Git & Code Review

小米生活 – 贾正权

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Git

Commit

一次提交包括相关改动

精确提交避免一次提交产生很大改动

避免出现过多的冲突

方便 code review

避免不完整的提交

不要把 Git 当备份系统，~~急着下班 save/update~~

使用 git stash 暂存

~~想得到一个干净的工作区或者切换分支~~

Commit Message

标题需要一个少于 50 个字符的简短说明

标题开头可添加适当的标签如：

```
Evan You          o [dev] {origin/dev} {origin/HEAD} chore: update sponsors
Tim               o test(e2e): trigger click on .new-todo instead of footer (#7938)
Haoqun Jiang      o fix(ssr): fix double escaping of staticClass values (#7859) (#8037)
Yuriy Alekseyev   o refactor: make the warning messages more explicit (close #7764) (#7881)
Edd Yerburgh      o feat: add async option (#8240)
Clark Du          o refactor: ignore control-regex lint for unsafeAttrCharRE (#8601)
d-pollard         o chore: update backers (#8649)
Evan You          o chore: update backers
```

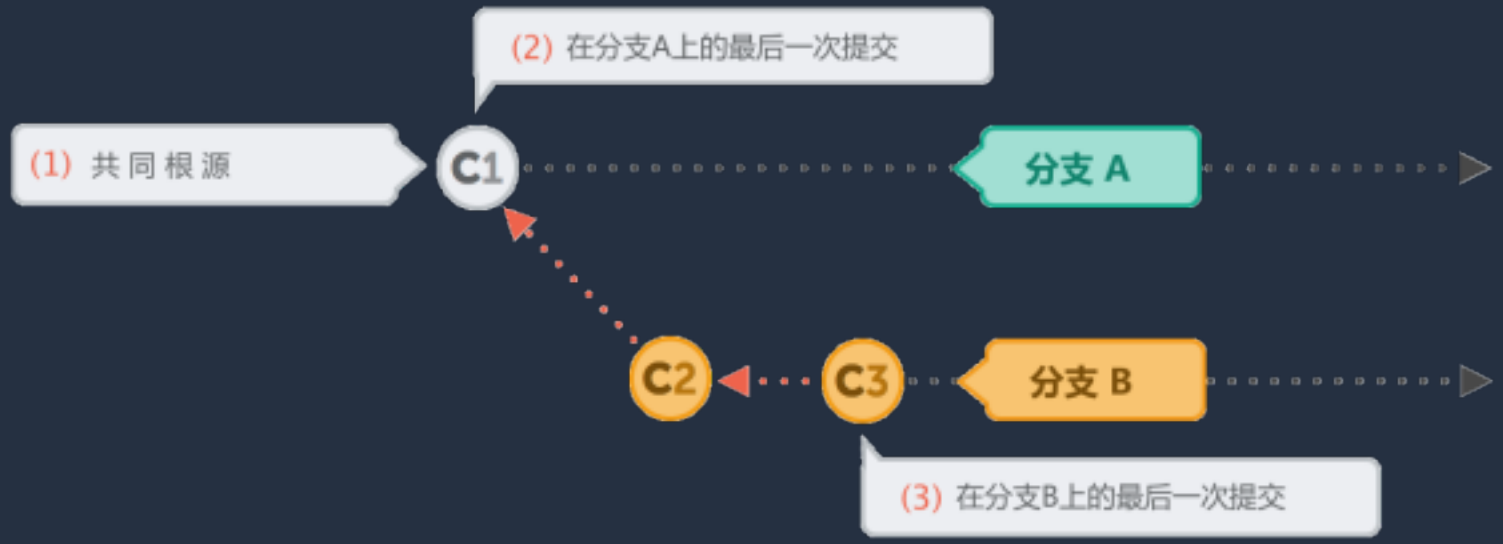
空白行分割然后说明改动细节

Rebase

我们以前的 git log

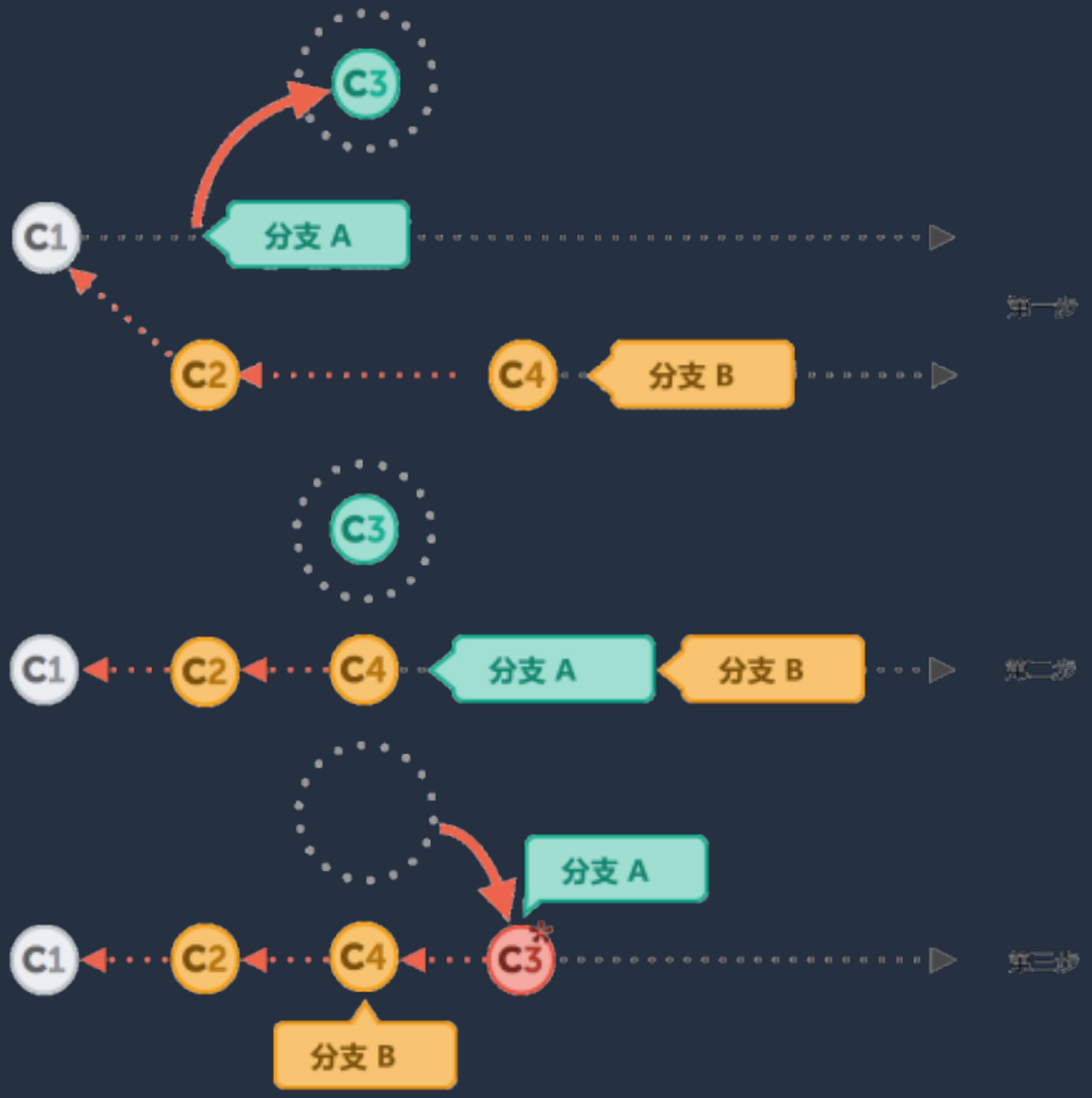
别人的 git log

```
2018-05-26 05:45 Alex Lam S.L  o fix corner case in `reduce_vars` (#3151)
2018-05-24 14:29 Alex Lam S.L  o fix corner cases with `eval()` (#3147)
2018-05-24 02:37 Alex Lam S.L  o augment tests for inline source maps (#3145)
2018-05-23 17:24 Alex Lam S.L  o augment tests for `RegExp` (#3144)
2018-05-22 17:09 Alex Lam S.L  o <v3.3.27> v3.3.27
2018-05-21 15:53 Alex Lam S.L  o fix corner case in `reduce_vars` (#3141)
2018-05-20 17:32 Alex Lam S.L  o <v3.3.26> v3.3.26
2018-05-19 05:45 Alex Lam S.L  o fix corner case in `collapse_vars` (#3139)
2018-05-18 08:50 exvisory      o Update README.md to clarify --source-map filename
2018-05-12 23:50 Alex Lam S.L  o <v3.3.25> v3.3.25
2018-05-13 07:50 Alex Lam S.L  o remove `colors` dependency (#3133)
2018-05-11 20:15 Alex Lam S.L  o replace `mocha` dependency (#3131)
2018-05-10 18:45 Alex Lam S.L  o fix corner case in `reduce_vars` (#3129)
2018-05-10 06:16 Alex Lam S.L  o fix corner case in call binding (#3128)
2018-05-07 20:17 Alex Lam S.L  o <v3.3.24> v3.3.24
2018-05-07 07:36 Alex Lam S.L  o fix various corner cases (#3126)
2018-05-06 16:42 Alex Lam S.L  o fix corner case in `reduce_vars` (#3124)
2018-05-05 13:17 Alex Lam S.L  o fix various corner cases (#3123)
2018-05-04 18:38 Alex Lam S.L  o speed up `collapse_vars` (#3119)
2018-05-04 06:05 Alex Lam S.L  o fix `reduce_vars` on nested invocations (#3118)
2018-05-03 19:14 Alex Lam S.L  o compress `AST_Sequence` within `AST_Call` (#3117)
2018-05-03 15:51 Alex Lam S.L  o better fix for #3113 (#3115)
2018-05-03 00:27 Alex Lam S.L  o fix `TreeWalker` scan order (#3114)
2018-05-02 15:11 Alex Lam S.L  o improve `reduce_vars` (#3112)
2018-04-28 17:14 Alex Lam S.L  o <v3.3.23> v3.3.23
2018-04-28 02:47 Alex Lam S.L  o improve numeral compression (#3108)
```



fast-forward

three-way merge



C3 是一个新的提交

rebase 会改变历史记录

rebase 只能用来清理本地工作

不要 rebase 公共提交

```
pick 2ba3986 add: ddd
pick f8e00bb add eee
pick 5b7cf49 add: ggg
pick c4a6dc2 add: fff

# Rebase 187fd68..c4a6dc2 onto 187fd68 (4 commands)
#
# Commands:
# p, pick = use commit
# r, reword = use commit, but edit the commit message
# e, edit = use commit, but stop for amending
# s, squash = use commit, but meld into previous commit
# f, fixup = like "squash", but discard this commit's log message
# x, exec = run command (the rest of the line) using shell
# d, drop = remove commit
```

`git rebase -i commit_id`

- merge 前压缩提交
  - × fix
  - × add
  - × save code
  - × 手误
  - × xxx
- 打造颗粒度提交

公共历史

不要随意更改公共历史

~~reset remote branch~~

~~在 master rebase 其他分支~~

~~在 master amend~~

使用 revert 回滚而不是reset

灵魂拷问：该不该使用 git push –-force?

设置分支保护不能覆盖公共历史

必须通过 merge request

使用相对安全的 –-force-with-lease

Workflow

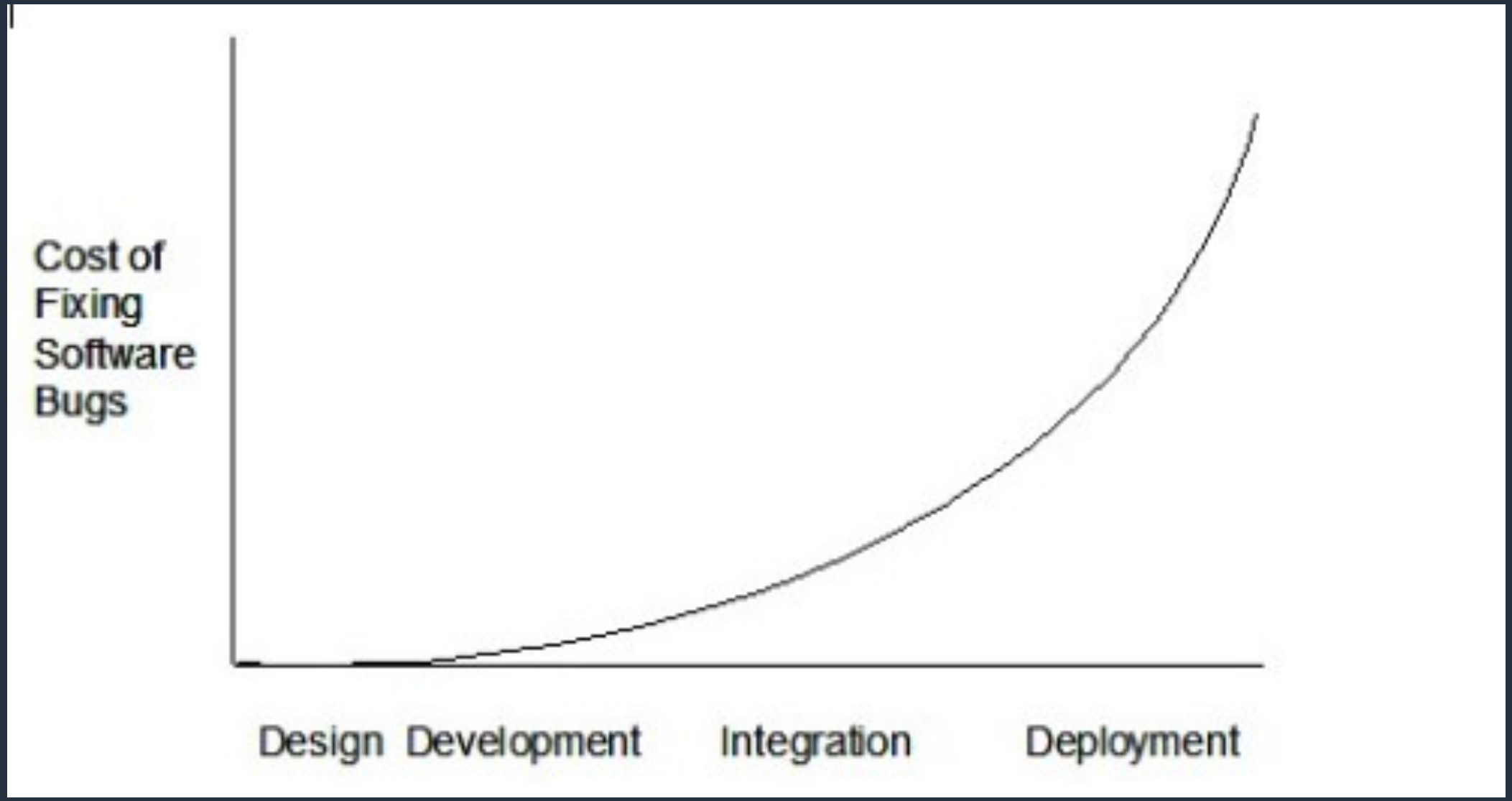
```
$ git checkout master
$ git pull –-rebase
$ git checkout –b <branch_name>
$ git add –-all
$ git commit
$ git rebase –i commit_id
$ git rebase master
$ git checkout master
$ git merge <branch_name>
```

Git 最佳实践

- 提交对应改动
- 频繁提交改动
- 不要提交不完整的改动
- 写好 commit message
- 频繁合并上游及压缩 commit
- 不要修改公共历史记录
- 遵循一个流程和规范

Code Review

CR 的意义


Cost of Fixing Software Bugs
Design
Development
Integration
Deployment

让 BUG 消灭在萌芽，做感动人心产品的基石

花一小时写 BUG，花一星期找 BUG

通过 Code Review 了解业务以及学习

Peer reviews catch 60% of the defects

——让代码可读可维护，预防 BUG、知识传递——

技术与业务的矛盾

工期太紧连 Coding 的时间都不够，以上线为目的

PM 需求变化频繁，代码生命周期短

CR 是一种教条，意义不大还需要时间人力成本

产品方案能实现就好了，我不在乎过程

——抱怨的是不是 Code Review 而是另外的问题——

如何做 Code Review

Code

可编译 => 可运行 => 可测试 =>

可读 => 可维护 => 可重用

——Code Review 至少可以让代码达到可读——

被 Review 的是代码不是人

不应该成为保证代码风格和编码规范的手段

CR 不止是 +1，Reviewer 也需要有责任心和道德感

尽可能多人参与，鼓励都参与进来

有效的沟通和交流发现的问题

Code Review 实施

Code Review 是一个不断迭代的过程

Code Review 角色

Title

Feature searchtab

Start the title with `WIP:` to prevent a **Work In Progress** merge request from being merged before it's ready.

Add description templates to help your contributors communicate effectively!

Description

Write Preview

搜券产品方案变更，顶部颜色渐变 @milife-fe

Markdown is supported

Attach a file

Assignee

Assignee

Assign to me

Milestone

Milestone

Labels

feature

Target branch

master

Remove source branch when merge request is accepted.

Save changes

Cancel

静态代码检查在 CR 之前

第一个 reviewer 是自己，先 diff 自己的改动

回复别人的 comments

让 reviewer resolve discussion

在没有被 merge 之前不要压缩 commits

代码是否满足业务需求

架构和系统设计是否满足可扩展性

代码是否易读可维护

性能和安全性

静态代码检查之外的 Code Style

Merge Request 只能由项目维护者 merge

减少项目维护者处理过多 MR，可先指定 reviewer list 成员先进行一次 review

项目维护者最终也需要 review，理想的情况是 reviewer list 成员 review 后，维护者只需要做 merge 或者进一步 comments

MIUI Code Review 规范

客户端

http://wiki.n.miui.com/pages/viewpage.action?pageId=95326091

服务端

http://wiki.n.miui.com/pages/viewpage.action?pageId=95326085

推荐阅读

https://www.openfoundry.org/tw/tech-column/9225-code-review-

https://coolshell.cn/articles/1302.html

https://coolshell.cn/articles/11432.html

https://docs.gitlab.com/ee/development/code_review.html

Thanks