



Rebuilding the airplane at 10 000m

Continuous Deployment with Jenkins and Gerrit

R. Tyler Croy
tyler@linux.com



@jenkinsci



Jenkins Infrastructure *with* Puppet



I work for Lookout



```
ast.rb ~/.viarc
self.fail(Puppet::ParseError, message)
end
```

Wrap a state in a reusable way so we always throw a parse error.


```
def parsewrap
  exceptwrap :type => Puppet::ParseError do
    yield
  end
end
```

The version of the evaluate method that should be called, because it correctly handles errors. It is critical to use this method because it can enable you to catch the error where it happens, rather than much higher up the stack.

```
def safeevaluate(*options)
  # We duplicate code here because the evaluate method is called so many times
  # that it's worth duplicating the error handling logic.
  begin
    return self.evaluate(*options)
  rescue Puppet::Error => detail
    raise adderrorcontext(detail)
  rescue => detail
    error = Puppet::ParseError.new(detail.to_s, nil, nil, detail)
    # We can't use self.fail here because it always expects strings,
    # not exceptions.
    raise adderrorcontext(error, detail)
  end
end
```

Initialize the object. Requires a hash as the argument, and takes each of the parameters of the hash and calls the setter method for them. This is probably pretty inefficient and should

Hacking with Ruby

The background of the slide is a composite image. The upper portion shows the tail of a white airplane with a red stripe and a 'TA' logo on the vertical stabilizer, set against a clear blue sky. The lower portion shows a close-up of a large, white rocket engine with red and blue decorative stripes around its base. A dark, semi-transparent rectangular box is centered over the image, containing the text.


Let's talk about:
continuous deployment

Project *  ServerIssue Type *  Story ?Summary * We should install Continuous Deployment
Use "should" or "shouldn't". Example: "Logo on website homepage should be green, not blue"

Priority P1 ?

Urgency from Engineering's perspective:

P1 = Needed ASAP; won't release again without this change. P2 = Very important, but may not delay a release for it; P3 = Like to have, but won't delay a release for it. Do only if have the time and doesn't risk anything.

Component/s  x

Start typing to get a list of possible matches. Press down to select.


Fix Version/s  xStart typing to get a list of possible matches. Press down to select.
Identifies the first Release this was fixed/resolved in.Due Date 29/Jul/12 

Optional customer-committed date (if no Fix Version specified).

Assignee  R. Tyler Croy [Assign To Me](#)

Description All the other people are using it and they seem to like it!

What it is:
NOT

A photograph of a messy room. In the foreground, a wooden table is cluttered with various items: a yellow container, a blue and white striped bag, a glass jar, and some papers. In the background, a potted plant sits on a surface, and a dark-colored cabinet or desk is visible. A large, semi-transparent grey box with white text is overlaid on the center of the image.

"Release *everything*
as soon as possible!"

A photograph of a messy room. A light-colored wooden table is tipped over on its side. On the floor next to it is a potted plant with green leaves. Various items are scattered on the floor, including a yellow container, a blue and white striped bag, a glass jar, and some papers. A dark-colored sofa is visible in the background.

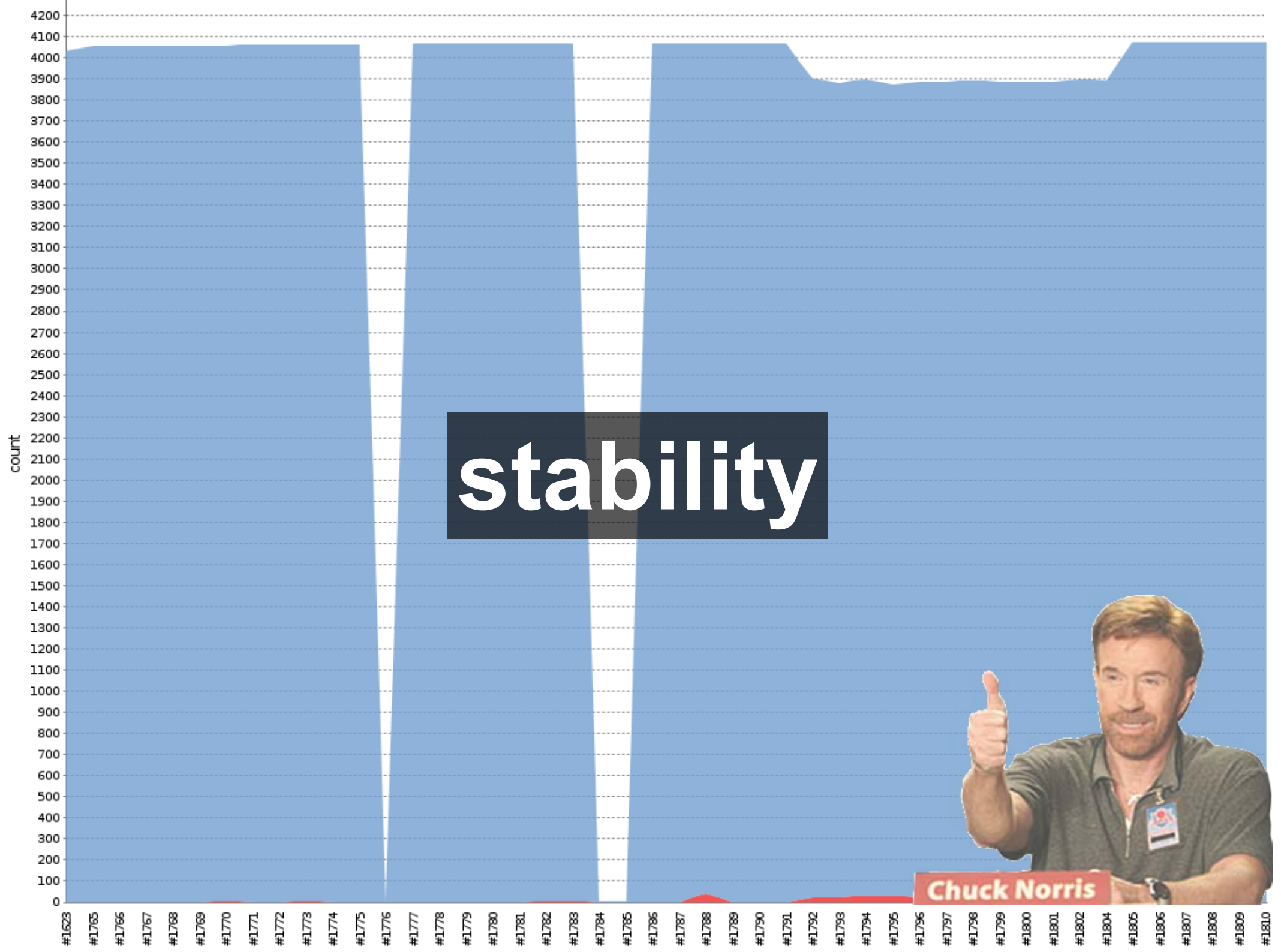
"Great! No need for a QA team"

A photograph of a messy room. A light-colored wooden table is tipped over on its side. On the floor next to it is a potted plant with green leaves. Various items are scattered on the floor, including a yellow container, a blue and white striped bag, a glass jar, and some papers. A dark-colored sofa is visible in the background.

"Our users will be our testers!"



Continuous Deployment
is about





**Faster
with
More Confidence**



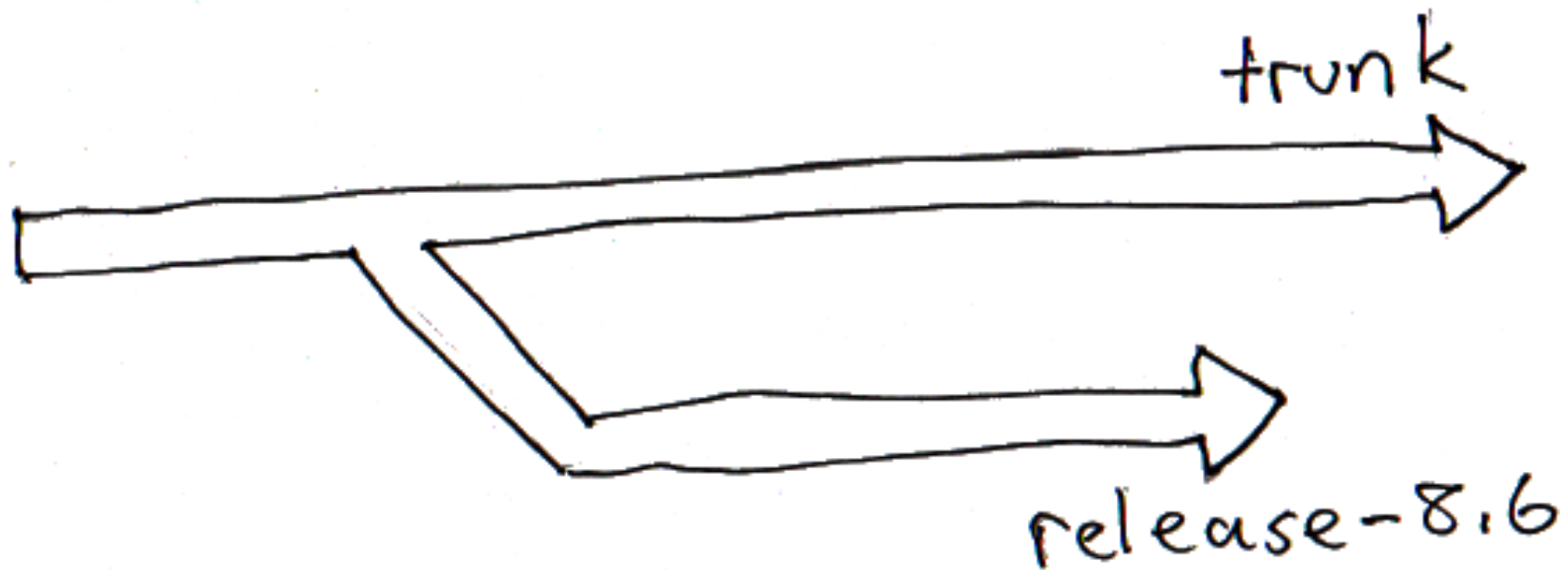
Continuous Deployment is
GOOD

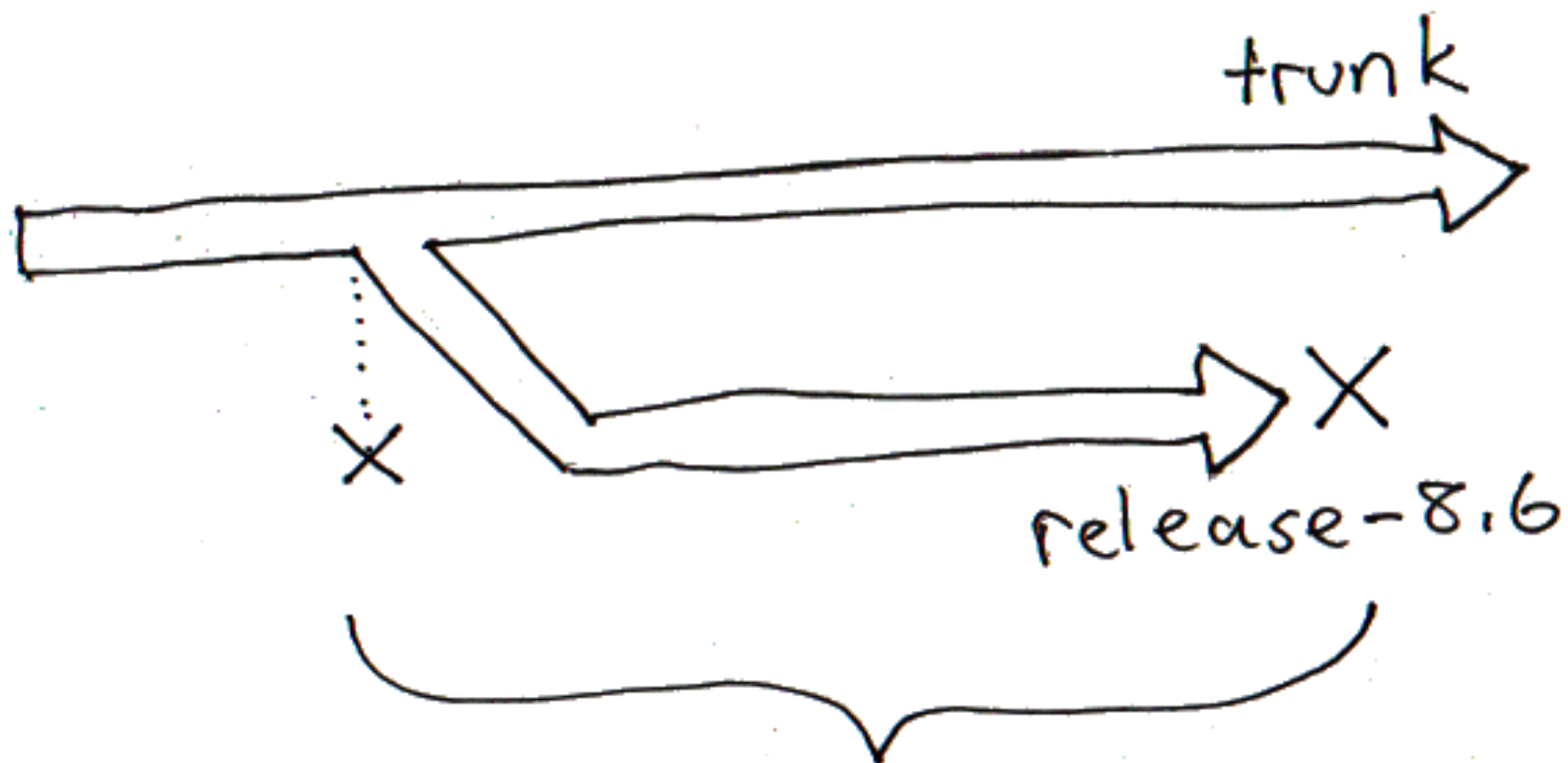


Meanwhile at Lookout



Subversion branches for releases





10-18 days per release branch



manual code review



very little automation





36%
of deployments failed



68

commits per deployment



62%
of deployments slipped



A large white passenger jet is shown flying upside down against a light blue sky. The aircraft has a red stripe running along the fuselage and a red tail fin with a white 'TA' logo. The text 'Let's fix this.' is displayed in white on a black rectangular background, centered over the aircraft's fuselage.

Let's fix this.



Step One: Automate Development

A large industrial factory setting with multiple yellow robotic arms (likely KUKA) working on assembling car chassis. The robots are positioned around a car body, which is visible in the foreground. The background shows a complex network of pipes, structural beams, and other industrial equipment. The word "Jenkins" is overlaid in white text on a dark rectangular background in the center of the image.

Jenkins



"Why don't our tests pass?"

A large yellow industrial robotic arm is the central focus, positioned over a car chassis. The arm has a red emergency stop button and various cables. In the background, another similar robotic arm is visible, working on another car. The factory floor is filled with industrial equipment, pipes, and structural beams. The text "Never stop automating." is overlaid in white on a dark horizontal band across the middle of the image.

Never stop automating.

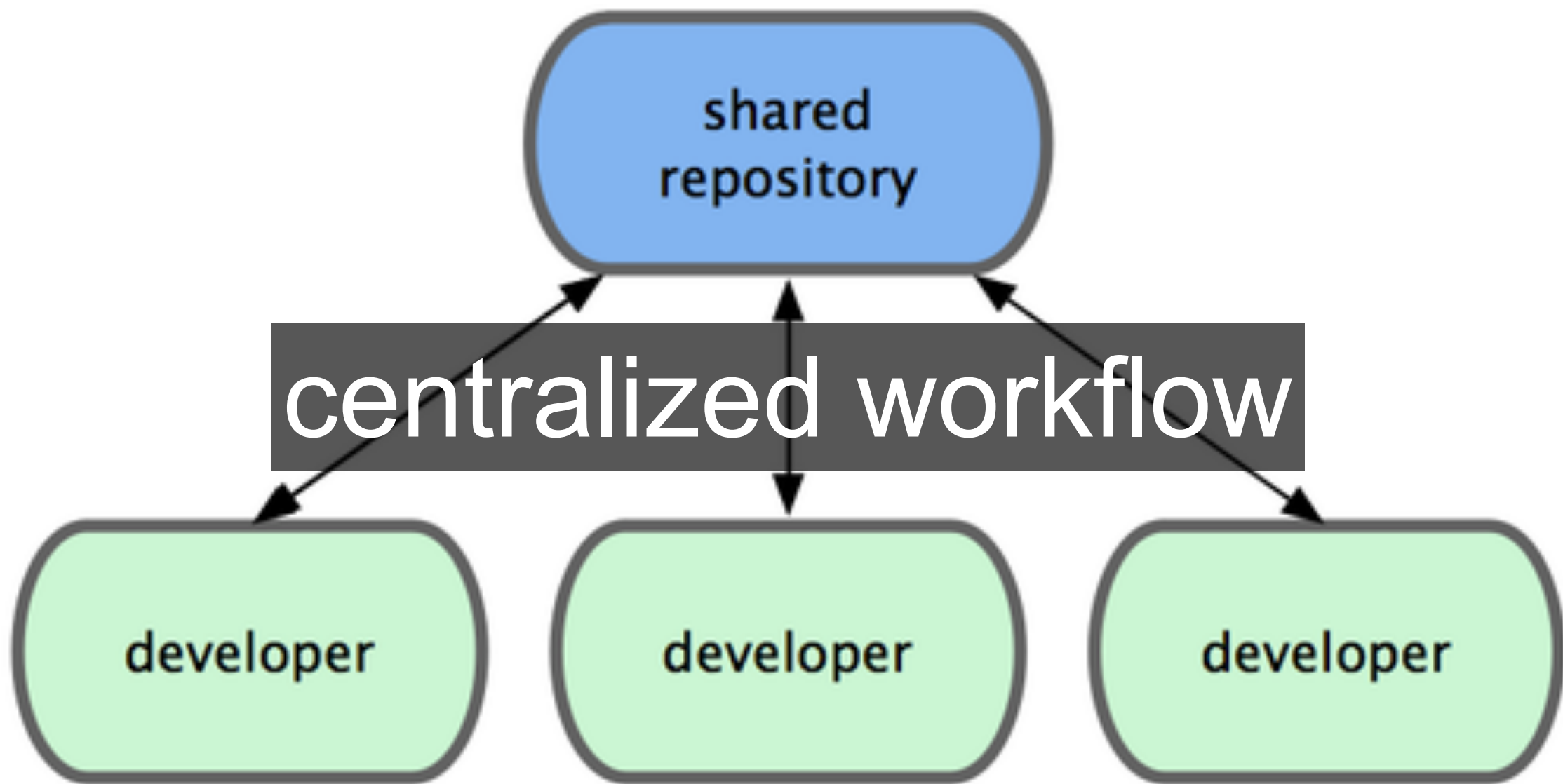


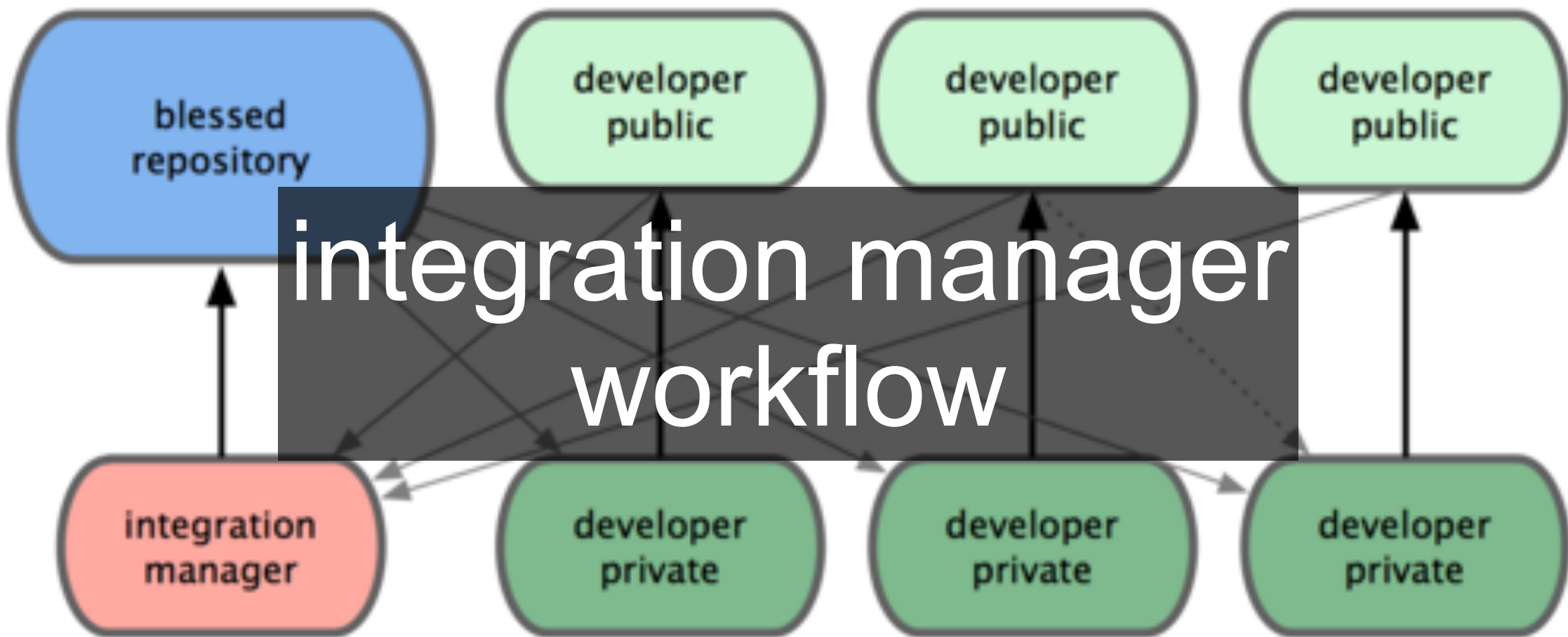
Step Two
Better tools,
processes

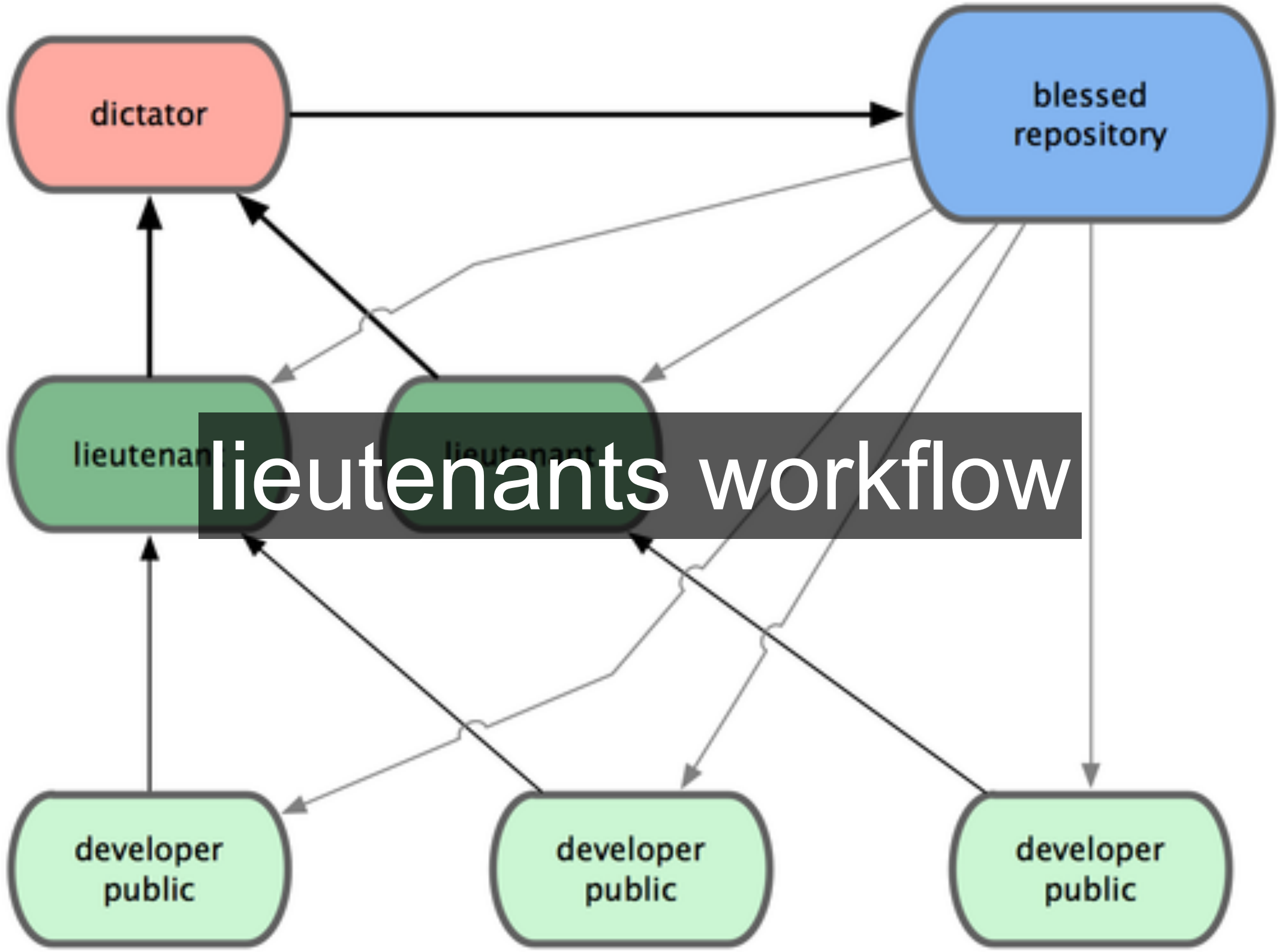


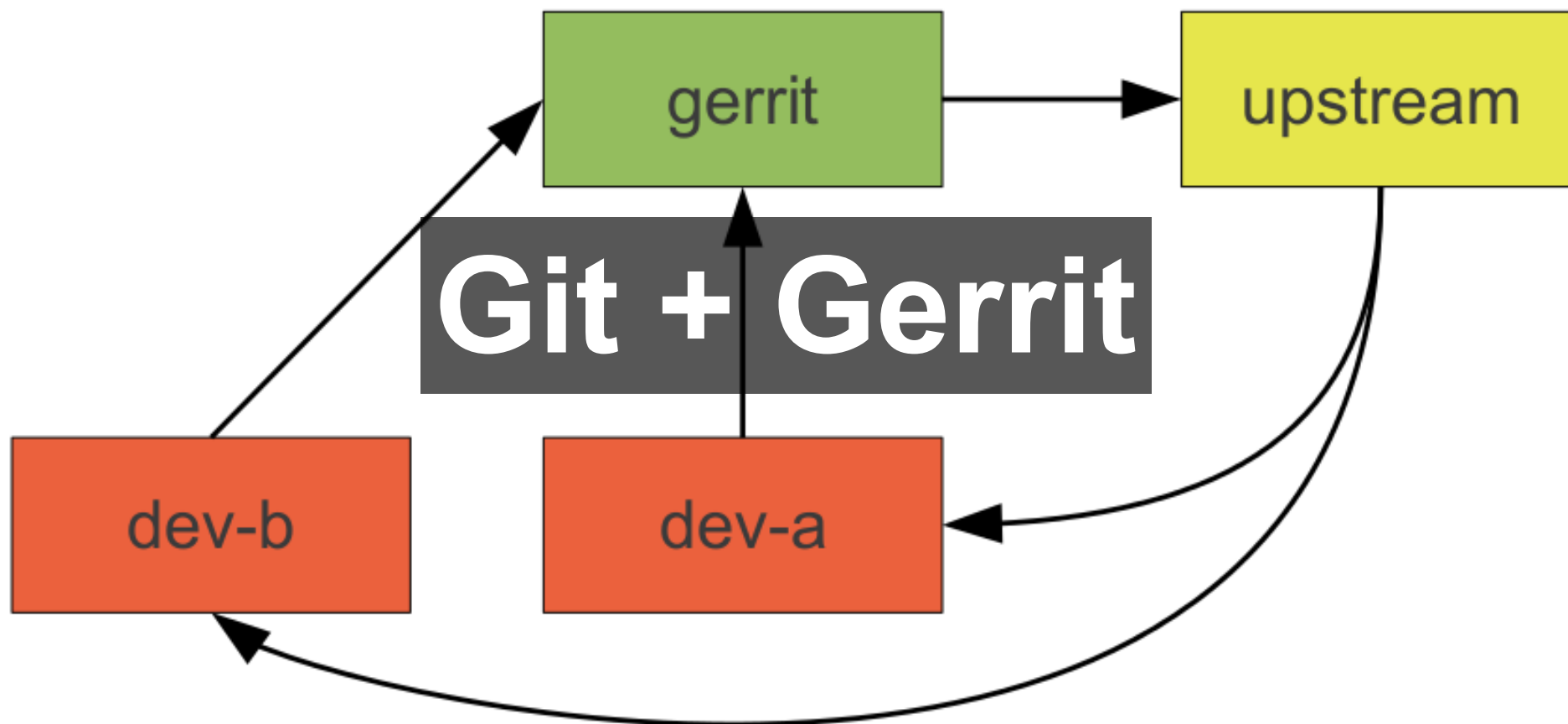


Git











Dashboard for Tyler Croy

Commit	Owner	Project	Branch
	Tyler Gray	feed	master (frontend-emulator)
	Tyler Gray	feed	master (frontend-emulator)
Tyler Gray		feed	master
		feed	master
		feed	master
		feed	master
(MERGED)		feed	master (in-app-recurring)
(MERGED)		feed	master (in-app-recurring)
(MERGED)		gms/hwscippings	master
(MERGED)		gms/hwscippings	master
(MERGED)		gms/hwscippings	master
(MERGED)		gms/hwscippings	master
(MERGED)		gms/hwscippings	master
(MERGED)	Tyler Gray	feed	deploy-2012-07-19
(MERGED)	Tyler Gray	feed	master
(MERGED)	Tyler Gray	feed	deploy-2012-07-19
(MERGED)	Tyler Gray	feed	deploy-2012-07-17
(MERGED)	Tyler Gray	feed	master (5v4b-7576)

code review

```
#include "ttyclock.h"
#include <stdlib.h>
```

```
void)
```

```
struct sigaction sig;
ttyclock->bg = COLOR_BLACK;
```

```
/* Init ncurses */
initscr();
cbreak();
noecho();
keypad(stdscr, True);
start_color();
```

```
#include "ttyclock.h"
#include <stdlib.h>
```

```
void
init(void)
{
    struct sigaction sig;
    ttyclock->bg = COLOR_BLACK;
    int *derp = NULL;
```

(Draft)

Draft saved

Poor variable naming

Edit

```
int foo = 1 + *derp;
```

(Draft)

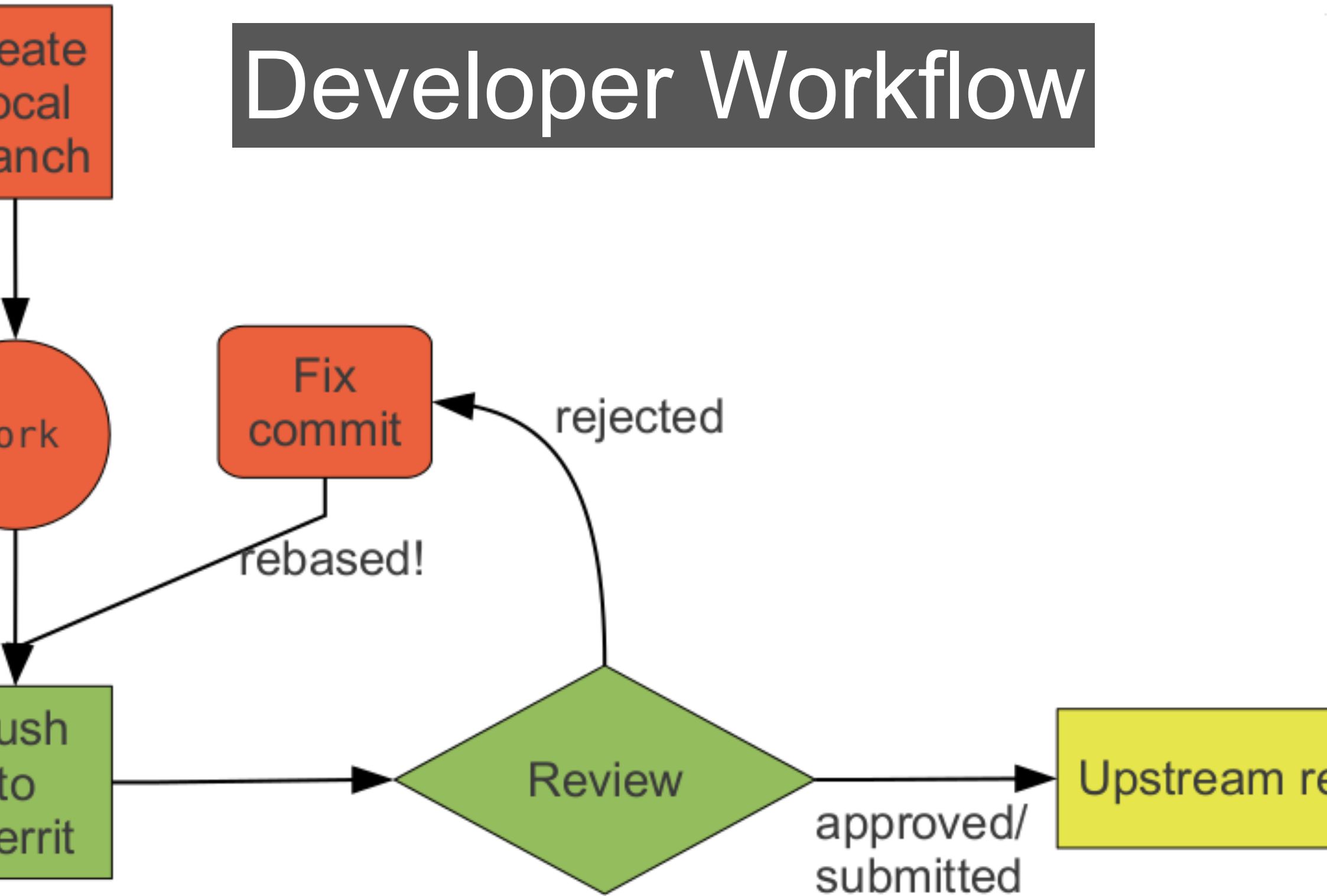
Draft saved

This is a seriously terrible idea.

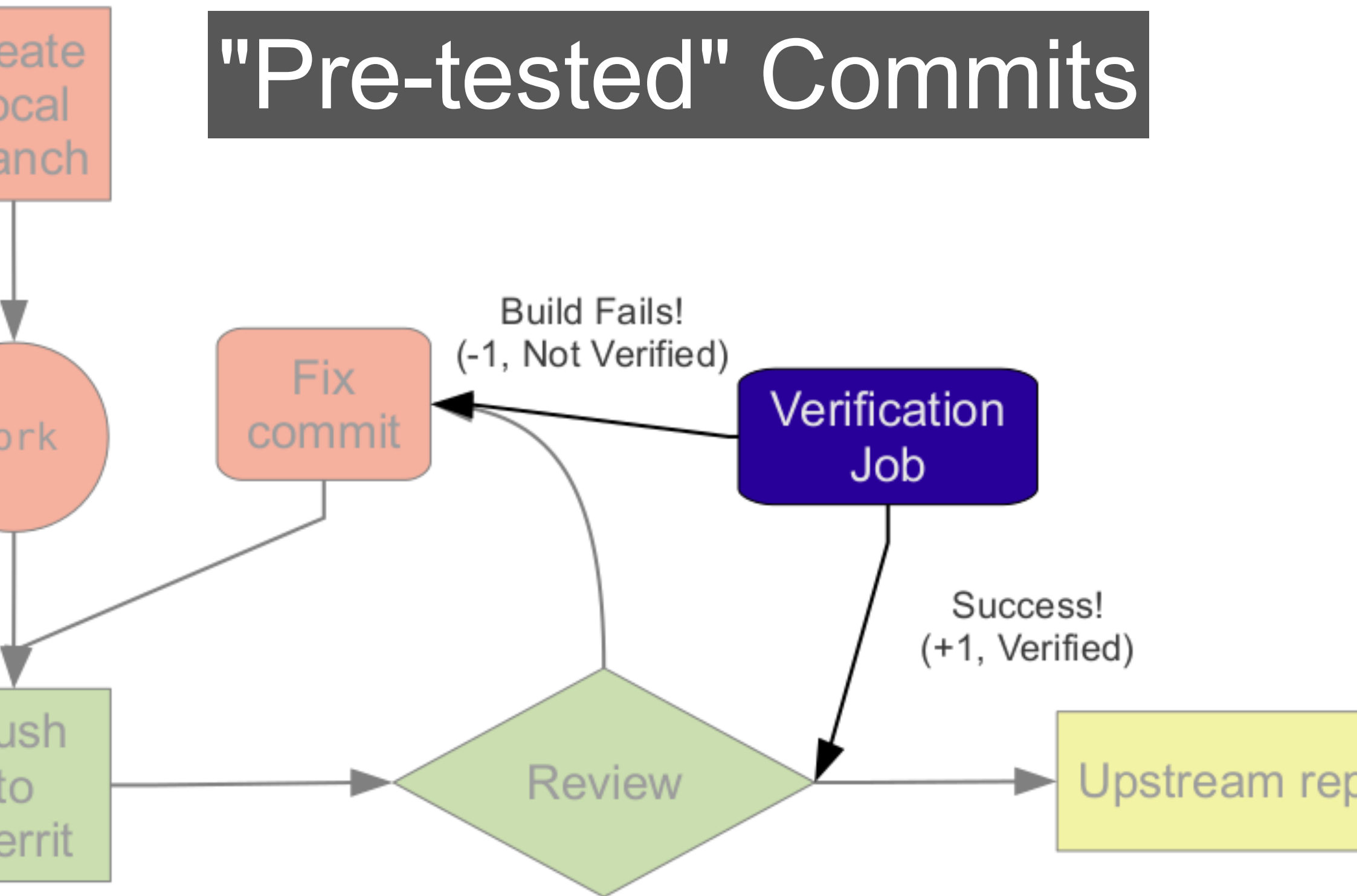
Edit

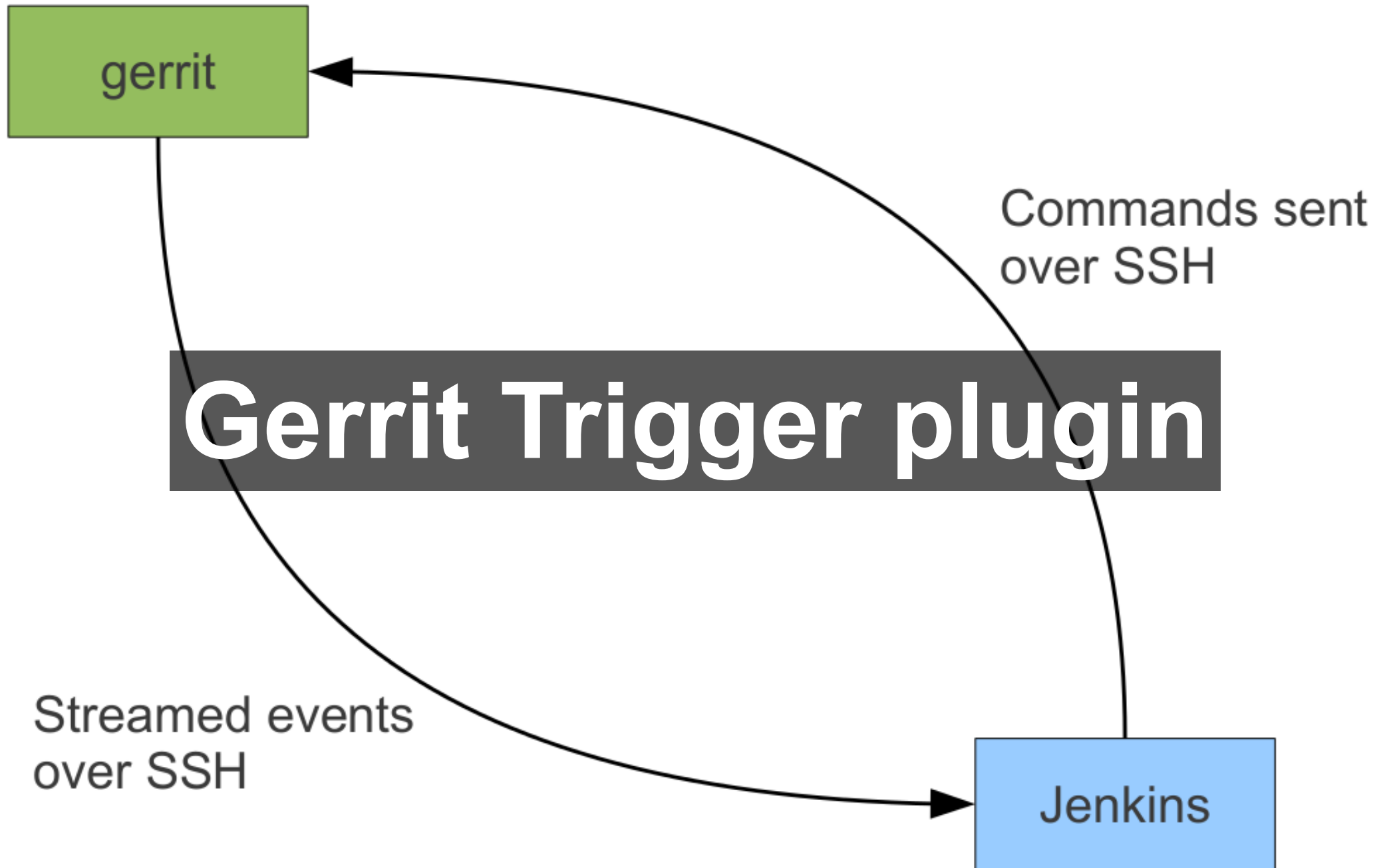
```
/* Init ncurses */
initscr();
cbreak();
noecho();
keypad(stdscr, True);
start_color();
```


Developer Workflow



"Pre-tested" Commits





Uploaded Oct 1, 2011 12:42 PM

Updated Oct 1, 2011 12:44 PM

Status Review in Progress

Feedback in Gerrit

[Permalink](#)

Reviewer	Verified	Code Review
Leeroy	✗	Fails

- Need Verified +1 (Verified)
- Need Code Review +2 (Looks good to me, approved)

► Dependencies

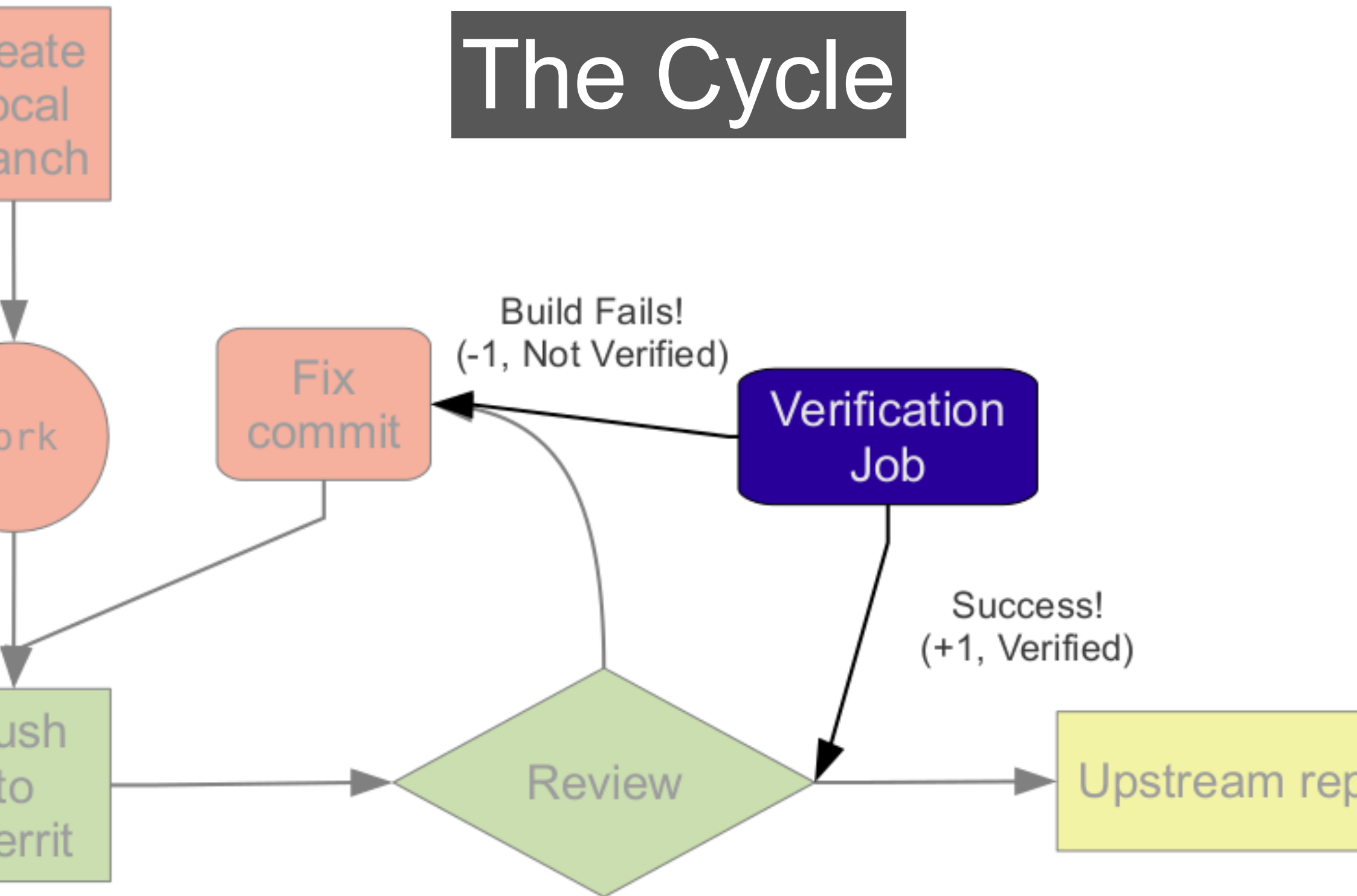
Old Version History:

► Patch Set 1 2b46eeeb675841f5e796e2e2910d2eee743c234e

► Patch Set 2 a607d3649f17c69070d06163bcc91442ec1eae0f

► Patch Set 3 2a32f079abcb0ad09a4c59a2a2737a76b11591e9

The Cycle





Demo!

Code Review Dashboard for Charlie Root

	Subject	Owner	Project	Branch	Updated
--	---------	-------	---------	--------	---------

Code Review by Charlie Root

(none)

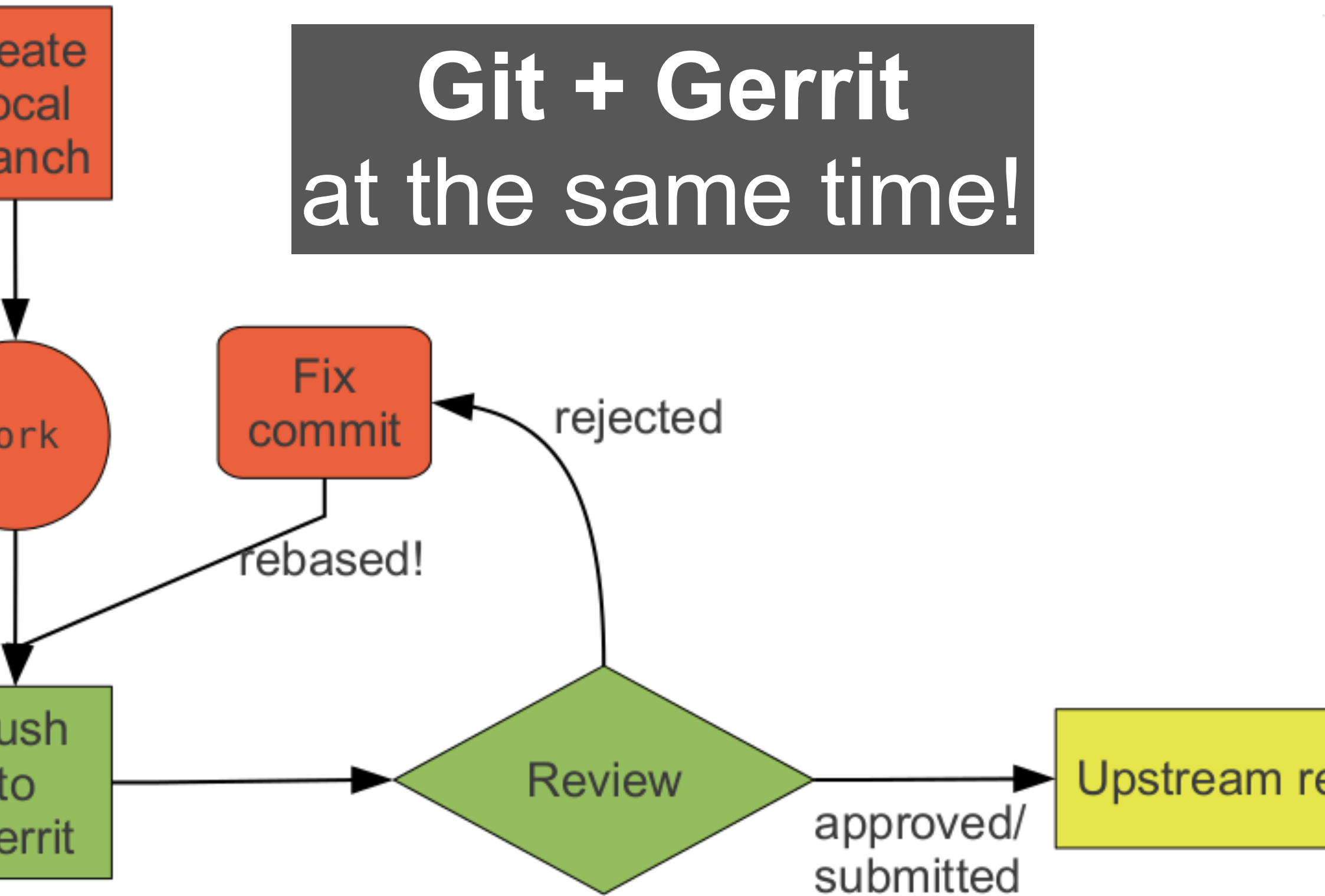
Open Requests for Charlie Root

(none)

Recently closed

4bf3bdd0	This is a simple change to exercise the jenkins integration (MERGED)	Charlie Root	blimpy	master	Jul 27	✓
2c0a8945	Add some more notes to the readme (MERGED)	Charlie Root	juctokyo	master	Jul 27	✓
107ae52b	Initial commit (MERGED)	Charlie Root	juctokyo	master	Jul 27	✓

Git + Gerrit at the same time!





"We need more builders!"



Recap



Step Three Automate Everything Else

A large yellow industrial robotic arm is positioned in a factory setting, working on a car chassis. The arm is yellow with black cables and a red emergency stop button. The background shows a complex industrial environment with various pipes, structural beams, and other robotic arms. The text "Deploying test environments" is overlaid in white on a dark semi-transparent banner across the middle of the image.

Deploying test environments



New kinds of tests

Automating deployment *to* production

upstream

Release
Build

Downstream Job

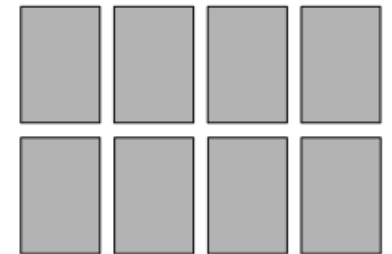
Release
Test

Downstream Job

Release
Deploy

rsync/
cap/
scp/
mvn

Production machines





A large crowd of green Android robots is gathered on a cobblestone street. The robots are of various sizes and are all looking towards the camera. They have a simple, friendly design with large heads, small bodies, and a single antenna on each head. The background is filled with more robots, creating a sense of a large gathering.

**Step Four
More Robots!**

A large crowd of green Android robots, resembling the character Wall-E, is gathered on a cobblestone street. The robots are of various sizes and are looking in different directions. A semi-transparent black rectangular box is centered over the image, containing white text.

OpenStack *and the* jclouds plugin

A large number of green Android robots are standing in rows on a dark, textured surface. The robots are arranged in a grid-like pattern, filling the background. In the center, there is a dark rectangular box containing white text.

Slave Management *with* Puppet




TODO



(nobody's perfect)



No automated rollback



No production acceptance testing

A large white passenger jet, likely a Boeing 747, is shown from a low angle, flying towards the viewer. The aircraft has a red and white livery with a 'TA' logo on the tail. It has four engines mounted under the wings. The background is a light blue sky with white motion blur lines radiating from the plane, suggesting high speed. A black rectangular box with white text is overlaid on the center of the image.

Tests are slow





2%

of deployments failed



14

commits per deployment



3%

of deployments slipped



Questions?



Thank you