



















 /home/peter/predicting_boastful_resistance/			
Name		Size	Type
	abstract_1.docx	3,1 kB	Microsoft Word Document
	abstract_2.docx	6,1 kB	Microsoft Word Document
	abstract_4.docx	9,2 kB	Microsoft Word Document
	abstract_4 (copy 2).docx	11,8 kB	Microsoft Word Document
	abstract_4-corrections.docx	9,2 kB	Microsoft Word Document
	abstract_final.docx	12,8 kB	Microsoft Word Document
	abstract_final (copy 1)_LAST (copy 1).docx	4,1 kB	Microsoft Word Document
	abstract_final-_REALLY_FINALLL-uargh.docx	11,8 kB	Microsoft Word Document
	abstract_final-upload-this.docx	16,4 kB	Microsoft Word Document

# Why?

- GIT as solution for versioning files
- GIT as solution for collaboration
- GIT for distributing software/code

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# What?

# What?

- versions connected via tree-like graph, each node is a commit

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- think of the commit as change ("patches")



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- versions connected via tree-like graph, each node is a commit
- think of the commit as change ("patches")
- operations on the tree of commits:  
branch, rebase, cherry-pick, merge,  
sending commits (push/pull)

# How?

# How?

- command line

# How?

- command line
- GUIs, IDE integration

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- command line
- GUIs, IDE integration
- API (eg. Python etc.)

example.py

after successful merge

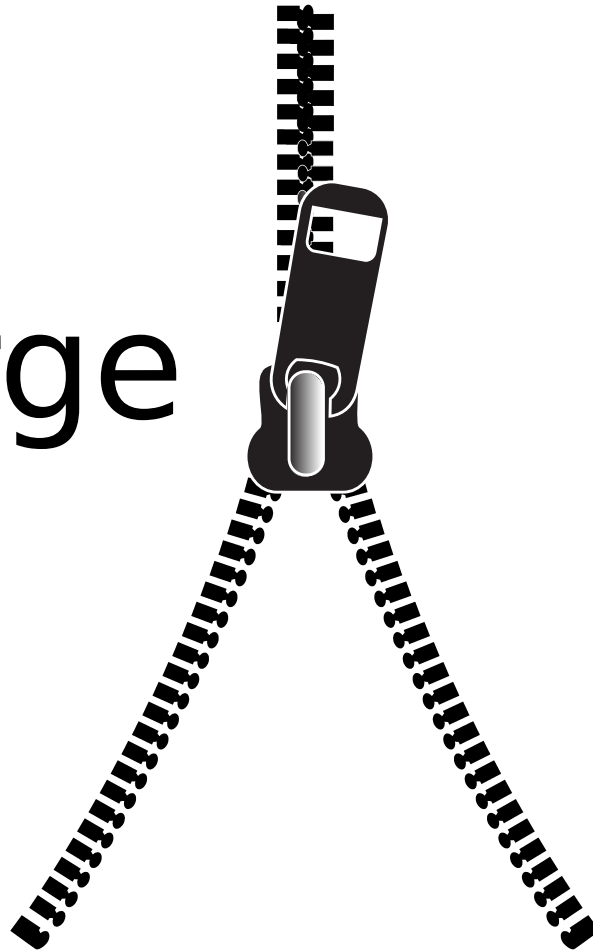
merge

example.py

modified by Alice

example.py

modified by Bob



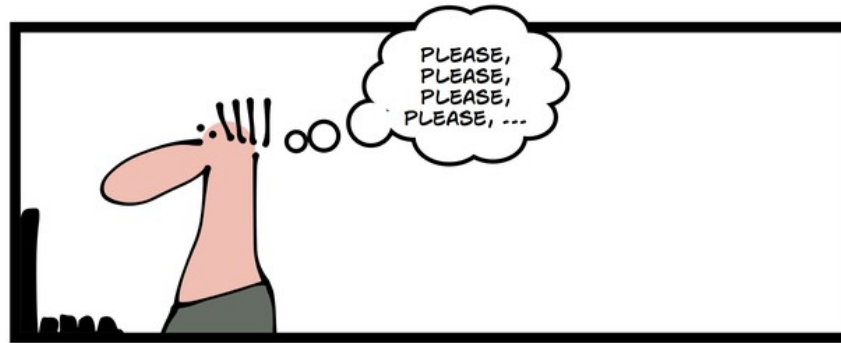
```
638b251c6 (Keisuke Fujii 2018-09-28 08:54:29 +0200)
638b251c6 (Keisuke Fujii 2018-09-28 08:54:29 +0200)
638b251c6 (Keisuke Fujii 2018-09-28 08:54:29 +0200)
adcc4836c (Stephan Hoyer 2014-04-30 01:56:35 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
bf299aa6f (Stephan Hoyer 2015-01-03 22:14:51 +0200)
bf299aa6f (Stephan Hoyer 2015-01-03 22:14:51 +0200)
bf299aa6f (Stephan Hoyer 2015-01-03 22:14:51 +0200)
6d55f9990 (Tom Nicholas 2018-10-30 01:01:07 +0000)
6d55f9990 (Tom Nicholas 2018-10-30 01:01:07 +0000)
1d2b36974 (Stephan Hoyer 2015-03-29 23:00:54 -0700)
bf299aa6f (Stephan Hoyer 2015-01-03 22:14:51 +0200)
6963164db (Stephan Hoyer 2019-01-07 23:21:41 -0800)
c22f6e5ac (Stephan Hoyer 2015-03-26 20:53:59 -0700)
6d55f9990 (Tom Nicholas 2018-10-30 01:01:07 +0000)
c22f6e5ac (Stephan Hoyer 2015-03-26 20:53:59 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
0b9ab2d12 (Keisuke Fujii 2018-08-16 15:59:32 +0900)
0b9ab2d12 (Keisuke Fujii 2018-08-16 15:59:32 +0900)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
39f0d0122 (Stephan Hoyer 2014-08-12 22:09:56 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
0b9ab2d12 (Keisuke Fujii 2018-08-16 15:59:32 +0900)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
0b9ab2d12 (Keisuke Fujii 2018-08-16 15:59:32 +0900)
0b9ab2d12 (Keisuke Fujii 2018-08-16 15:59:32 +0900)
9cf107b52 (Phillip Wolfram 2016-10-03 15:05:32 -0600)
9cf107b52 (Phillip Wolfram 2016-10-03 15:05:32 -0600)
9cf107b52 (Phillip Wolfram 2016-10-03 15:05:32 -0600)
0b9ab2d12 (Keisuke Fujii 2018-08-16 15:59:32 +0900)
9cf107b52 (Phillip Wolfram 2016-10-03 15:05:32 -0600)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
ad9a9135c (Stephan Hoyer 2014-02-13 00:25:45 -0500)
bf299aa6f (Stephan Hoyer 2015-01-03 22:14:51 +0200)
bf299aa6f (Stephan Hoyer 2015-01-03 22:14:51 +0200)
6d55f9990 (Tom Nicholas 2018-10-30 01:01:07 +0000)
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1d2b36974 (Stephan Hoyer 2015-03-29 23:00:54 -0700)
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18c7b9dbf (Stephan Hoyer 2014-06-22 01:07:03 -0700)
```

```
13
14 # Used as a sentinel value to indicate a all dimensions
15 ALL_DIMS = ReprObject('<all-dims>')
16
17
18 class ImplementsArrayReduce(object):
19     @classmethod
20     def _reduce_method(cls, func, include_skipna, numeric_only):
21         if include_skipna:
22             def wrapped_func(self, dim=None, axis=None, skipna=None,
23                             **kwargs):
24                 return self.reduce(func, dim, axis,
25                                   skipna=skipna, allow_lazy=True, **kwargs)
26         else:
27             def wrapped_func(self, dim=None, axis=None, # type: ignore
28                             **kwargs):
29                 return self.reduce(func, dim, axis,
30                                   allow_lazy=True, **kwargs)
31         return wrapped_func
32
33     _reduce_extra_args_docstring = dedent("""\
34         dim : str or sequence of str, optional
35             Dimension(s) over which to apply `{name}`.
36         axis : int or sequence of int, optional
37             Axis(es) over which to apply `{name}`. Only one of the 'dim'
38             and 'axis' arguments can be supplied. If neither are supplied, then
39             `{name}` is calculated over axes.""")
40
41     _cum_extra_args_docstring = dedent("""\
42         dim : str or sequence of str, optional
43             Dimension over which to apply `{name}`.
44         axis : int or sequence of int, optional
45             Axis over which to apply `{name}`. Only one of the 'dim'
46             and 'axis' arguments can be supplied.""")
47
48
49 class ImplementsDatasetReduce(object):
50     @classmethod
51     def _reduce_method(cls, func, include_skipna, numeric_only):
52         if include_skipna:
53             def wrapped_func(self, dim=None, skipna=None,
54                             **kwargs):
55                 return self.reduce(func, dim, skipna=skipna,
56                                   numeric_only=numeric_only, allow_lazy=True,
57                                   **kwargs)
58         else:
59             def wrapped_func(self, dim=None, **kwargs): # type: ignore
60                 return self.reduce(func, dim,
61                                   numeric_only=numeric_only, allow_lazy=True,
62                                   **kwargs)
63         return wrapped_func
```



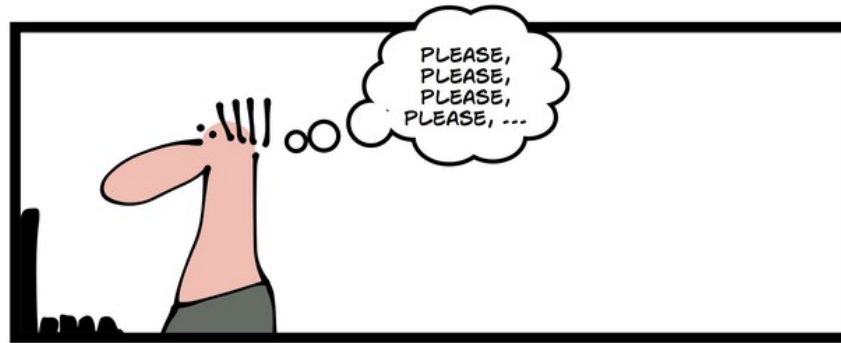
GIT BLAME





GIT BLAME

Source:



GIT BLAME

Source:

<http://geek-and-poke.com/geekandpoke/2013/11/24/simply-explained>



git

**bisect**

---

# git-avoid-area(1) Manual Page

---

## NAME

git-avoid-area — avoid the non-rev-listed applied areas for all rebased branches

## SYNOPSIS

```
git-avoid-area --minimize-seize-submodule [ --conceive-flush-area | --hit-tip |  
--sidestep-mutilate-tip ]
```

## DESCRIPTION

git-avoid-area avoids all upstream areas opposite of all cloned non-archived unstaged heads, and all checked indices are forward-ported to INTENSIFY\_BRANCH by git-foster-commit.

The --supervise-utilize-file argument can be used to note an area for the upstream that is counted by a passive change, so it is in some cases a small chance that a rev-listed failure may prevent passive diffing of the specified objects. Any allotting of a subtree that configures a tip immediately after can be cherry-picked with git-douse-path. It is sometimes a rare chance that a bundled error can prevent temporary fetching of the remoted paths.

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---

# git-push(1) Manual Page

---

## NAME

git-push - Update remote refs along with associated objects

## SYNOPSIS

```
git push [--all | --mirror | --tags] [--follow-tags] [--atomic] [-n | --dry-run] [--receive-pack=<git-  
receive-pack>]  
        [--repo=<repository>] [-f | --force] [-d | --delete] [--prune] [-v | --verbose]  
        [-u | --set-upstream] [-o <string> | --push-option=<string>]  
        [--[no-]signed | --signed=(true|false|if-asked)]  
        [--force-with-lease[=<refname>[:<expect>]]]  
        [--no-verify] [<repository> [<refspec>...]]
```

## DESCRIPTION

Updates remote refs using local refs, while sending objects necessary to complete the given refs.

You can make interesting things happen to a repository every time you push into it, by setting up *hooks* there. See documentation for [git-receive-pack\(1\)](#).

When the command line does not specify where to push with the *<repository>* argument, *branch.\*.remote* configuration for the current branch is consulted to determine where to push. If the configuration is missing, it defaults to *origin*.

---

# git-rebase(1) Manual Page

---

## NAME

git-rebase - Reapply commits on top of another base tip

## SYNOPSIS

```
git rebase [-i | --interactive] [<options>] [--exec <cmd>] [--onto <newbase>]
           [<upstream> [<branch>]]
git rebase [-i | --interactive] [<options>] [--exec <cmd>] [--onto <newbase>]
           --root [<branch>]
git rebase --continue | --skip | --abort | --quit | --edit-todo | --show-current-patch
```

## DESCRIPTION

If <branch> is specified, *git rebase* will perform an automatic `git checkout <branch>` before doing anything else. Otherwise it remains on the current branch.

If <upstream> is not specified, the upstream configured in `branch.<name>.remote` and `branch.<name>.merge` options will be used (see [git-config\(1\)](#) for details) and the `--fork-point` option is assumed. If you are currently not on any branch or if the current branch does not have a configured upstream, the rebase will abort.

All changes made by commits in the current branch but that are not in <upstream> are saved to a temporary area. This is the same set of commits that would be shown by `git log <upstream>..HEAD`; or by `git log 'fork_point'..HEAD`, if `--fork-point` is active (see the description on `--fork-point` below); or by `git log HEAD`, if the `--root` option is specified.

The current branch is reset to <upstream>, or <newbase> if the `--onto` option was supplied. This has the exact same effect as `git reset --hard <upstream>` (or <newbase>). `ORIG_HEAD` is set to point at the tip of the branch before the reset.

---

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Source:

<https://git.github.io/htmldocs/git-push.html>

<https://git.github.io/htmldocs/git-rebase.html>

<https://stevebennett.me/2012/02/24/10-things-i-hate-about-git/>



THIS IS GIT. IT TRACKS COLLABORATIVE WORK  
ON PROJECTS THROUGH A BEAUTIFUL  
DISTRIBUTED GRAPH THEORY TREE MODEL.

COOL. HOW DO WE USE IT?

NO IDEA. JUST MEMORIZE THESE SHELL  
COMMANDS AND TYPE THEM TO SYNC UP.  
IF YOU GET ERRORS, SAVE YOUR WORK  
ELSEWHERE, DELETE THE PROJECT,  
AND DOWNLOAD A FRESH COPY.



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If that doesn't fix it,  
git.txt contains the  
phone number of a  
friend of mine who  
understands git.  
Just wait through a  
few minutes of 'It's  
really pretty simple,  
just think of  
branches as...' and  
eventually you'll  
learn the commands  
that will fix  
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More reasons why GIT is bad:

<https://svnvsgit.com/>



	COMMENT	DATE
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAAAAAA	3 HOURS AGO
○	ADKFJSLKDFJSDKLFJ	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAAAAAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT MESSAGES GET LESS AND LESS INFORMATIVE.

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