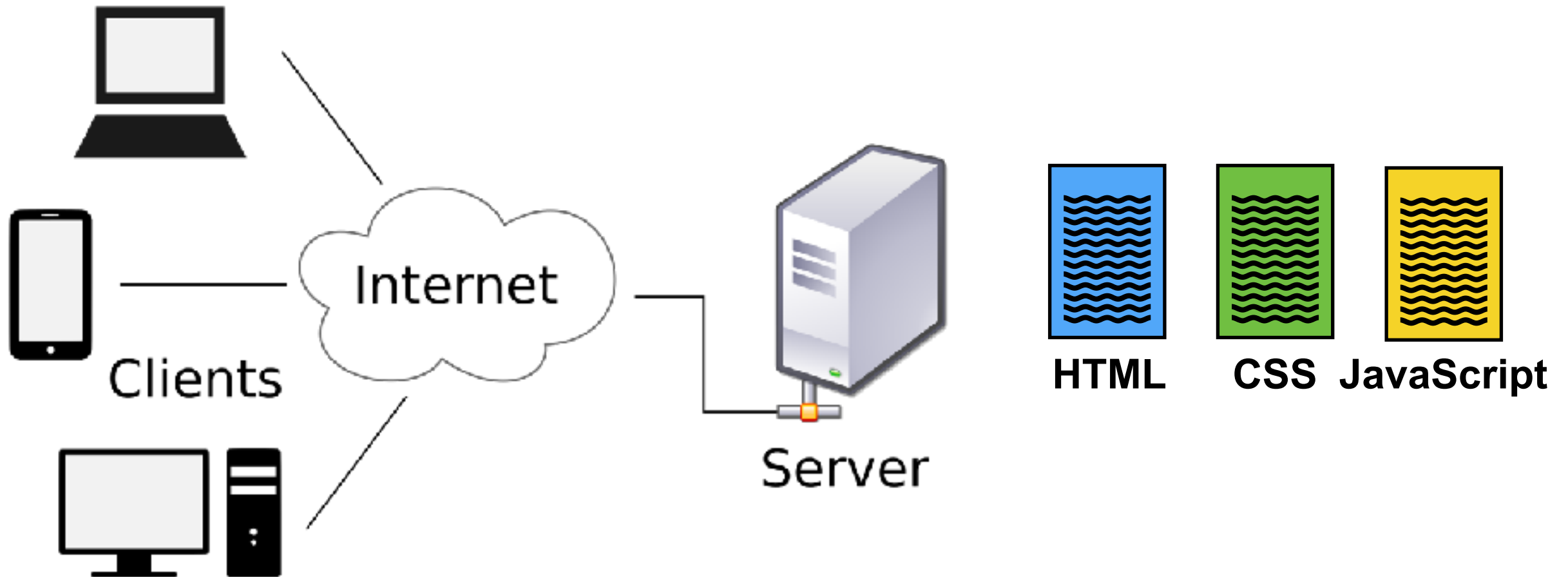
How do these fit together?

web development

front-end development

back-end development

JavaScript's role in the web



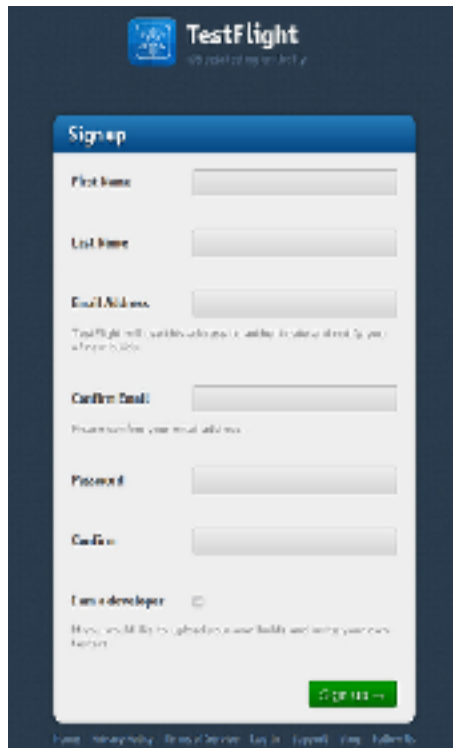
WHAT IS JAVASCRIPT?

- The language of the browser
- NOT Java!
- Super popular!

The JavaScript logo, consisting of the letters 'JS' in a bold, dark blue font, centered on a solid yellow square background.

HOW IS JAVASCRIPT USED?

Front End
(browser)



Back End
(server)



node.js

INTERNET VS WORLD WIDE WEB

What is the Internet?

- A set of interconnected computer networks
- The infrastructure to connect computers around the world
- Communication can use any agreed upon protocol

INSTALLFEST

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A SERVER FARM

A photograph of a server farm aisle. On both sides are rows of server racks filled with electronic equipment. A dense network of colorful cables (orange, blue, red, black) is visible, some bundled and others hanging loosely. A yellow overhead crane track runs across the top of the aisle. The perspective leads the eye down the center of the aisle towards a white door at the far end.

UUNET's North America Internet network

The map illustrates the extensive network of UUNET, showing connections between major cities across North America and Europe. The network is represented by a dense web of lines connecting various nodes (cities). The legend indicates the following line types and city types:

- Single Link City (Red dot)
- Multiple Hosts City (Red square)
- 300/115/1000/1 Mbps (Black line)
- 300/115/11 Mbps (Pink line)
- 600/25/11 Mbps (Blue line)
- 600/10/100 Mbps (Yellow line)
- 600/10/100 Mbps (Green line)
- 600/10/100 Mbps (Light blue line)

For more information visit: www.uUNET.net

UUNET is a Division of Thompson

AT&T IP BACKBONE NETWORK

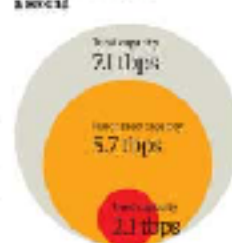
Level 3
Fiber Network

The map illustrates the extensive fiber network of Level 3, connecting major cities across the United States. Key cities shown include:

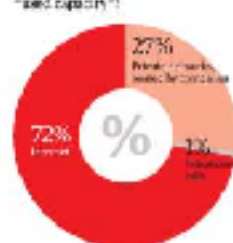
- Seattle, Portland, Sacramento, San Francisco, San Jose, Oakland, San Diego, Los Angeles, George, Phoenix, El Paso, Fort Worth, Dallas, Austin, San Antonio, Houston, New Orleans, Tampa, Miami, Jacksonville, Atlanta, Charlotte, Nashville, Memphis, St. Louis, Kansas City, Denver, Salt Lake City, Las Vegas, San Diego, San Jose, Oakland, Sacramento, Portland, Seattle.
- Chicago, Detroit, Cleveland, Indianapolis, Cincinnati, Richmond, Raleigh, Charlotte, Atlanta, Jacksonville, Orlando, Miami, Tampa, Houston, Austin, San Antonio, Fort Worth, Dallas, El Paso, Phoenix, George, Los Angeles, San Diego, San Jose, Oakland, Sacramento, Portland, Seattle.
- Buffalo, Albany, New York City, Jersey City, Newark, Philadelphia, Baltimore, Washington, D.C., Richmond, Raleigh, Charlotte, Atlanta, Jacksonville, Orlando, Miami, Tampa, Houston, Austin, San Antonio, Fort Worth, Dallas, El Paso, Phoenix, George, Los Angeles, San Diego, San Jose, Oakland, Sacramento, Portland, Seattle.

60m beds

Capacity in technology



What makes up

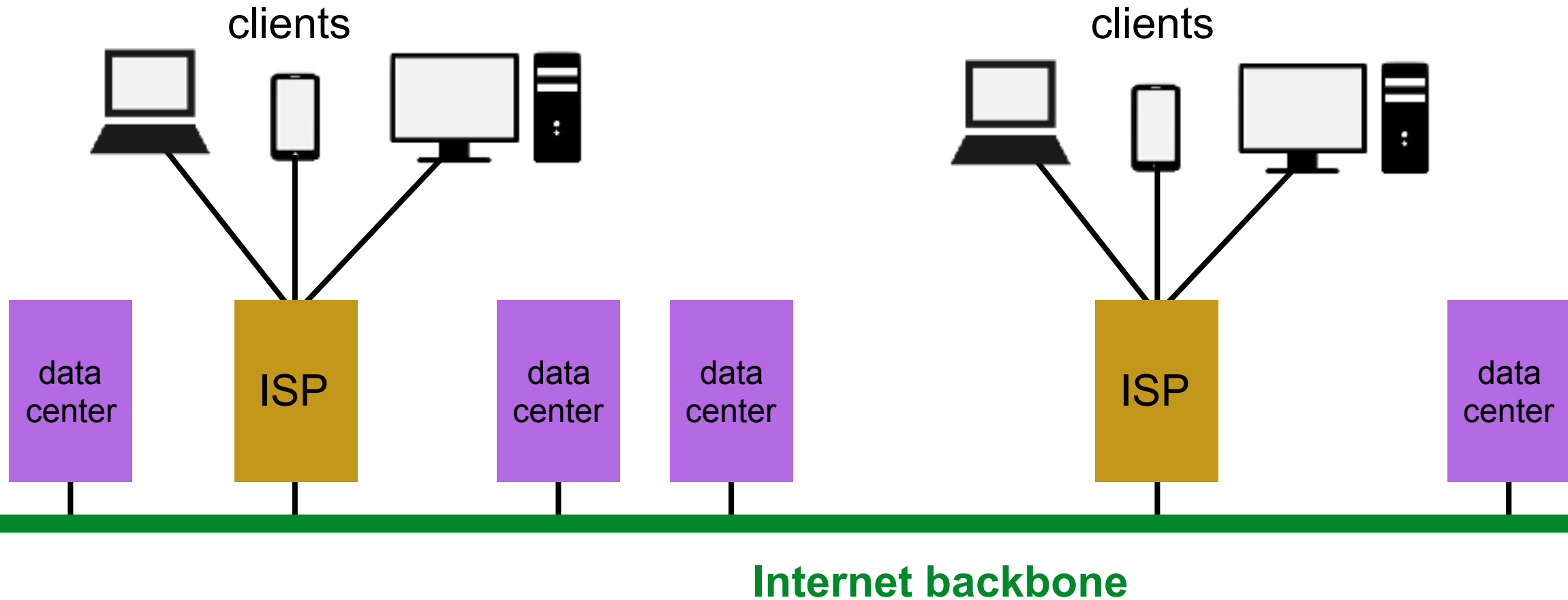


Region	2015-2016
Eastern Europe	10,500 km
Western Europe	10,500 km
North America	10,500 km
South America	10,500 km

[illegible][illegible]

INSTALLFEST

EXCHANGING INFORMATION OVER THE INTERNET



INTERNET VS WORLD WIDE WEB

What is the World Wide Web?

- ▶ A massive collection of HTML documents
- ▶ Accessed over the Internet
- ▶ Communication is based on Hypertext Transfer Protocol (HTTP)

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THE FIRST EVER WEB PAGE

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#), [Policy](#), November's [W3 news](#), [Frequently Asked Questions](#).

What's out there?

Pointers to the world's online information, [subjects](#), [W3 servers](#), etc.

[Help](#)

on the browser you are using

[Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#), [X11 Viola](#), [NeXTStep](#), [Servers](#), [Tools](#), [Mail robot](#), [Library](#))

[Technical](#)

Details of protocols, formats, program internals etc

[Bibliography](#)

Paper documentation on W3 and references.

[People](#)

A list of some people involved in the project.

[History](#)

A summary of the history of the project.

[How can I help?](#)

If you would like to support the web..

[Getting code](#)

Getting the code by [anonymous FTP](#), etc.

hypertext



INTERNET VS WORLD WIDE WEB

Name some things you use the Internet for that are not part of the web

- Email
- Skype/GoogleTalk/FaceTime
- Dropbox/iCloud/cloud storage
- Spotify/Pandora/music streaming
- YouTube/Netflix/video streaming

ACTIVITY



EXERCISE

KEY OBJECTIVE

- ▶ Differentiate between the Internet and the World Wide Web.

TYPE OF EXERCISE

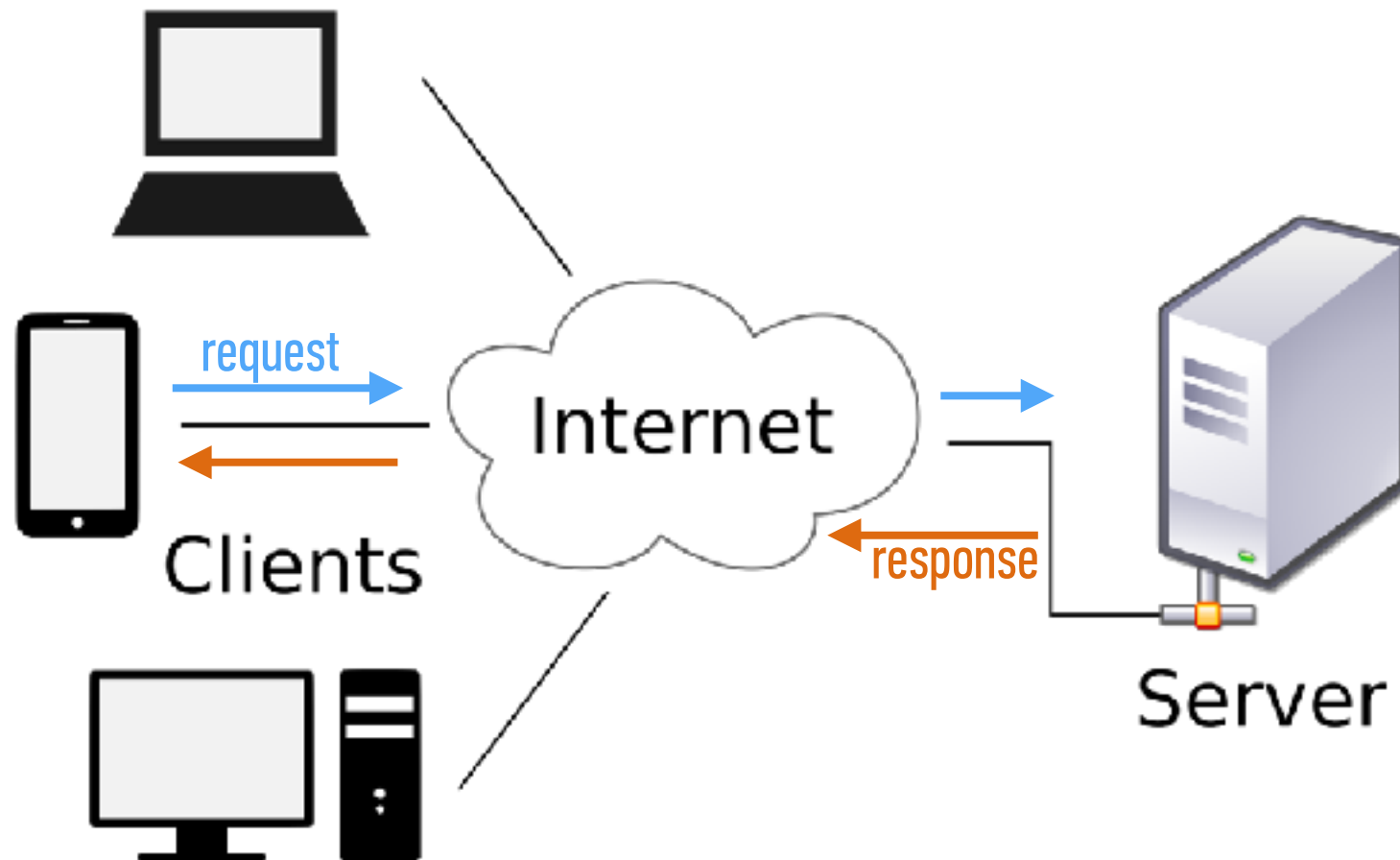
- ▶ Turn and Talk

TIMING

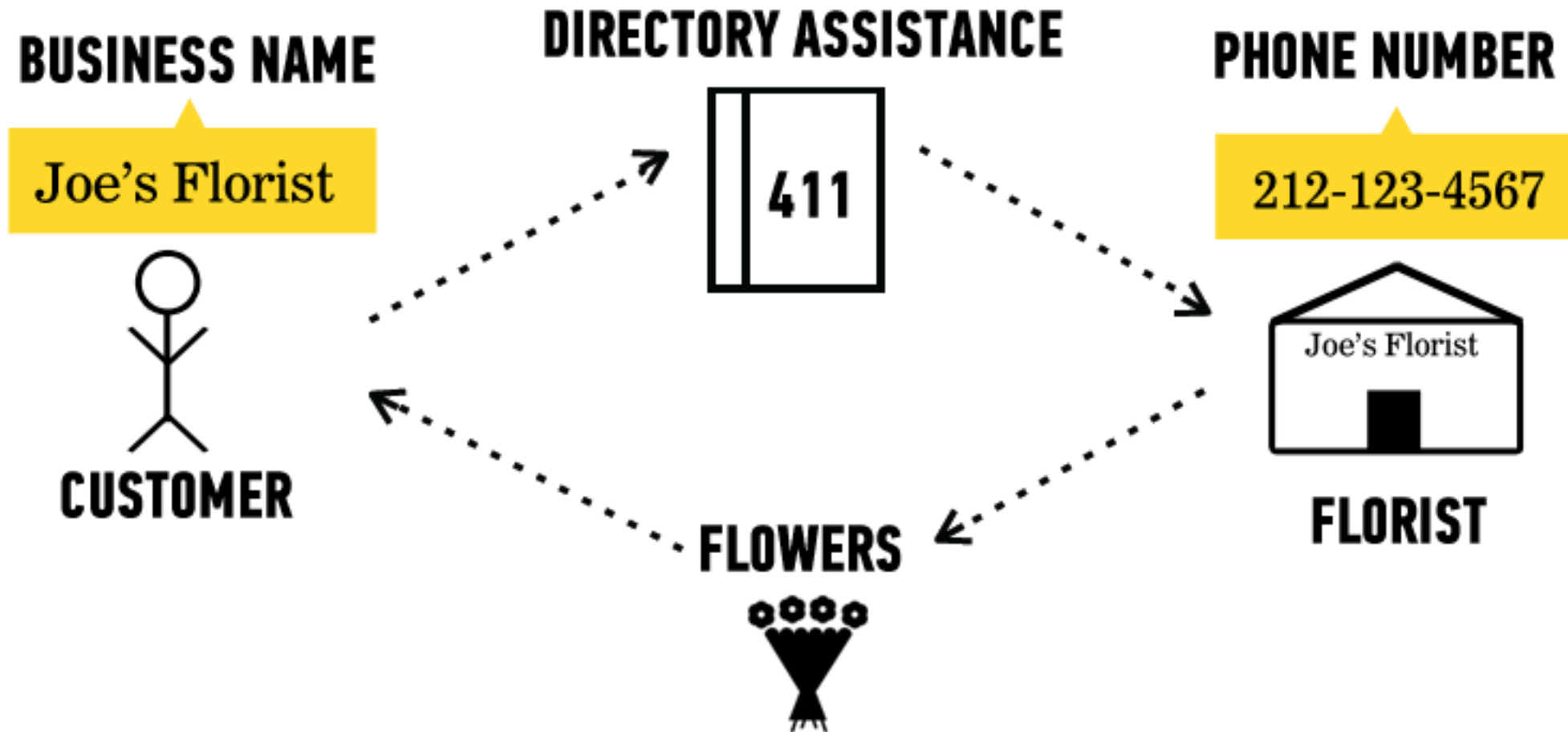
4 min

1. What is the Internet?
2. What is the World Wide Web?
3. What is the difference between the two?

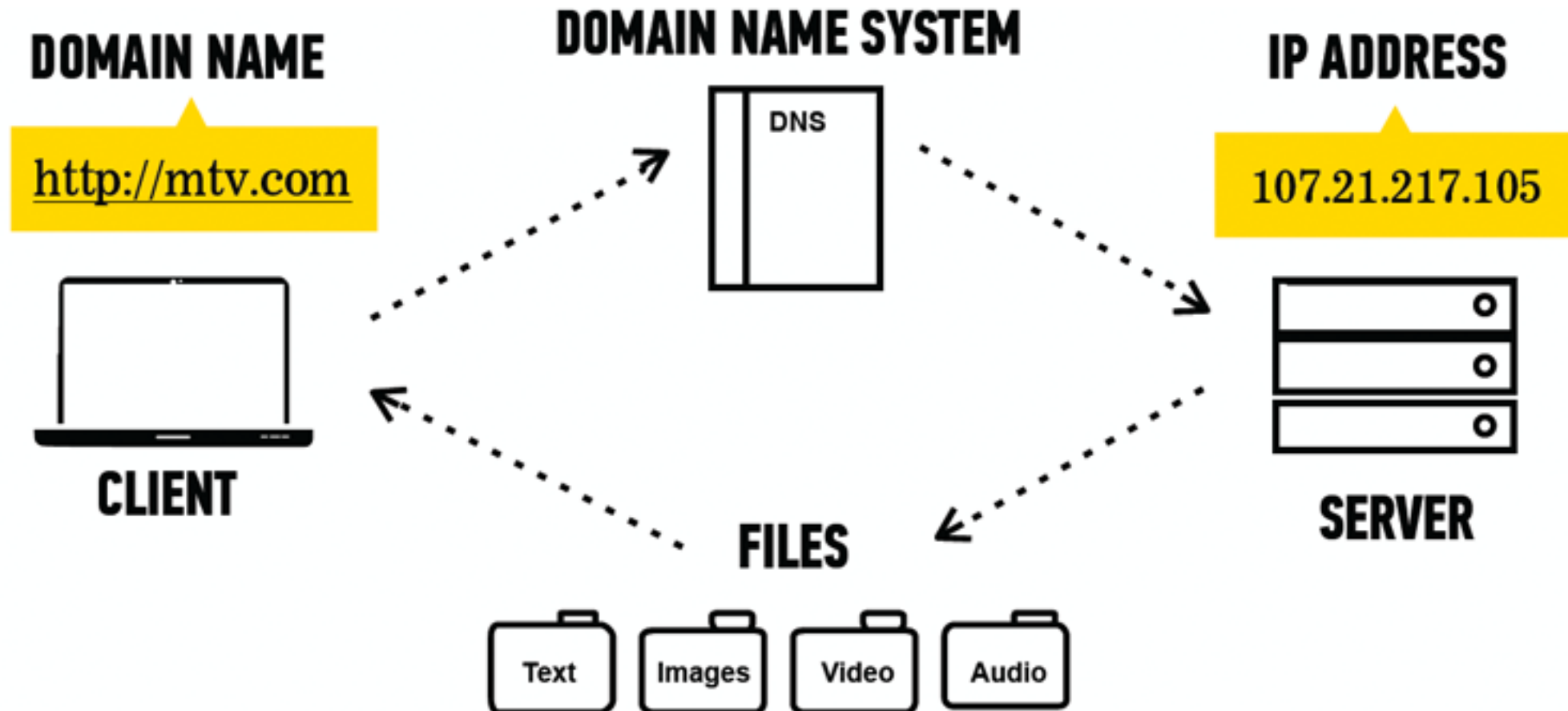
THE CLIENT-SERVER MODEL



HOW DO YOU REACH A SPECIFIC SERVER?



HOW DO YOU REACH A SPECIFIC SERVER?



ACTIVITY



EXERCISE

KEY OBJECTIVE

- ▶ Summarize the client-server model & explain how DNS lookup works.

TYPE OF EXERCISE

- ▶ Partner activity (groups of 2-3)

TIMING

2 min

1. In your browser, open a new tab, type **50.0.2.222**, then press Enter.
2. Discuss with your partners what happened and why.
3. On your desk, collaborate to draw a diagram illustrating what happened. Include **client**, **server**, and **DNS** in your diagram.

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LET'S INSTALL!

ACTIVITY – GET YOUR COMPUTER READY TO GO



TASKS

5 min

1. Visit **git.generalassemb.ly**
2. Sign up using your email



1. Visit **slack.com/downloads** to download the application
 2. Sign up using your email and join our class Slack channel: **JS-13-SF**
 3. Upload a profile picture to Slack
- BONUS:** Download the Slack app to your phone and sign in to **JS-13-SF**

ACTIVITY – OPEN THE TERMINAL (COMMAND LINE)



EXERCISE



```
Sashas-MacBook-Pro:JS-SF-13 sasha$
```

TASKS

1 min

- **Mac:** Open the Terminal app
(Applications > Utilities > Terminal)
- **Windows:** Open Windows PowerShell
(Start Button > type powershell)

TOOLS WE'LL BE USING

HOME BREW (BREW)

- Package manager (Mac only)
- Software that helps you install other software



TOOLS WE'LL BE USING

GIT & GITHUB

- **git**: code versioning software
- **GitHub**: online storage
- Together, they let you collaborate and keep track of code



GitHub



TOOLS WE'LL BE USING

NODE & NPM

- › **Node:** for running JavaScript from the command line
- › **npm:** package manager for JavaScript



TOOLS WE'LL BE USING

VISUAL STUDIO CODE

- Text editor
- Other popular options:
 - Sublime Text
 - Atom



INSTALLFEST

INSTRUCTIONS

TAKE A DEEP BREATH: Problems getting your environment configured come with the territory

See Slack for the instructions URL

ACTIVITY



EXERCISE

KEY OBJECTIVE

- ▶ Use Node.js, npm, Git, and other command line tools on your computer.

TIMING

20 min 1. Follow the instructions to install tools on your machine:

Mac instructions

Windows instructions

2. If classmates around you are still working on this when you finish, please offer to lend a hand
3. BONUS: Explore and install one or more of the extensions listed in the Visual Studio Code section of the Resources page.

ACTIVITY



EXERCISE

KEY OBJECTIVE

- ▶ Use Node.js, npm, Git, and other command line tools on your computer.

TYPE OF EXERCISE

- ▶ Partner activity (groups of 2-3)

TIMING

2 min

1. With your group members, create a list of the command line tools and other applications you just installed.
2. Describe the purpose of each tool.

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PSEUDOCODE

- * If the red button is tapped
 - * Check to see if the light is red
 - * If the light is not red, turn the light red and set the light color to red
 - * If the light is red, turn the light off and set the light color to off
- * If the blue button is tapped
 - * Check to see if the light is blue
 - * If the light is not blue, turn the light blue and set the light color to blue
 - * If the light is blue, turn the light off and set the light color to off
- * If the yellow button is tapped
 - * Check to see if the light is yellow
 - * If the light is not yellow, turn the light yellow and set the light color to yellow
 - * If the light is yellow, turn the light off and set the light color to off

PSEUDOCODE

- Helps us think like a computer
- A tool for planning a program before coding it
- Expressed in plain English rather than in a programming language

PSEUDOCODE — THE IMPORTANCE OF PLANNING



PSEUDOCODE — HEIGHT COMPARISON



PSEUDOCODE — PASSING SCORE



LAB — PSEUDOCODE



EXERCISE

KEY OBJECTIVE

- Write pseudocode and explain how it relates to programmatic thinking.

TYPE OF EXERCISE

- Pairs

TIMING

5 min

1. Create pseudocode for a program that calculates the number of miles a user travels between home and work (or another destination) per year.
2. Take into account distance between home and destination, times per day the user makes that trip (probably 2), and working days per year.

ACTIVITY



EXERCISE

KEY OBJECTIVE

- ▶ Explain how pseudocode relates to programmatic thinking.

TYPE OF EXERCISE

- ▶ Turn and Talk

TIMING

4 min

1. Describe pseudocode in your own words.
2. Explain what programmatic thinking is, and how it relates to pseudocode.

Exit Tickets!

(Class #0)

LEARNING OBJECTIVES – REVIEW

- Differentiate between the Internet and the World Wide Web.
- Summarize the client-server model & explain how DNS lookup works.
- Use Node.js, npm, Git, and other command line tools on your computer.
- Write pseudocode and explain how it relates to programmatic thinking.

NEXT CLASS PREVIEW

Command Line & Data Types

- Work with files/directories via the terminal window
- Create a Git repository and push/pull changes
- Run basic JavaScript code on the command line
- Describe the concept of a "data type" and how it relates to variables.

INSTALLFEST

Q&A