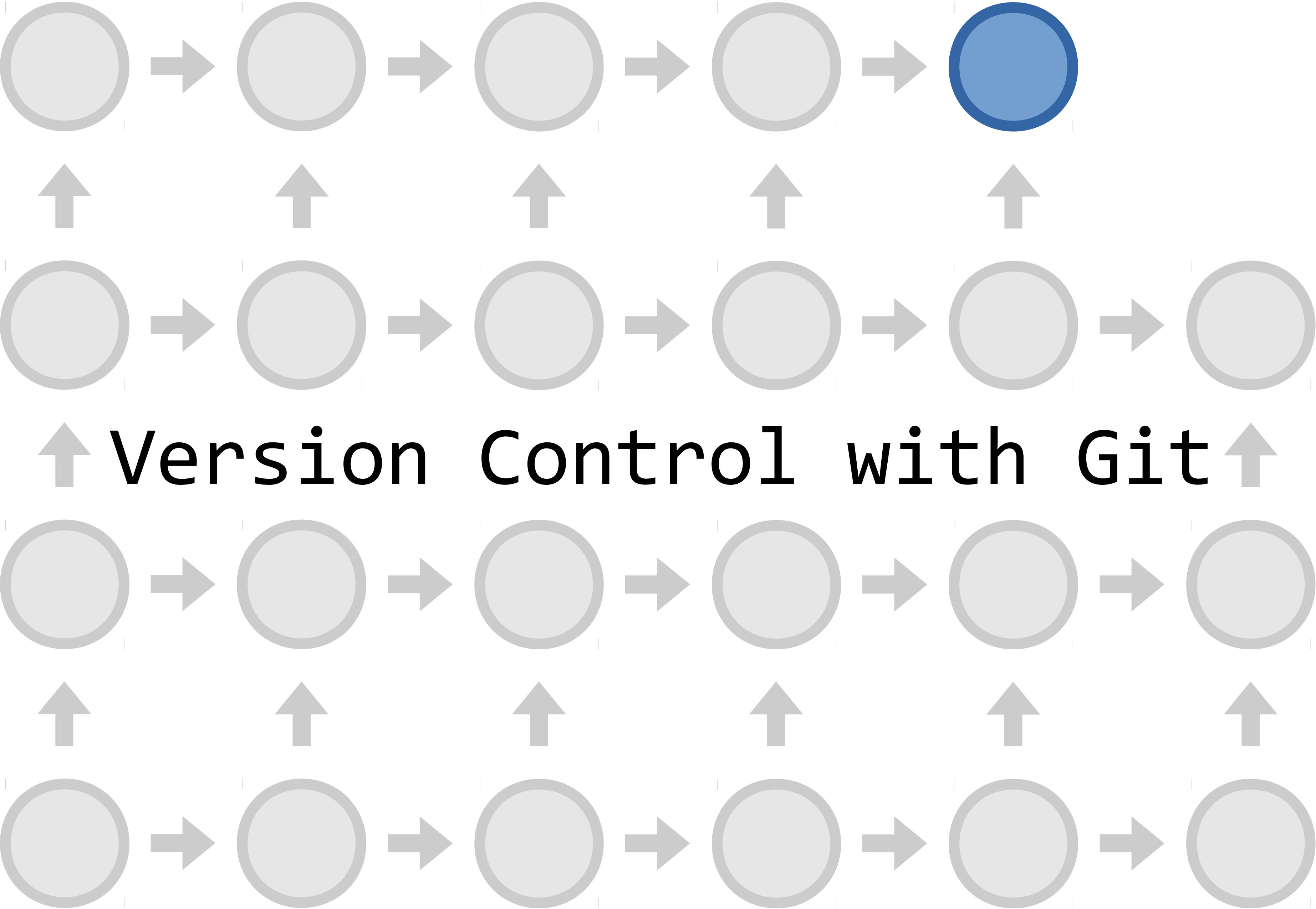
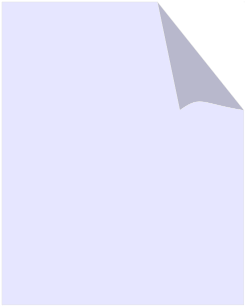


Version Control with Git

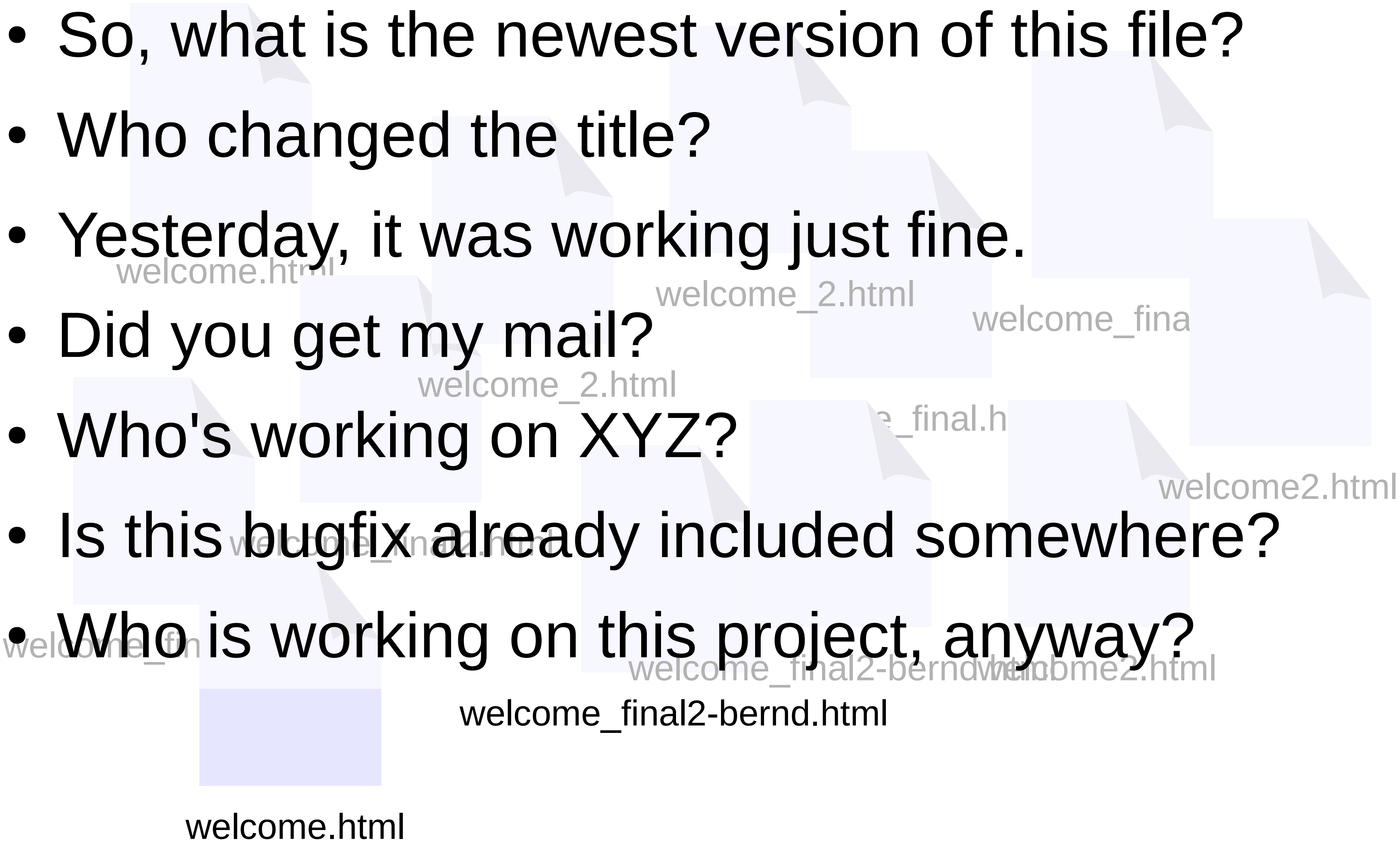
Claudius Coenen

Why Version Control?



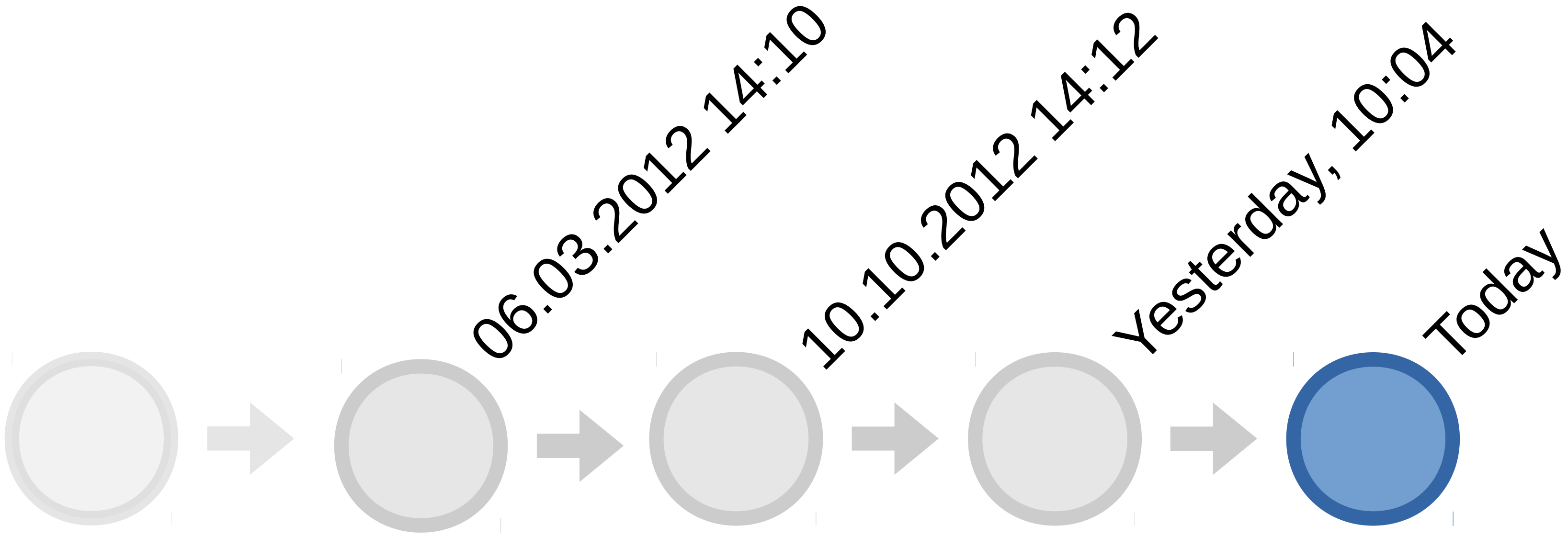
Why Version Control?

- So, what is the newest version of this file?
- Who changed the title?
- Yesterday, it was working just fine.
- Did you get my mail?
- Who's working on XYZ?
- Is this bugfix already included somewhere?
- Who is working on this project, anyway?



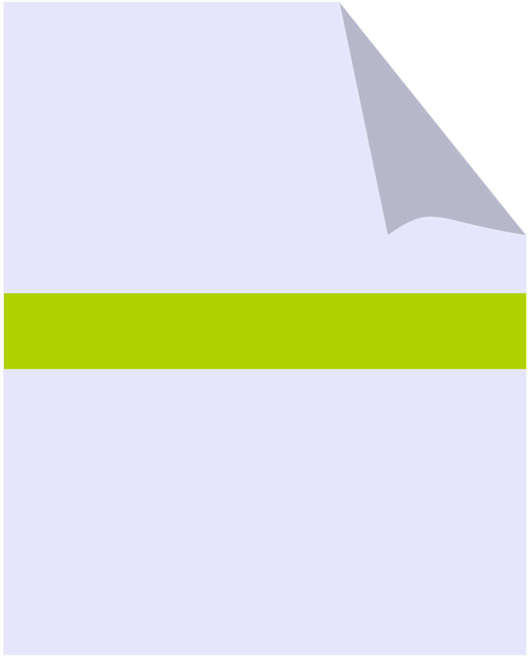
Safe-Keeping of Versions

- When you check something into version control, it will remember this exact version for you
- You can return to a previous version
- You get a fancy timeline of your project

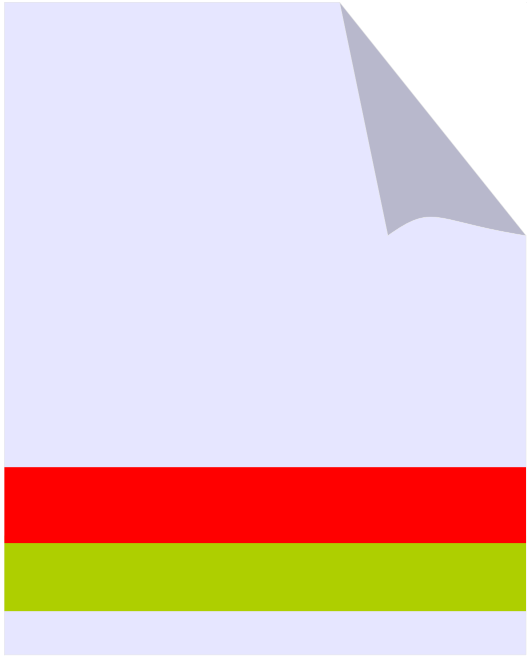


Conflict Resolution

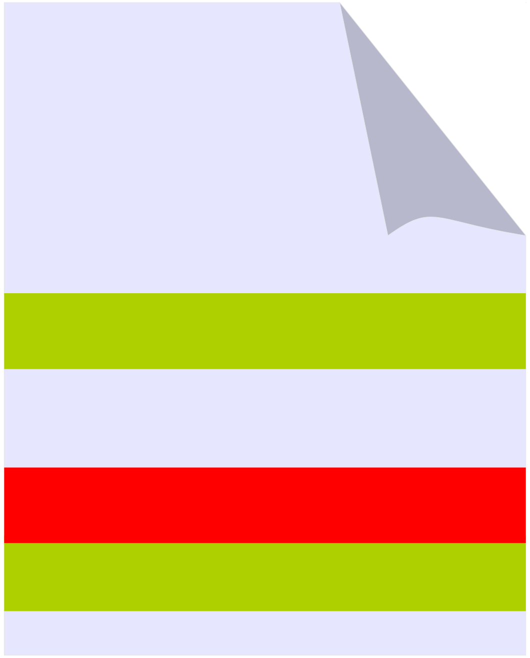
- Files edited by different people can usually be resolved automatically.



welcome.html
(Alice)



welcome.html
(Bob)



welcome.html
(Both changes)

The „Commit“

- An item in the history
- Think of this as a snapshot of your project

Commit-Hash

```
commit f303d887ebf263b466958ca7c83aebb9385936f0
Author: Claudius Coenen <coenen@meso.net>
Date:   Sat Feb 15 02:08:44 2014 +0100
  Ticket #2342: fixing file upload to work with
  animated gif
```

Commit-Message

Full Workflow

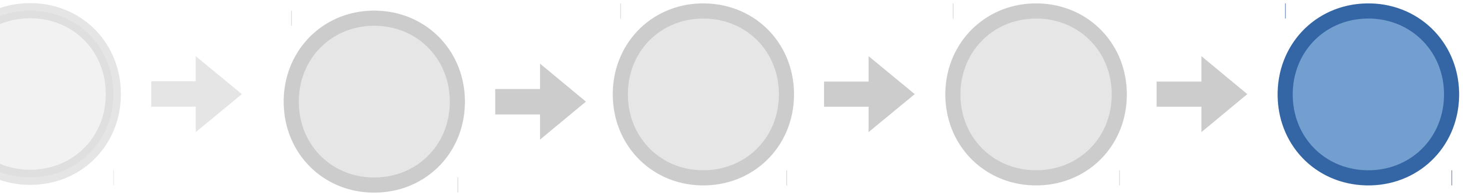
```
git pull
```

- DO STUFF
  change files the way you normally would
- PREPARE
  `git add` the changes, so git knows about them
- COMMIT
  `git commit`, preferably with a nice message

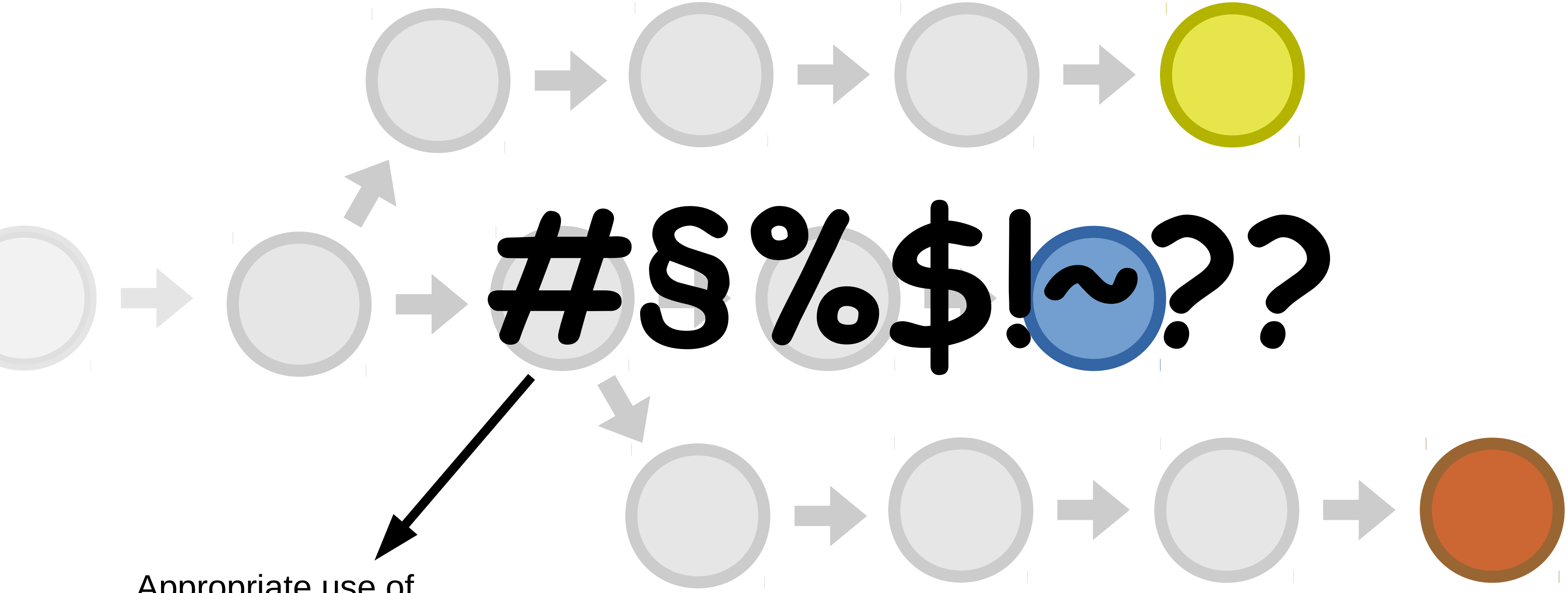
```
git push
```

think: committing to memory
or: committment

Branching/Merging And The History



Branching/Merging
And The History



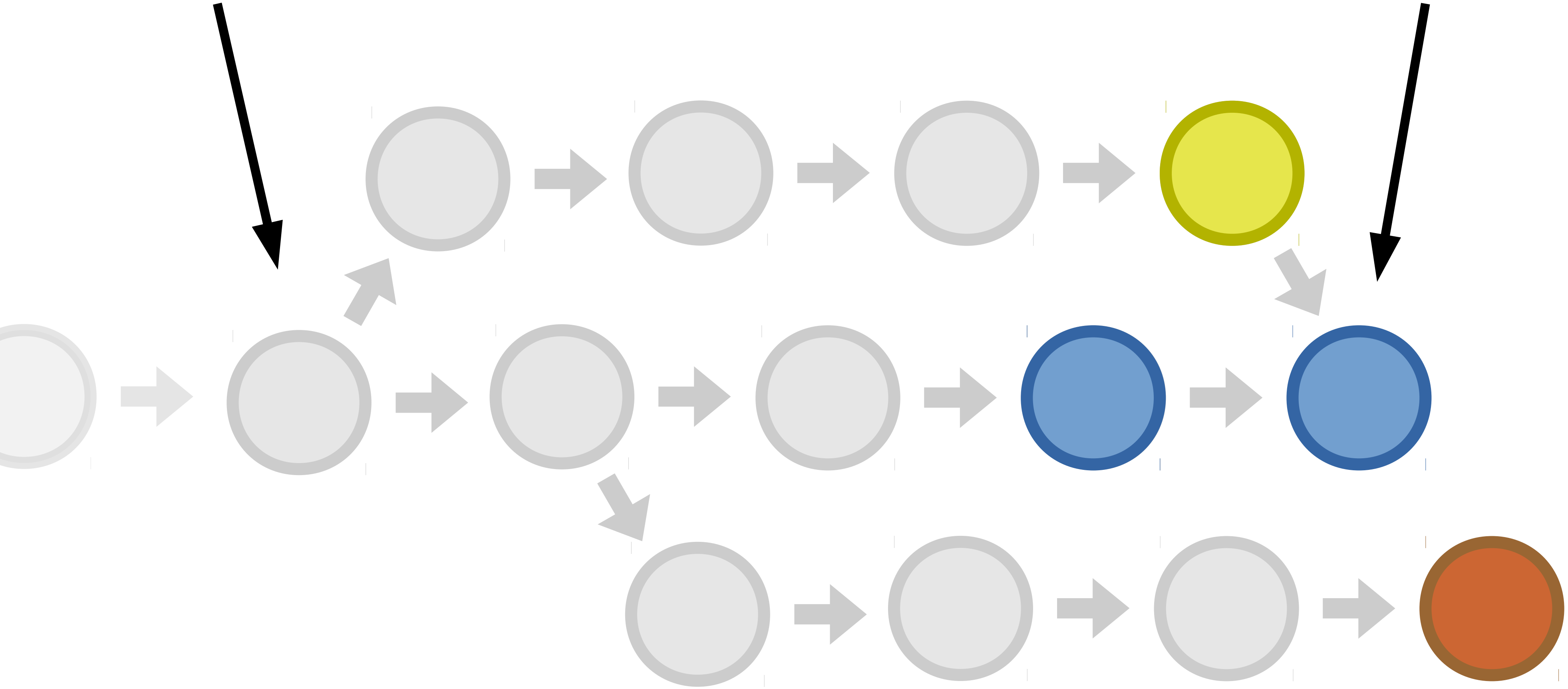
#§%$!~??

Appropriate use of
Comic Sans!

Branching/Merging And The History

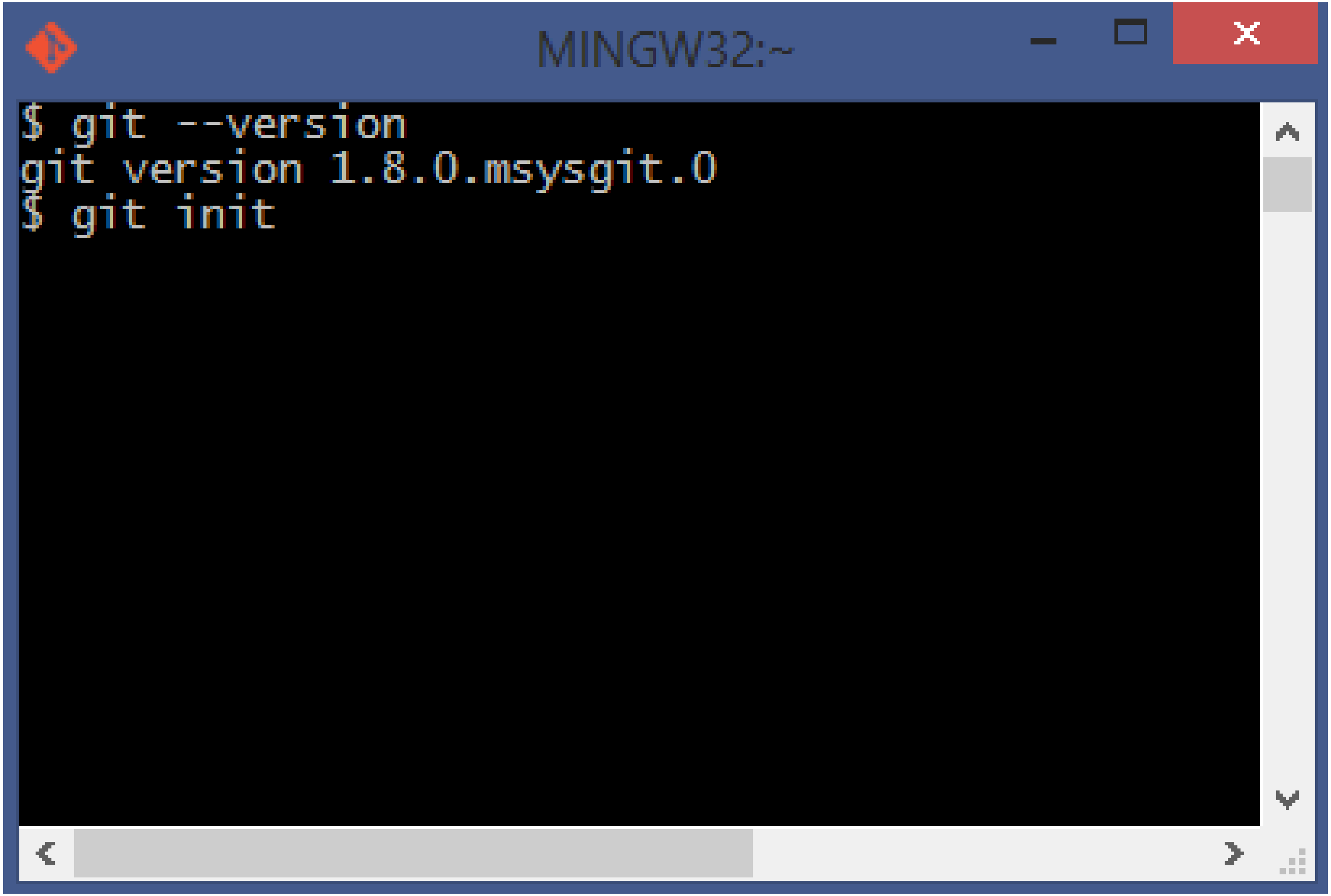
Branch starts here

Merge



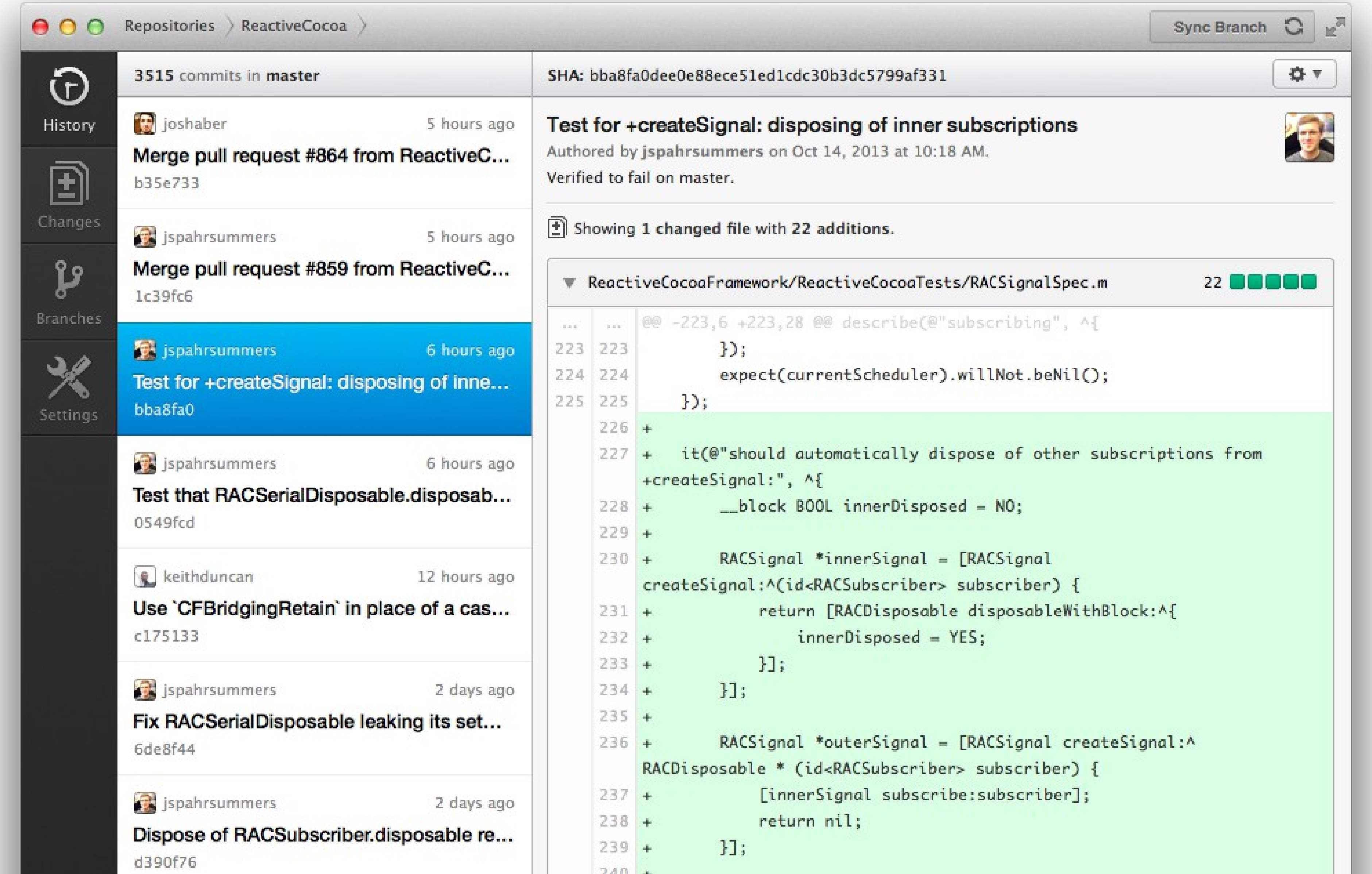
Usually no problem

Git Command Line Interface



```
$ git --version
git version 1.8.0.msysgit.0
$ git init
```

Github App



3515 commits in **master**

joshaber 5 hours ago
Merge pull request #864 from ReactiveC...
b35e733

jspahrsummers 5 hours ago
Merge pull request #859 from ReactiveC...
1c39fc6

jspahrsummers 6 hours ago
Test for +createSignal: disposing of inne...
bba8fa0

jspahrsummers 6 hours ago
Test that RACSerialDisposable.disposab...
0549fcd

keithduncan 12 hours ago
Use `CFBridgingRetain` in place of a cas...
c175133

jspahrsummers 2 days ago
Fix RACSerialDisposable leaking its set...
6de8f44

jspahrsummers 2 days ago
Dispose of RACSubscriber.disposable re...
d390f76

SHA: bba8fa0dee0e88ece51ed1cdc30b3dc5799af331

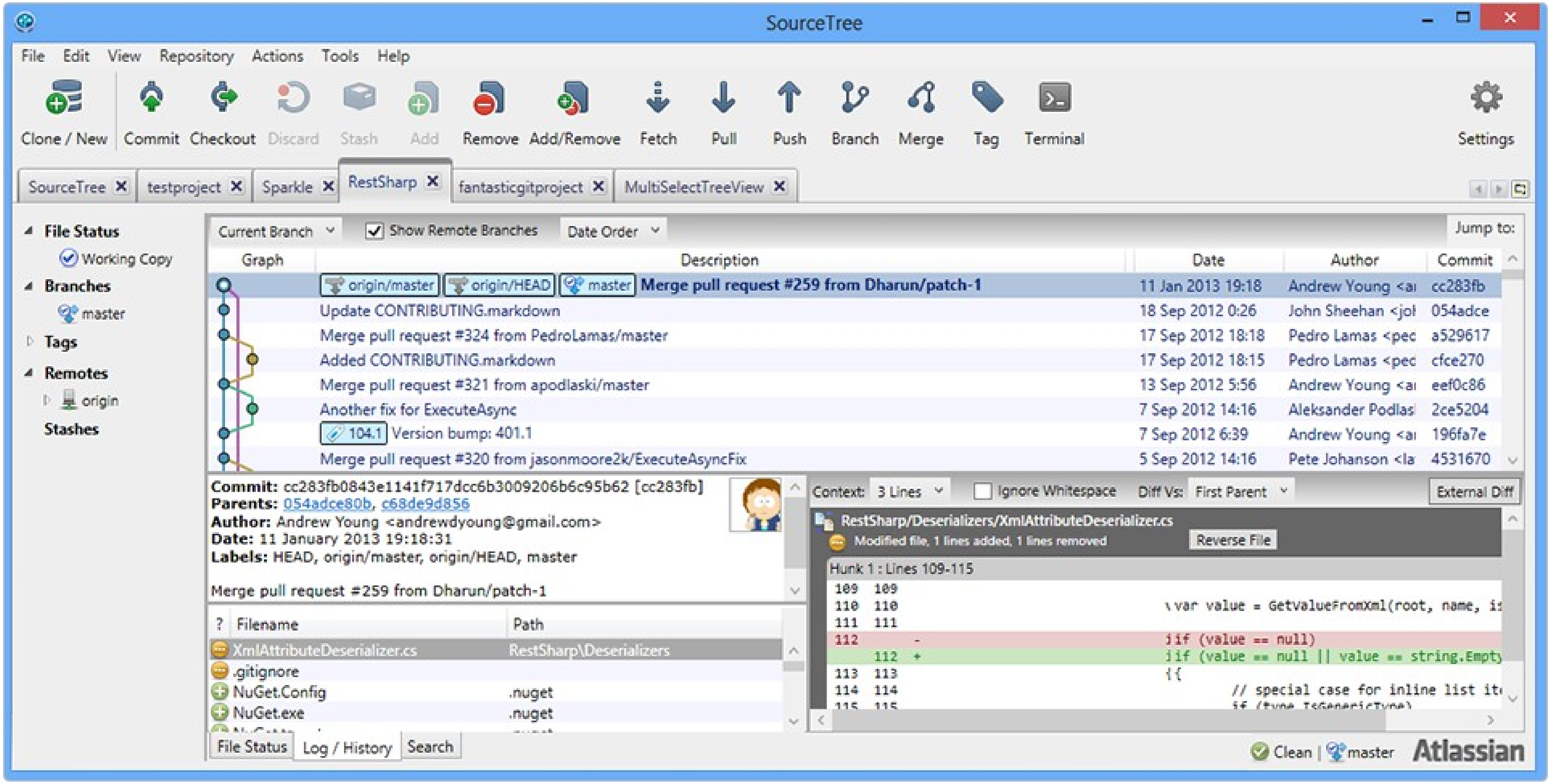
Test for +createSignal: disposing of inner subscriptions
Authored by **jspahrsummers** on Oct 14, 2013 at 10:18 AM.
Verified to fail on master.

Showing **1 changed file** with **22 additions**.

ReactiveCocoaFramework/ReactiveCocoaTests/RACSignalSpec.m 22 🟩🟩🟩🟩🟩

```
@@ -223,6 +223,28 @@ describe(@"subscribing", ^{
 		});
 		expect(currentScheduler).willNot.beNil();
 	});
+
+	it(@"should automatically dispose of other subscriptions from +createSignal:", ^{
+		__block BOOL innerDisposed = NO;
+
+		RACSignal *innerSignal = [RACSignal createSignal:^(id<RACSubscriber> subscriber) {
+			return [RACDisposable disposableWithBlock:^{
+				innerDisposed = YES;
+			}];
+		}];
+
+		RACSignal *outerSignal = [RACSignal createSignal:^ RACDisposable * (id<RACSubscriber> subscriber) {
+			[innerSignal subscribe:subscriber];
+			return nil;
+		}];
+
```

Atlassian SourceTree



☑ Show Remote Branches

Graph	Description	Date	Author	Commit
	origin/master origin/HEAD master **Merge pull request #259 from Dharun/patch-1**	11 Jan 2013 19:18	Andrew Young <ai	cc283fb
	Update CONTRIBUTING.markdown	18 Sep 2012 0:26	John Sheehan <jol	054adce
	Merge pull request #324 from PedroLamas/master	17 Sep 2012 18:18	Pedro Lamas <pec	a529617
	Added CONTRIBUTING.markdown	17 Sep 2012 18:15	Pedro Lamas <pec	cfce270
	Merge pull request #321 from apodlaski/master	13 Sep 2012 5:56	Andrew Young <ai	eef0c86
	Another fix for ExecuteAsync	7 Sep 2012 14:16	Aleksander Podlas	2ce5204
	104.1 Version bump: 401.1	7 Sep 2012 6:39	Andrew Young <ai	196fa7e
	Merge pull request #320 from jasonmoore2k/ExecuteAsyncFix	5 Sep 2012 14:16	Pete Johanson <la	4531670

Commit: cc283fb0843e1141f717dcc6b3009206b6c95b62 [cc283fb]
Parents: 054adce80b, c68de9d856
Author: Andrew Young <andrewdyoung@gmail.com>
Date: 11 January 2013 19:18:31
Labels: HEAD, origin/master, origin/HEAD, master

Merge pull request #259 from Dharun/patch-1

?	Filename	Path
	XmlAttributeDeserializer.cs	RestSharp\Deserializers
	.gitignore	
	NuGet.Config	.nuget
	NuGet.exe	.nuget

Context: 3 Lines ☐ Ignore Whitespace Diff Vs: First Parent

RestSharp/Deserializers/XmlAttributeDeserializer.cs
Modified file, 1 lines added, 1 lines removed

Hunk 1 : Lines 109-115

```
109  109
110  110                    var value = GetValueFromXml(root, name, is
111  111
112       -                 if (value == null)
     112  +                 if (value == null || value == string.Empty
113  113                    {
114  114                            // special case for inline list it
115  115                            if (type.IsGenericType)
```

References

Command Cheat Sheet (Infrequent Commands)

- git config --global user.name “Jane Doe“
- git config --global user.email “j.d@test.com“
- git config --global color.ui true
- git config --system core.editor <editor>

- git init   (creates a new repository)
- git clone <repository url>   („clones“ existing)

Command Cheat Sheet (Frequent Commands)

• git status	(what's up on my drive)
• git log	(what happened so far)
• git add	(prepare these files for commit)
• git commit	(commit the added files)
• git checkout	(return to a previous version)
• git reset	(reset the git index)

These Commands
are Local!

Command Cheat Sheet (Used often)

• git fetch	(just download)
• git pull	(download AND merge)
• git push	(send my changes out)

These Commands go over the network*

*) simplification

Where to Start

- Baby steps in your browser
  - http://try.github.io
- Download git for your system
  - http://git-scm.com/downloads
- Maybe add a Git client that suits your taste
  - At least *try* the commandline. Git in its purest form.
  - gitk, GitHub-App, SourceTree, GitTower, TortoiseGit
- Integrate git into your IDE / Editor
  - Eclipse, Sublime, WebStorm, RubyMine, NetBeans

Hand-Picked Resources

- Git has extensive documentation
  - http://git-scm.com/documentation
- There's a lot of Tutorials out there
  - http://marklodato.github.io/visual-git-guide/index-en.html
  - https://www.kernel.org/pub//software/scm/git/docs/everyday.html
  - http://www.teehanlax.com/blog/github-fundamentals/
  - http://mislav.uniqpath.com/2010/07/git-tips/
  - http://nvie.com/posts/a-successful-git-branching-model/
- In-Depth Info
  - http://git-scm.com/book
- Cannon fodder for lengthy debates with your fellow geek
  - http://thkoch2001.github.io/whygitisbetter/