

Intro to Github

Primer on version control & collaborative coding





What is Github?

Why Github?

1. Version control

1. Multiple versions can co-exist

2. Track changes

3. Escape pod

2. Social coding 🎉🕺💃

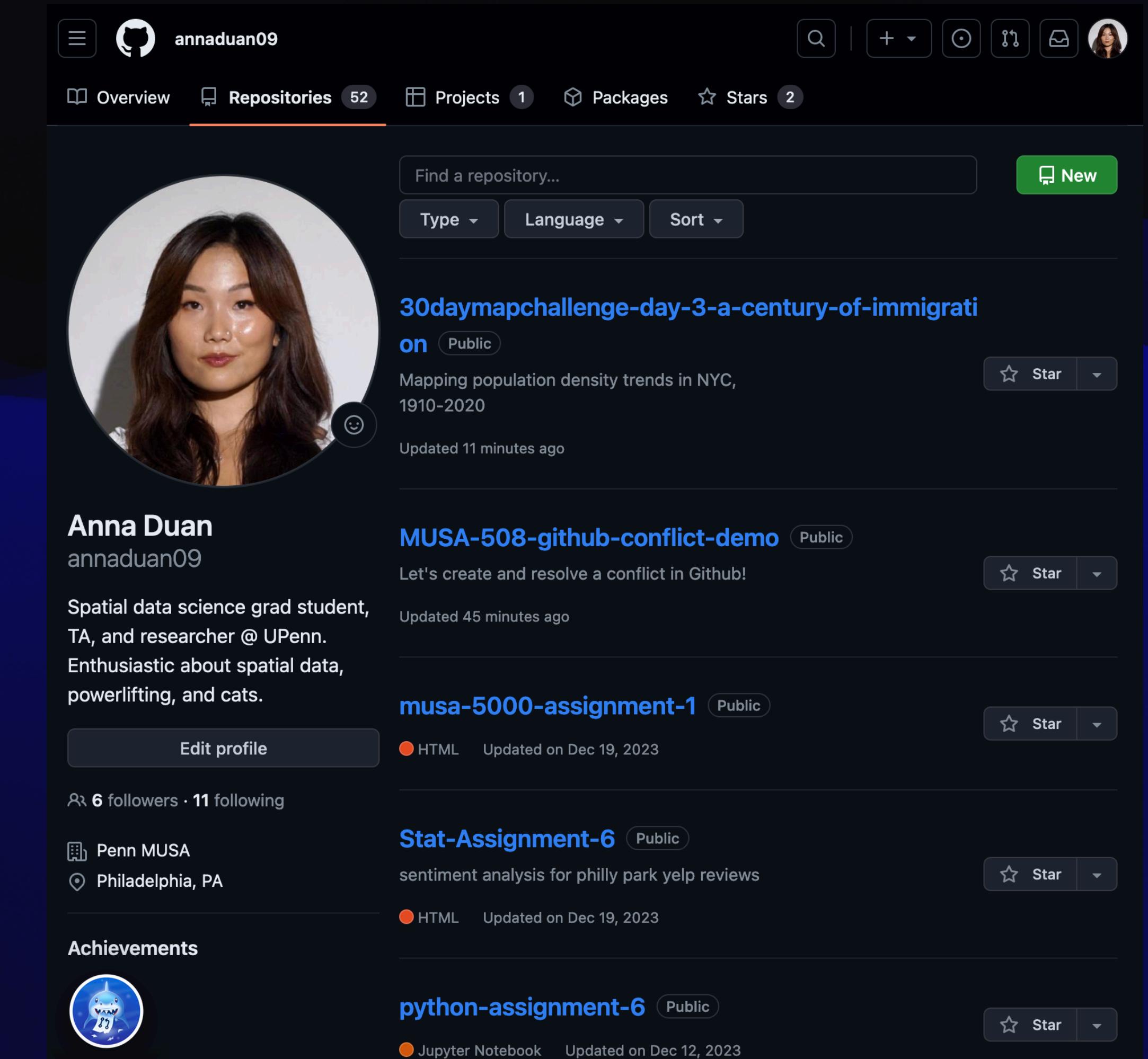
3. Minimize clutter

What you want to **avoid**:

- Tree-Canopy-Loss.Rmd
- TreeCanopyLoss.Rmd
- TreeCanopyLoss.html
- TreeCanopyLoss.md
- TreeCoverage
- Tree_Canopy_Loss.Rmd
- Tree_Canopy_Loss.html
- Tree_Canopy_Loss.md

Key terms & verbs

- **Repo(sitory)**: place for code, data, and version history
- **Commit/Push**: commit to GitHub desktop + upload to cloud
- **Fork**: duplicate somebody else's repo to your Github
- **Clone**: copy a repo to your machine
- **Conflict**: changes to two branches cannot be automatically resolved (**pain**)



How it works (roughly)

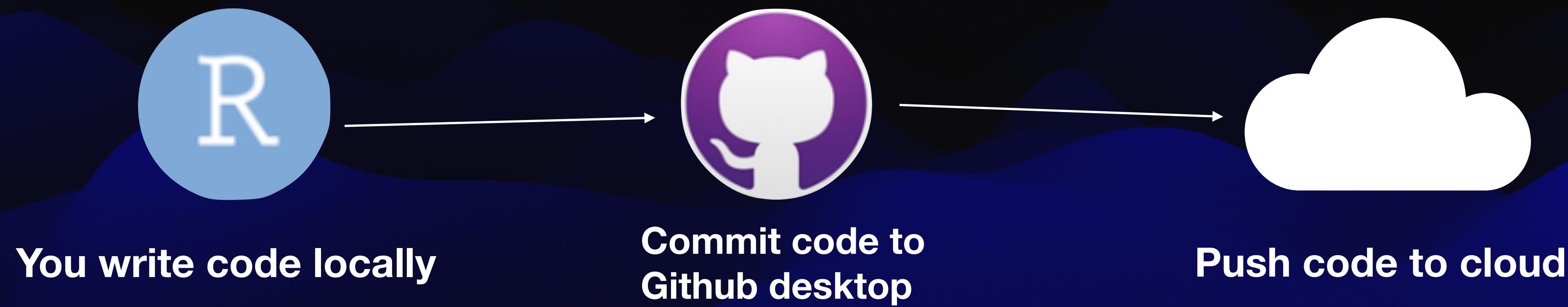


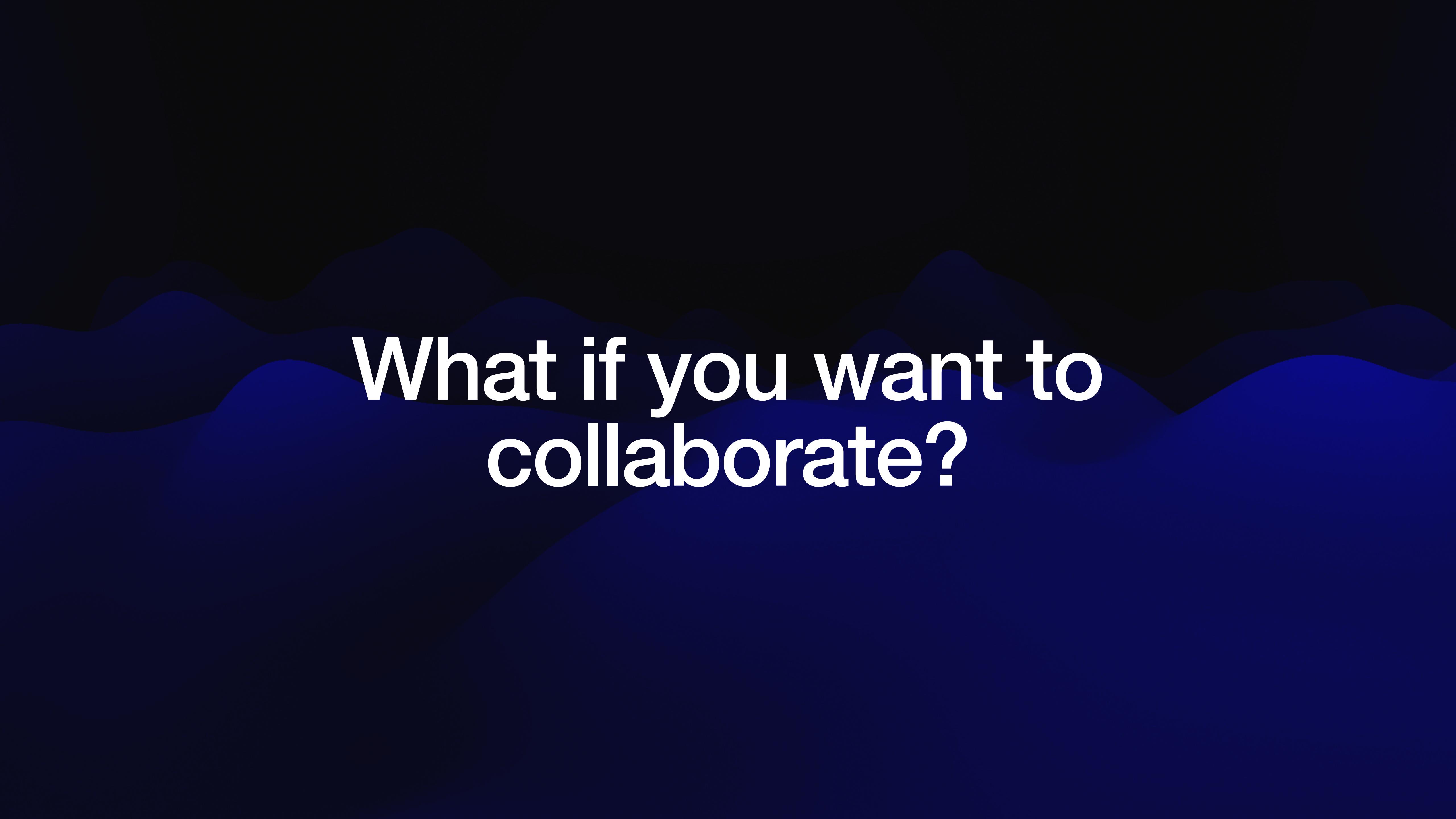
You write code locally

How it works (roughly)



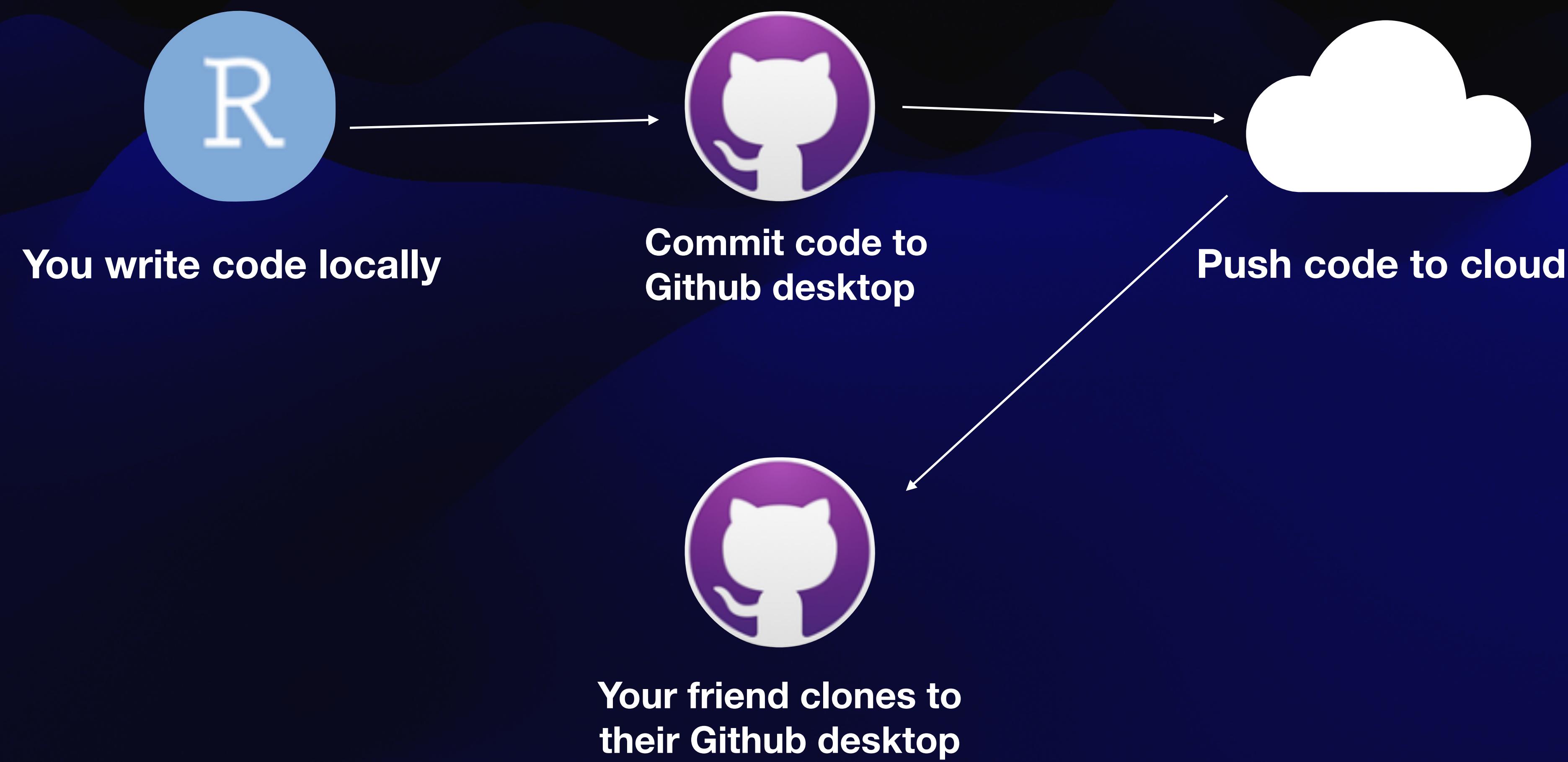
How it works (roughly)



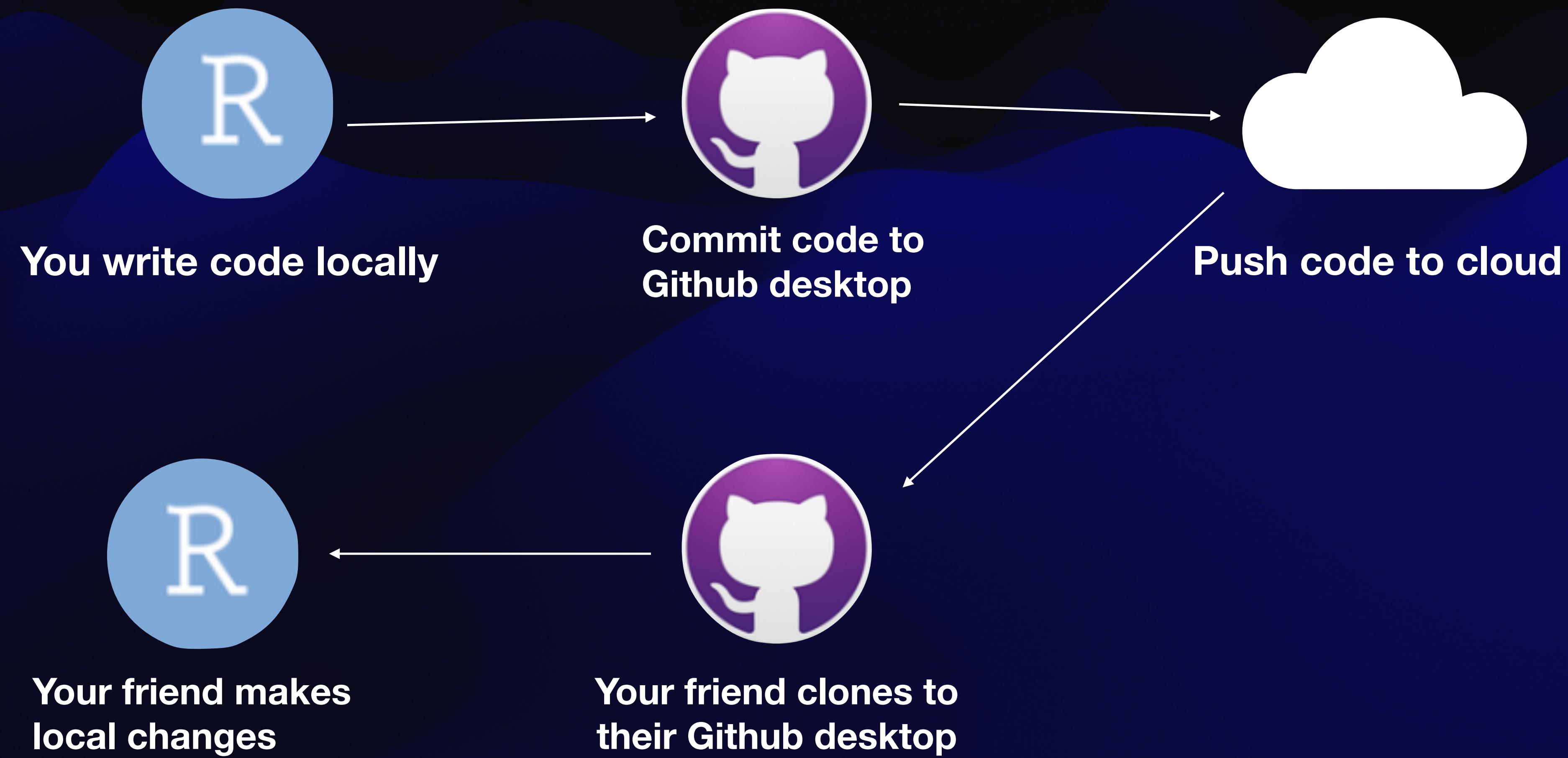


What if you want to
collaborate?

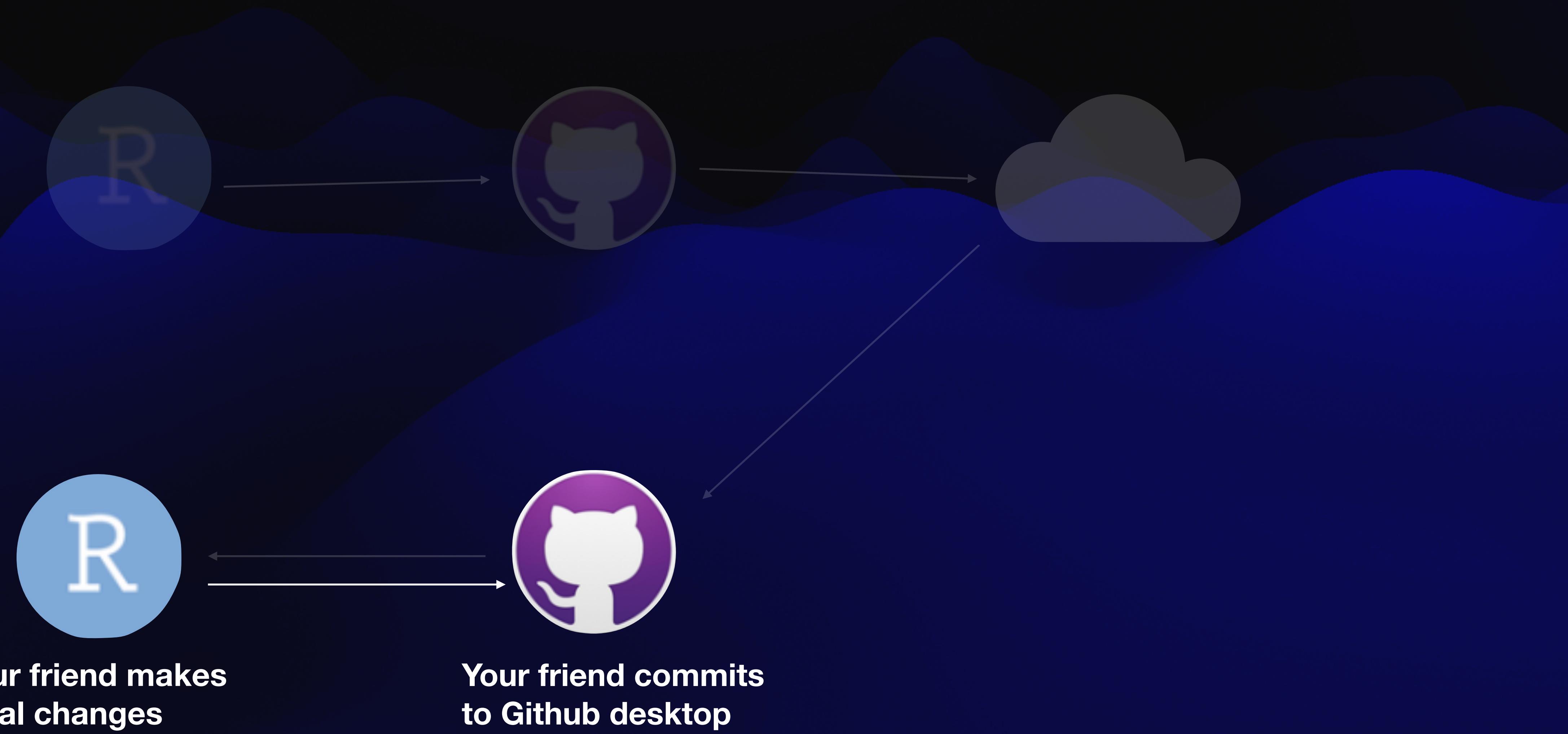
Github collaboration



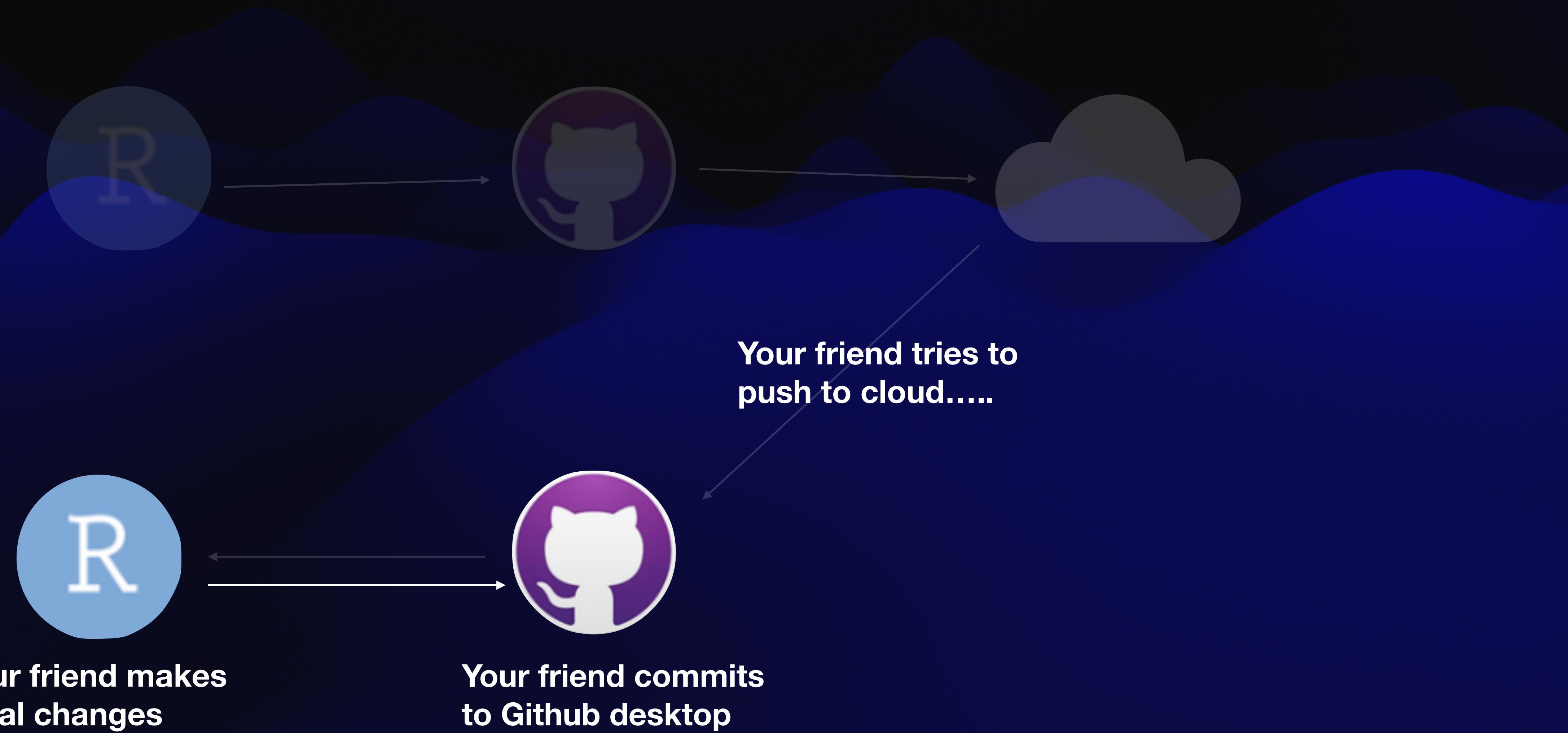
Github collaboration



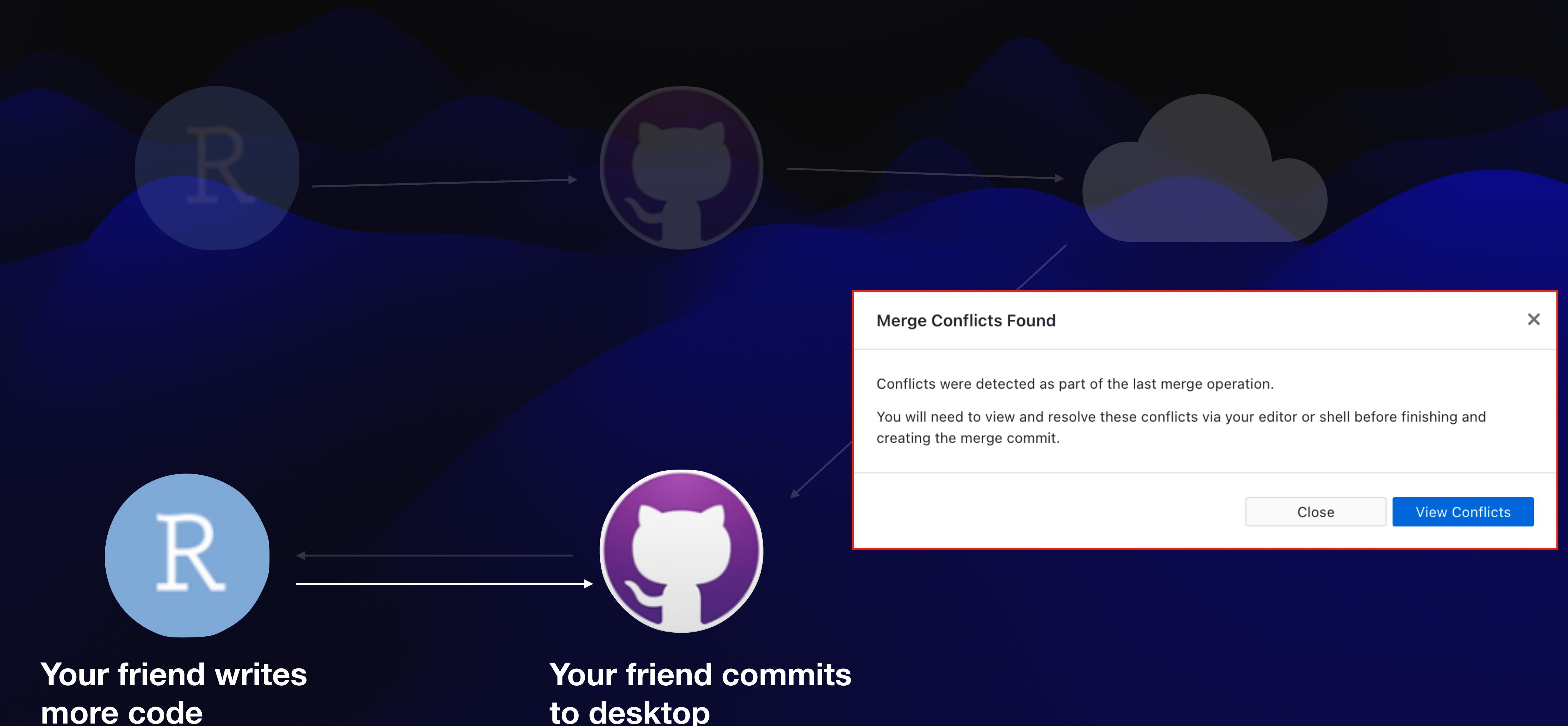
Github collaboration

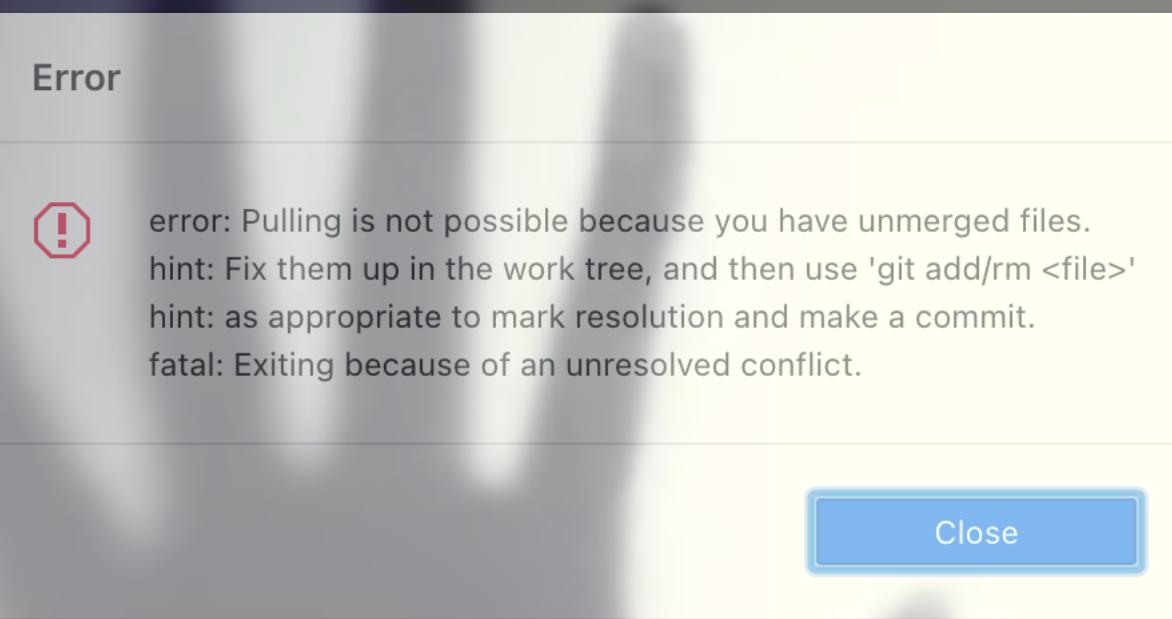


Github collaboration



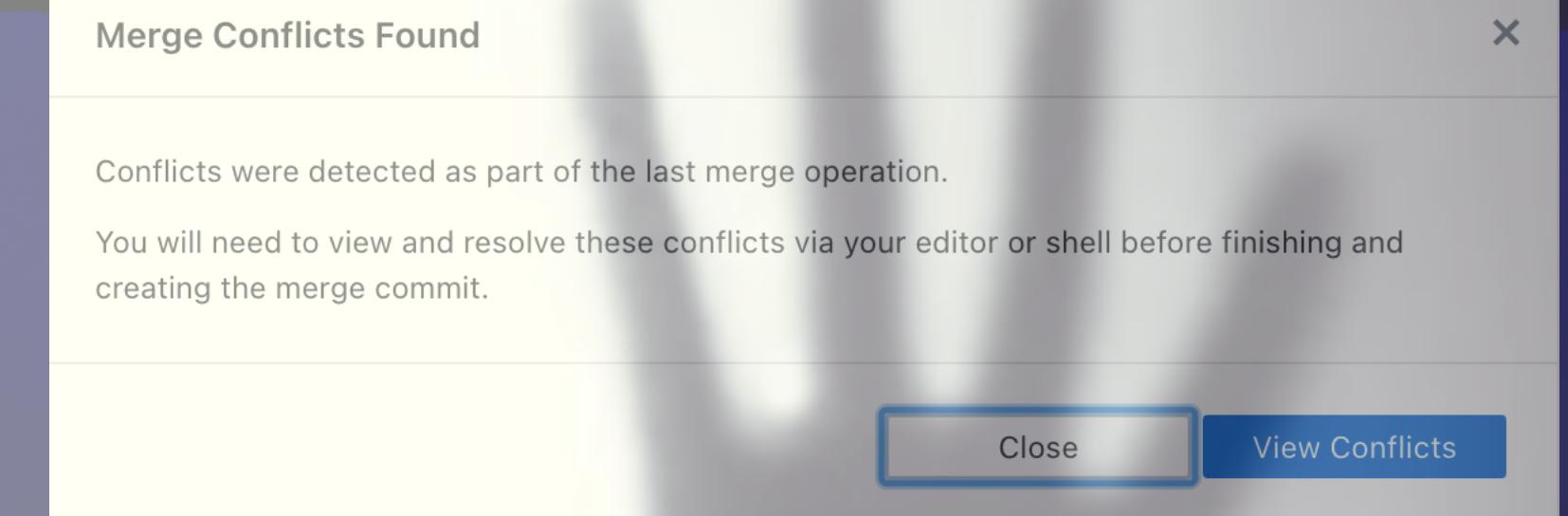
MERGE CONFLICTS FOUND



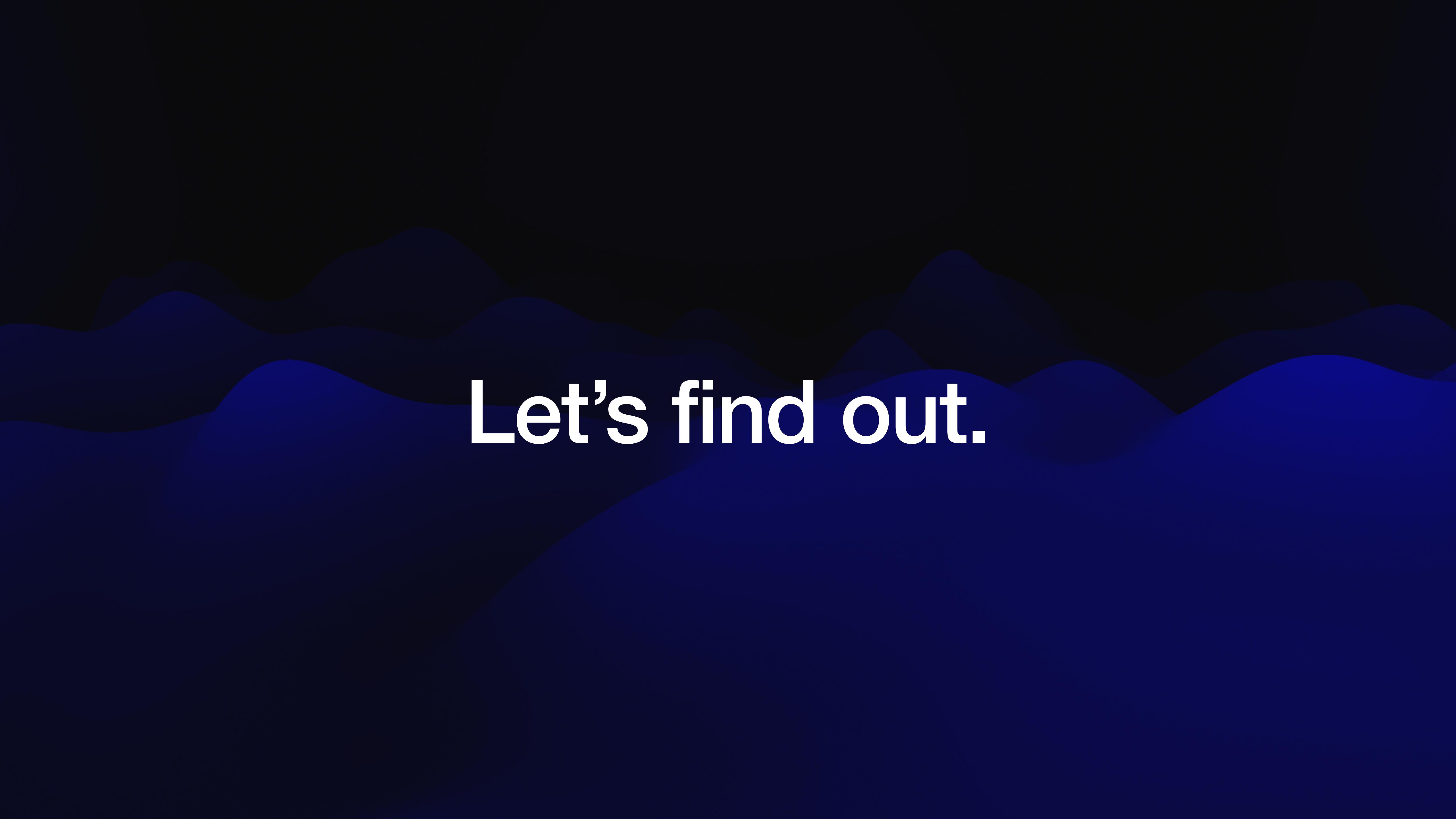


```
8 ````{r setup, include=FALSE}  
9 knitr::opts_chunk$set(echo = TRUE)  
10  
✖ 11 <<<<< HEAD  
✖ 12 =====  
13 library(sf)  
14 library(tidyverse)  
15 #library(mapview)  
16 library(pander)  
✖ 17 >>>>> 9251801d6ec76f4fe41e2f6a95086b5a7b241f4a  
18 library(ggplot)  
19 ````
```

What now??



```
@@ -8,5 +8,12 @@ output: html_document  
 8     8 ````{r setup, include=FALSE}  
 9     9 knitr::opts_chunk$set(echo = TRUE)  
10    10  
11 +<<<<< HEAD  
12 +=====  
13 +library(sf)  
14 +library(tidyverse)  
15 +#library(mapview)  
16 +library(pander)  
17 +>>>>> 9251801d6ec76f4fe41e2f6a95086b5a7b241f4a  
18 library(ggplot)  
19 ````
```

The background features a dark navy blue gradient with three distinct wavy layers. The top layer is a solid dark blue. Below it is a layer with a medium-dark blue gradient, and the bottom layer is a bright medium blue. These waves create a sense of depth and motion.

Let's find out.

Instructions

Fork repo here:

<https://github.com/annaduan09/Github-conflict-demo>

Then follow README instructions.

DO

- **READMEs:** explain repo contents and project background
- **Git ignore file:** don't commit irrelevant files
- Commit (and pull) **often**
- Include brief **summaries** of each commit - what changed?
- Organize your repo! data, data processing, analysis, and outputs folders are a good start



DON'T

- Commit files >100MB
- Use unprofessional commit messages (ask me about this later)
- Include API keys, sensitive data in commits
- Ignore conflicts

