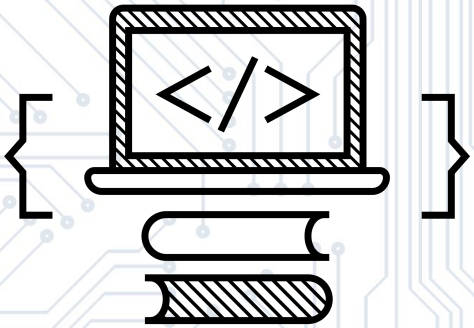
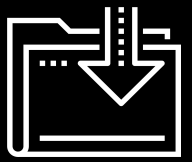


The Zen of Coding

Web Development Boot Camp

Lesson 1.1



The Path of Learning

Your Goals

Basically, 100% of you said **new career.**

Your Goals

And why do you want a new career?

- To pursue a **dream**
- To escape a **dead-end job**
- To be able to **create**
- To follow a **fascination**
- To attain **financial stability**
- To obtain **financial freedom**
- To **challenge yourself**
- To be a **role model** to kids

Your Goal = Our Goal

As instructors, we take your goals very, very seriously.

Support Team Promise

If you’re willing to put in the time and take our advice, we’re here to help you 100% of the way.

This goes for everyone working on this program:

- Instructors
- TAs
- Student Success Team
- Career coaches
- Everyone else!

But Remember:

Nothing good comes easily.

Our Keys to Success

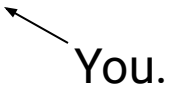
Don’t Be This Person:


This Should Be You

Our Mantra for Today and Beyond

When it comes to web development…

I know nothing.


You.

The Path of Learning

Nothing comes easy.
As students, you face three **HUGE** obstacles.

Obstacle #1: The Great Confusion

My code doesn't work and I don't know why.

My code works and I don't know why.

Obstacle #2: The Great Doubt

“Maybe I’m just dumb.”

Obstacle #3: The Great Distance

Nothing Comes Easy

Learning to code requires two things:

01 Persisting in the face of something that feels incredibly hard and confusing.

02 Maintaining the self-confidence necessary to believe that YOU CAN DO THIS.

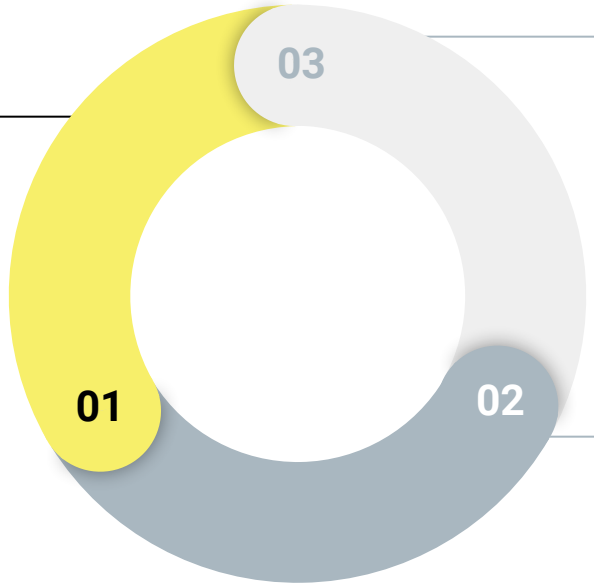
Learning Can Be Frustrating

> You can't tell whether you're learning something when you're learning it—in fact, *learning feels a lot more like frustration*.
>
> What I've learned is that during this period of frustration is actually when people improve the most, and their improvements are usually obvious to an outsider. If you feel frustrated while trying to understand new concepts, try to remember that it might not feel like it, but you're probably rapidly expanding your knowledge.
>
> —Jeff Dickey, author of *Write Modern Web Apps with the MEAN Stack: Mongo, Express, AngularJS, and Node.JS* (Peachpit Press, 2014)

Advice for the Journey

Throughout this course, always remember to:

Work hard!



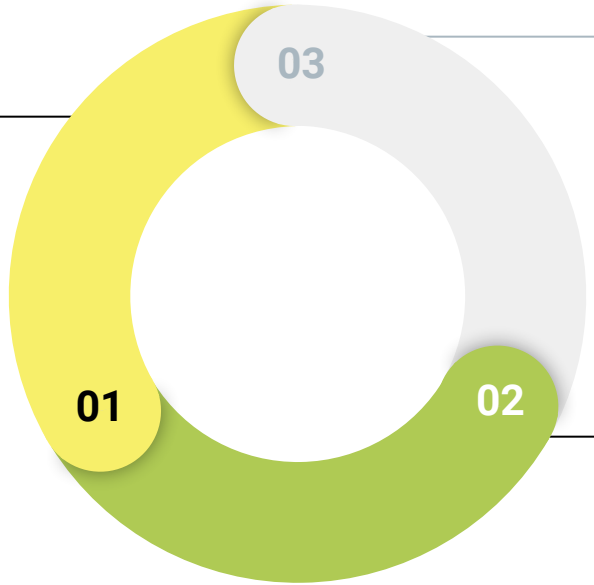
Trust yourself

Celebrate your successes

Advice for the Journey

Throughout this course, always remember to:

Work hard!



Trust yourself

Celebrate your successes

Advice for the Journey

Throughout this course, always remember to:

Work hard!

Trust yourself

Celebrate your successes

And Remember...

If you want to go fast, go alone. If you want to go far, go with a team.

Google Fu: The Most Important Skill of All

Course Structure

Daily Schedule

In each class, we'll cover the following:

01 Set objectives

02 Brief background lecture

03 Watch me / coding demos

04 Code discussions

05 In-class exercises

06 Project work

Daily Schedule

In each class, we'll cover the following:

01 Set objectives

02 Brief background lecture

03 Watch me / coding demos

04 Code discussions

05 In-class exercises

06 Project work

This is the super important stuff—ALWAYS BE CODING!

Prework

How’d it go?

Software Checklist

At this point, you should have all of these installed:

- ☐ Slack
- ☐ Visual Studio Code
- ☐ Git
- ☐ Git Bash (Windows) or Terminal (Mac)
- ☐ Node.js
- ☐ Heroku-CLI
- ☐ Google Chrome

Accounts Checklist

You should also have accounts for:

- GitHub (with SSH Integration)
- Heroku
- LinkedIn
- Stack Overflow

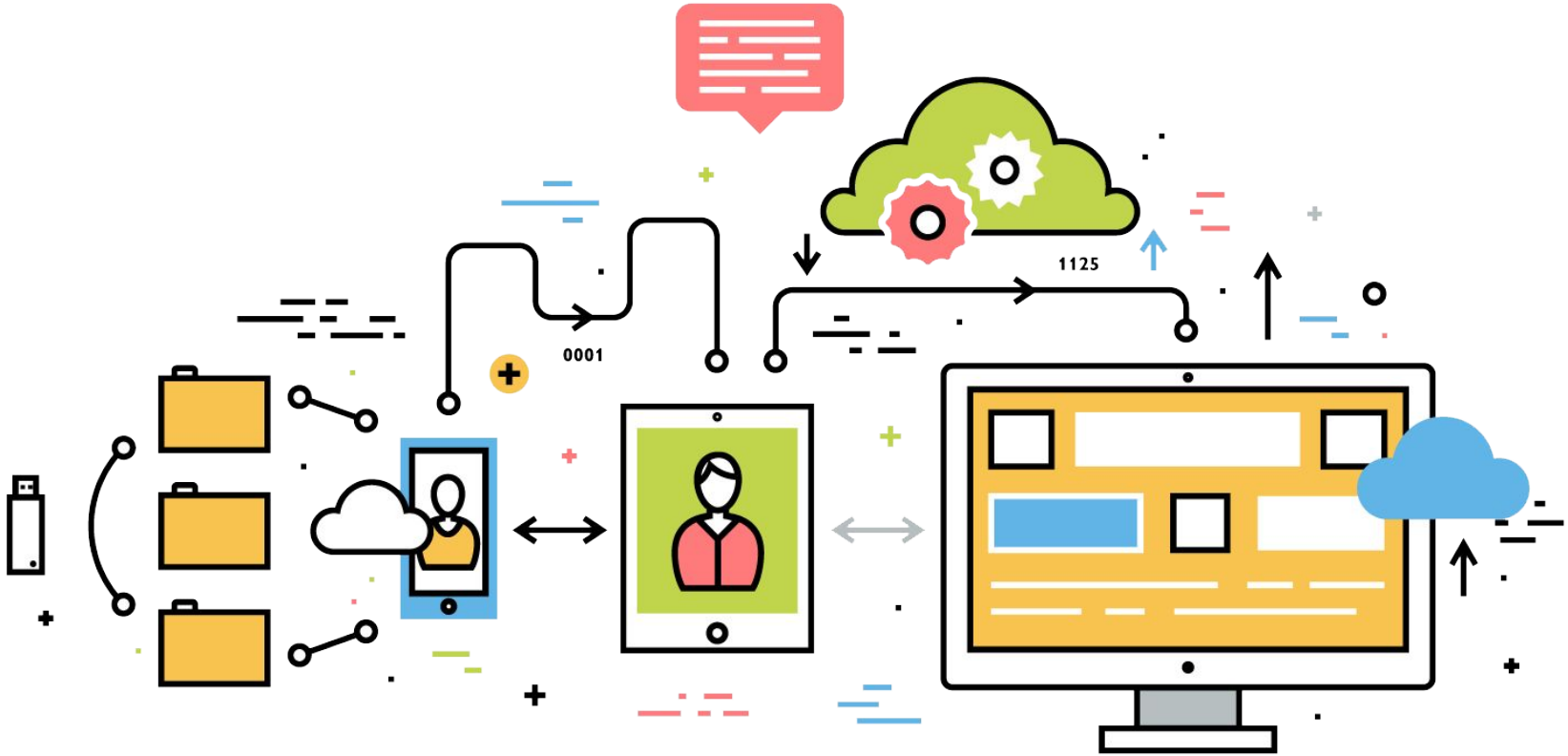
Self-Check

Let’s do some quick checks of the following:

- Visual Studio Code Check
- Git Bash/Terminal Check
- Node Check
- Git Check
- Heroku Check

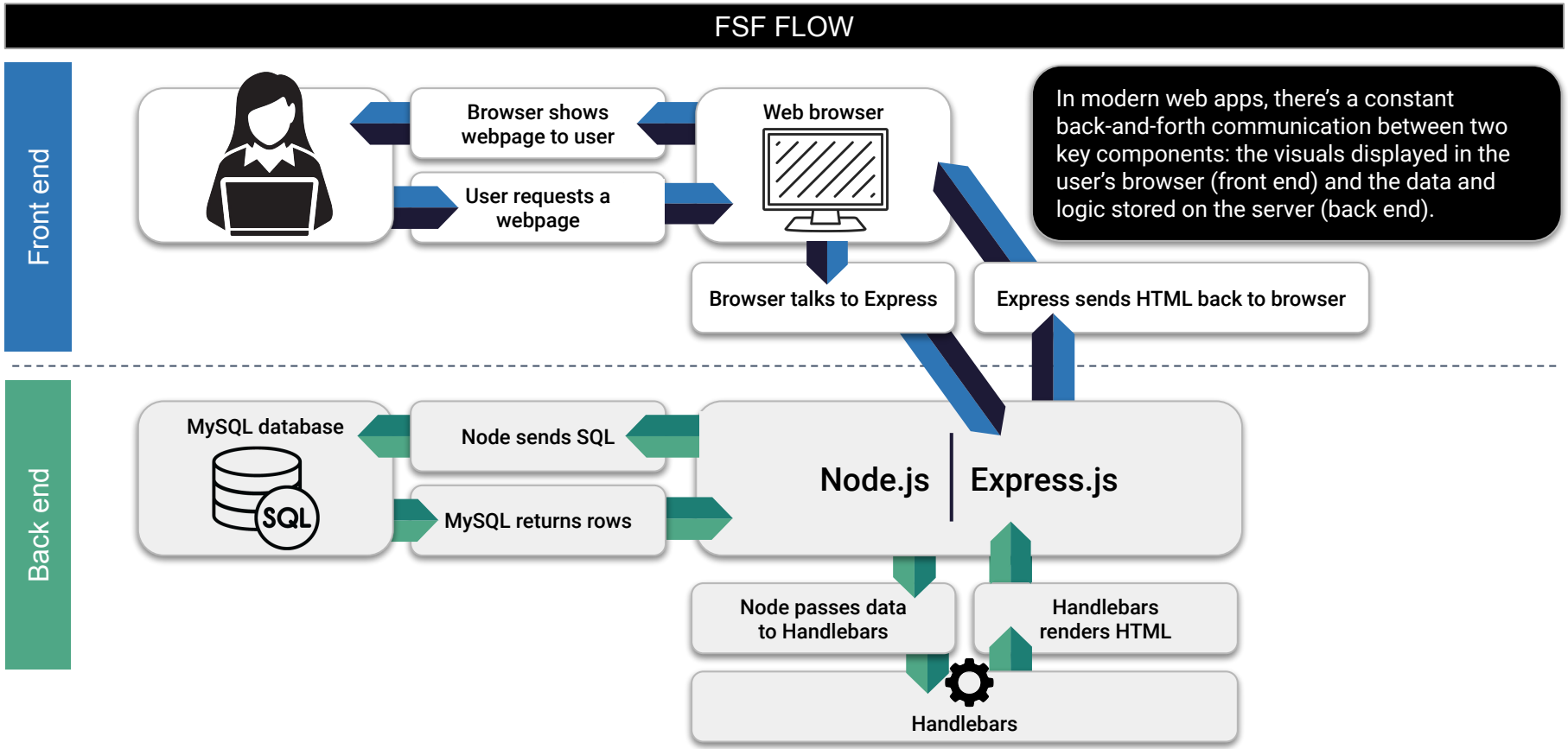
The Modern Web

What Exactly Is Full-Stack Development?

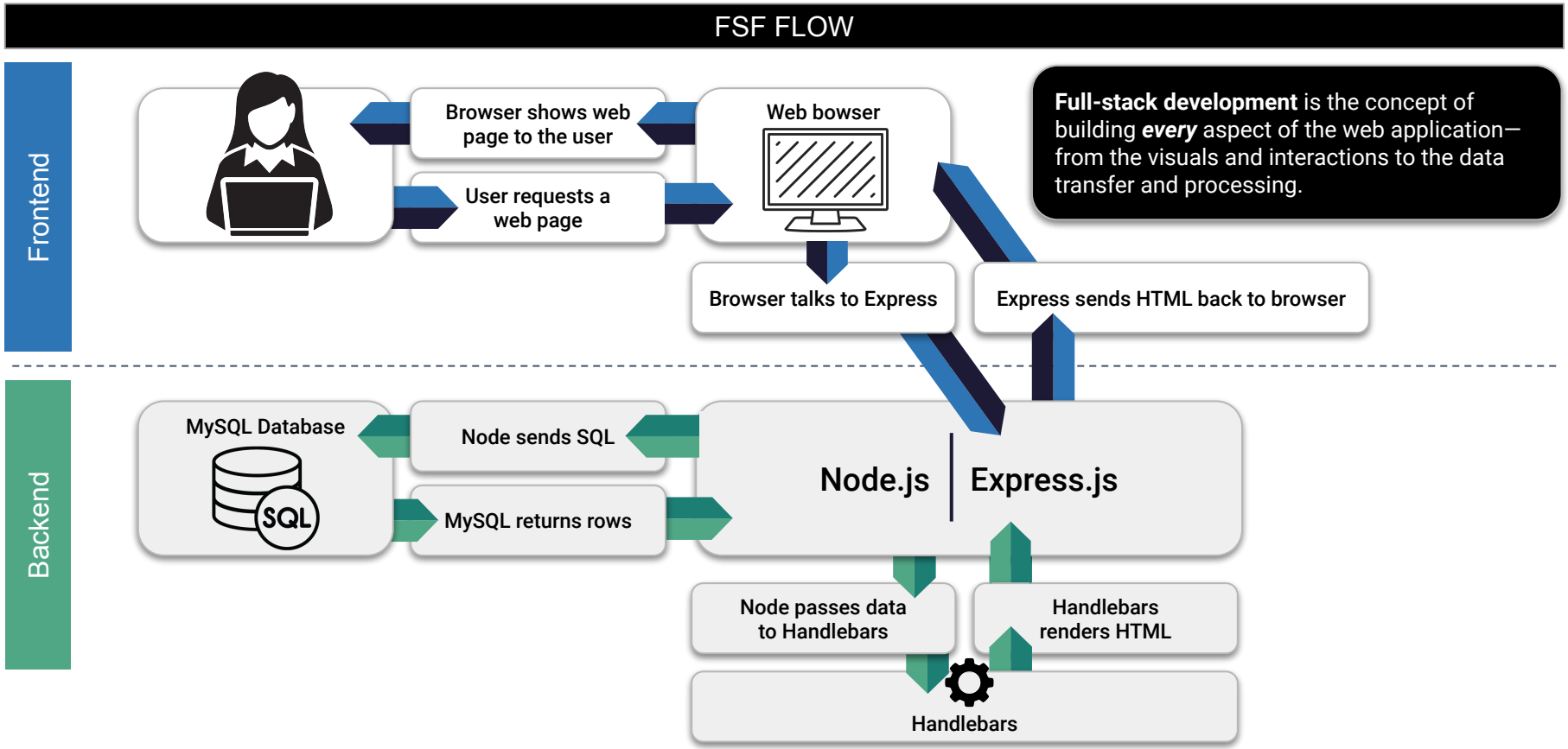


The “Magic” of YouTube

Full-Stack Development



Full-Stack Development

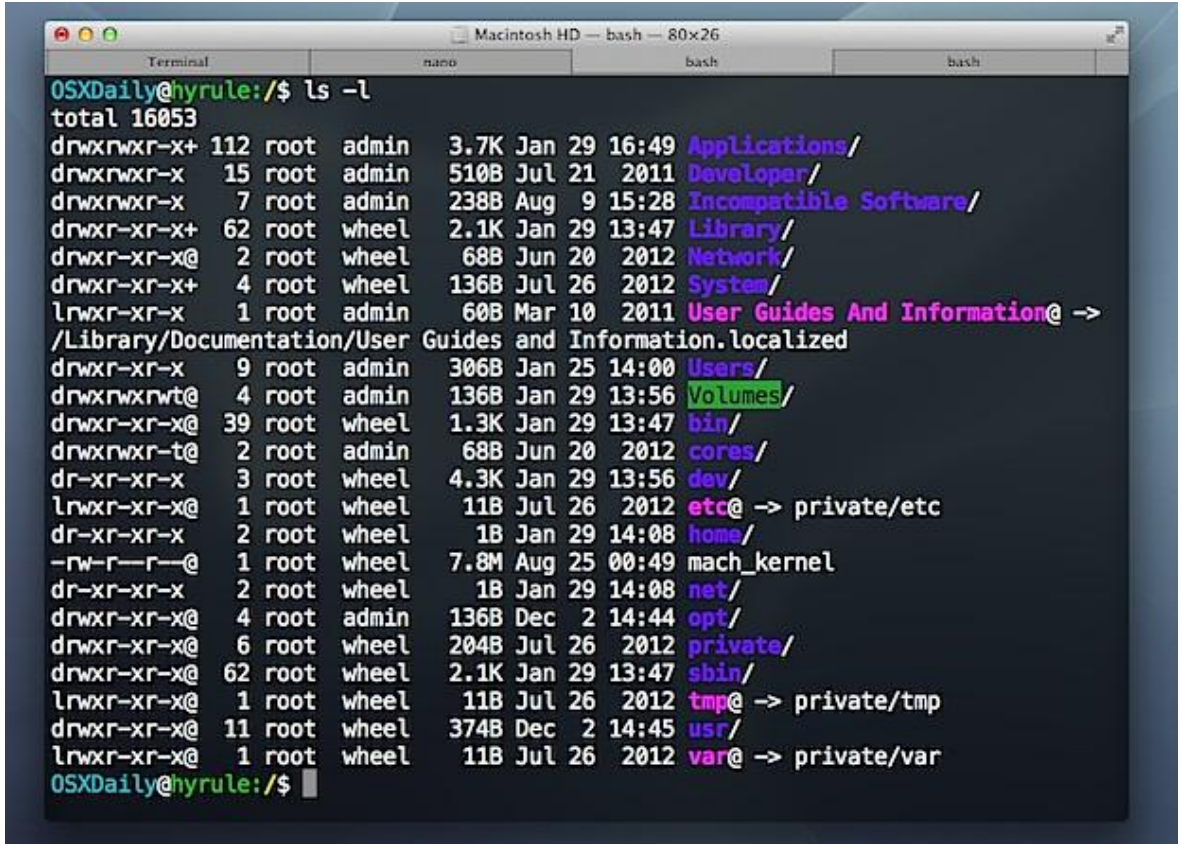


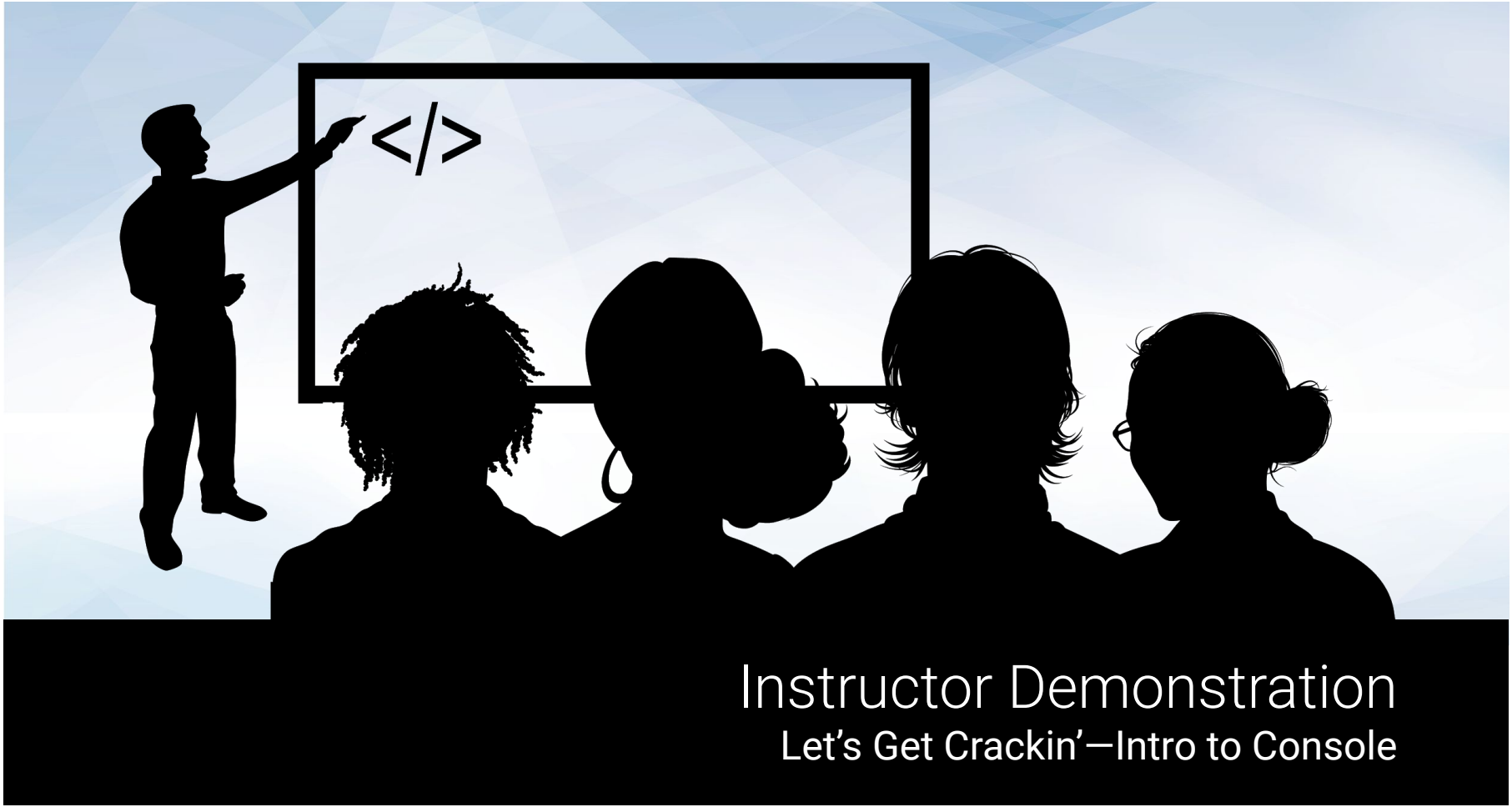
Full-Stack Development

The Browser	Dev Tools	Server Side
HTML	Heroku	Templating engines
CSS	Git	Sessions
JavaScript	GitHub	Writing tests
jQuery	**Databases**	Node.js
Bootstrap	MySQL	Express.js
SEO	MongoDB	Creating APIs
API Interaction		MVC
APIs (Consuming)		User authentication
JSON		ORM (Sequelize)
AJAX		**CS Fundamentals**
Real-time cloud database via Firebase		Algorithms
Cutting-Edge Development		Design patterns
React.js		

Let’s Get Crackin’!

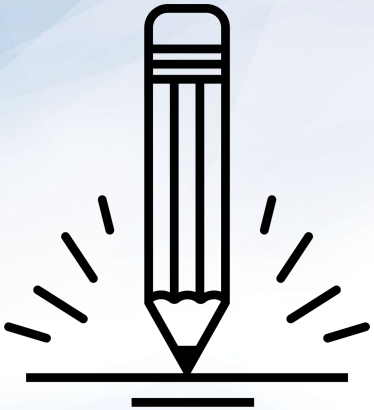
Intro to Console/Terminal





Instructor Demonstration

Let’s Get Crackin’—Intro to Console



Activity: Console Commands

Instructions sent via Slack.

Suggested Time:
12 minutes

Activity: Console Commands

Instructions:

01 Create a new folder with the name of `self-destructing-folder`.

02 Create a new txt file with the name `secret-message.txt`.

03 Copy `secret-message.txt` to the inside of `self-destructing-folder`.

04 Delete the original `secret-message.txt` file.

05 Delete the `self-destructing-folder`.

Suggested Time: 12 min

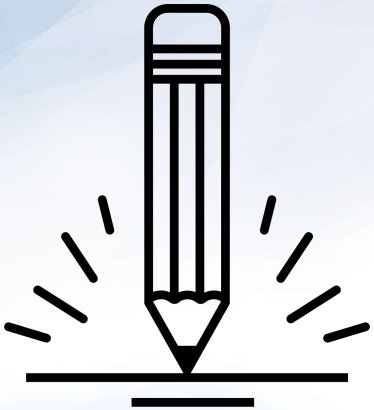
Intro to Console: Discuss with Neighbors

Hello, HTML

<title>Intro to HTML</title>

HTML5

- HTML is one of the three base languages behind every website.
- It defines all the basic content and a bit of formatting.



Activity: Intro to HTML

Instructions sent via Slack.

Suggested Time:
5 minutes

Activity: Intro to HTML

In a new HTML file, create the basic structure of an HTML document and include the following in it:

- DOCTYPE declaration
- Head tag with a title tag
- H1 tag with a title of your choice
- An embedded image

Now add the following three links to your page:

- One link that has target="_blank" so that it opens a new tab when clicked
- One link that is bold
- One link that is only a placeholder (it goes nowhere)

BONUS!

- Create an ordered list of steps to make a sandwich
- Create an unordered list of five bands/musicians you like
- Create a table with two columns (animal class and animal name) and four rows of animals
- Use an alternate way of separating links without line breaks
- Embed a YouTube video of your favorite band/musician

Suggested Time: 5 minutes

Time For a Quick Video

My First HTML

Take a Break!

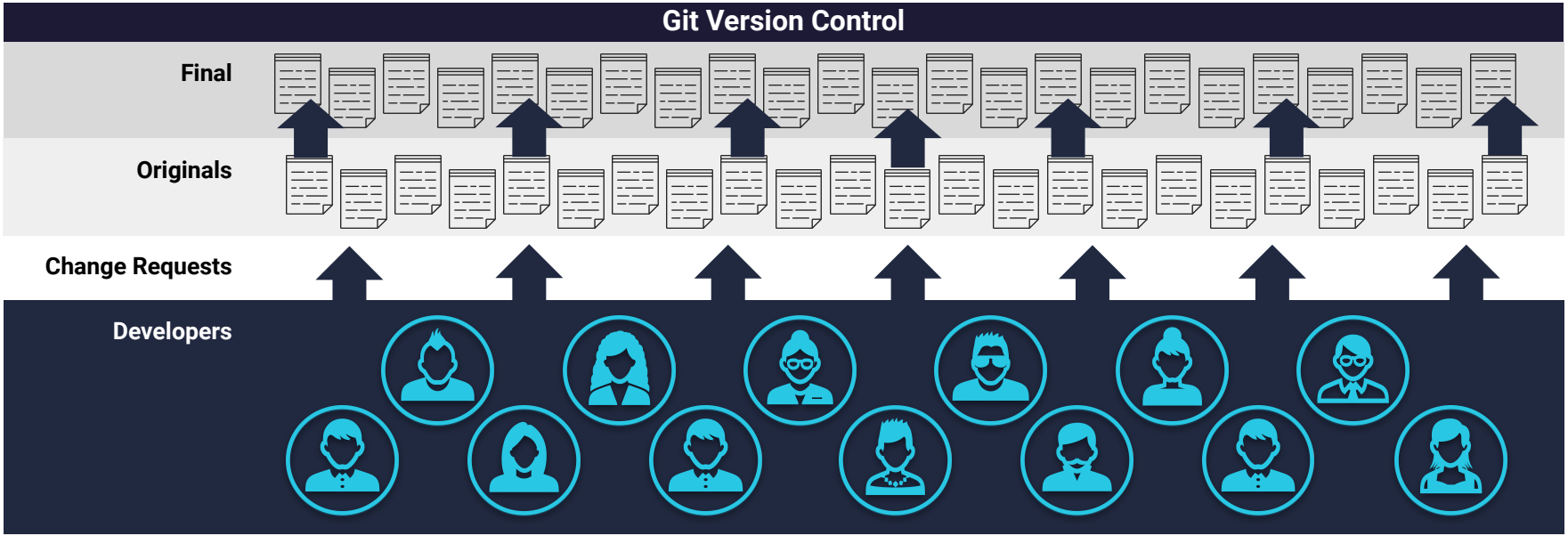
What Is Git?

Collaborative Coding

Modern web development is highly collaborative.

Teams are often extremely large and spread out across the country or world.

Apps are sometimes made up of hundreds or even thousands of files.



The Team's Task

Make a list of creative works you've written in the past.

Programming Team		
Maya Angelou	Anne Sexton	Gil Scott Heron
		

Maya Angelou & Gil Scott Heron Make Their Edits

Maya Angelou is programming away.

Maya Angelou's version

```
<ul>
    <li>On the Pulse of Morning</li>
    <li>I Know Why the Caged Bird Sings</li>
    <li>And Still I Rise</li>
</ul>
```

Gil Scott Heron is programming away.

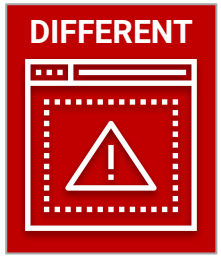
Gil Scott Heron's version

```
<ul>
    <li>Free Will</li>
    <li>Pieces of a Man</li>
    <li>The Revolution Will Not Be
        Televised</li>
</ul>
```

Different Solutions

Maya Angelou's version

```
<ul>
    <li>On the Pulse of Morning</li>
    <li>I Know Why the Caged Bird Sings</li>
    <li>And Still I Rise</li>
</ul>
```



Gil Scott Heron's version

```
<ul>
    <li>Free Will</li>
    <li>Pieces of a Man</li>
    <li>The Revolution Will Not Be Televised</li>
</ul>
```

Resolution

Maya Angelou's version

```
<ul>
    <li>On the Pulse of Morning</li>
    <li>I Know Why the Caged Bird Sings</li>
    <li>And Still I Rise</li>
</ul>
```

Gil Scott Heron's version

```
<ul>
    <li>Free Will</li>
    <li>Pieces of a Man</li>
    <li>The Revolution Will Not Be Televised</li>
</ul>
```

Let's settle on this:

```
<ul>
    <li>Poems</li>
    <li>Albums</li>
    <li>Songs</li>
</ul>
```

Anne Sexton Writes Her Own Version

Anne Sexton's version

```
<ul>
    <li>The Double Image</li>
    <li>Heart's Needle</li>
    <li>Baby Picture</li>
</ul>
```

Anne Sexton Overwrites the Work of Her Teammates

Delete. Delete.
Delete. Delete.
Delete. Delete.

```
<ul>
    <li>Poems</li>
    <li>Albums</li>
    <li>Songs</li>
</ul>
```

```
<ul>
    <li>The Double Image</li>
    <li>45 Mercy Street</li>
    <li>The Road Back</li>
</ul>
```

The Group Project

Lesson: You should use version control because it helps you manage multiple developers working on a single codebase.

"Today we fret and pull on wheels, ignore our regular loss of time…" Or maybe we should just use Git.

Git Version Control

Git provides an organized system for managing code when multiple developers work on a project at the same time.

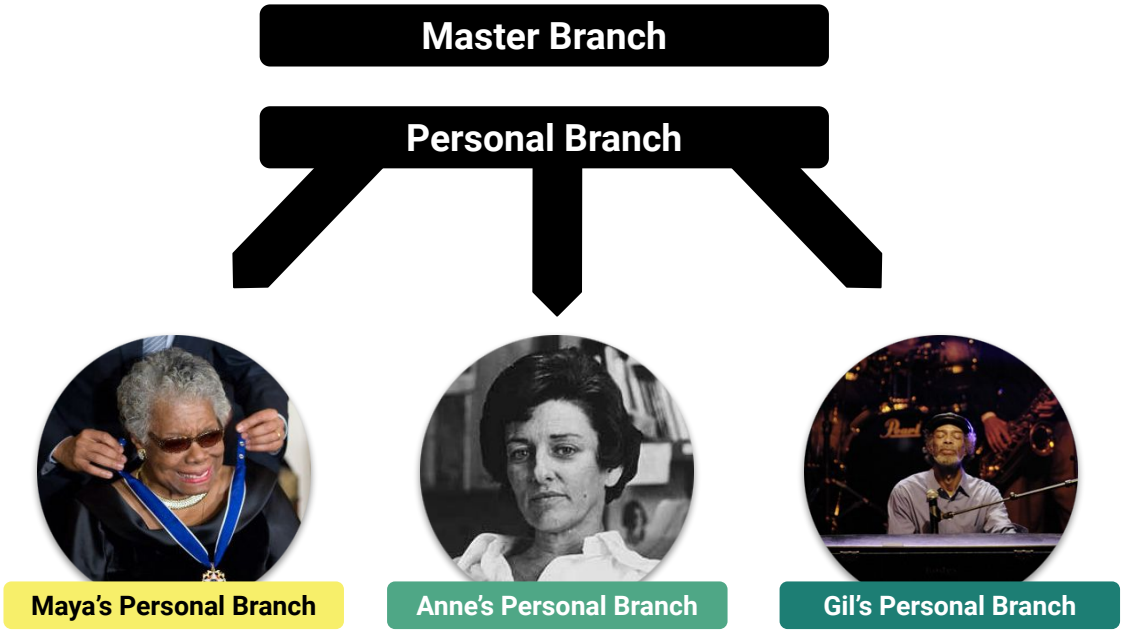
The Benefits of Git

01 A process for resolving conflicts in code

02 Version history

The Group Project

Branch = personal copy



The Team Goes to Work

Maya Angelou's version

```
<ul>
      <li>On the Pulse of Morning</li>
      <li>I Know Why the Caged Bird Sings</li>
      <li>And Still I Rise</li>
</ul>
```

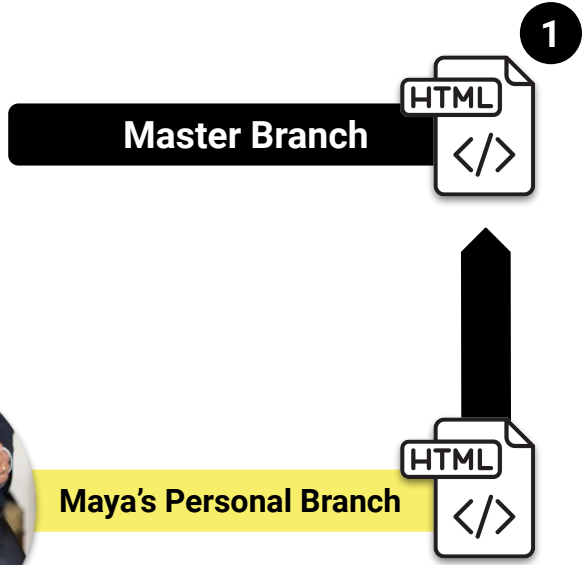
Gil Scott Heron's version

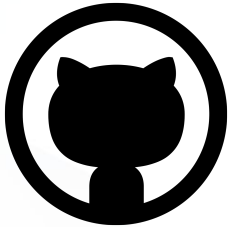
```
<ul>
      <li>Free Will</li>
      <li>Pieces of a Man</li>
      <li>The Revolution Will Not Be Televised</li>
</ul>
```

Maya Angelou Pushes First

Maya Angelou pushes (uploads) her code changes into the main branch.

No code conflicts

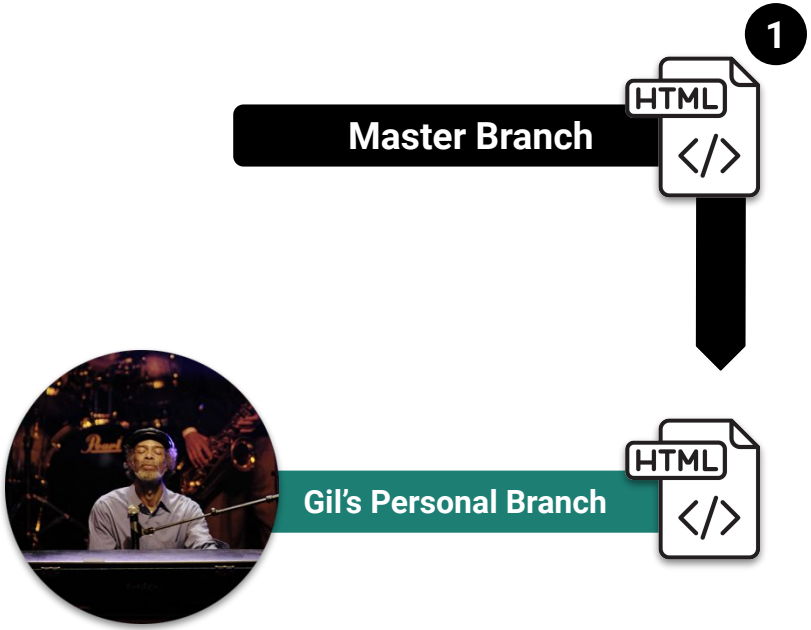




Rule: Pull first, and then push your changes.

Gil Scott Heron's Edits Are Ready

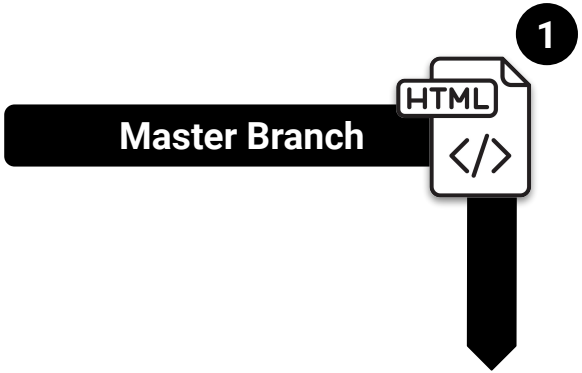
Rule: Pull first, and then push your changes.



Gil Scott Heron Conflicts with the Master Branch

Git sees a conflict.

```
<ul>
      <li>On the Pulse of Morning</li>
      <li>I Know Why the Caged Bird Sings</li>
      <li>And Still I Rise</li>
      <li>On the Pulse of Morning</li>
      <li>I Know Why the Caged Bird Sings</li>
      <li>And Still I Rise</li>
</ul>
```



Kobe Resolves

```
<ul>
      <li>On the Pulse of Morning</li>
      <li>I Know Why the Caged Bird Sings</li>
      <li>And Still I Rise</li>
      <li>On the Pulse of Morning</li>
      <li>I Know Why the Caged Bird Sings</li>
      <li>And Still I Rise</li>
</ul>
```

```
<ul>
      <li>Poems</li>
      <li>Albums</li>
      <li>Songs</li>
</ul>
```

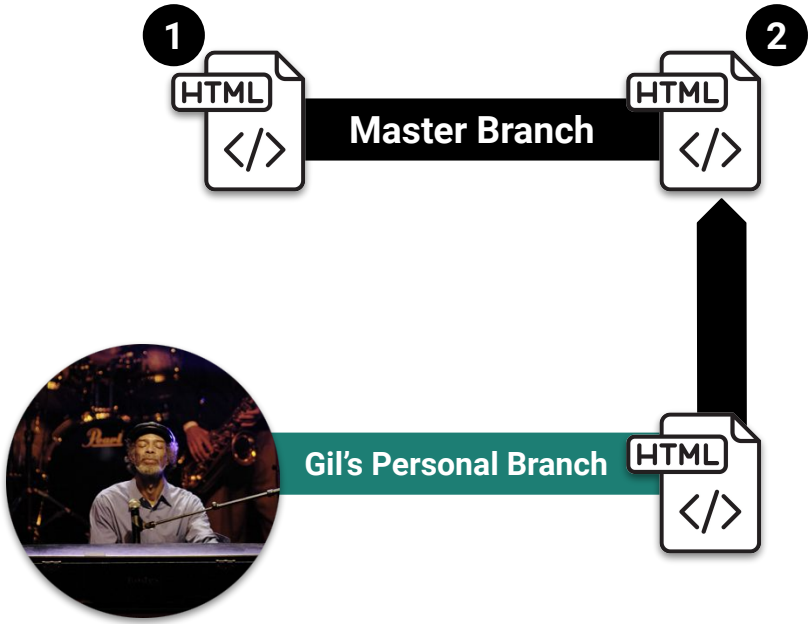
Gil's Personal Branch

Gil Scott Heron Fixes and Pushes

Gil pushes (uploads) his revision to the main branch.

No code conflicts

```
<ul>
    <li>Poems</li>
    <li>Albums</li>
    <li>Songs</li>
</ul>
```



Anne Sexton Starts Her Work

Rule: Pull first, and then push your changes.

look into my face

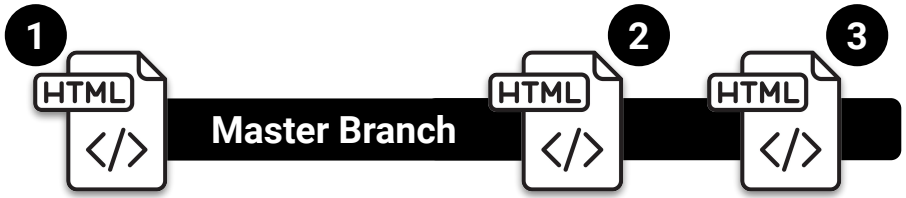
and you will know that crimes dropped upon me

as from a high building…

…by which I mean, I broke the rules.

Anne Sexton Pushes

Anne Sexton pushes (uploads) her revision to the main branch, but she doesn't pull first. Because she did not pull first, she sees no conflicts in the code (and doesn't get Gil's work!). **This is not what we want.**




```
<ul>
     <li>The Double Image</li>
     <li>Heart's Needle</li>
     <li>Baby Picture</li>
</ul>
```

If Anne Had Made a Pull First...

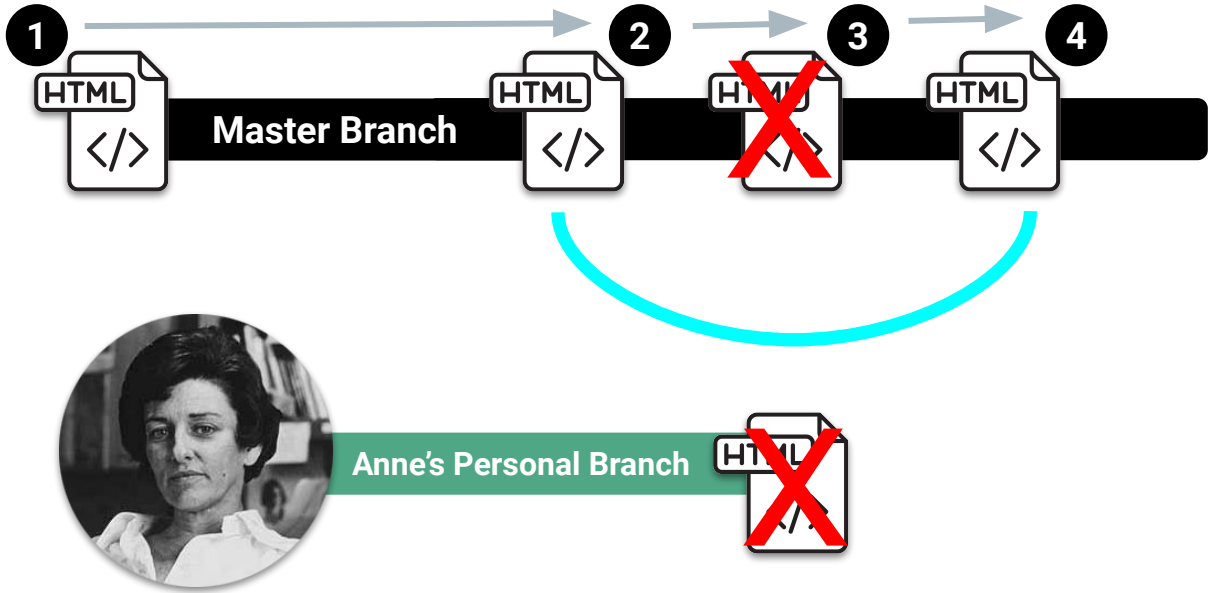
Conflict!

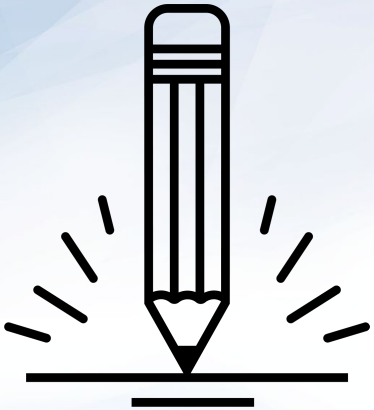
```
<ul>
    <li>The Double Image</li>
    <li>Heart's Needle</li>
    <li>Baby Picture</li>
</ul>
<ul>
    <li>Poems</li>
    <li>Albums</li>
    <li>Songs</li>
</ul>
```

The **overwritten** work is discovered!

Roll Back

Maya **rolls back** the code to an earlier version.





Activity:
Explain Git (Version Control)

Suggested Time:
3 Minutes

Activity: Explain Git (Version Control)

Turn to your neighbor, and have one of you explain to the other:

The concept of version control

Then, the other should explain:

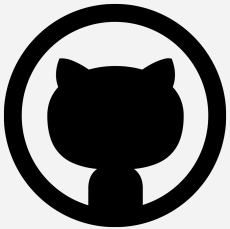
Two key advantages of using a version control system

Suggested Time: 3 Minutes

What Is GitHub?

01

GitHub is a web-based hosting service to store code online.



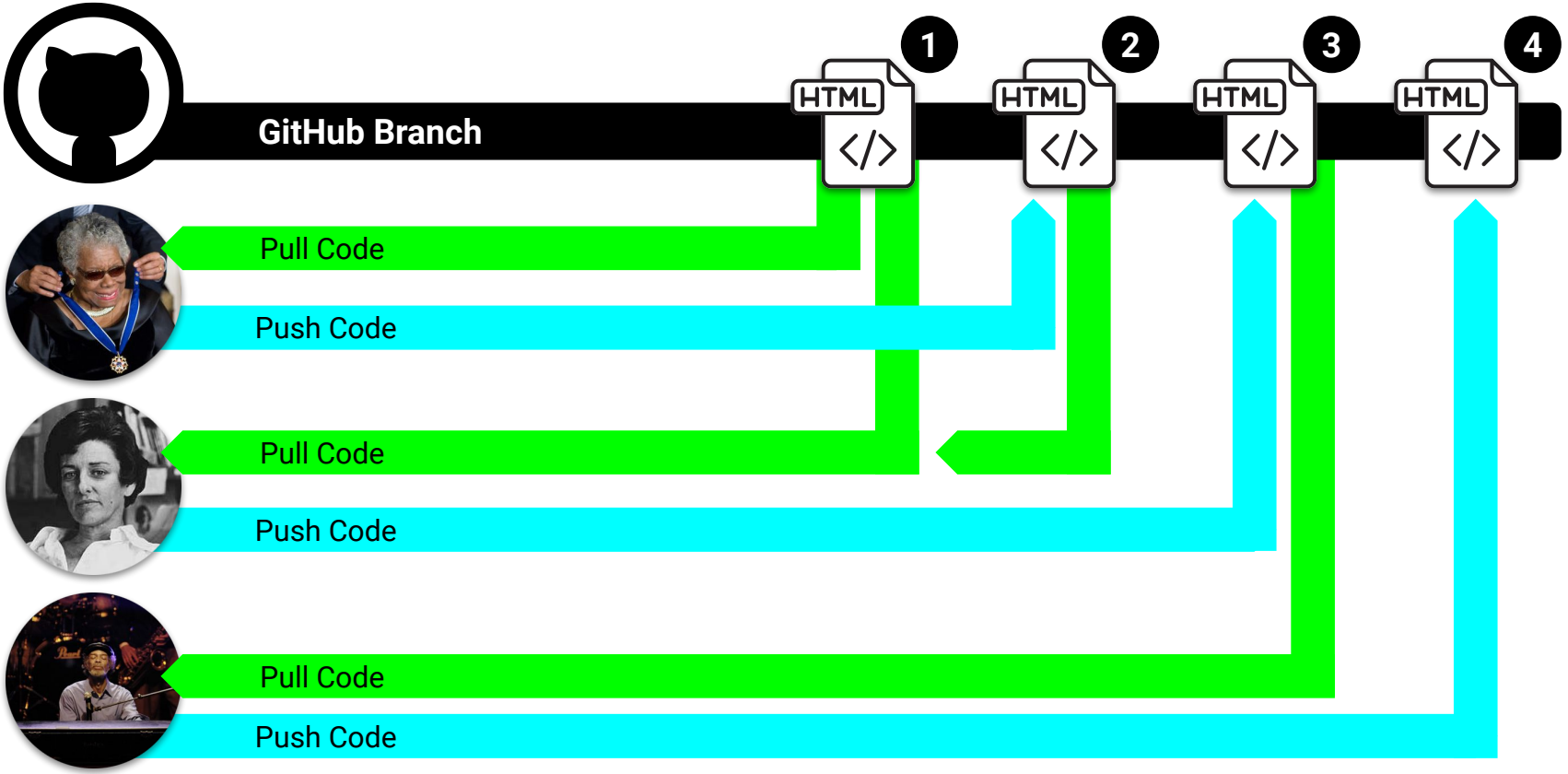
02

It allows developers to pull (download) code or push (upload) code to the same repository (directory).

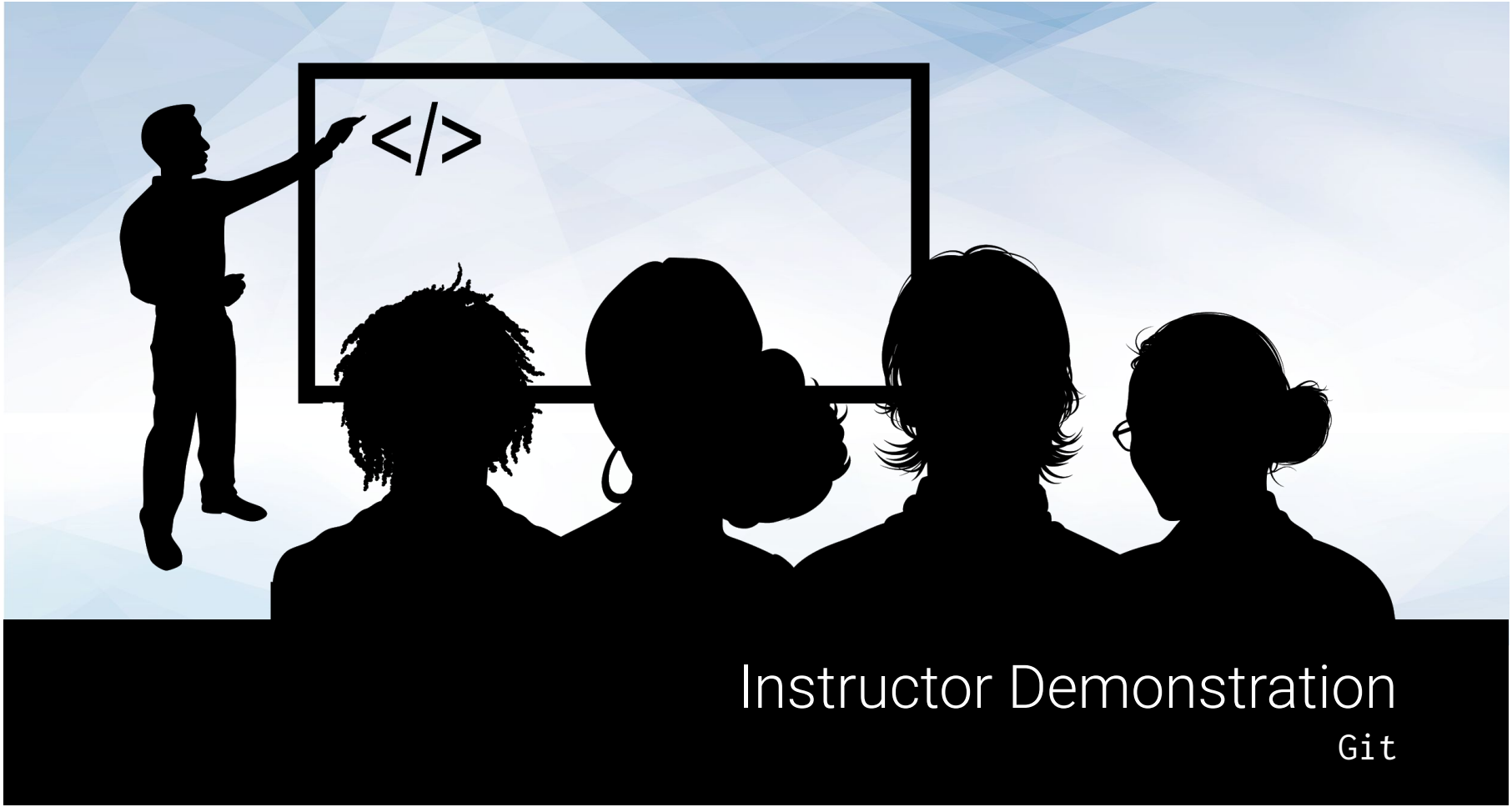
03

It also allows developers to view histories of code changes and track issues.

Pushing and Pulling to GitHub



Get Started with Git



Instructor Demonstration

Git

Basic Git Commands

These are the five basic Git commands to get started:

01 `git clone`

02 `git add`

03 `git commit`

04 `git push`

05 `git pull`

Basic Git Commands

`git clone`	Copies an entire repo (to begin)
`git add`	Adds a file for inclusion in Git
`git commit`	Notes a change to the local repo
`git push`	Sends changes to hosting service
`git pull`	Downloads freshest version of repo

Challenge:

Git Add, Commit, Push

Suggested Time:
15 minutes

Activity: `Git Add, Commit, Push`

Using GitHub and the command line:

1. Create a new **public GitHub repository** and name it whatever you like. Be sure to check the box to initialize this repository with a README.
2. **Clone** the repo to your local directory.
3. Create an **HTML file** inside the local directory.
4. **Add, commit**, and **push** the code to GitHub.

Bonus:

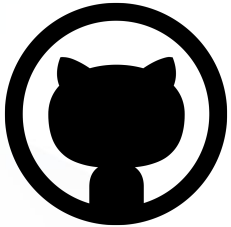
1. Find a partner in class, and **fork** *their* repository to your own GitHub account. Clone this forked repository to your local directory.
2. **Add, commit,** and **push** the code back to your forked copy.
3. Submit a **pull request** to send your changes to your partner's repo.

Suggested Time: 15 Minutes

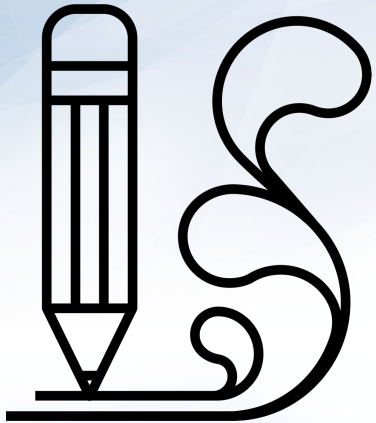
Still a Bit Lost? Don’t Worry!

Follow this handy guide!

Practice a few times on your own before the next class.



If you’re still lost, here’s a (free) course on how to use GitHub:
codeschool.com/courses/try-git



Homework Assignment

Due Date:
Next Class

Homework Assignment

01 Figure out where the GitHub repo is for our class.

02 Redo the Terminal example from today's class.

03 Redo the HTML example from today's class.
(Watch the walkthrough video if you feel a bit lost.)

Due Date: Next Class