

GitHub
Essentials of Web Design
CSCI 1210

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1

Code Repositories

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2

Code Repositories

In revision control systems, a **repository** is a data structure which stores a set of files and directories structure

The whole set of information in the repository may be duplicated on every user's system (or may be maintained on a single server)

Since a project can involve a lot of people, often in different locations, repositories (repos) provide a way to work asynchronously (at different times) on the various parts of the project

Helps prevent one team member's changes from overwriting another's and/or breaking the working copy

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Code Repositories

Some of the metadata that a repository contains includes, among other things:

- A historical record of changes in the repository
- A set of commit objects
- A set of references to commit objects, called *heads*

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4

Code Repositories

Repos can be architected in several ways

Probably the most popular is a central repository, from which team members can download the entire code base to their local machine, work on it, and upload their changes

Any conflicts that occur (and conflicts DO occur!) can more easily be resolved by comparing changes – or concurrent changes – to earlier versions of the code

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5

Code Repositories

Versioning is the KEY

Projects are usually developed incrementally

- Create a basic working version
- Add to repo
- Develop features and updates
- Add, test

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6

Code Repositories

Versioning is the KEY

If a change breaks something, versioning allows developers to 'roll back' to the last working version

Then

Figure out what went wrong

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7

Code Repositories

We will be using GitHub for our semester projects

There are several steps (following) that have to be completed

The responsibility for creating and maintaining the repo is the Team Leader's

Each team member will create a (free) GitHub account, if you don't already have one

The Team Lead will create the repo and ensure that all team members can contribute

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8

GitHub

Create a (free) GitHub Account


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9

Sign up for an account

<https://github.com/>



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10

Sign up for an account

John Stinch

Create your account

Username *

 ✓

Email address *

 ✓

Password *

Must use 8, at least 10 characters OR at least 8 characters including a number and a lowercase letter.

Small preferences

Send me occasional product updates, announcements, and offers.

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11

Sign up for an account

Verify your account

1


Touch the arrows to roll the image



7 0 48

2

When the image is the correct way up touch Done




7 0 48

Done


3

When the image is the correct way up touch Done



7 0 48

4



7

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12

Sign up for an account

Almost done, @csci1210-webStars! To complete your GitHub sign up, we just need to verify your email address: ramseyjw@etsu.edu.

[Verify email address](#)

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13

Sign up for an account

Choose a plan

Individual	Team
<p style="font-size: x-small;">Pick the plan that's right for you, personally.</p> <p style="font-size: 2em; font-weight: bold;">Free</p> <p style="font-size: 1.5em; font-weight: bold;">\$0</p> <p style="font-size: x-small;">USD</p> <p style="font-size: x-small;">The basics of GitHub for every developer.</p> <p style="background-color: #0070c0; color: white; padding: 5px; text-align: center; font-size: small;">Choose Free</p>	<p style="font-size: x-small;">Choose a plan to help your team grow and collaborate.</p> <p style="font-size: 2em; font-weight: bold;">Pro</p> <p style="font-size: 1.5em; font-weight: bold;">\$7</p> <p style="font-size: x-small;">USD</p> <p style="font-size: x-small;">Per month</p> <p style="font-size: x-small;">Pro tools for developers with advanced requirements.</p> <p style="background-color: #0070c0; color: white; padding: 5px; text-align: center; font-size: small;">Choose Pro</p>

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14

Sign up for an account

Welcome to GitHub

Woohoo! You've joined millions of developers who are doing their best work on GitHub. Tell us what you're interested in. We'll help you get there.

How much programming experience do you have?

None I don't program at all <small>no programming experience</small>	A little I'm new to programming	WHATEVER
A moderate amount I've somewhat experienced	A lot I'm very experienced	

What do you plan to use GitHub for?
(Select up to 3)


Learn to code	Learn Git and GitHub	Host a project (repository)
---------------	----------------------	-----------------------------

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15

Sign up for an account



Please verify your email address

Before you can contribute on GitHub, we need you to verify your email address. An email containing verification instructions was sent to ramseyjw@etsu.edu.

Didn't get the email? Request verification email or change your email settings.

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16

Sign up for an account

Team Leads will create the repository

Other team members, see below

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import it to GitHub.](#)

Owner: jackramsey / codeMonsters Repository name: USE YOUR TEAM NAME FOR THE REPO NAME

Great repository names are short and memorable. [Read more about repository names.](#) [About GitHub tags.](#)

Description (optional):

Visibility: Public
 Anyone can see this repository. You choose who can commit.

Private
 No one who can see your repo can commit to this repository.

Skip this step if you're importing an existing repository.

Initialize this repository with a README
 This will set up some templates and create the repository in your computer.

Add an organization name Add an individual name

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17

Sign up for an account

jackramsey / codeMonsters

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

My description, website, or topics provided

1 comment 1 fork

Search members New pull request

GitHub Actions

Create workflows to automatically build, test and deploy your code. [Improve your workflow](#) [Learn more about GitHub Actions](#)

Set up Actions Disable

1 contributor

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18

GH Landing Page

The screenshot shows the GitHub interface for a repository named 'webStars'. At the top, there are navigation tabs for 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Wiki', 'Security', 'Insights', and 'Settings'. Below this, the repository name 'webStars' is displayed, along with a search bar and a 'Star' button. The main content area shows the repository's structure, including a 'README.md' file and a 'webStars' directory. The footer of the slide contains the text: 'East Tennessee State University Department of Computing' on the left and 'CSCI 1210 Essentials of Web Design' on the right.

19

GitHub

GitHub can be complex, but there is a desktop application that makes things pretty easy

[GitHub Desktop](https://desktop.github.com/)
<https://desktop.github.com/>

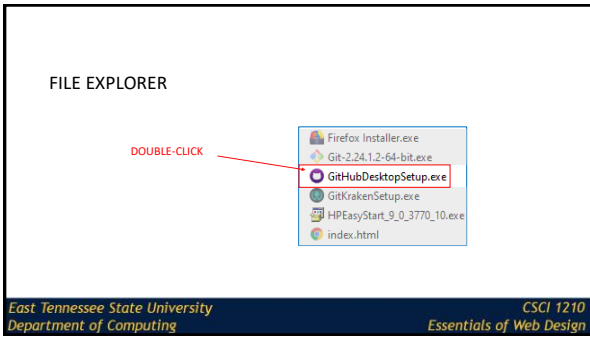
The footer of the slide contains the text: 'East Tennessee State University Department of Computing' on the left and 'CSCI 1210 Essentials of Web Design' on the right.

20

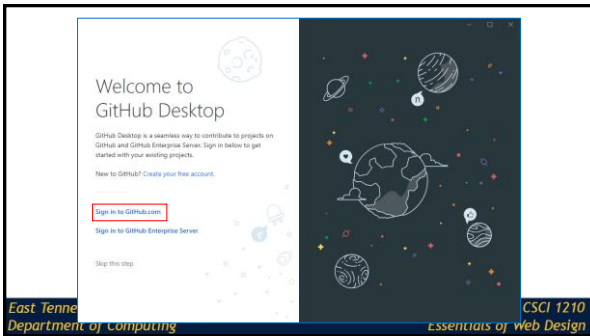
<https://desktop.github.com/>

The screenshot shows the GitHub Desktop desktop application download page. It features the GitHub logo at the top, followed by navigation links for 'Overview', 'Release Notes', and 'Help'. The main heading is 'GitHub Desktop', with a sub-heading: 'Focus on what matters instead of fighting with Git. Whether you're new to Git or a seasoned user, GitHub Desktop simplifies your development workflow.' Below this, there is a prominent purple button labeled 'Download for Windows (64bit)'. At the bottom, there are smaller links for 'Download for macOS or Windows (32bit)' and a note: 'By downloading, you agree to the Open Source Applications Terms.' The footer of the slide contains the text: 'East Tennessee State University Department of Computing' on the left and 'CSCI 1210 Essentials of Web Design' on the right.

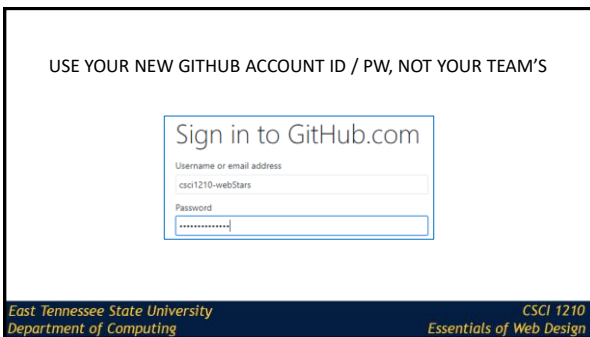
21



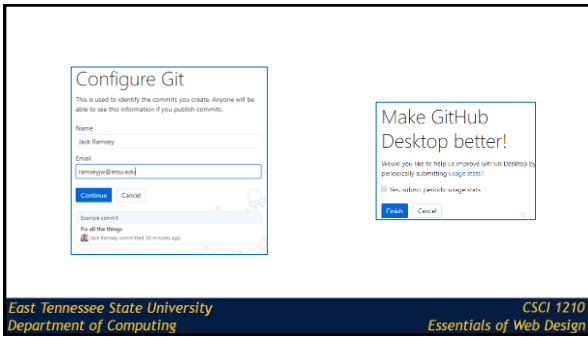
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23

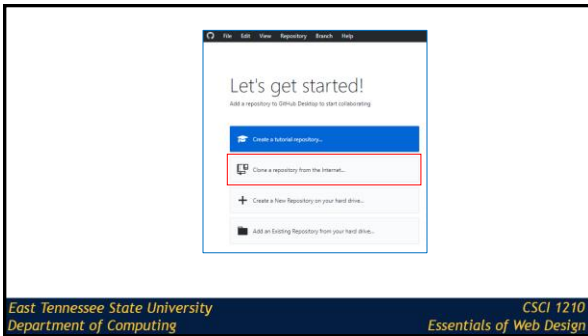


24



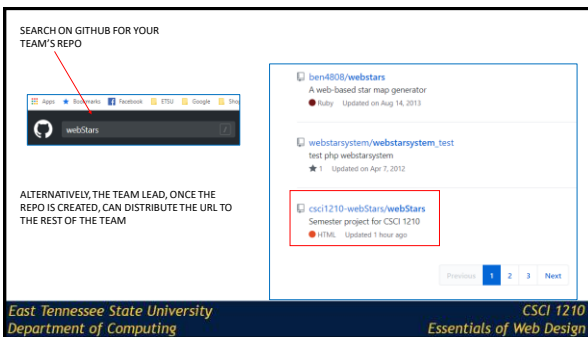
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25



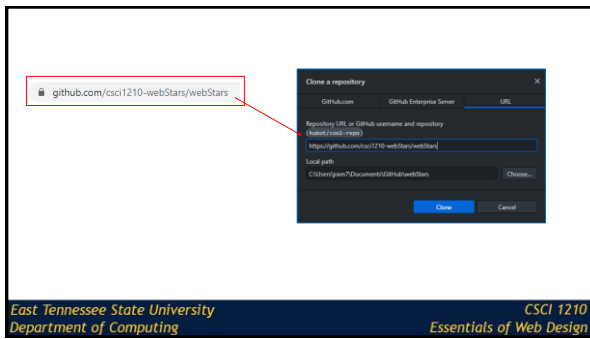
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26



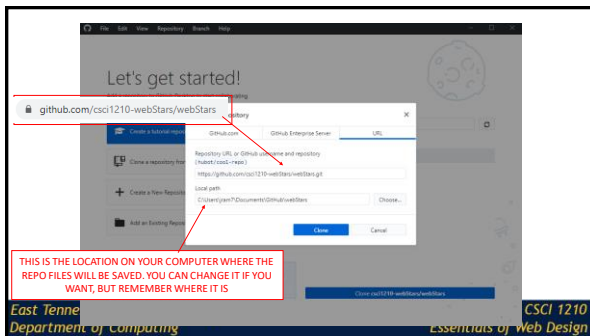
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27



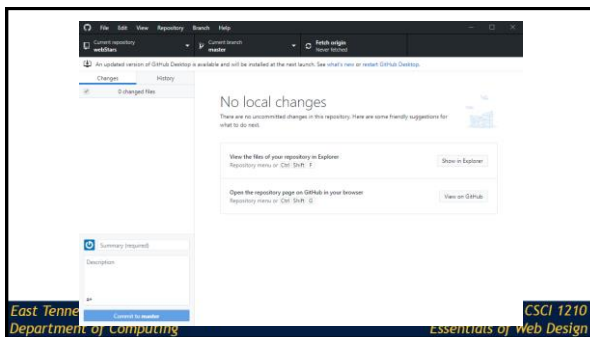
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28



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29



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30

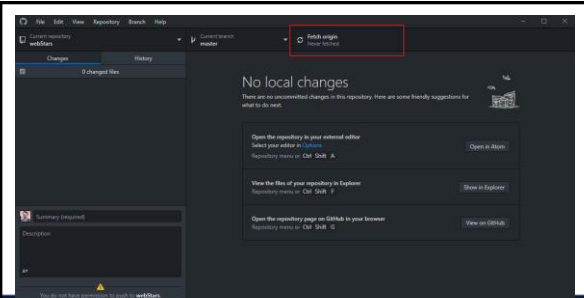
IN CASE YOU'RE WONDERING WHY MY SCREENSHOTS ARE DARK WHILE YOUR DISPLAY IS WHITE, CLICK FILE->OPTIONS



THIS IS PURELY A MATTER OF PREFERENCE

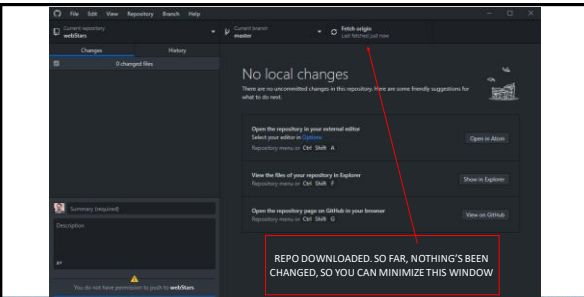
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31



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32



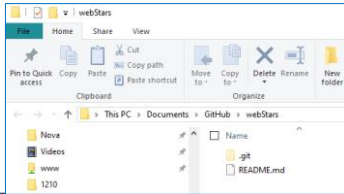
REPO DOWNLOADED. SO FAR, NOTHING'S BEEN CHANGED, SO YOU CAN MINIMIZE THIS WINDOW

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33

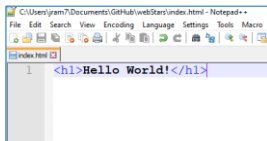
FILE EXPLORER

This is your local copy of the repo, where you'll create, modify, and save files as you work. You could use a flash drive



34

TESTING – CREATE A FILE

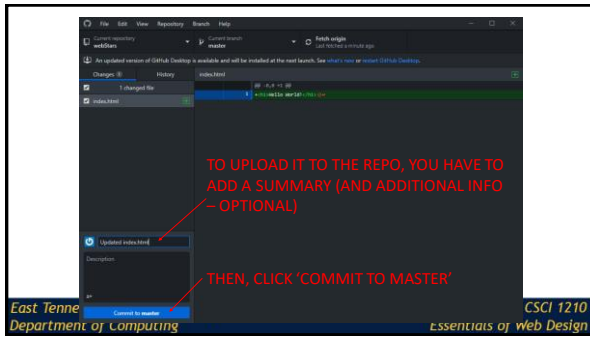


SAVE IT TO YOUR LOCAL DIRECTORY

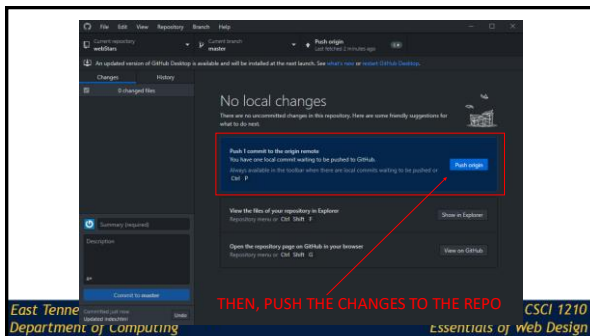
35

GITHUB DESKTOP DETECTS THE NEW FILE

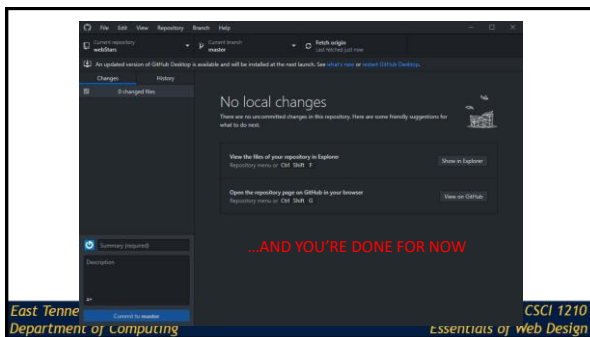
36



37



38



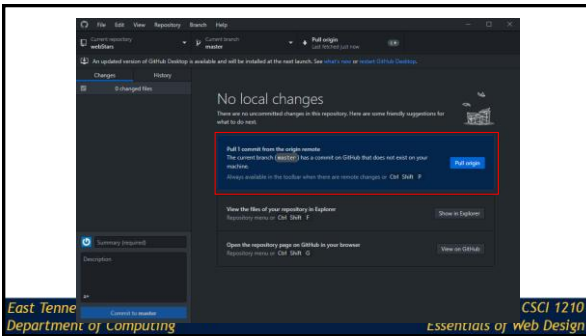
39

When you go back to do more work...

Someone else on your team may have made changes and/or additions and uploaded them to the repo

So, first thing you have to do is pull a new copy of the repo to your computer

40

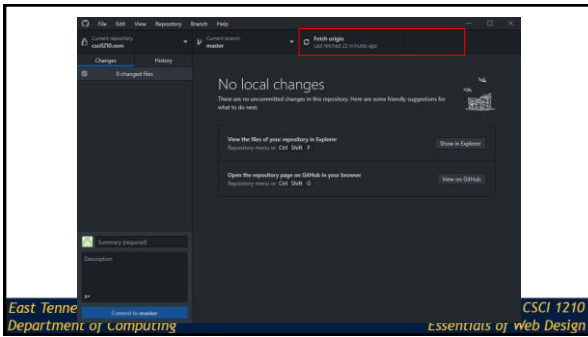


41

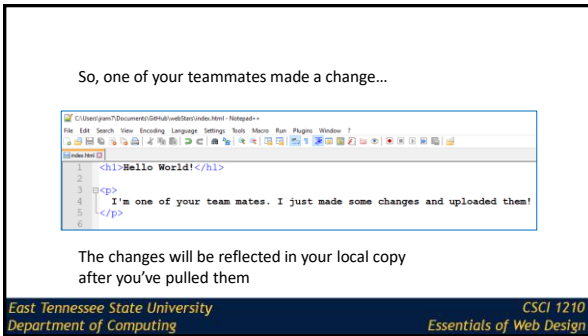
When you go back to do more work...

If you don't see the 'pull prompt,' pull anyway:

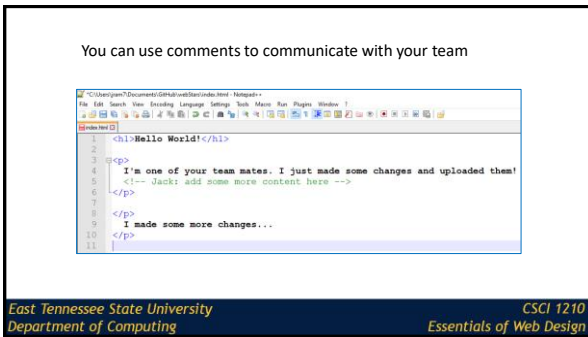
42



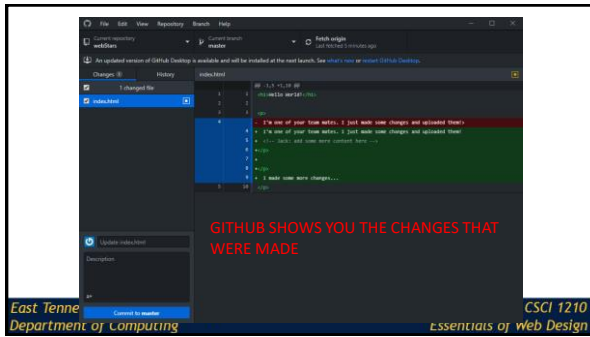
43



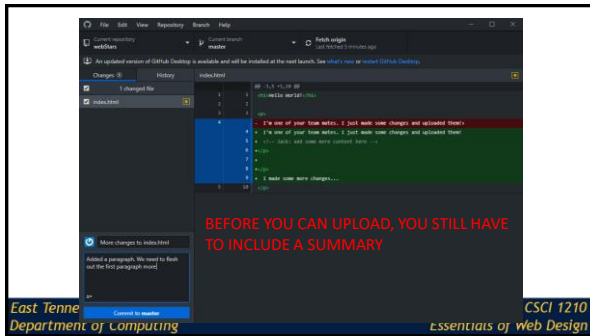
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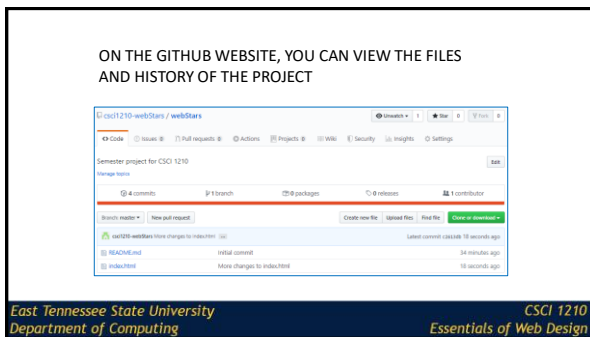
45



46

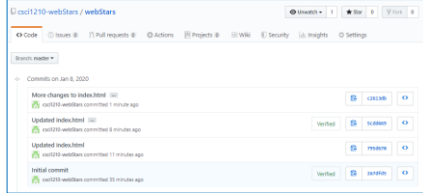


47



48

VIEW EACH COMMIT – THIS IS WHY THE SUMMARIES ARE REQUIRED; TO TRACK CHANGES



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49

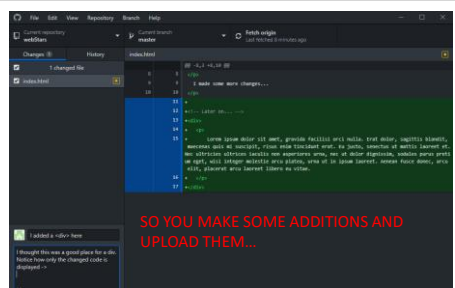
Horizontal lines for student response.

```
<h1>Hello World!</h1>
<p>
I'm one of your team mates. I just made some changes and uploaded them!
<!-- Jacki: add some more content here -->
</p>
</p>
I made some more changes...
</p>
<!-- Later on... -->
<div>
<p>
Lorem ipsum dolor sit amet, gravida facilisis orci nulla. Erat dolor,
sagittis blandit, maecenas quis mi suscipit, risus enim tincidunt erat. Eu
justo, senectus ut mattis laoreet et. Nec ultricies ultrices iaculis non
asperiores urna, nec ut dolor dignissim, sodales purus pretium eget, wisi
integer molestie arcu platea, urna ut in ipsum laoreet. Aenean fusce donec,
arcu elit, placerat arcu laoreet libero eu vitae.
</p>
</div>
```

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50

Horizontal lines for student response.

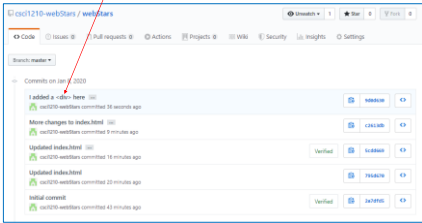


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51

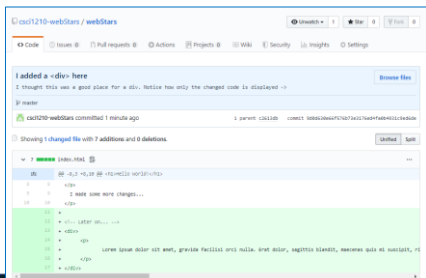
Horizontal lines for student response.

YOU CAN VIEW THE DETAILS OF EACH COMMIT BY CLICKING IT



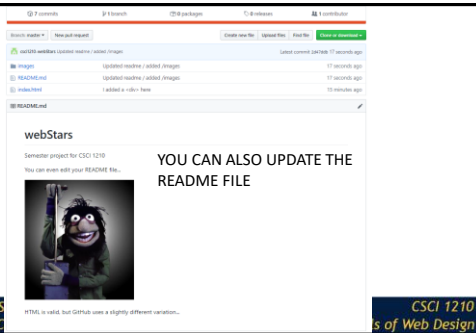
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52



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53



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54
