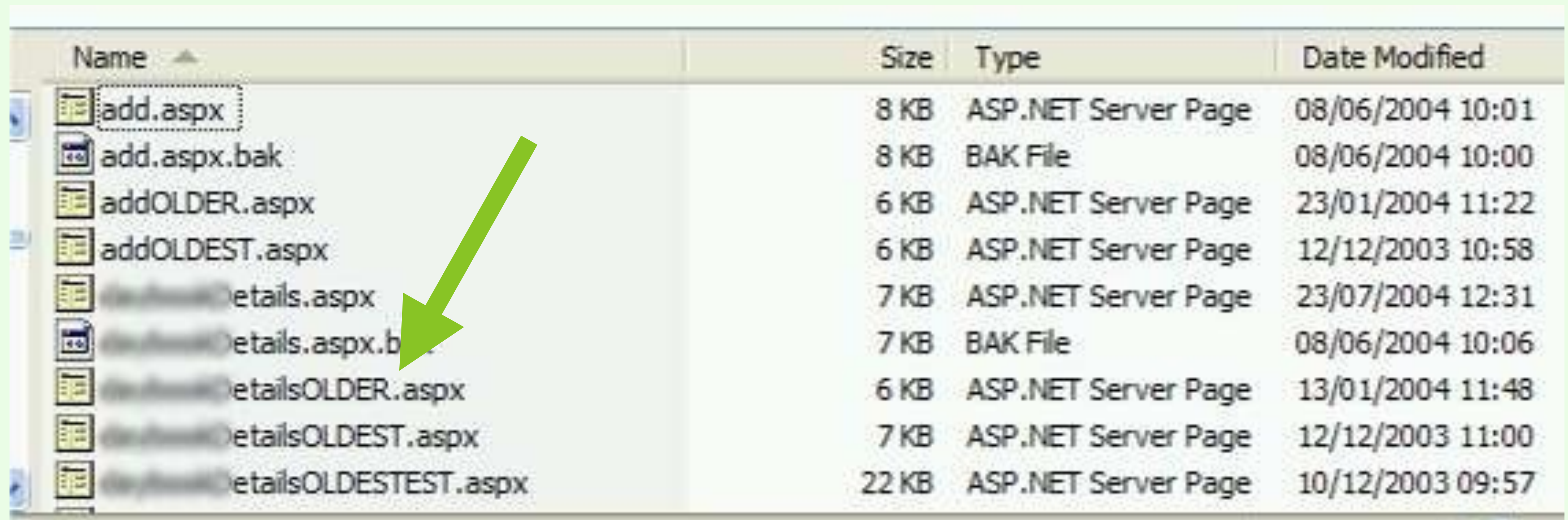


git --for-hackathons

A Fast Introduction to Version Control

Who's done this before?







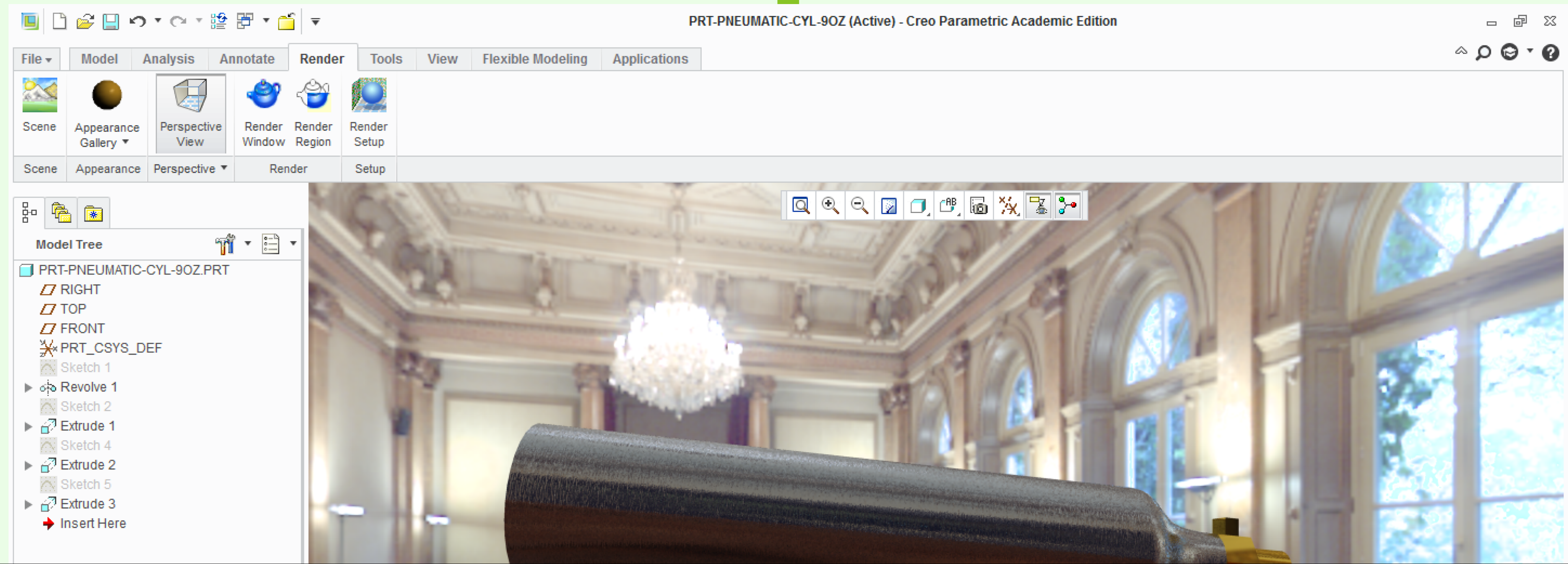
A screenshot of a file explorer window showing a list of files. The files are listed in a table with columns for Name, Size, Type, and Date Modified. A green arrow points to the file 'addOLDESTEST.aspx.bak'.

Name	Size	Type	Date Modified
add.aspx	8 KB	ASP.NET Server Page	08/06/2004 10:01
add.aspx.bak	8 KB	BAK File	08/06/2004 10:00
addOLDER.aspx	6 KB	ASP.NET Server Page	23/01/2004 11:22
addOLDEST.aspx	6 KB	ASP.NET Server Page	12/12/2003 10:58
addOLDESTEST.aspx	7 KB	ASP.NET Server Page	23/07/2004 12:31
addOLDESTEST.aspx.bak	7 KB	BAK File	08/06/2004 10:06
addOLDESTESTOLDER.aspx	6 KB	ASP.NET Server Page	13/01/2004 11:48
addOLDESTESTOLDEST.aspx	7 KB	ASP.NET Server Page	12/12/2003 11:00
addOLDESTESTOLDESTEST.aspx	22 KB	ASP.NET Server Page	10/12/2003 09:57

http://thedailywtf.com/Comments/The_Best-est_Version_Control.aspx

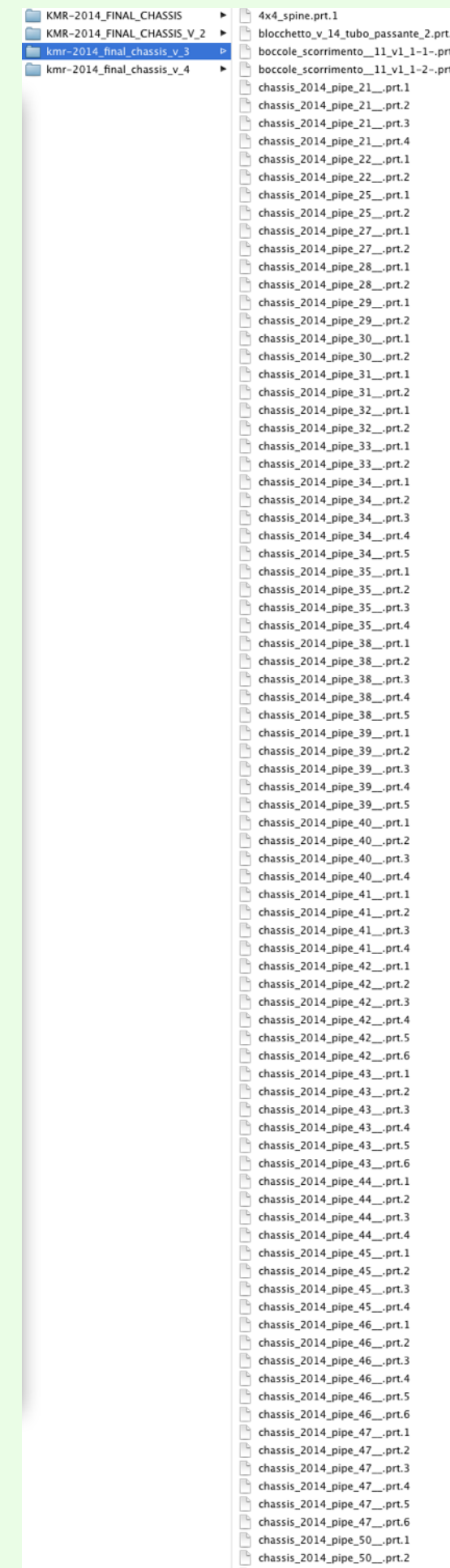
\$\$\$ software does this!

 prt-pneumatic-cyl-9oz.prt.4	15 Feb 2014, 2:24 AM	409 KB
 prt-pneumatic-cyl-9oz.prt.3	15 Feb 2014, 2:09 AM	178 KB
 prt-pneumatic-cyl-9oz.prt.2	15 Feb 2014, 1:21 AM	167 KB
 prt-pneumatic-cyl-9oz.prt.1	15 Feb 2014, 1:03 AM	107 KB

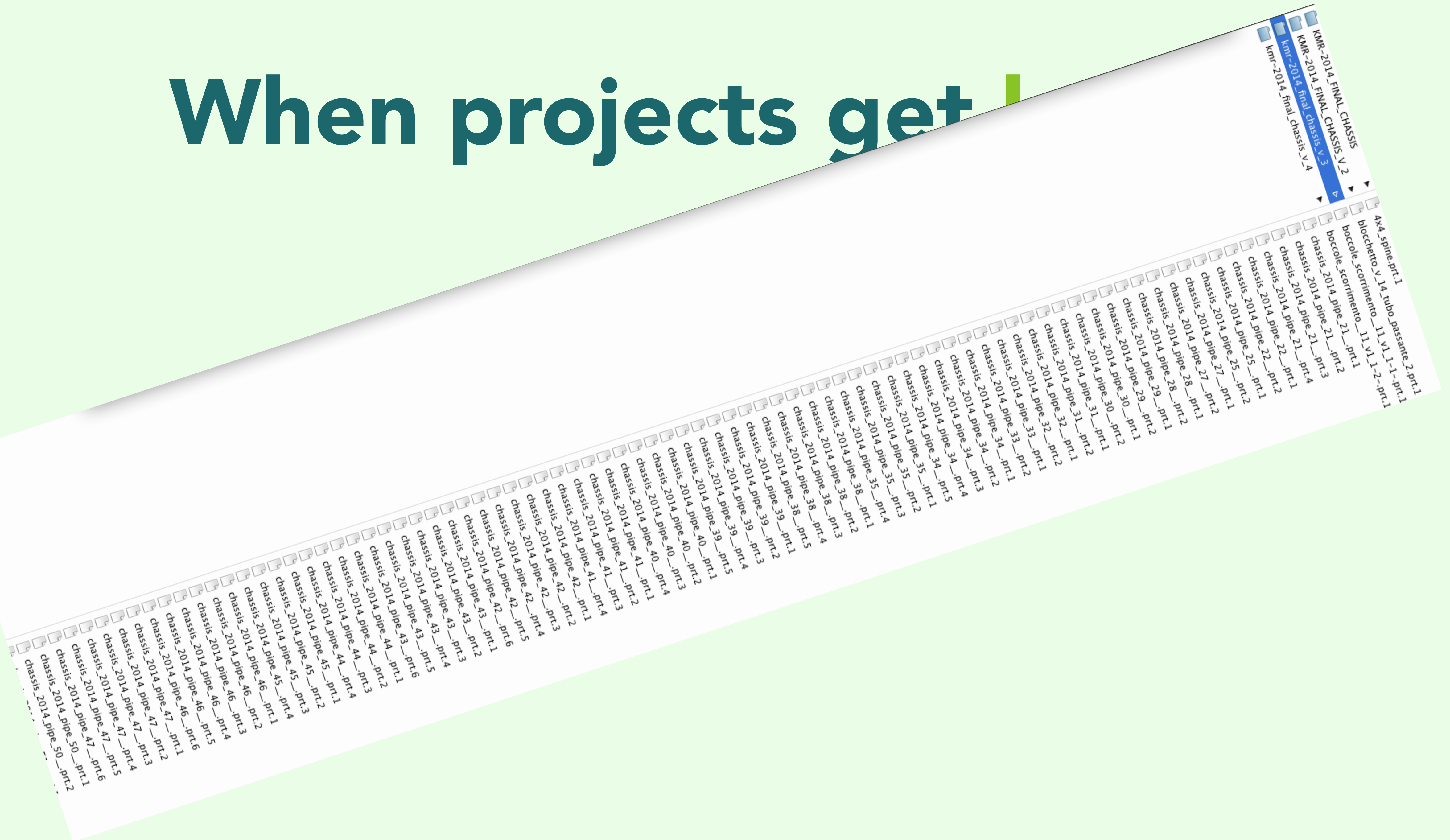


The screenshot shows the Creo Parametric software interface. The title bar reads "PRT-PNEUMATIC-CYL-9OZ (Active) - Creo Parametric Academic Edition". The ribbon includes tabs for File, Model, Analysis, Annotate, Render, Tools, View, Flexible Modeling, and Applications. The Render ribbon is active, showing icons for Scene, Appearance Gallery, Perspective View, Render Window, Render Region, and Render Setup. The Model Tree on the left lists the following features: PRT-PNEUMATIC-CYL-9OZ.PRT, RIGHT, TOP, FRONT, PRT_CSYS_DEF, Sketch 1, Revolve 1, Sketch 2, Extrude 1, Sketch 4, Extrude 2, Sketch 5, Extrude 3, and Insert Here. The main view area displays a rendered 3D model of a dark grey cylinder in a perspective view, set against a background of a grand, ornate hall with a chandelier and large windows.

When projects get huge

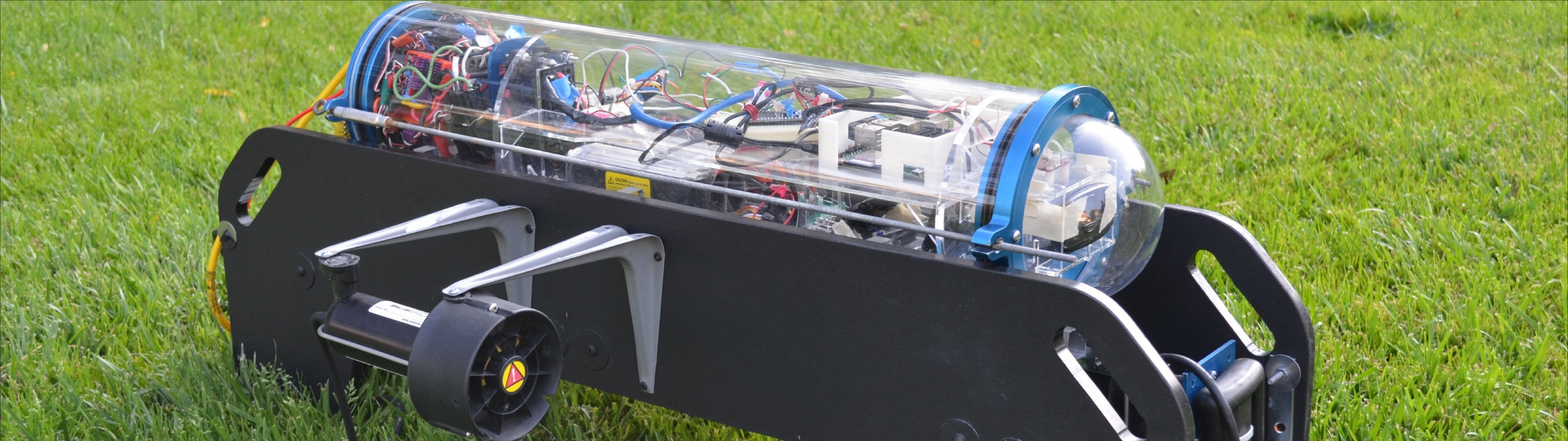


When projects get



**Today, you're going to see a
better way of doing things.**

Kevin Chen
@kevinchen



Git organizes snapshots for you



The Basics

Download Git

OS X

Install Xcode

Windows

Install Cygwin

Linux

Use your package manager

git command options

Set up Git

```
git config --global user.name "Kevin Chen"
```

```
git config --global user.email  
"kevinchen2003@gmail.com"
```

```
git config --core.editor "nano"
```

Repository ("Repo")

A folder where Git is tracking changes

```
cd my_project  
git init
```

Make a new repository

Commit

A **snapshot** of your repository

Commit

You're committing to the changes you made

Steps to Commit

`git status` (Which files changed?)

`git diff` (Which lines of code changed?)

`git add my_program.c` (I want this file in my next commit)

`git add foo.c bar.c` (Super fancy!)

`git commit` (OK, save a snapshot of what I just added)

`git log` (Show me the commit history)

**Commit messages should have
a concise summary.**

Put it in the first line. 70 characters or less.

**Commit messages should have
a detailed explanation.**

Skip a line. Wrap your text at 70 characters.

< 70 characters

Fix a crash when taking pictures on Mondays

The function `determine_photo_folder` calculated the date index for Monday as `-1`, causing the statistics-tracking code to access invalid memory. The app will try to recover lost photos when users update to this version.




???

fuck this project, i hate programming

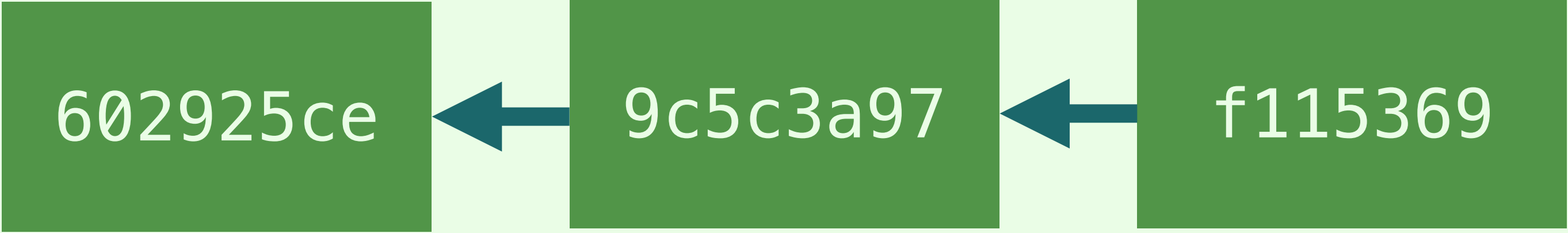


Fix a nasty race condition when analyzing multiple images

 fuck this project, i hate programming



Demo: The Basics



repository ("repo")

A folder where Git is tracking changes

commit

a snapshot

Git as a *safety net*

Reset

You messed something up and you want to go back.

```
git checkout -- my_file.c
```

Revert `my_file.c` to the last commit

```
git reset --hard 61874b3
```

Revert everything to the commit specified by **61874b3**

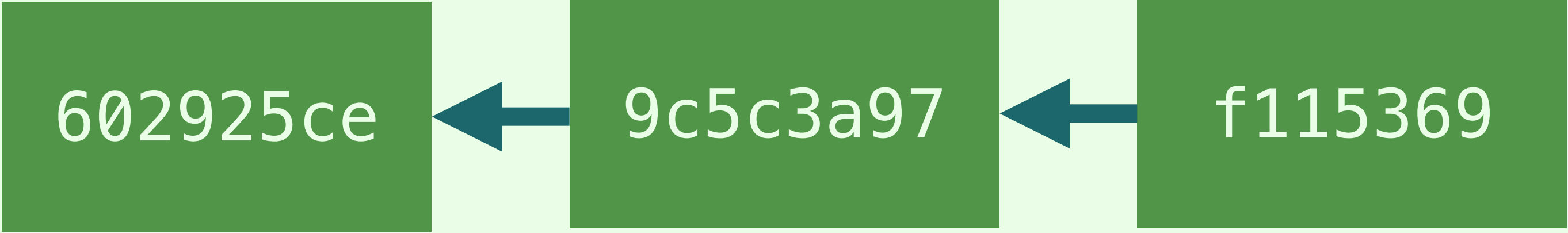
```
git reset --hard
```

Revert everything to the most recent commit

**What if you wanted that code,
but not at that moment?**

Branching

Track **separate versions** of your code



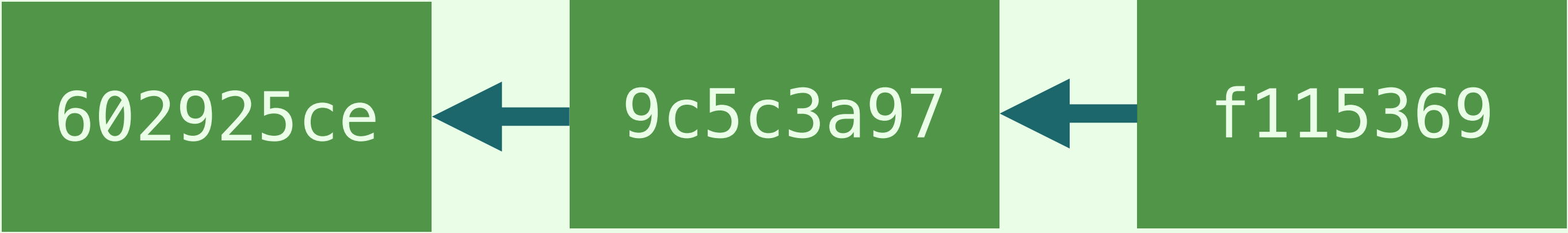
Making a branch

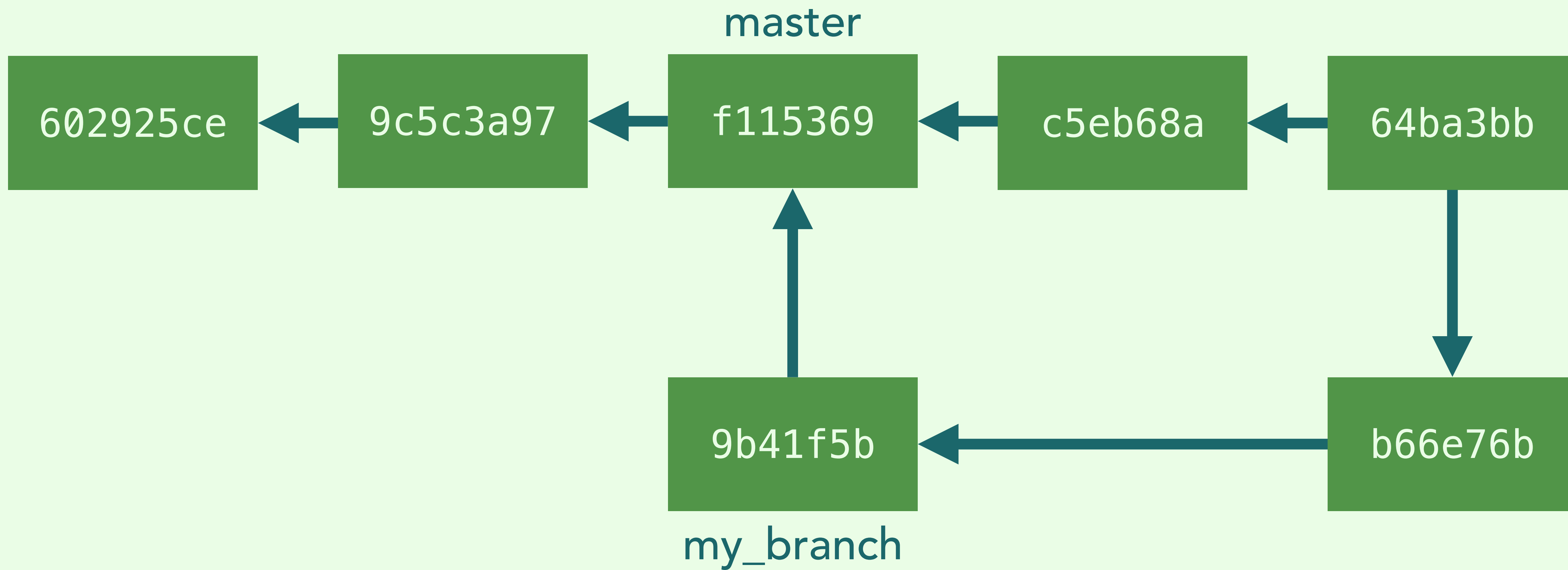
`git branch` (List the branches of the repo)

`git branch branch_name` (Make a branch called **branch_name**)

`git checkout branch_name` (Switch to **branch_name**)

Now you can commit changes to that branch.





Merging a branch

`git checkout destination_br` (Switch to the destination branch)

`git merge other_br` (Merge `other_br` into this branch)

`git branch -D other_br` (Delete `other_br` if you want)

Demo: Git as a safety net

Recap

RECAP

Git helps you **organize snapshots**
of your projects.

RECAP

**These snapshots are called
commits.**

RECAP

If you mess up, you can **always go back** as long as there's been a **commit**.

RECAP

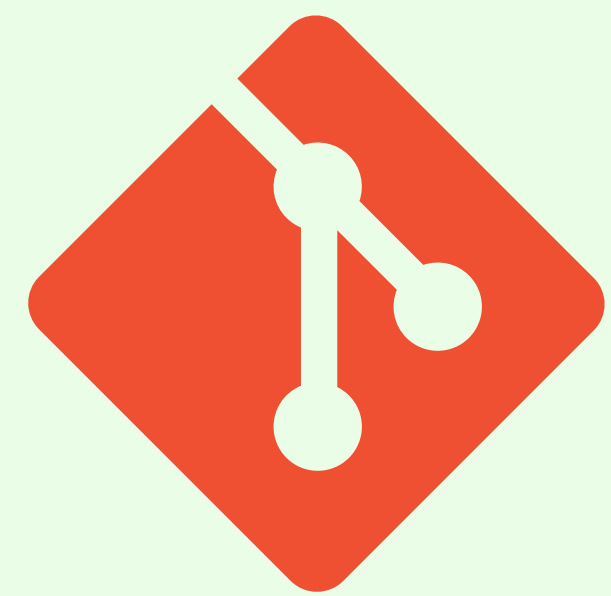
Branches let you try out new ideas without losing access to the version that works.

Additional Resources

gitimmersion.com (interactive tutorial)

git-scm.com (has a ridiculously detailed book on Git)

think-like-a-git.net (more advanced git)



git --for-hackathons

A Fast Introduction to Version Control

Twitter

@kevinchen

Website

kevinchen.co

I'm good at

**C/C++, Java, Git, servers, electronics,
Photoshop**

I'm OK with

Web development, Ruby, Rails