

# Introduction to GitHub and Version Control

im not a computer nerd #20

 Closed · toly500 opened this issue on Apr 26 · 4 comments

 toly500 commented on Apr 26

how in gods name do i download the files this is bringing out a rlly nasty migraine

  7  7  4

 RNKnight1 commented on Apr 27

If you have git you can run

```
git clone -b dist/<custom-app-branch> https://github.com/Pithaya/spicetify-apps-dist
```

and then copy those files to the config dir.

Or you could open each file in Github and right click on the 'Raw' button on top of each file and Save as...

  32

# "FINAL".doc



FINAL.doc!



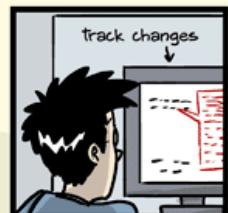
FINAL\_rev.2.doc



↑  
FINAL\_rev.6.COMMENTS.doc



FINAL\_rev.8.comments5.  
CORRECTIONS.doc



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corrections9.MORE.30.doc

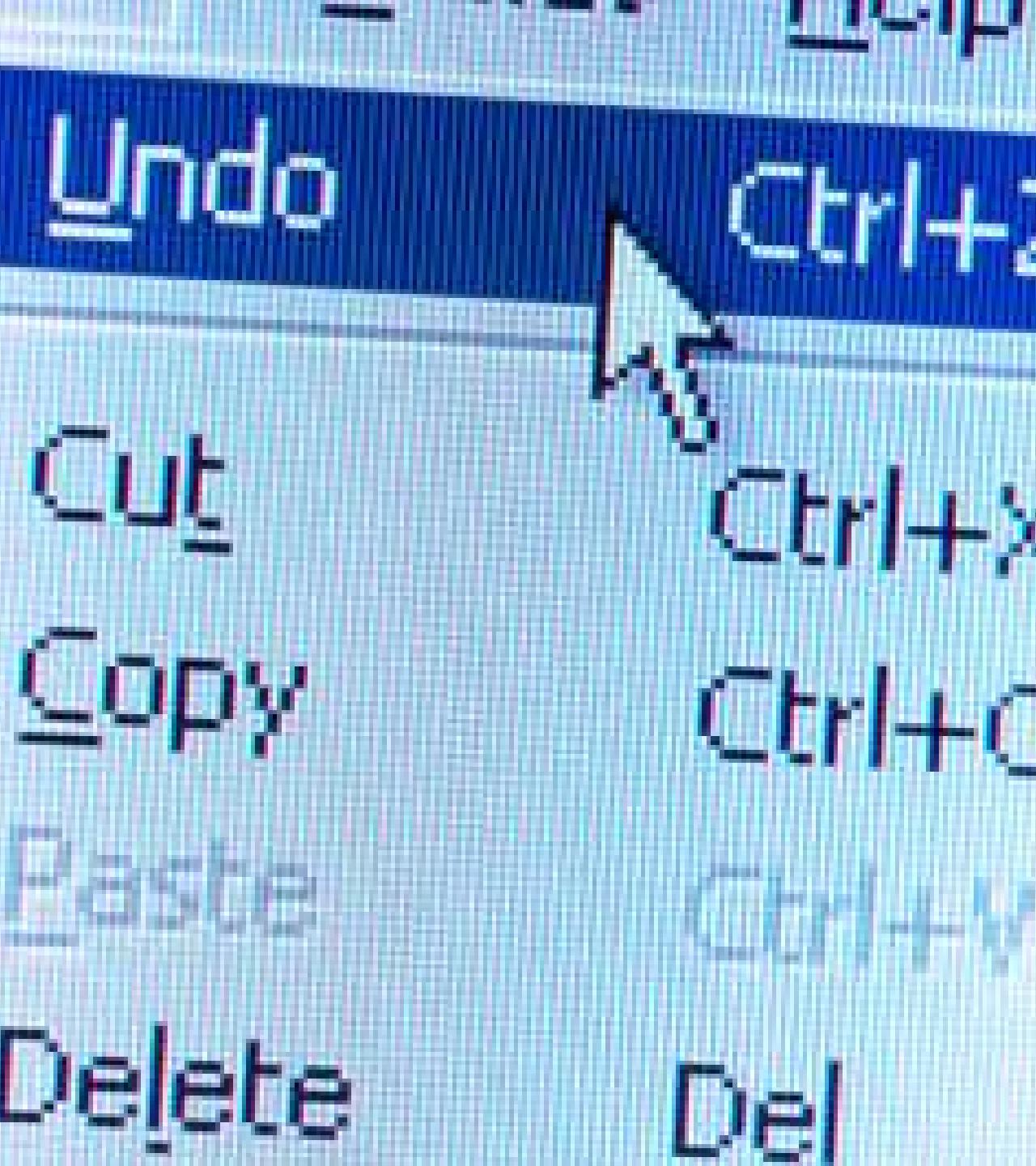


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JORGE CHAM © 2012

# Why Use Version Control?

- Review history of your changes.
- Restore older code versions, like an unlimited undo.
- Saves you emailing files back and forth if you are working with others.
- Different people can make changes to the same code in parallel.



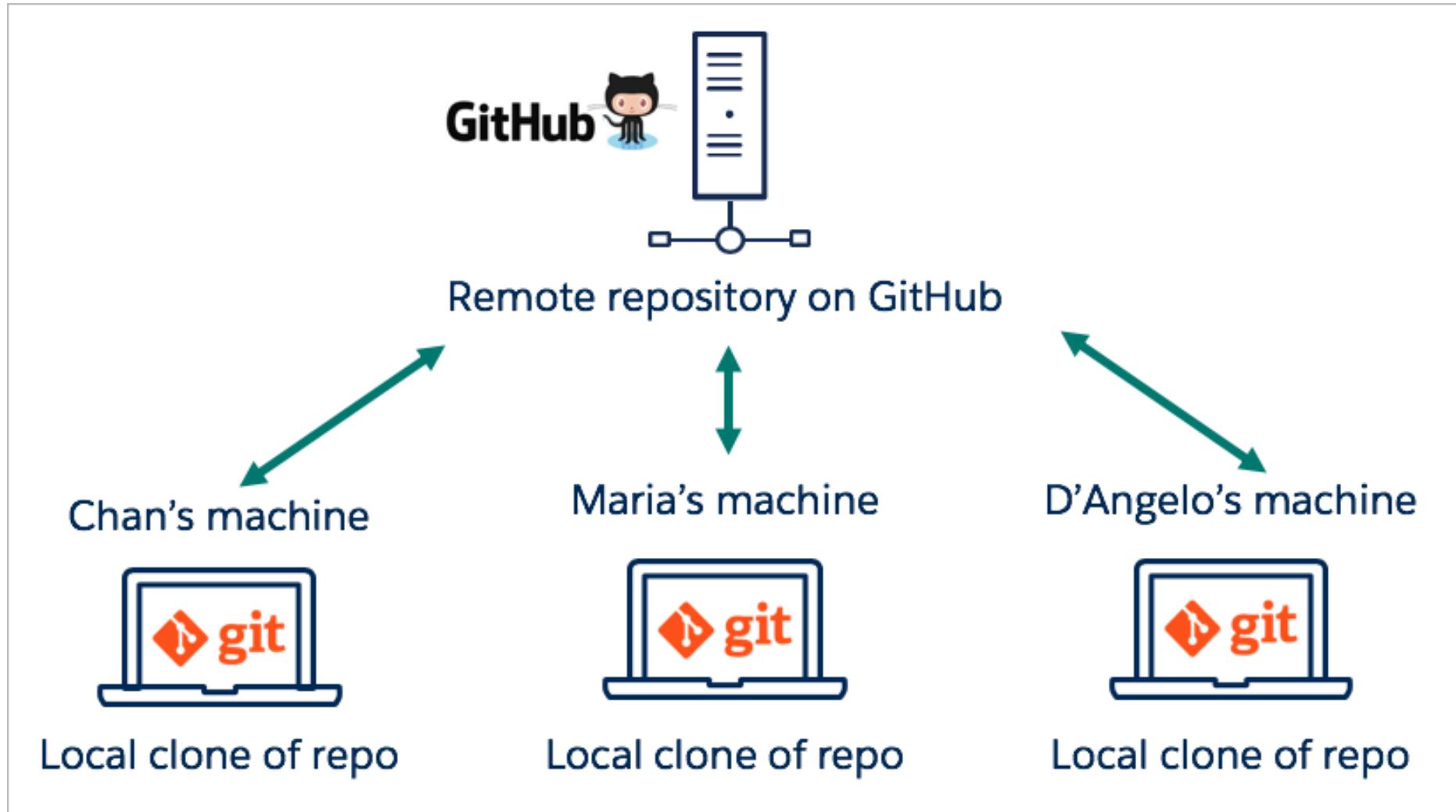


## What is Git and GitHub?

**Git:** Version control tool to manage code history. Runs on the command line.

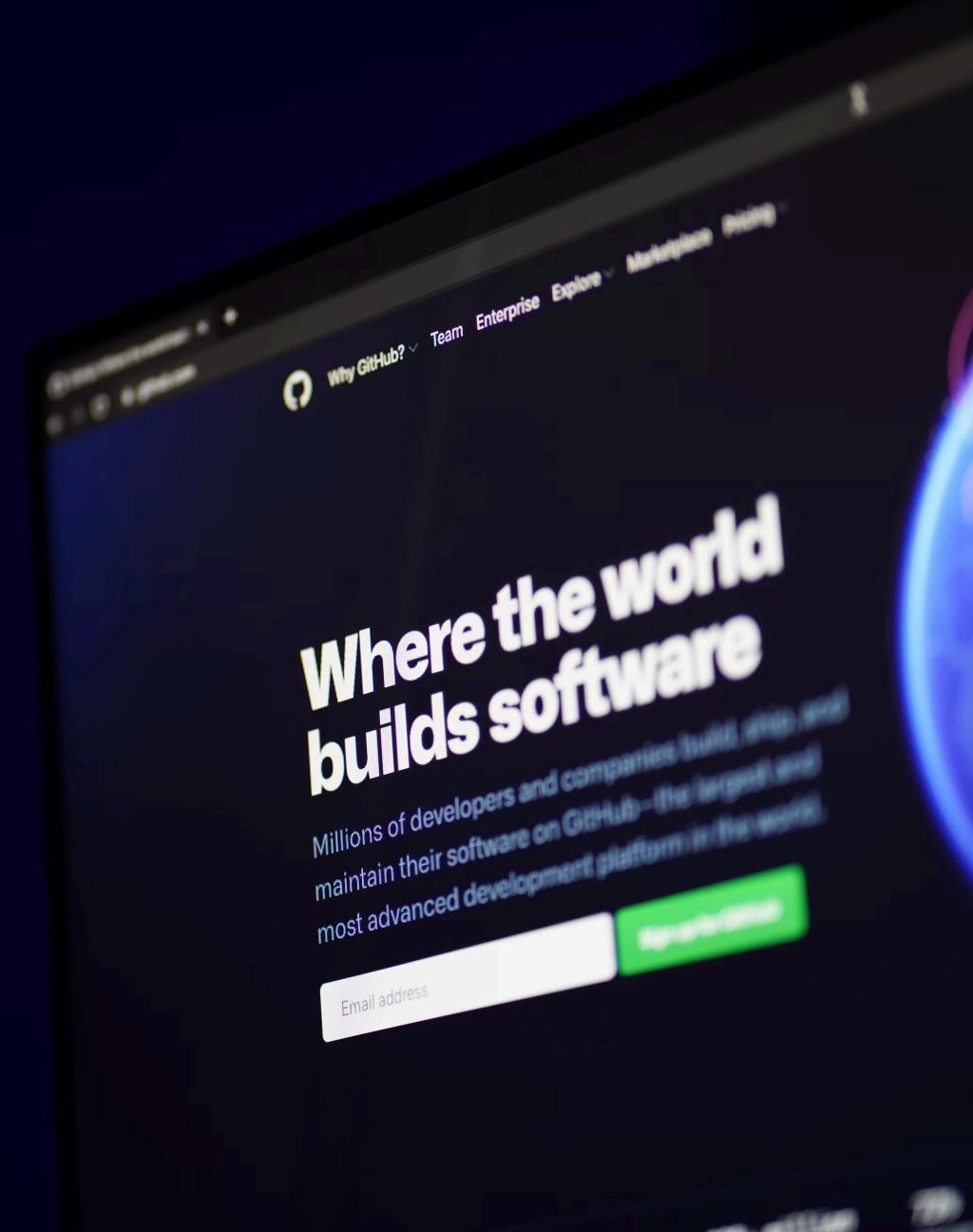
**GitHub:** Hosting service for Git repositories.

**GitHub Desktop:** A GUI for using Git commands.



# Creating a GitHub Account

1. Go to [github.com](https://github.com) and click on "Sign up" in the top-right.
2. Follow the instructions to create an account.
3. Verify your email address with GitHub.
4. Configure 2FA.



# Creating a Repo

1. Open GitHub Desktop.
2. In the top-menu go to File and then click "New repository...".
3. Give the repository a name and a description.
4. Set a local path for the repository.

# Creating a Text File

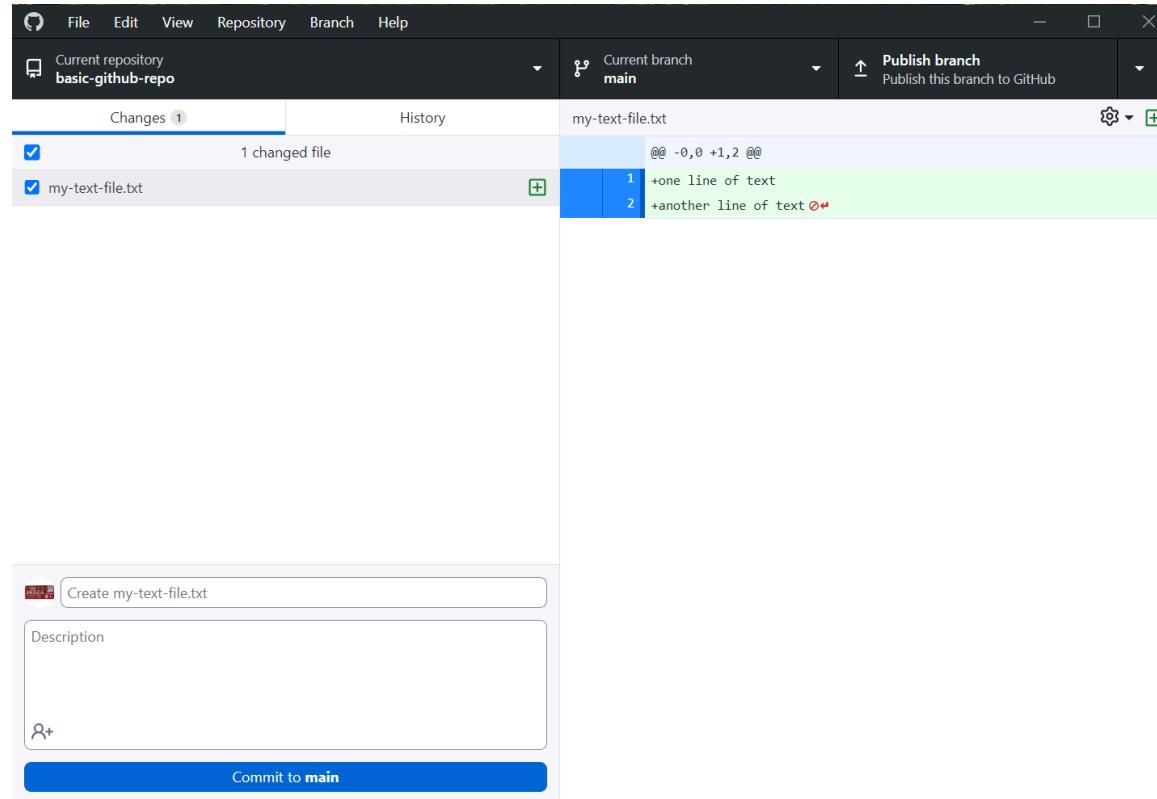
Now let's create a simple text file and add two lines of text to it. This will cause a change to appear in GitHub Desktop.

# Mac Users

```
echo "blah blah blah" >> a-text-file  
echo "blah blah blah" >> a-text-file
```

Hint: Press the up-arrow to repeat your previous terminal command.

# Changes Tab



The Changes tab shows us what has changed in our files since the most recent commit.

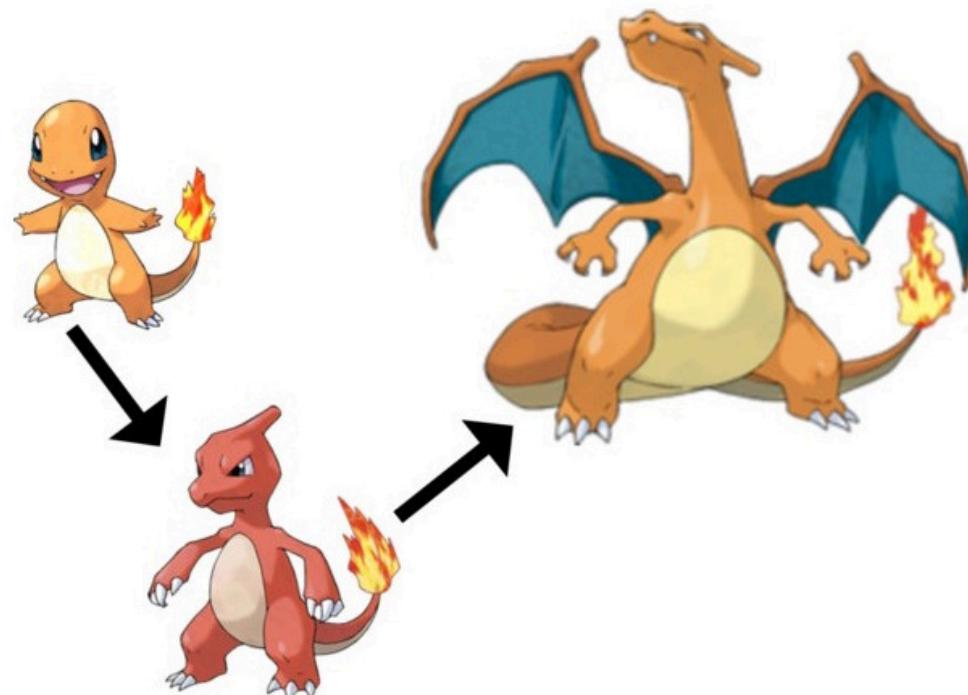
# Staging and Committing Files

Once we've made some changes that we want to record, we can make a *commit*.

1. Tick the checkbox next to the file you want to include in the next commit. This *stages* the file.
2. Give the commit a message. This should describe the changes that you have made to the file(s). You can also provide an optional description.
3. Click the blue Commit button. This will now create a new "snapshot" of our repository.

# History

Take a look at the History tab. You can now see your commit with its message. The right hand pane will show us what was changed in this commit.



## Changing / Removing Lines

Now change the *first* line of your text file and see what happens in the Changes tab.



## Resetting a Change

- You might change a file, then realise that this isn't actually a change you wanted.
- If you haven't committed yet then you can correct this by *resetting* the file.
- In GitHub Desktop this is done by right clicking the file in the Changes tab and clicking on "Discard changes..."
- This will take the file back to the state it was in in the most recent

# Amending Commits

- Sometimes we make a slight typo in our commit messages or realise it's missing something that it ought to say.
- In this case, you'd *amend* your commit.
- In GitHub Desktop this is done by right clicking the commit in the History tab and then changing your commit message.
- Ideally you want to do this *before* pushing the code to GitHub. (I will talk about pushing code in a bit...)

## So how often to commit?

- When it *feels right*...
- When you've done a 10-15 minute "chunk" of work.
- When you have something that may doesn't fully solve the problem you're working on, but is at least a "complete" step towards solving that problem.

Smaller commits make it easier to isolate problems.

# Publishing a Repo

- Publishing allows us to have a copy of the repo on GitHub.
- You can hit the publish button to do this.
- Now take a look at your GitHub profile and see the repository that's been added.

# Cloning

- Make a local copy of a remote repository.
- Transfer code you've written from one machine to another.
- Retrieve code from someone else that's available on GitHub.



# Ignoring Files

- A `.gitignore` file lets Git know that you don't want a certain file to be tracked with version control.
- In GitHub Desktop we can right click a file and add it to `.gitignore`.
- It will no longer appear in the Changes tab unless it's removed from `.gitignore`.
- The `.gitignore` file is also something you will want to track with version control.

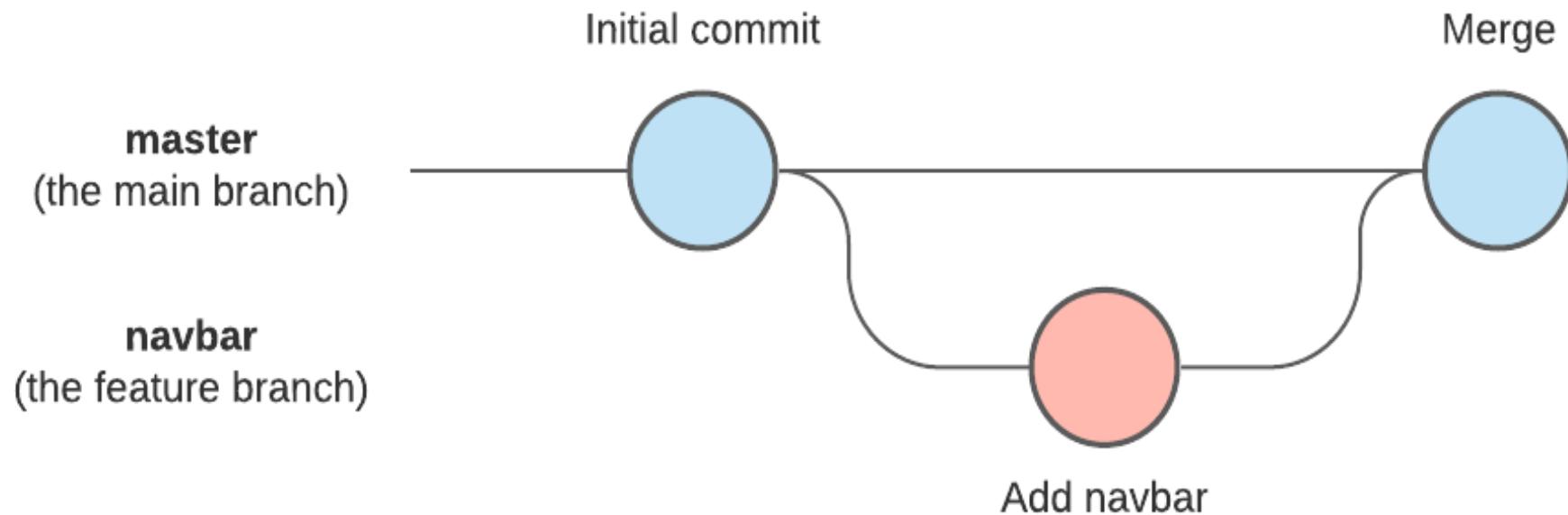
# Ignoring Files

Here's one example of why it would be useful to ignore a file...

<https://github.com/search?q=api+key+removing&type=commits&s=&o=desc>

# Branching

- Allows you to create an "offshoot" of your repository.
- Keep the working code "safe" while you attempt to add a new feature to it.



# Overview

- You make a change to a file and *stage* it in GitHub Desktop.
- You then *commit* the changes, which creates a snapshot of your repository.
- You can then *push* these changes to GitHub so that the code is on your GitHub account.
- By using *branches* you can manage multiple different versions of your code.
- With *cloning* to you get code made by others from GitHub and use it too.

# Finding Code on GitHub

- Topics: <https://github.com/topics/machine-learning>
- Searching by language: <https://github.com/search?q=generative+language%3AProcessing&type=repositories&l=Processing>
- Looking at your feed

## Extra: Cool Git Stuff



## lazygit

- A terminal UI for using Git.
- Nice if you're a touch-typer.
- Other alternatives to GitHub Desktop: GitKraken, `gitui` , VSCode intergration...

## The magic of `bisect`

`git bisect` is actually overpowered...

<https://www.youtube.com/watch?v=capyZ2D9Yz0>

## Keeping code tidy with `pre-commit`

- `pre-commit` is a tool that ensures certain checks on your file pass before a commit is accepted.
- This could be a linting tool.

# Keeping track of documents with Git

## Example.tex

```
\documentclass{article}
\usepackage[utf8]{inputenc}

\title{LaTeX example}
\author{Philippe Fournier-Viger}
\date{February 2017}

\begin{document}

\maketitle

\section{Introduction}
This is my introduction

\section{Conclusion}
This is the conclusion

\end{document}
```

LaTeX  
→

## Example.pdf

LaTeX example  
Philippe Fournier-Viger  
February 2017

1 Introduction  
This is my introduction

2 Conclusion  
This is the conclusion

LaTeX is comfy.

	<b>Author</b>	<b>Commit</b>	<b>Message</b>	<b>Date</b>
•	 ucabdak	<a href="#">55130c8</a>	losing my sanity	2018-08-16
•	 ucabdak	<a href="#">b4820bd</a>	fucccccckkkkkkkkkkkk	2018-08-16
•	 ucabdak	<a href="#">88399e2</a>	fuck	2018-08-16
•	 ucabdak	<a href="#">6a569b7</a>	fixing things up	2018-08-16
•	 ucabdak	<a href="#">ec8f960</a>	lit review okay I guess	2018-08-16
•	 ucabdak	<a href="#">c3408cc</a>	leveled up report	2018-08-16
•	 ucabdak	<a href="#">9241d2c</a>	geez	2018-08-16
•	 ucabdak	<a href="#">f01cac4</a>	More for lit review	2018-08-15
•	 ucabdak	<a href="#">a11a831</a>	exact plot consistency	2018-08-15
•	 ucabdak	<a href="#">2be4146</a>	recipes reference	2018-08-15

# Other CTH Workshops

# Physical Computing

- Beginner Physical Computing (Arduino)
- Interactive Graphics with Physical Computing (Arduino & Processing)





# Creative Coding

- Interactive Web with Javascript
- Generative Design with JavaScript

Image nicked from [here](#).

# Projection Mapping & Touchdesigner

- Introduction to Touchdesigner
- Projection Mapping with Touchdesigner





# Game Development / VR / AR

- Intro to Game Environment Design with Unreal Engine
- Building Augmented Reality (AR) for Headsets

## My Other Ones...

- Python For Beginners
- Generative AI with Python



Creative Technology Lab: [github.com/creativetechologylab](https://github.com/creativetechologylab)

Feedback Form: <https://bit.ly/4aaagP4>

Please give me your names for attendance!