

移动项目快速持续交付 的工程化实践

林永坚 - Mobile Developer @  realestate
.com.au

JavaScriptCore

Dynamic Cocoa

动态化

JSPatch

Weex

大前端

React Native

rollout.io



KEFLAN

不忘初心 方得始终

不忘初心 方得始终

- 如何快速的发布新功能
- 如何迅速解决bug



麻瓜的幸褔2B生活



realestate.com.au App

- 拥有澳大利亚 **97-99%** 的在线房产信息



realestate.com.au App

- 拥有澳大利亚 **97-99%** 的在线房产信息
- **四份之一**的澳大利亚人下载并使用



realestate.com.au App

- 拥有澳大利亚 **97-99%** 的在线房产信息
- **四份之一**的澳大利亚人下载并使用
- 平均使用时长是主要竞争对手的 **1.8 倍**

真相



真相

- 7 到 8 年的老旧代码

真相

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- iOS 7 上线时, **App 全线崩溃**

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- App 由开发者机器提交

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- iOS 7 上线时, App 全线崩溃
- master 分支完全失控
- App 由开发者机器提交
- 两、三百万的 CoreData 崩溃

我们持续改善了两年



现状

- App 至少**每四周**发布一次  

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现状

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- 能在**一到两天**发布紧急修复
- AppStore 评分由 **2.5 提高到 4**
- App 启动次数增加了 **5 倍** 🚀

鬼知道我经历了 sēn mó...



交付快车

Release
Train



交付快车

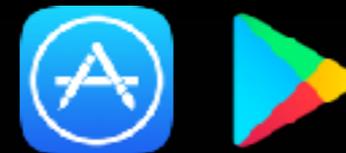
无论什么情况都周期性地发布新版本

交付快车

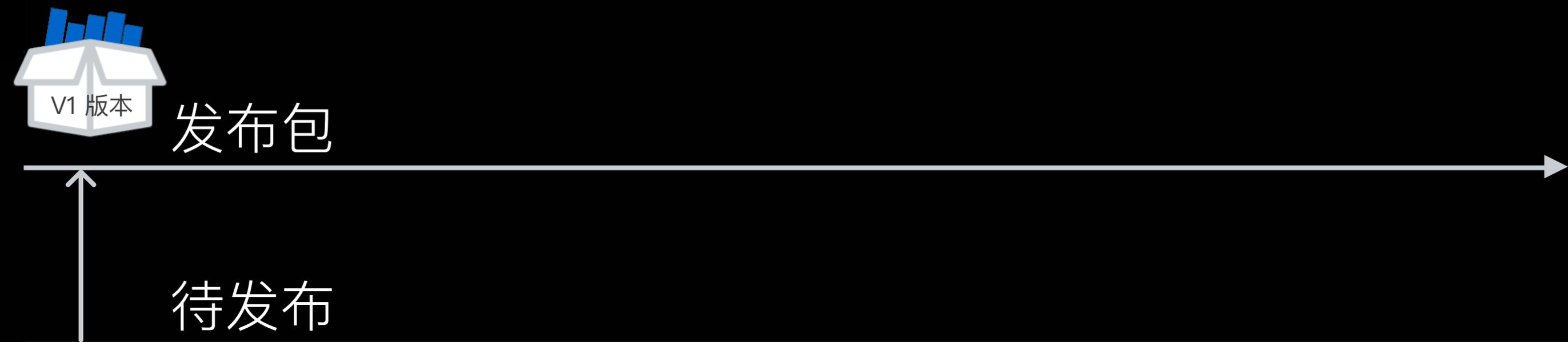


交付快车

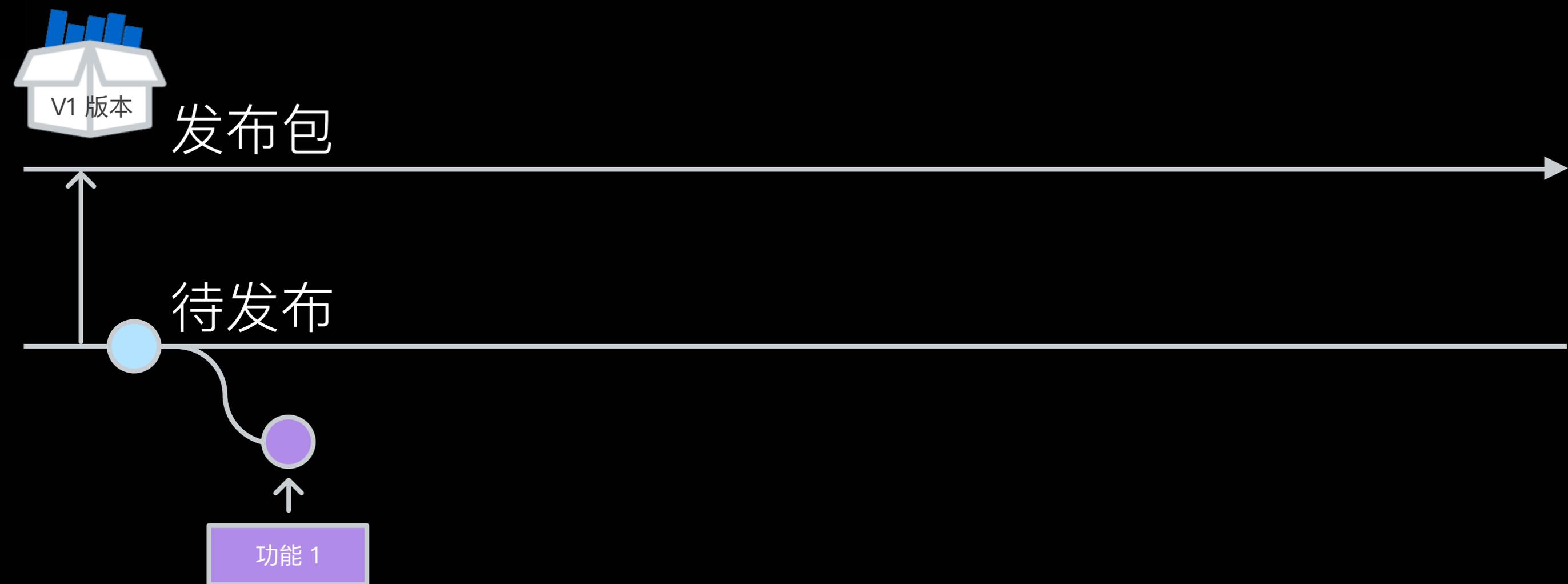
V2 版本的发布日



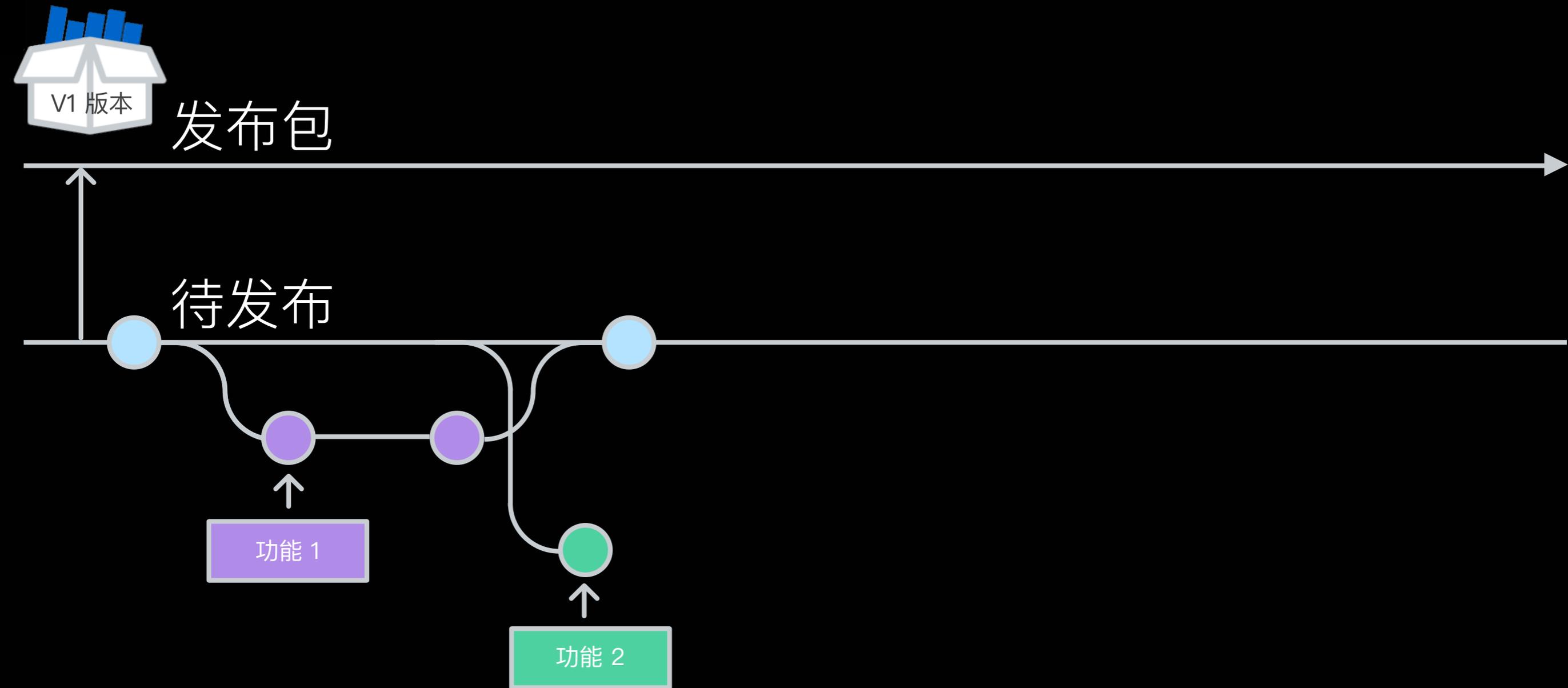
交付快车



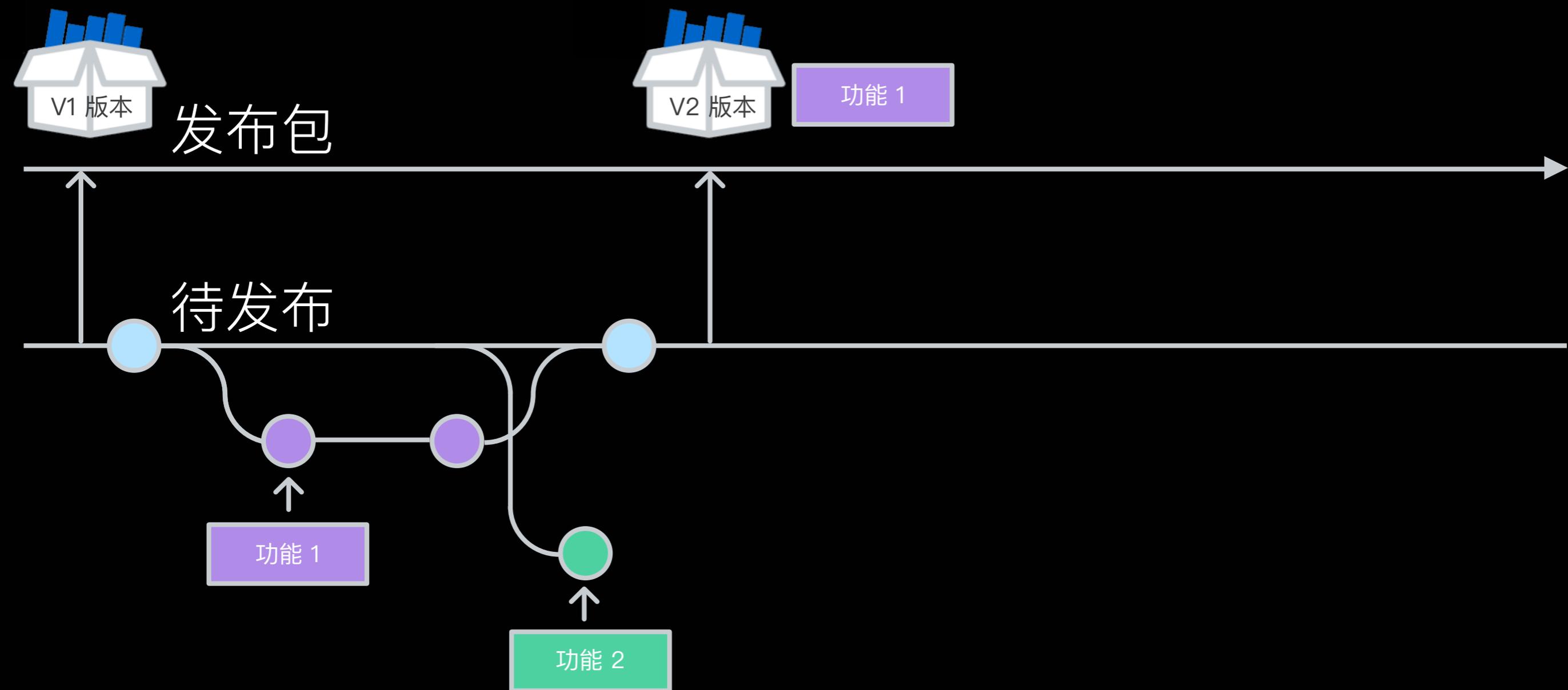
交付快车



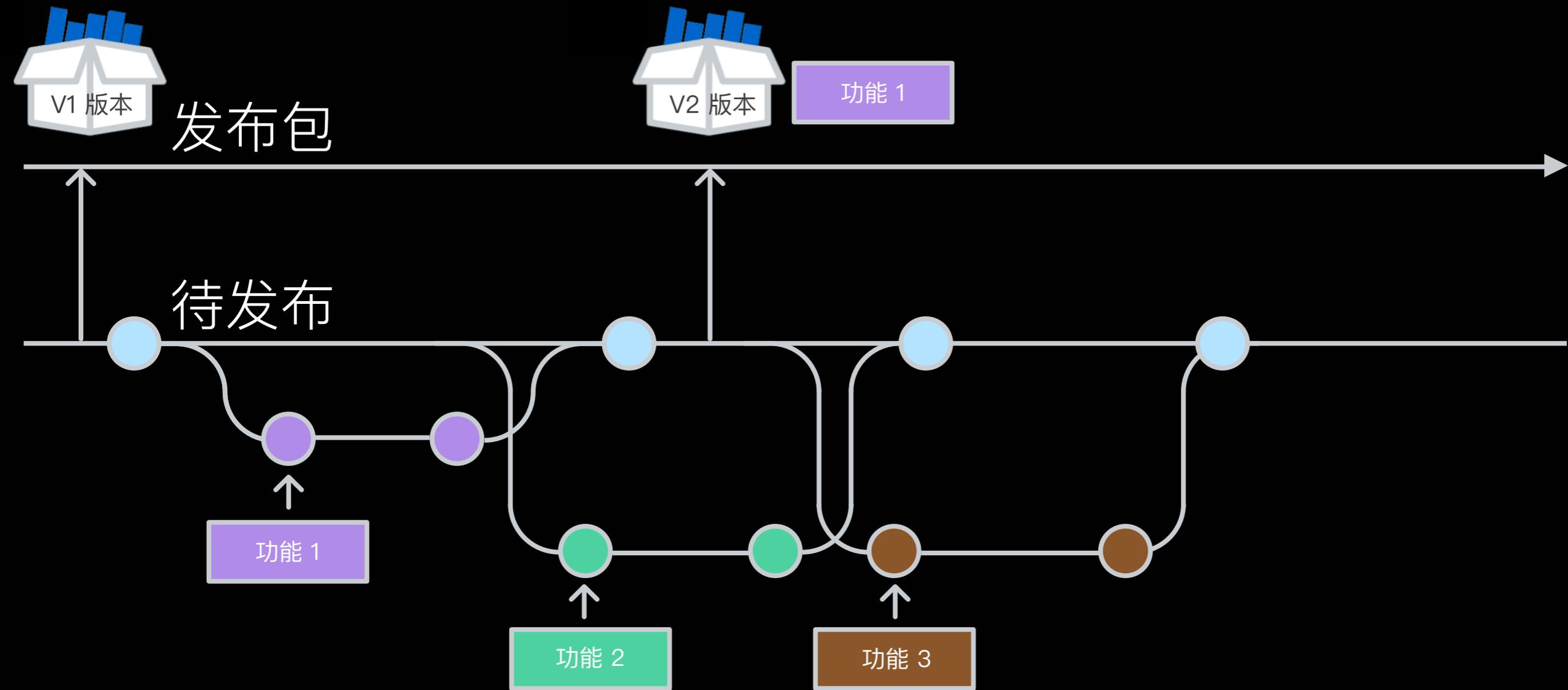
交付快车



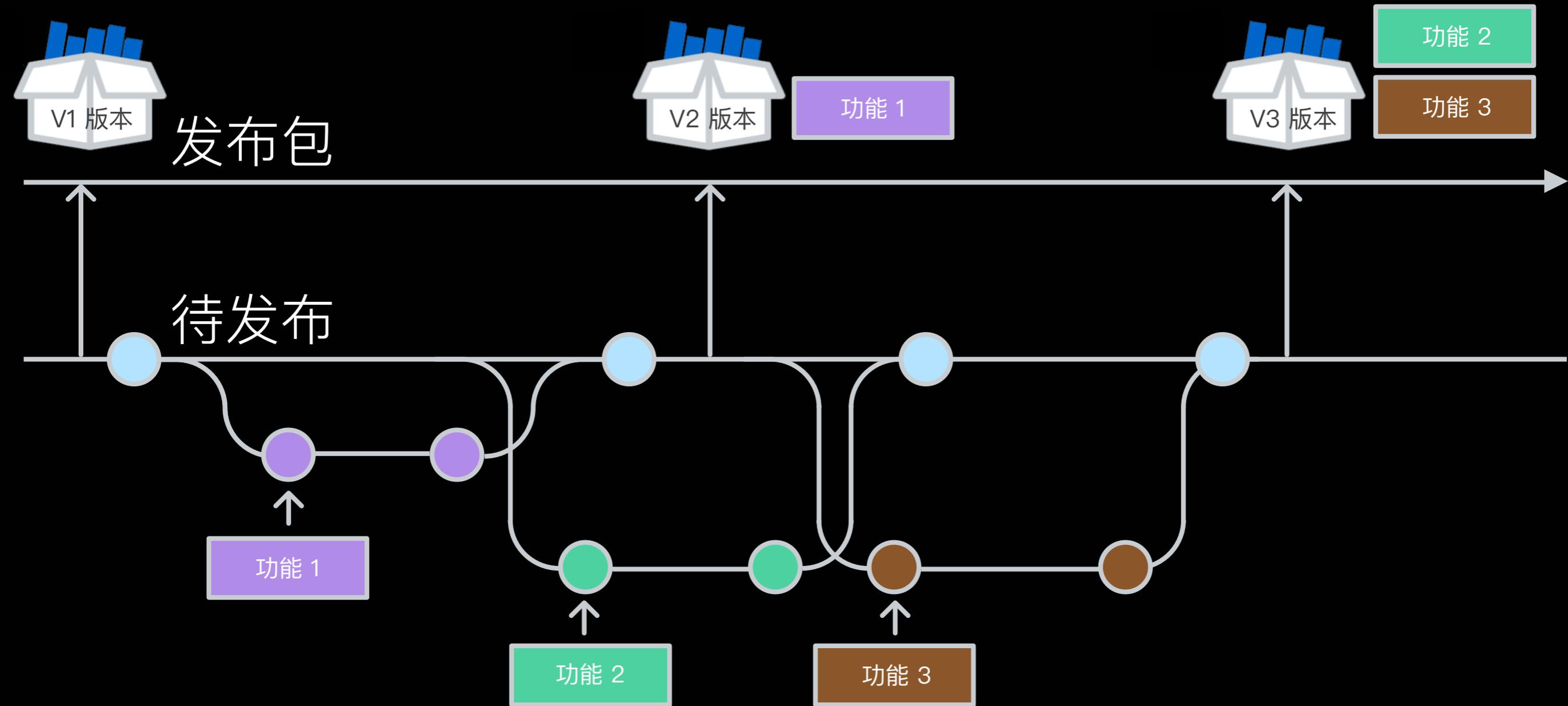
交付快车



交付快车



交付快车



交付快车的优点

- 把发布变成一种习惯

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交付快车的优点

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- 统一发布日期，减轻部门间的沟通成本

交付快车的优点

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- 简化任务估算流程，方便排列优先级
- 减轻开发压力
- 统一发布日期，减轻部门间的沟通成本
- 用户可以看到持续的改进

代码控制与管理

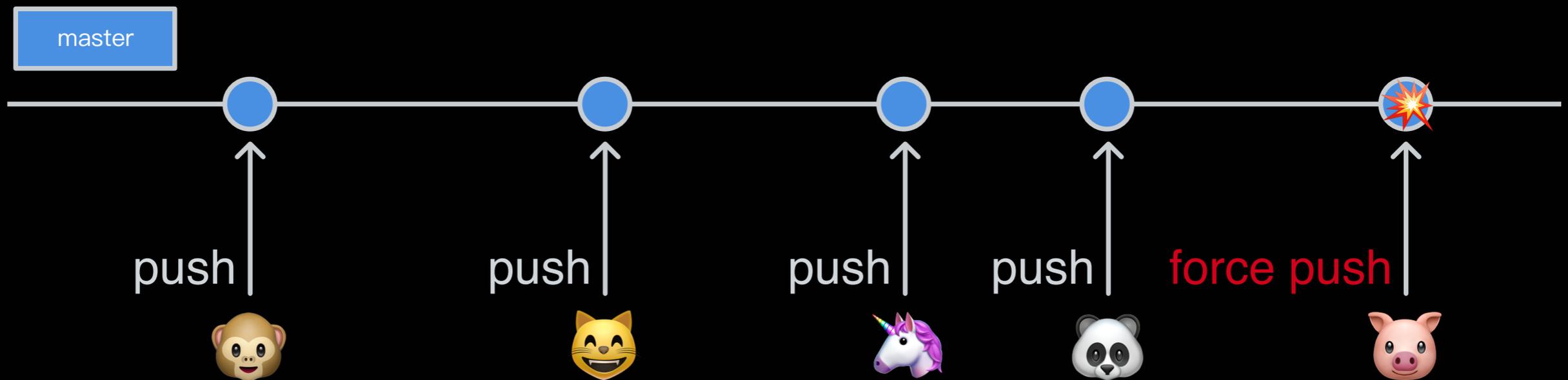
- Github 企业版



GitHub Enterprise

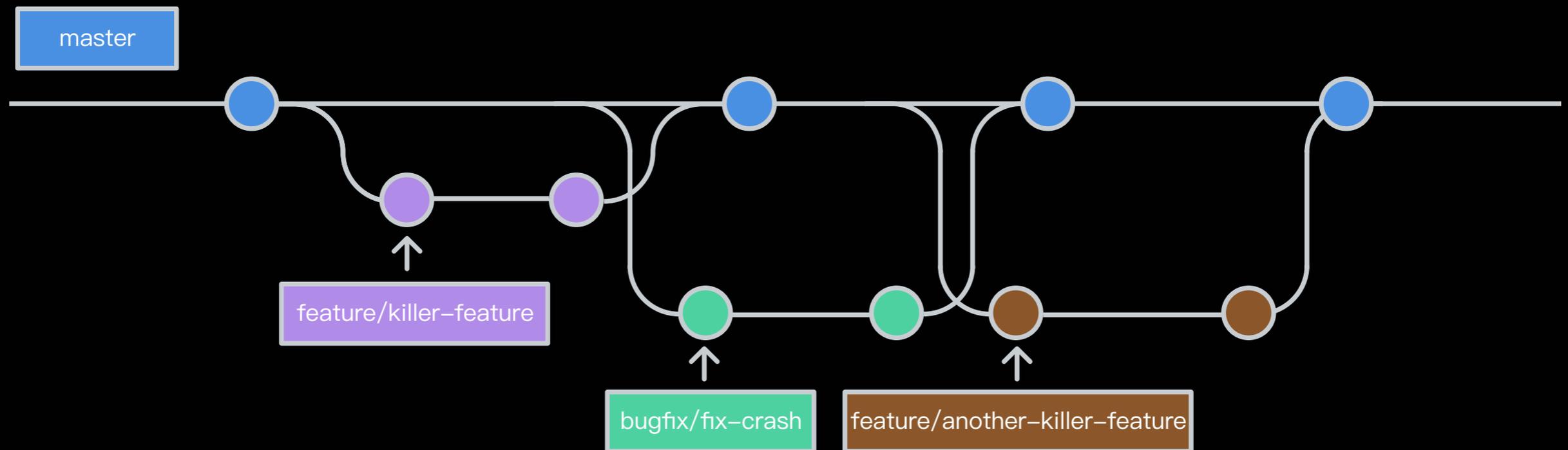
代码控制与管理

- 原先混乱的无管理的 master 分支



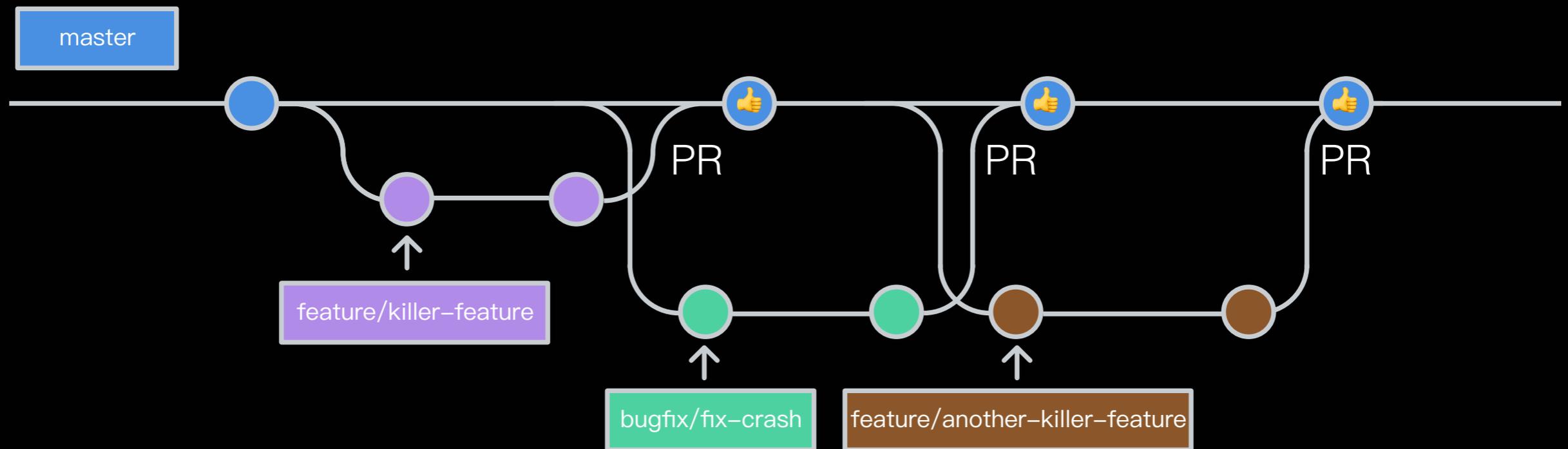
代码控制与管理

- 通过功能分支管理的流程



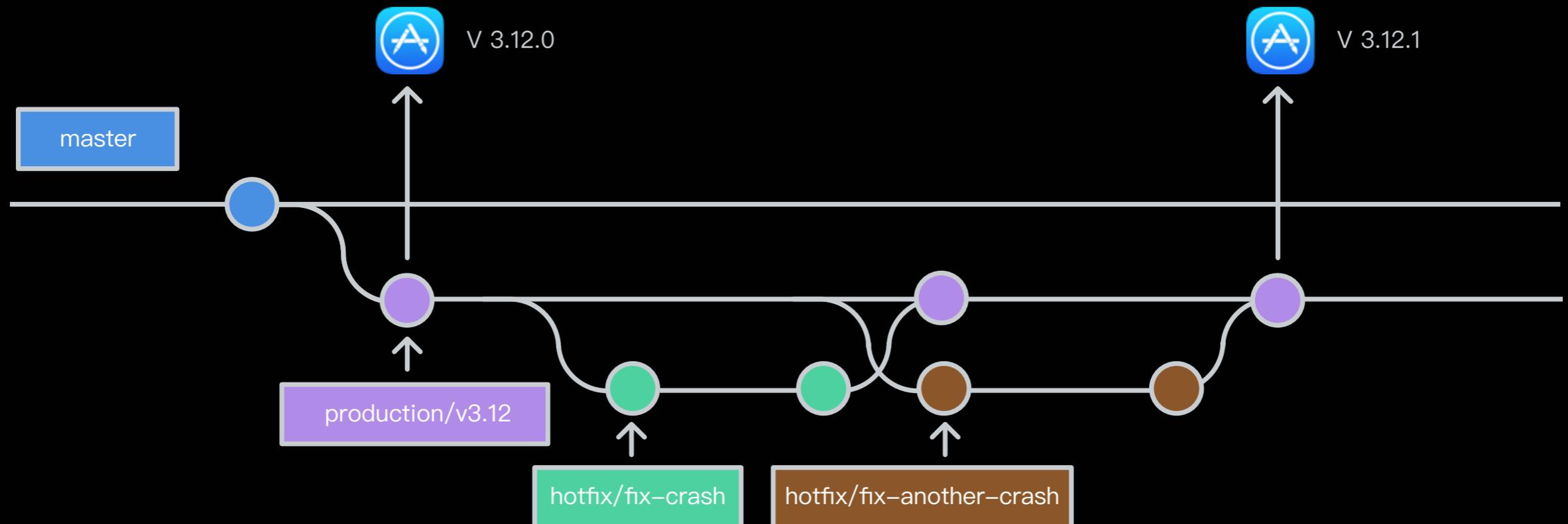
代码控制与管理

- Pull request 流程



代码控制与管理

- 使用 Production 分支进行发布



代码控制与管理

#aap-release-train

☆ | 36 | 0 | [Settings] [List] [Search] [Mentions] [Star] [More] [Gift]

May 10th

[Profile] 10:20 AM
The point release is now live on the AppStore
iOS 3.12.1 (3.12.1.5746) ← 版本 3.12.1
This is just the `Welcome to Collections` text fix (edited)

[Profile] 10:58 AM
The Android 4.10 app has been released to 20%

May 11th

[Profile] 12:08 PM
Our Android 4.10.0 app has been release to 100% of Production
🤖 1 📊 1

May 12th

[Profile] 1:42 PM
Release 3.12.2 will be released to consumer sunday night at 5pm @ [Profile]

Yesterday

[Profile] 9:45 AM
iOS 3.12.2 (3.12.2.5806) was released yesterday ← 版本 3.12.2
👍 1

Today

[Profile] 1:11 PM
iOS 3.12.3 (3.12.3.5824) has just released to consumers ← 版本 3.12.3
🚀 4

+ Message #aap-release-train [Emoji]

怎样处理长时间的 Git 分支？



功能开关

- Feature toggle

```
if FeatureToggle.isKillerFeatureEnabled {  
    displayKillerFeature() // 🎉  
} else {  
    displayBoringOldFeature() // 😂  
}
```

功能开关的优点

- 隐藏未完成的功能，保证 master 永远可随时发布

功能开关的优点

- 隐藏未完成的功能，保证 master 永远可随时发布
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- 避免长时间的功能分支，及时 merge 到 master

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- 无惧功能变化，随时引入新功能
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- 更好的软件架构，面向接口编程

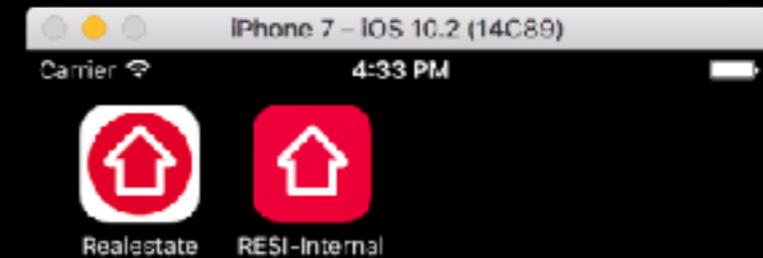
功能开关的类型

- Build target 开关

```
#if INTERNAL_TARGET
    let isInternalTarget = true
#else
    let isInternalTarget = false
#endif

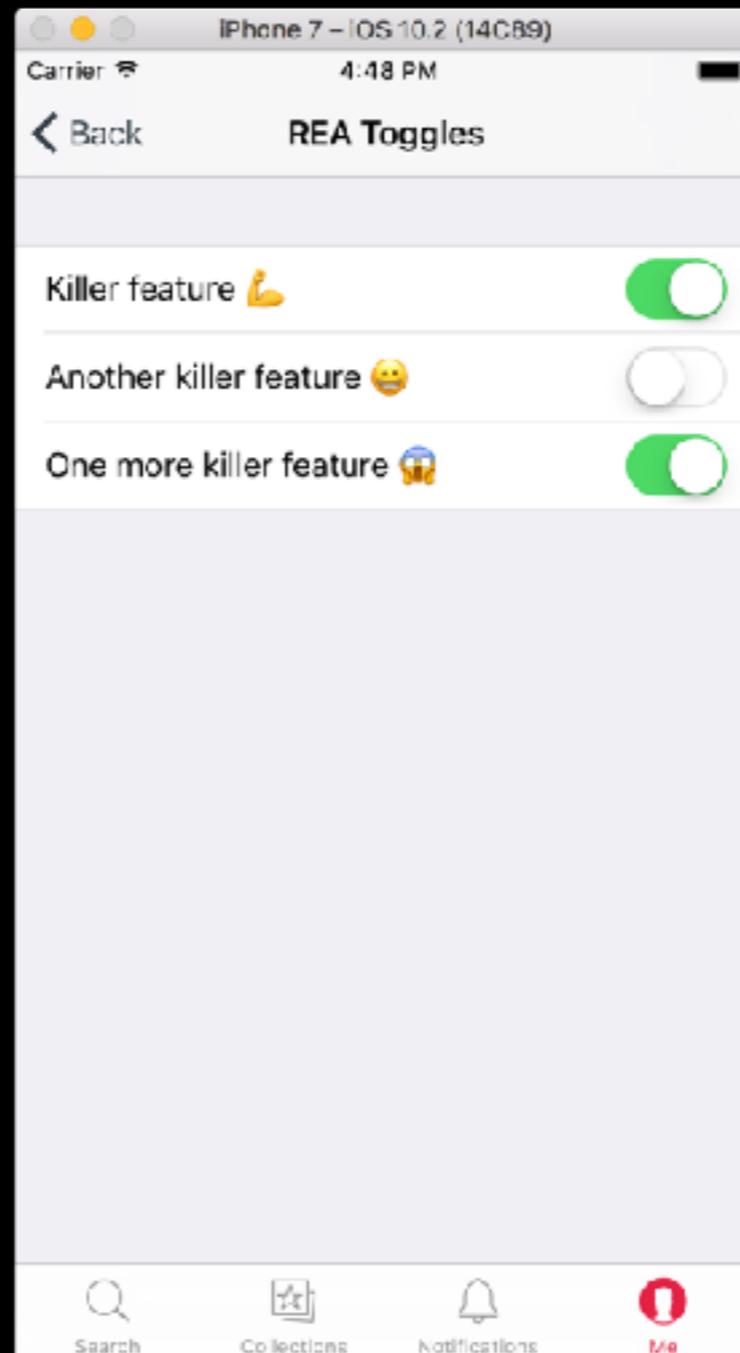
#if PRODUCTION_TARGET
    let isProductionTarget = true
#else
    let isProductionTarget = false
#endif

static var isKillerFeatureEnabled: Bool {
    return isInternalTarget
}
```



功能开关的类型

- 本地开关



功能开关的类型

- 远程开关

The screenshot shows the Firebase Remote Config console interface. At the top, there's a search bar with the text "Search parameters, values and conditions" and an "ADD PARAMETER" button. Below this, two parameter entries are visible. Each entry has a name (partially obscured by a grey box) followed by a list of environment-specific values. The first entry has values for "iOS Internal" (false) and "iOS Production" (false), with a "Default value" of "(empty string)". The second entry has identical values for "iOS Internal" (false), "iOS Production" (false), and "Default value" (empty string).

I DID
NOTHING
TODAY AND
STILL GOT PAID
因为我有 CI



持续集成 (CI)



fastlane



Buildkite

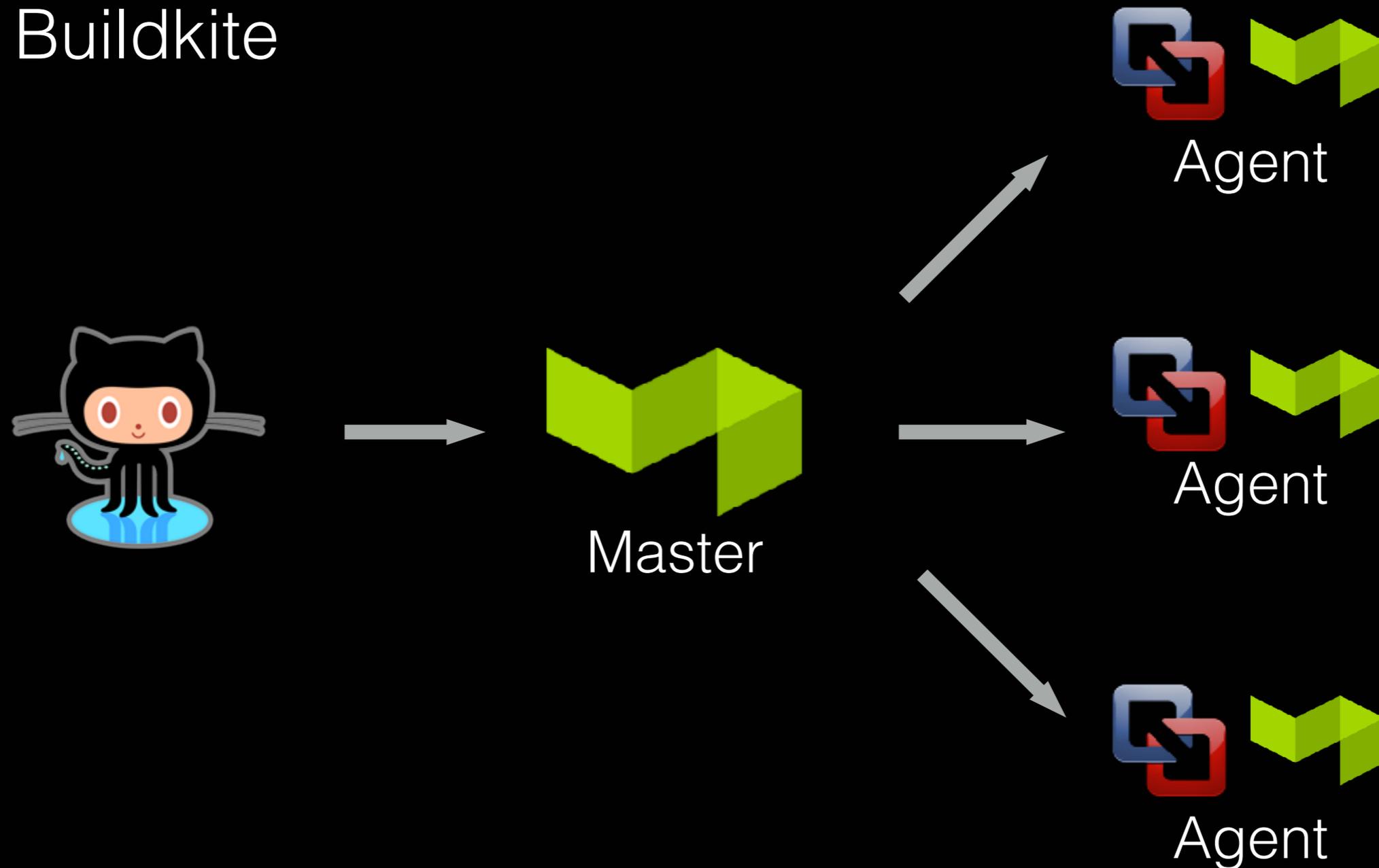
持续集成 (CI)



- 构建项目 
- 执行自动化测试 
- 管理 Provisioning profiles 
- 上传到测试平台，例如 Fabric Beta 
- 提交到 TestFlight 及 AppStore 

持续集成 (CI)

- Buildkite



[Property Platform] iOS

git@



84 Builds

0 Running

0 Scheduled

New Build

Pipeline Settings

[pp-507] fix iPad crash and text color

Build #84 | master | e4308ed

Passed in 41m 6s



Created yesterday at 2:15 PM | Triggered from Webhook

Rebuild

✓ cat ci/config.yml | buildkite-agent pipeline upload ⌚ 13 seconds 📦 devlob-mobile-build-macmini

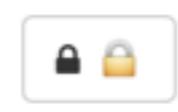
✓ 🍺 prepare ci/setup.sh ⌚ 45 seconds 📦 devlob-mobile-build-macmini



✓ 🔍 lint ci/lint.sh ⌚ 13 seconds 📦 devlob-mobile-build-macmini



✓ 💣 test ci/test.sh ⌚ 6 minutes, 15 seconds 📦 devlob-mobile-build-macmini



🔒 🏭 adhoc build ci/build_internal.sh ⌚ 15 minutes, 51 seconds 📦 devlob-mobile-build-macmini



🔒 🚀 appstore build ci/build_production.sh ⌚ 17 minutes, 33 seconds 📦 devlob-mobile-build-macmini

[Property Platform] iOS

git@

84 Builds

[pp-507] fix iPad crash and text color

Build #84 | master | e4308ed

prepare >
 lint >
 test >
 ad hoc build >
 appstore build

Created yesterday at 2:15 PM | Triggered from Webhook

✓ cat ci/config.yml | buildkite-agent pipeline upload

✓ prepare ci/setup.sh

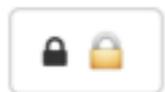
✓ lint ci/lint.sh

✓ test ci/test.sh



ad hoc build ci/build_internal.sh

⌚ 15 minutes, 51 seconds devlob-mobile-build-macmini



appstore build ci/build_production.sh

⌚ 17 minutes, 33 seconds devlob-mobile-build-macmini

```

1  steps:
2
3  - command: "ci/setup.sh"
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11   agents:
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13
14  - wait
15  - command: "ci/test.sh"
16    label: ":boom: test"
17    agents:
18      - queue=devlob-queue
19
20  - wait
21  - block: ":lock:"
22  - command: "ci/build_internal.sh"
23    label: ":building_construction: ad hoc build"
24    agents:
25      - queue=devlob-queue
26
27  - wait
28  - block: ":lock:"
29  - command: "ci/build_production.sh"
30    label: ":rocket: appstore build"
31    agents:
32      - queue=devlob-queue
  
```

config.yml

[Property Platform] iOS

git@

84 Builds

[pp-507] fix iPad crash and text color

Build #84 | master | e4308ed

prepare >
 lint >
 test >
 adhoc build >
 appstore build

Created yesterday at 2:15 PM | Triggered from Webhook

cat ci/config.yml | buildkite-agent pipeline upload

prepare ci/setup.sh

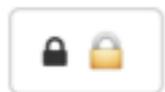
lint ci/lint.sh

test ci/test.sh



adhoc build ci/build_internal.sh

15 minutes, 51 seconds | devlob-mobile-build-macmini



appstore build ci/build_production.sh

17 minutes, 33 seconds | devlob-mobile-build-macmini

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config.yml

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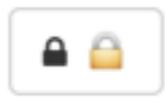
✓ lint ci/lint.sh

✓ test ci/test.sh



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[Property Platform] iOS

git@

84 Builds

config.yml

[pp-507] fix iPad crash and text color

Build #84 | master | e4308ed

prepare > lint > test > adhoc build > appstore build

Created yesterday at 2:15 PM | Triggered from Webhook

✓ cat ci/config.yml | buildkite-agent pipeline upload

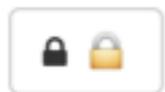
✓ prepare ci/setup.sh

✓ lint ci/lint.sh

✓ test ci/test.sh

Jake Lin unblocked
Yesterday at 2:16 PM

✓ adhoc build ci/build_internal.sh 15 minutes, 51 seconds devlob-mobile-build-macmini



🔒 appstore build ci/build_production.sh 17 minutes, 33 seconds devlob-mobile-build-macmini

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Build Agent 的软件更新怎么办?



Factory to create OS X VM Edit

170 commits 2 branches 0 releases 3 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

Edit README file		Latest commit 67374ef on Feb 20
ci	Remove VirtualBox script	3 months ago
deploy	Add better error message	8 months ago
packer/vmware	Remove VirtualBox script	3 months ago
prepare_iso	Initial commit	a year ago
scripts	Remove VirtualBox script	3 months ago
.gitignore	...	a year ago
README.md	...	3 months ago
config.json	Use Xcode 8.2.1	5 months ago
machines.json	Use the Mac Pro as the build machine	5 months ago

自动构建 Build Agent

Factory to create OS X VM

Edit

170 commits 2 branches 0 releases 3 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

Table with columns: File Name, Commit Message, Commit Time. Includes folders like ci, deploy, packer/vmware and files like .gitignore, README.md, config.json, machines.json.

```
1 {
2   "provider": "vmware",
3   "secret_file": "/Users/macpro/Documents/REA/secret.json",
4   "box_folder": "/Users/macpro/Documents/REA/Box",
5   "xcode_version": "8.2.1",
6   "xcode_simulators": "iOS 8.4_iOS 9.3",
7   "xcode_folder": "/Users/macpro/Downloads/Xcode/",
8   "buildkite_name": "aap-ios-%hostname-n-%n",
9   "buildkite_metadata": "queue=aap-ios:resi-mobile-ios:build,xcode=8"
10 }
```

Factory to create OS X VM

Edit

170 commits 2 branches 0 releases 3 contributors

Branch: master New pull request

Create new file Upload files Find file Clone or download

- ci
- deploy
- packer/vmware
- prepare_iso
- scripts
- .gitignore
- README.md
- config.json
- machines.json**

```

1 {
2   "machines": [
3     {
4       "user_host": "macpro-1",
5       "box_folder": "Documents/REA/Box/",
6       "deploy_folder": "Documents/REA/VM/",
7       "nodes": [
8         {
9           "hostname": "macpro-1", "cpus": "4", "memory": "8192",
10          "buildkite_name": "aap-ios-%hostname",
11          "buildkite_metadata": "queue=aap-ios:resi-mobile-ios:deploy,xcode=8.2"
12        },
13        {
14          "hostname": "macpro-2", "cpus": "4", "memory": "8192",
15          "buildkite_name": "aap-ios-%hostname",
16          "buildkite_metadata": "queue=aap-ios:resi-mobile-ios:build,xcode=8.2"
17        },
18      ],
19    },
20  ],
21 }

```

- most commit 67374ef on Feb 20
- 3 months ago
- 8 months ago
- 3 months ago
- a year ago
- 3 months ago
- a year ago
- 3 months ago
- 5 months ago
- 5 months ago



- Pipeline Upload > VMware Setup > OS X > Xcode > Tools > VM Transfer > VM Deploy

Created Mon 20th Feb at 1:48 PM | Triggered from Webhook

Rebuild Cancel

✓ Pipeline Upload ci/pipeline.sh | buildkite-agent pipeline upload 7 seconds aap-ios-macpro-vm-factory



✓ VMware Setup ci/vmware/setup.sh 5 seconds aap-ios-macpro-vm-factory



✓ OS X ci/vmware/osx.sh 4 seconds aap-ios-macpro-vm-factory



✓ Xcode ci/vmware/xcode.sh 3 seconds aap-ios-macpro-vm-factory



✓ Tools ci/vmware/tools.sh 3 seconds aap-ios-macpro-vm-factory



✓ VM Transfer ci/vmware/transfer.sh 3 minutes, 32 seconds aap-ios-macpro-vm-factory



VM Deploy ci/vmware/deploy.sh

没有热修复
怎样修 App Store 上的 bug?

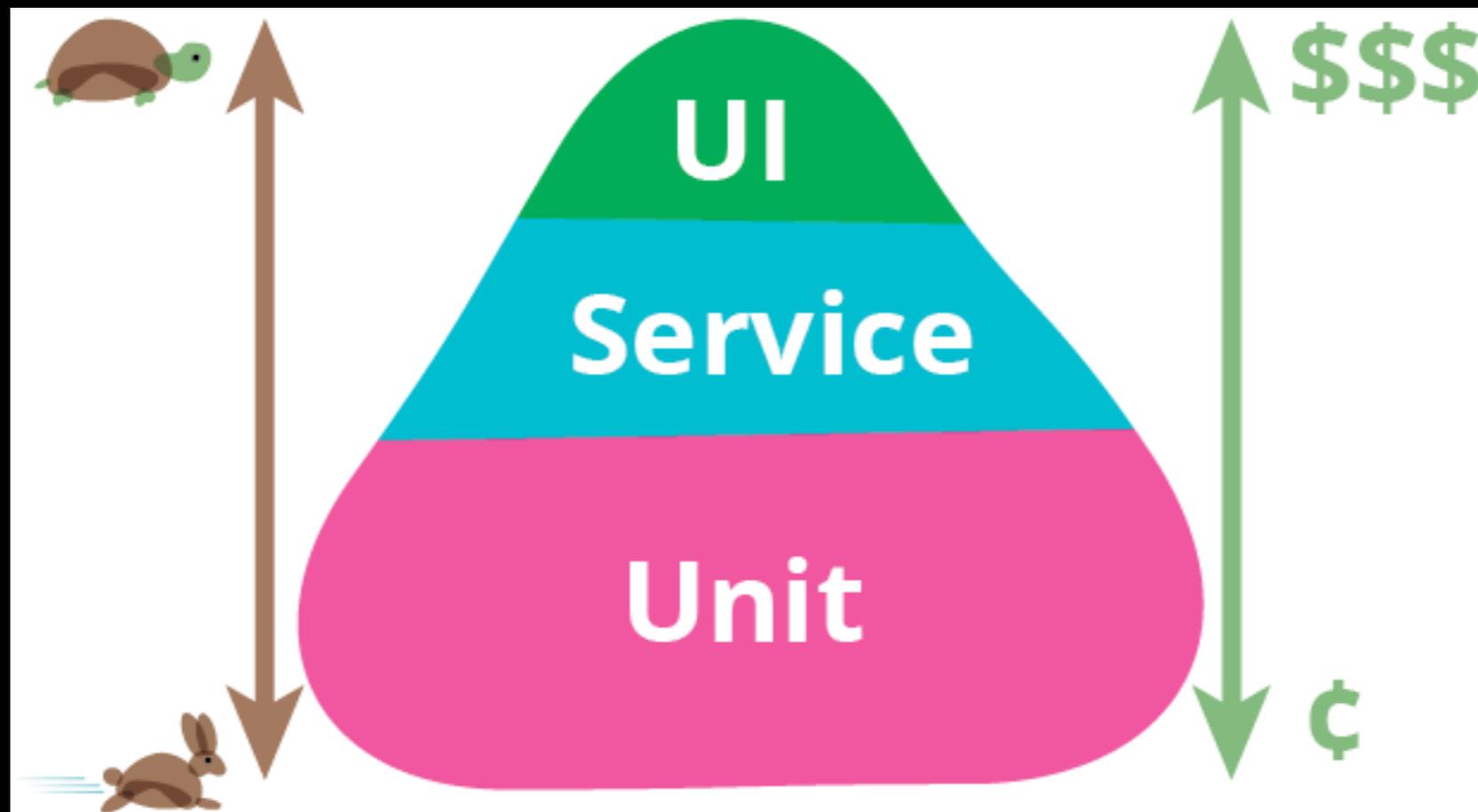


没有热修复

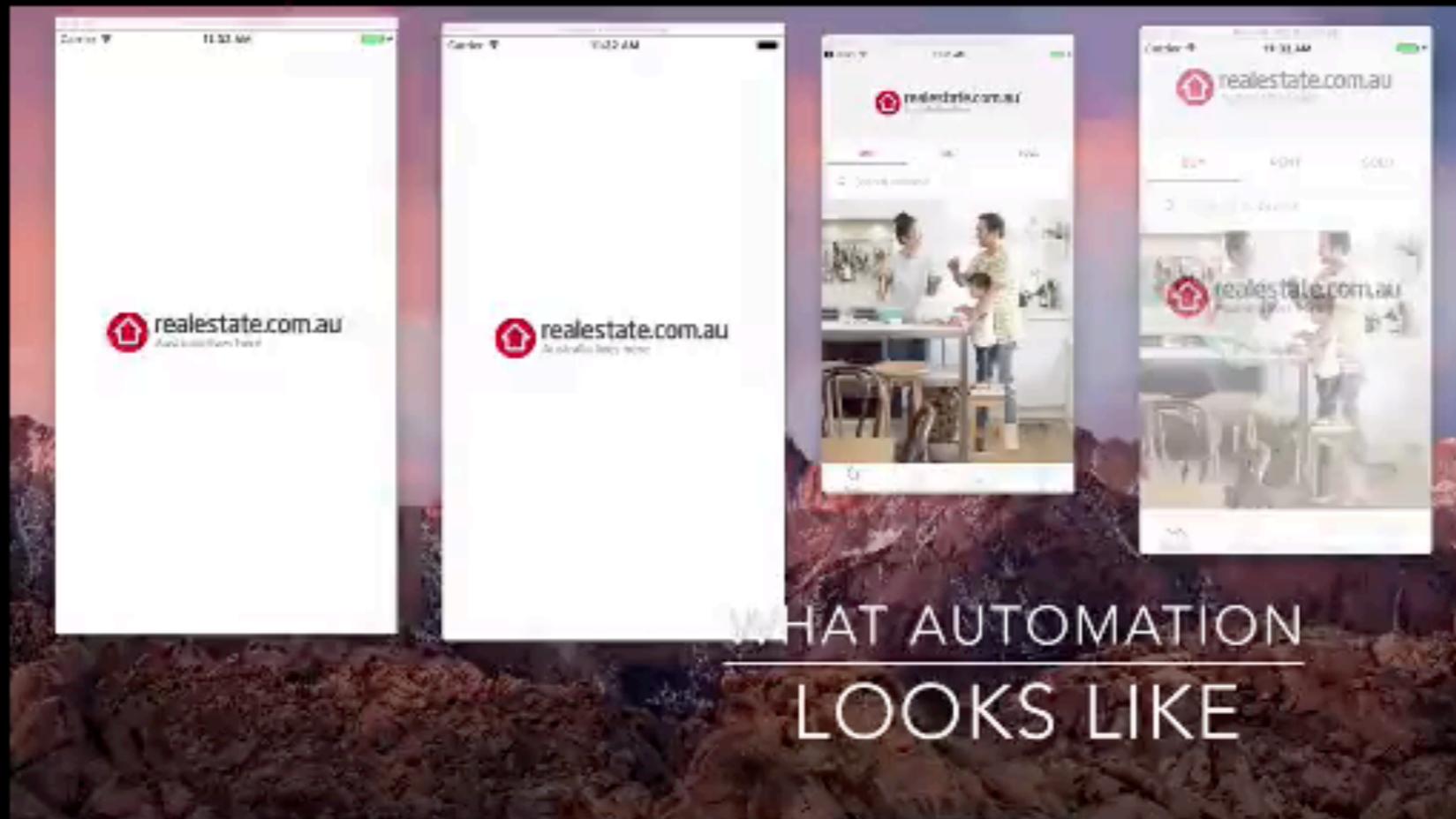
怎样修 App Store 上的 bug?

尽量少写 

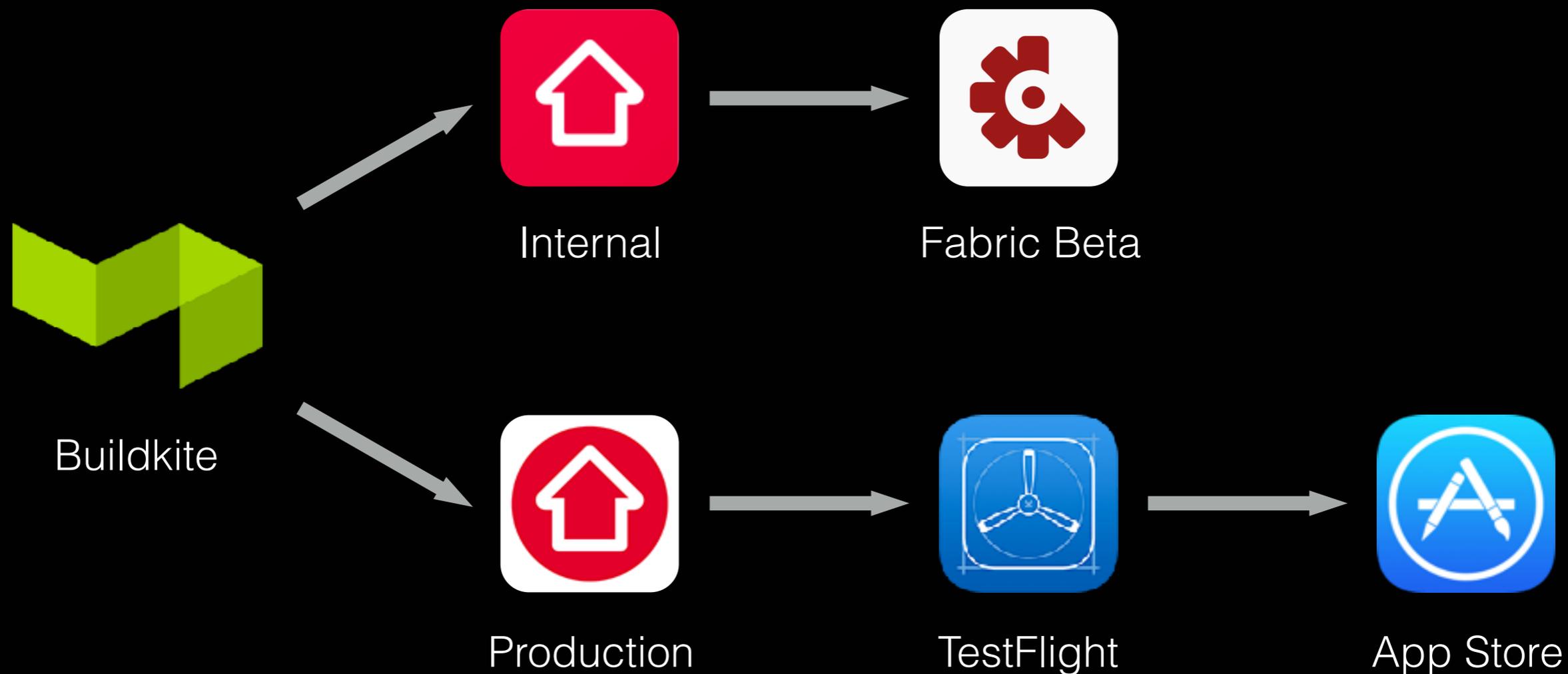
自动化测试



自动化测试

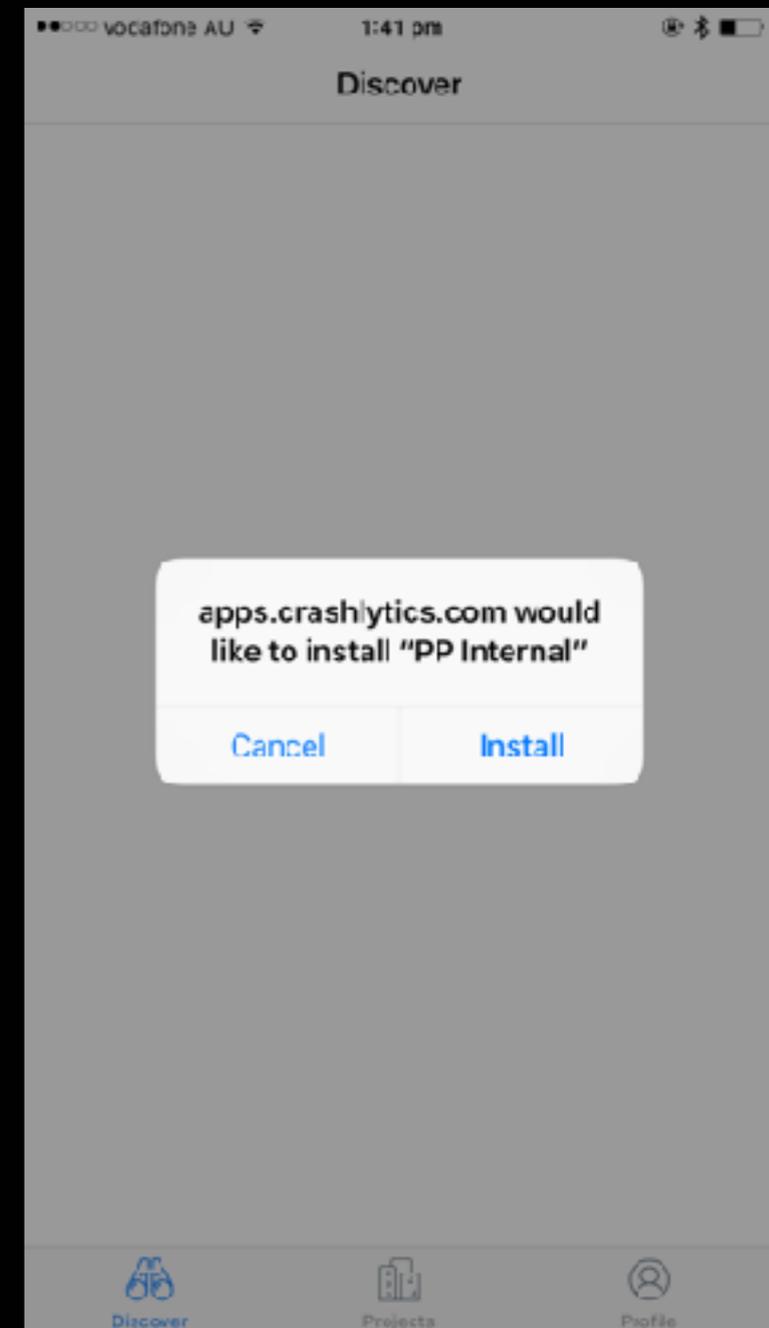
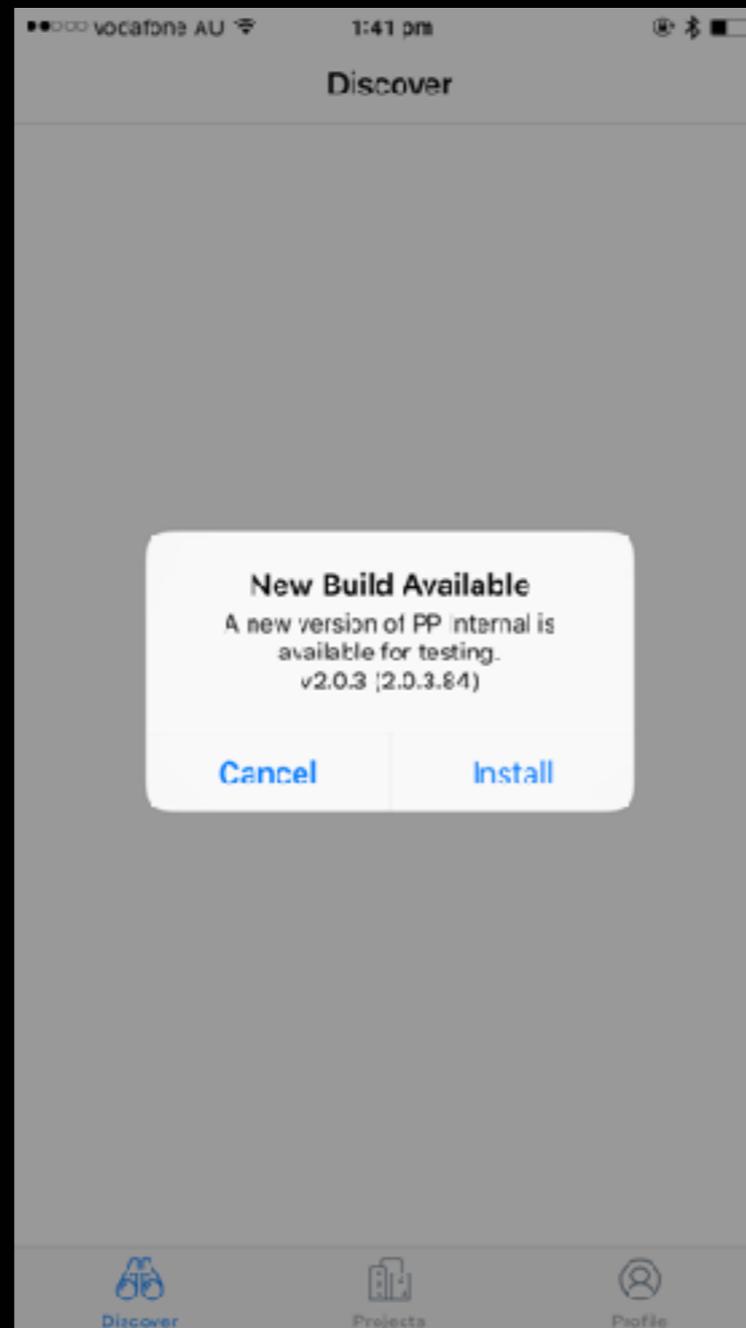


App 的发布流程



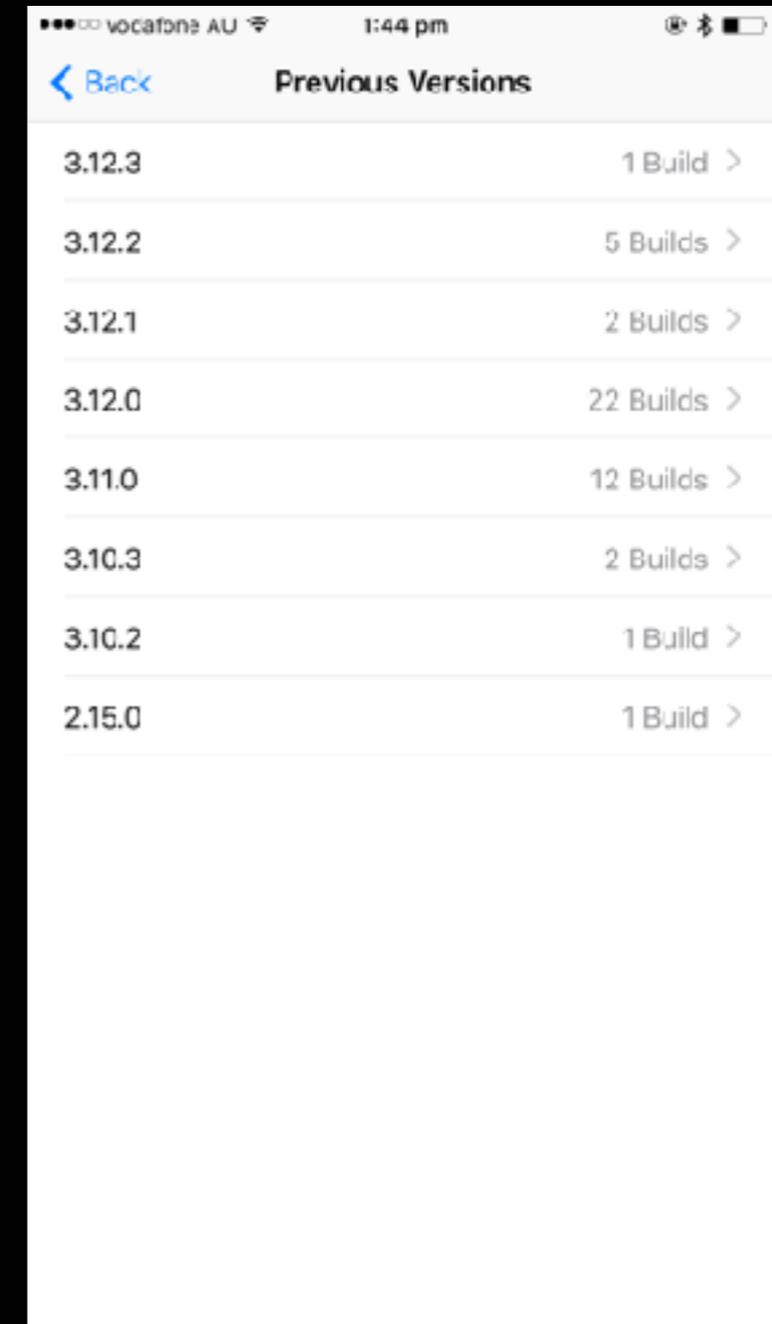
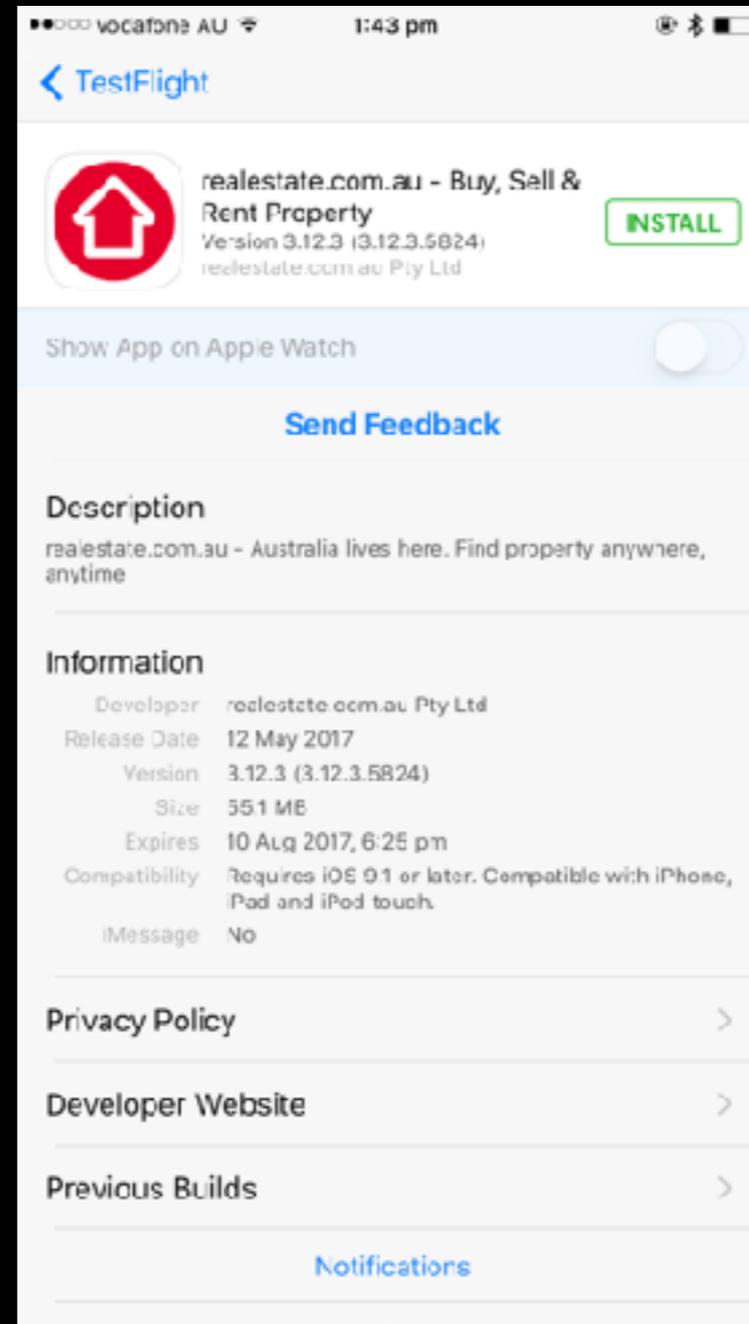
App 的发布流程

- Fabric Beta

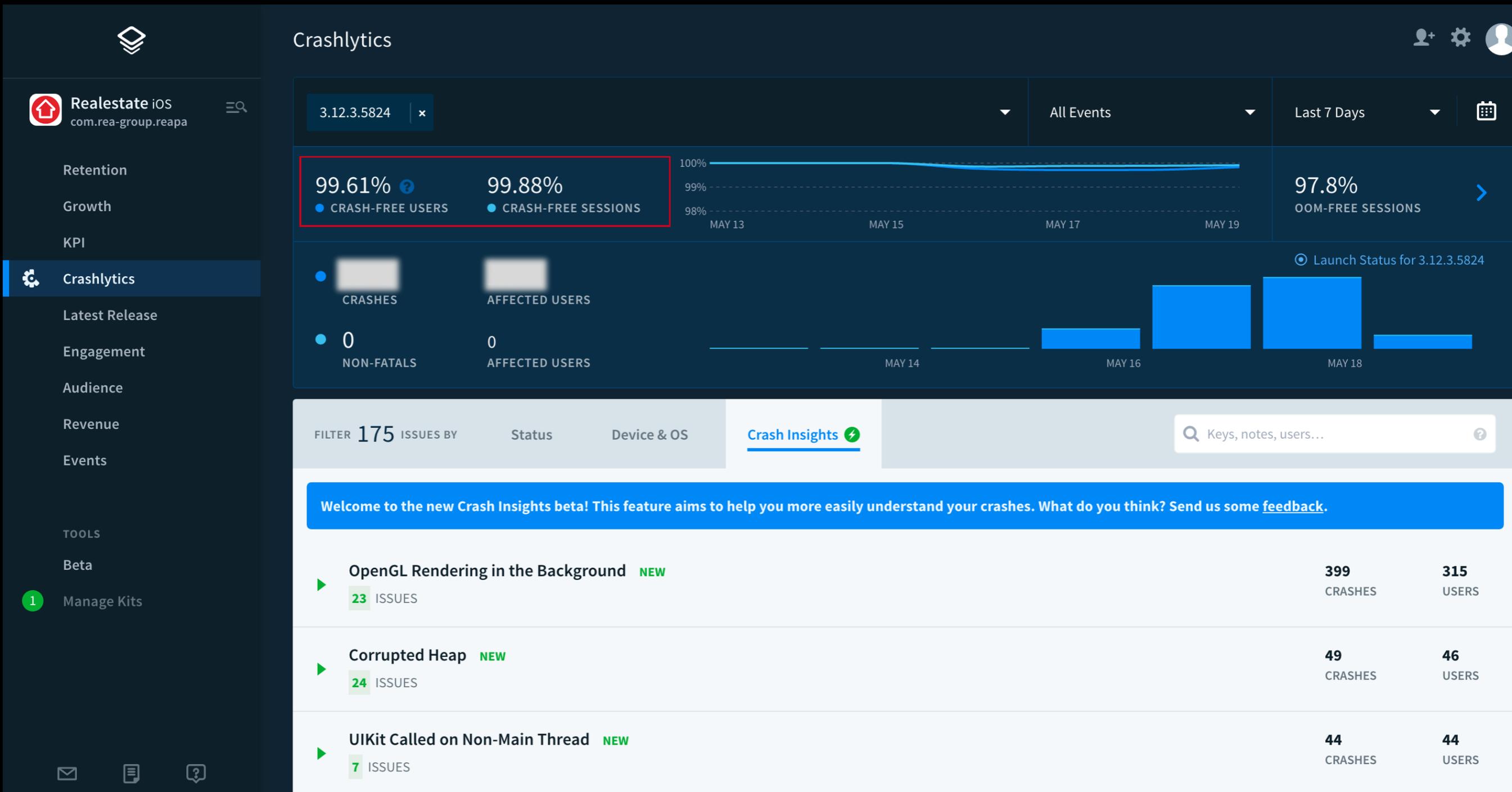


App 的发布流程

- TestFlight



崩溃报告



分析数据



Audience

Activity in your app right **now**

A dark blue world map showing activity hotspots. There are several orange and red circular markers of varying sizes, primarily concentrated in the Asia-Pacific region and Australia, with a few smaller ones in Europe and North America.

Filter By: New User Session Start

Check out your audience breakdown by device and operating system:

Realestate iOS
com.rea-group.reapa

- Retention
- Growth
- KPI
- Crashlytics
- Latest Release
- Engagement
- Audience**
- Revenue
- Events

TOOLS

- Beta
- 1** Manage Kits

分析数据



Firebase Realestate Go to docs J

Overview **Analytics** au.com.realestate.app

DASHBOARD EVENTS AUDIENCES ATTRIBUTION FUNNELS COHORTS **STREAMVIEW** USER PROPERTIES

©2017 Google - Map data ©2017 Terms of Use

USERS EVENTS *Streaming in the last 30 mins*

Top User Property Value: Satisf...Group = none

Top Location: Australia

Top App Version: 4.10.0

View a random user's event stream

USER SNAPSHOT

Blaze Pay as you go MODIFY

系统监控



New Relic
MOBILE

Alerts ^{New} Tools Help Resi 6

Mobile apps

MOBILE APPLICATIONS
resi-mobile-ios

Alerts for resi-mobile-ios

← All alerts

Filter:

today

- Http error rate for [redacted] of 20.973% > 10. Incident closed Today, 7:59
0%
Opened Today, 7:47, lasted 5 minutes

this week

- Http error rate for [redacted] of 18.304% > 10. Incident closed Tuesday, 14:57
0%
Opened Tuesday, 14:46, lasted 4 minutes
- Http error rate for [redacted] of 30.59% > 10.0% Incident closed Tuesday, 11:04
0%
Opened Tuesday, 10:47, lasted 10 minutes
- Http error rate for [redacted] of 15.118% > 10. Incident closed Tuesday, 1:26
0%
Opened Tuesday, 1:14, lasted 4 minutes
- Http error rate for [redacted] of 23.853% > 10.0% Incident closed 05/13, 22:03
0%
Opened 05/13, 21:48, lasted 7 minutes
- Http error rate for [redacted] of 25.178% > 10.0% Incident closed 05/13, 21:34
0%
Opened 05/13, 21:12, lasted 14 minutes

prior to last week

- Http error rate for [redacted] of 26.226% > 10.0% Incident closed

系统告警



pagerduty Incidents Alerts Configuration ▾

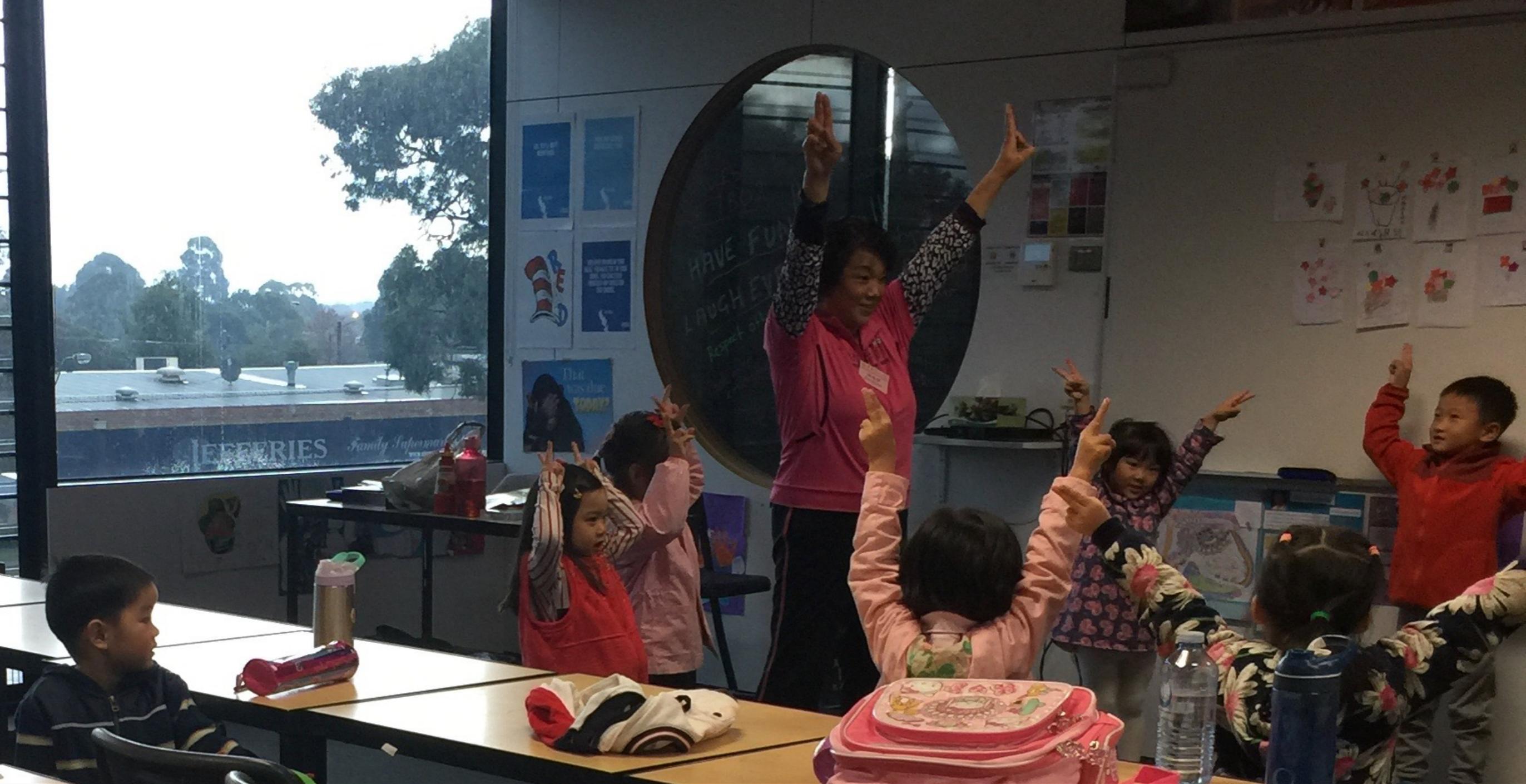
 **Jake Lin**

Contact Information **Notification Rules** User Settings On-Call Timeline

When a high-urgency incident is assigned to me...

- ✉ **Immediately** after it's assigned to me, html email me at **jake@example.com (Default)**
- 💬 **5 minutes** after it's assigned to me, sms me at **+61 400123456 (Mobile)**
- 📞 **10 minutes** after it's assigned to me, phone me at **+61 400123456 (Mobile)**
- 📞 **20 minutes** after it's assigned to me, shut down **Netflix**
- 📞 **30 minutes** after it's assigned to me, shut down **Internet**
- 📞 **45 minutes** after it's assigned to me, phone my wife at **+61 400888888 (Mobile)**
- 📞 **60 minutes** after it's assigned to me, phone police at **000**

[+ Add Notification Rule](#)



Individuals and interactions
over processes and tools

协同工作 🧑🏻‍🤝‍🧑🏻



协同工作



Best Trello Integrations Show Menu

Task management

- Set up recurring cards
- Duplicate cards
- Turn emails into cards
- Organize multiple to-do lists

Project Management

- Create cards from new form submissions
- Get alerts for...
- Start tracking time
- Record card activity

Marketing

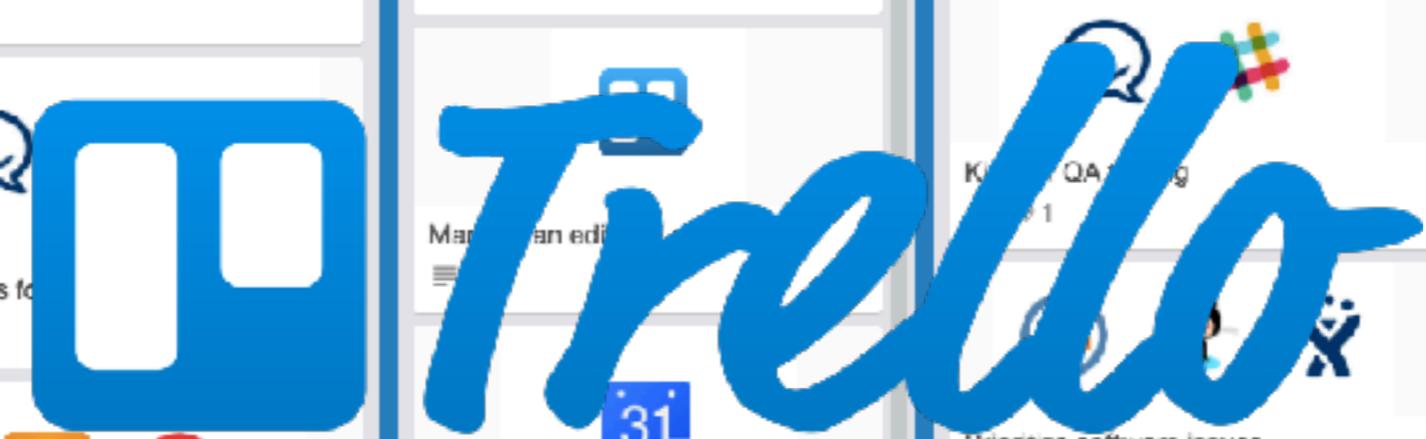
- Curate content ideas
- Manage an edit...
- Promote content
- Stay on top of social media

Development

- Track product development progress
- Know QA...
- Prioritize software issues
- Act on customer feedback

Support

- Manage help desk volume
- Oversee help doc creation





Trello

in list Todo

Members

Labels



GMTC

REA Group

Android

iOS



Edit the description...



优点

Delete...

0%



无严格流程控制



支持 Markdown



支持 标签



支持 表情包

Add an item...



Add Comment



Write a comment...



Send

Add

Members

Labels

Checklist

Due Date

Attachment

Actions

Move

Copy

Subscribe

Archive

Share and more...

@jakelin (you)

☆ | ● active



🔍 Search



slack



Jake Lin ● @jakelin

Today



jakelin 3:53 PM

Slack 能做啥? (edited)



Message yourself



@jakelin (you)

☆ | ● active



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聊工作 🏢

谈八卦



Message yourself





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Today



jakelin 3:53 PM

Slack 能做啥? (edited)

聊工作 🏢

谈八卦

投票



发代码 `let conference = "GMTC"`

整合其他系统 e.g. GitHub, BuildKit, Trello, PagerDuty

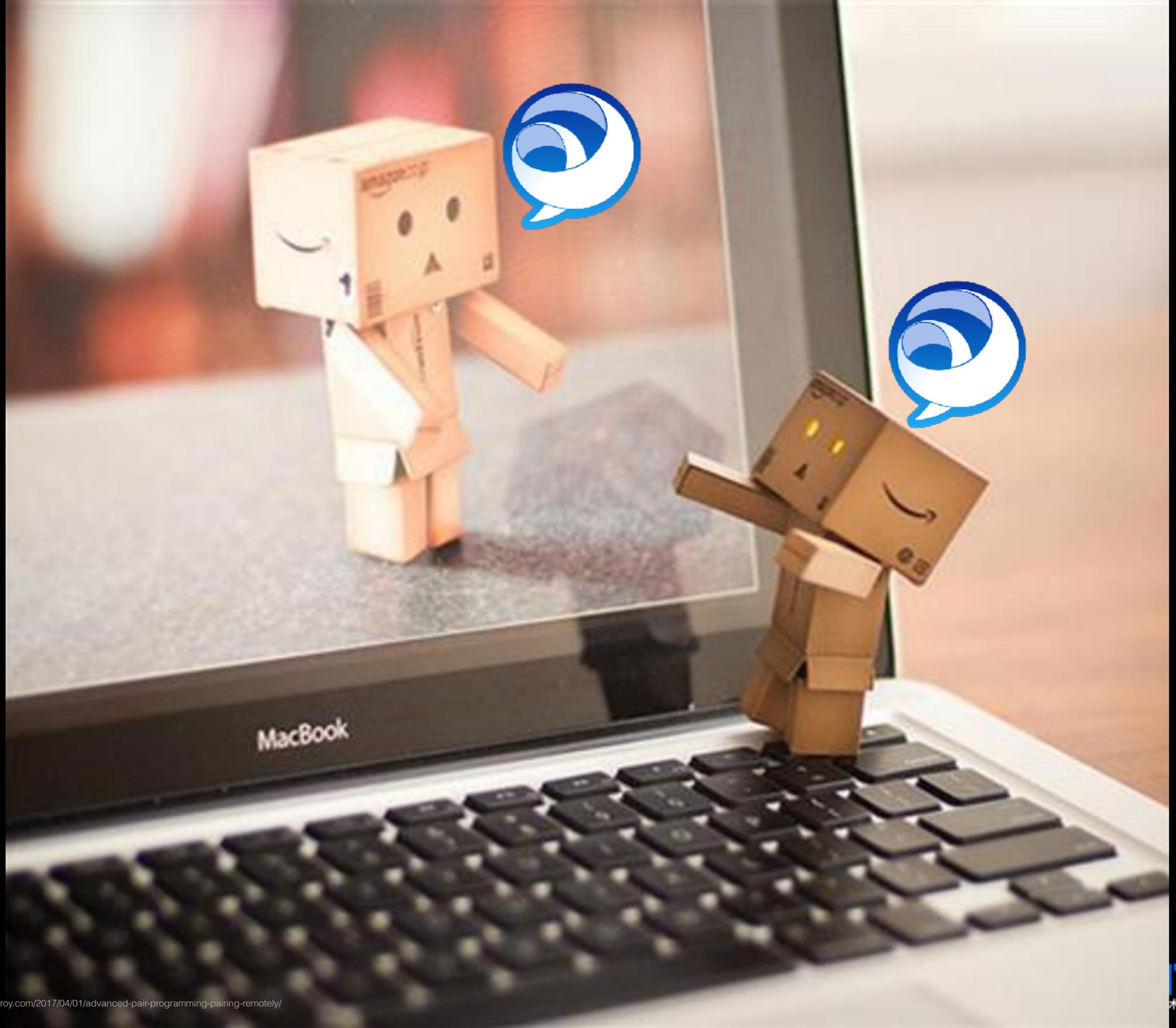


Message yourself



结对编程





MacBook



总结

- 交付快车模式 🚄
- 版本控制 - GitHub 🐱
- 持续集成 - fastlane & Buildkite 🛠️
- 质量保证 - 单元和 UI 测试 🏃
- 崩溃报告, 数据分析, 系统监控和报警 👁️
- 协同工作 - Trello & Slack 🧑🏻‍🤝‍🧑🏻



Q&A



THANK-YOU.

