carousell

旋轉拍賣的自動化測試應用

How do we handle automation in Carousell

Self Introduction

Chen Chia-Hung (aka Tiger)

- Software Engineer in Test @ Carousell TW
- Buyer Experience Team → QA Team
- QA with 7+ years in software test
- Previously worked at Trend Micro

QA Engineering Team

- Taiwan DC

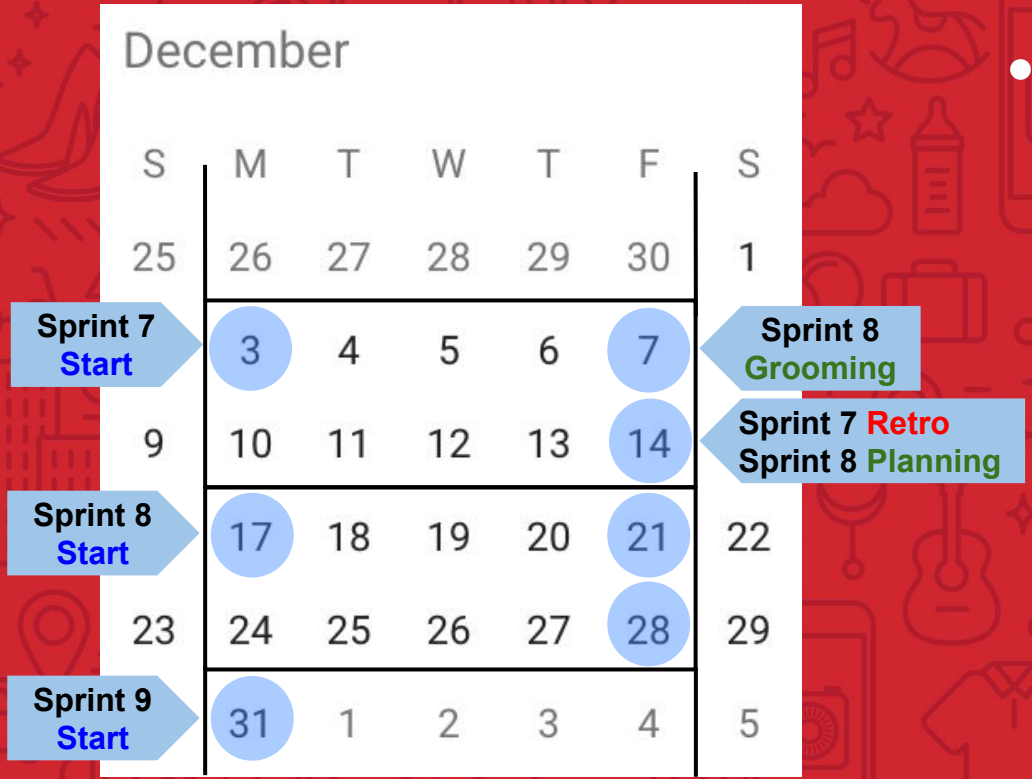
- Vietnam DC

- Singapore DC

Outline

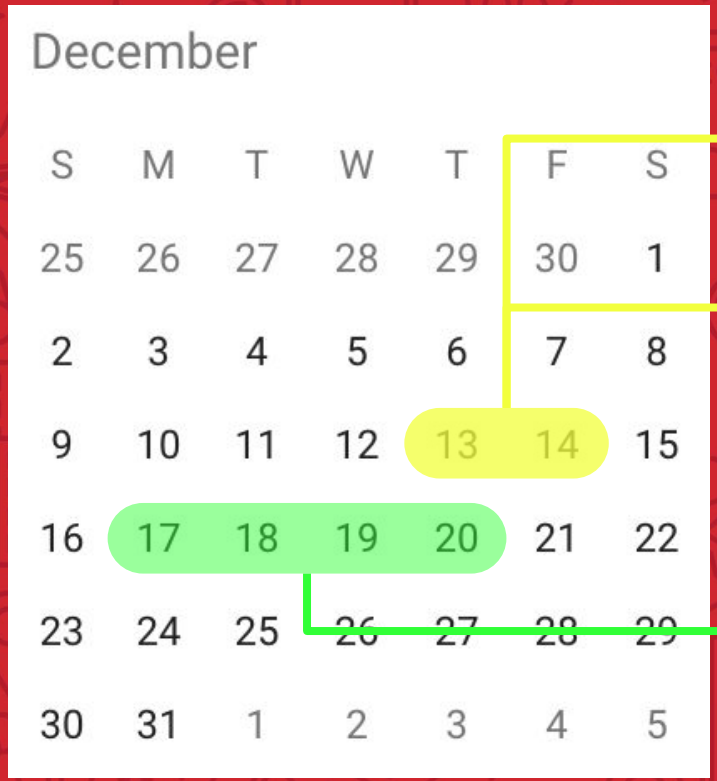
- **SDLC**
  - Sprint
  - Feature Delivery and Feature Flag
- **Release**
  - Client and Backend
- **Test Strategy / Plan**
  - Test Development Flow
  - Automation Architecture
  - Technique and Service
- **Challenge and Difficulties**
  - UI Automation, API

SDLC



- Engineering Team
  - 1 Sprint = 2 weeks
  - Daily Sync up
  - Grooming / Retro / Planning
  - Feature Delivery
    - Dogfooding
    - A / B Test (Phase Release)
    - External Issue Report

Client Build Release



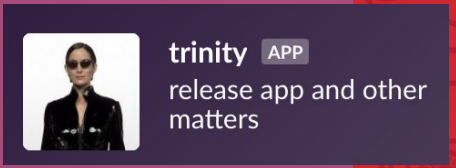
Weekly Release

Thursday

- Code freeze at 20:00 by checkout a release branch
- Generate release candidate build

Friday

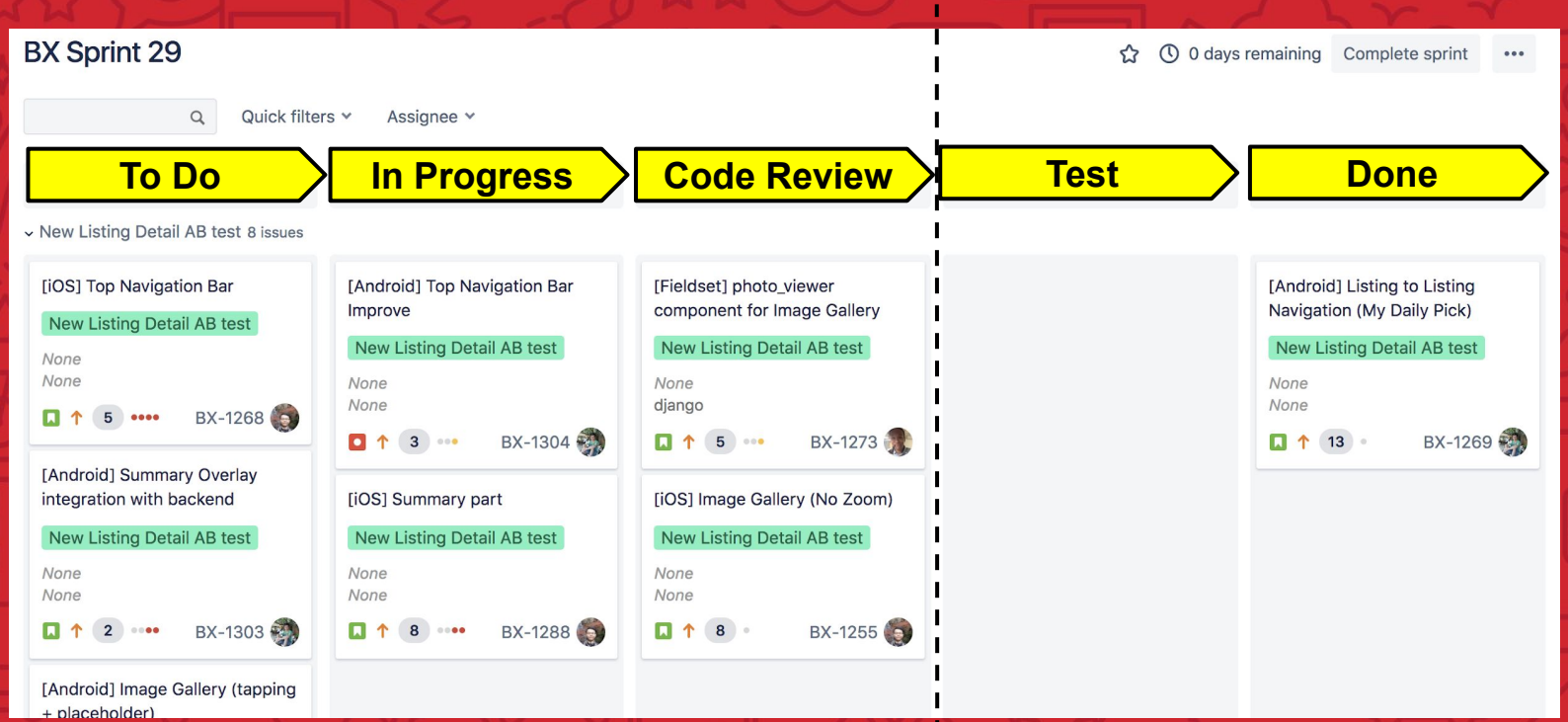
- Sanity automation Test
- Sanity manual test
- Localization
- Issue report
- Hotfix
- Submit the release candidate build



Monday ~ Thursday

- Phase release (0% ~ 100%)
- Monitoring the crash rate until 100% release
- Hotfix

Sprint



Feature branch (individual)
Individual Build

Dev branch
Release Candidate Build

Feature Flag

Default Project
Production

Feature flags
Users
Segments
Goals
Debugger
Audit log
Quickstart
Documentation
Integrations
Account settings
Logout

Dashboard

LaunchDarkly

Your feature flags

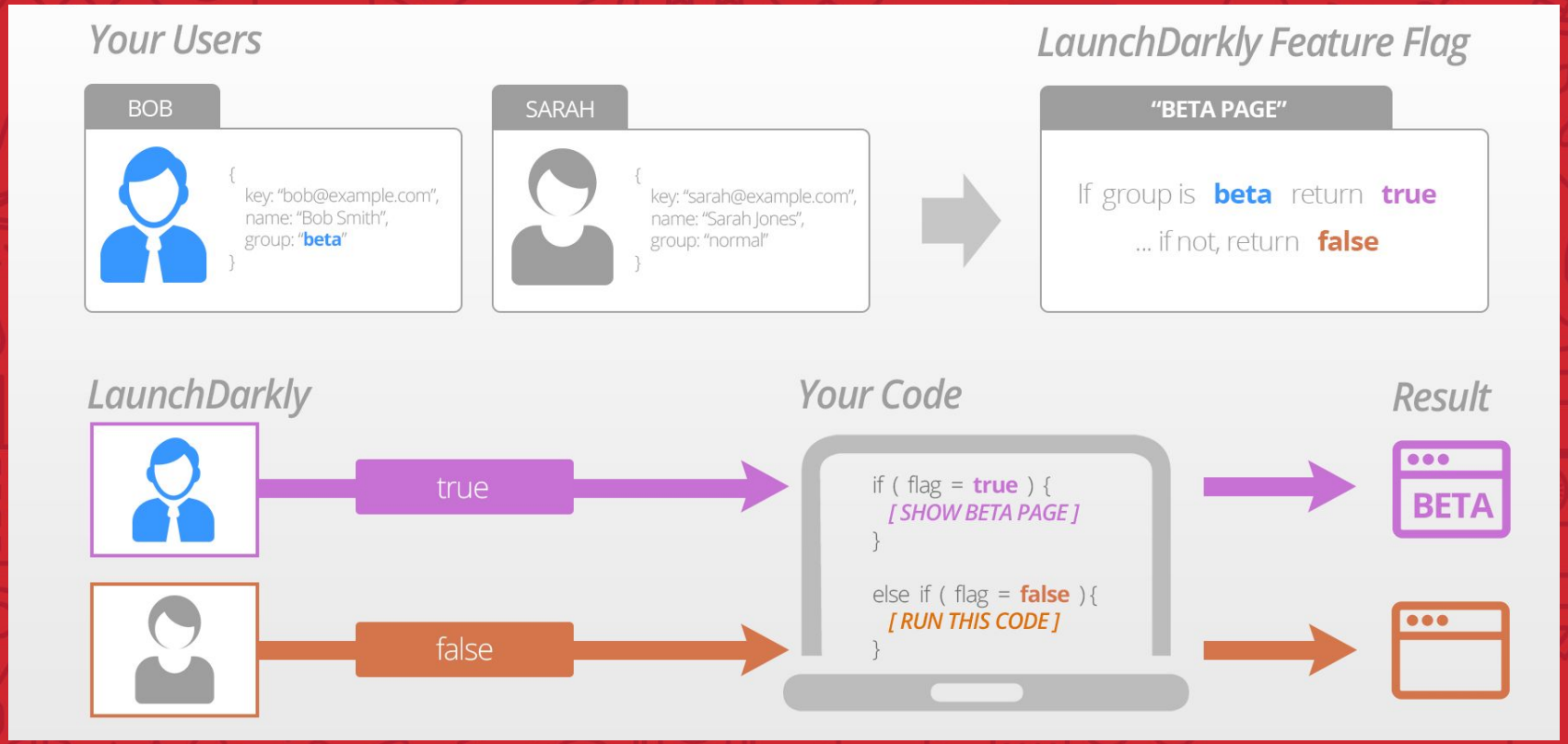
NEW +

bx | Status: Any | Type: Any | Tags: Any | Sort by: Oldest

New Home Screen Added 1 year ago — Last requested 10 minutes ago https://carousell.atlassian.net/browse/BX-18	BX-18-new-home-screen	ON	DELETE
BX-10 New Home Screen A/B Added 1 year ago — Last requested 10 minutes ago	BX-10-new-home-screen-a-b	OFF	DELETE
New Home Screen Recommendation Pool Added 1 year ago — Last requested 10 minutes ago https://carousell.atlassian.net/browse/BX-20	BX-20-new-home-screen-recommendation-pool android	ON	DELETE
Home Feed Api Added 1 year ago — Last requested 10 minutes ago	BX-53-home-feed-api	ON	DELETE
Home Collection See All Button Added 1 year ago — Last requested 10 minutes ago	BX-29-home-collection-see-all-button android	ON	DELETE
Home Recommendation See All Button Added 12 months ago — Last requested 10 minutes ago https://carousell.atlassian.net/browse/BX-55	BX-55-home-recommendation-see-all-button android	ON	DELETE

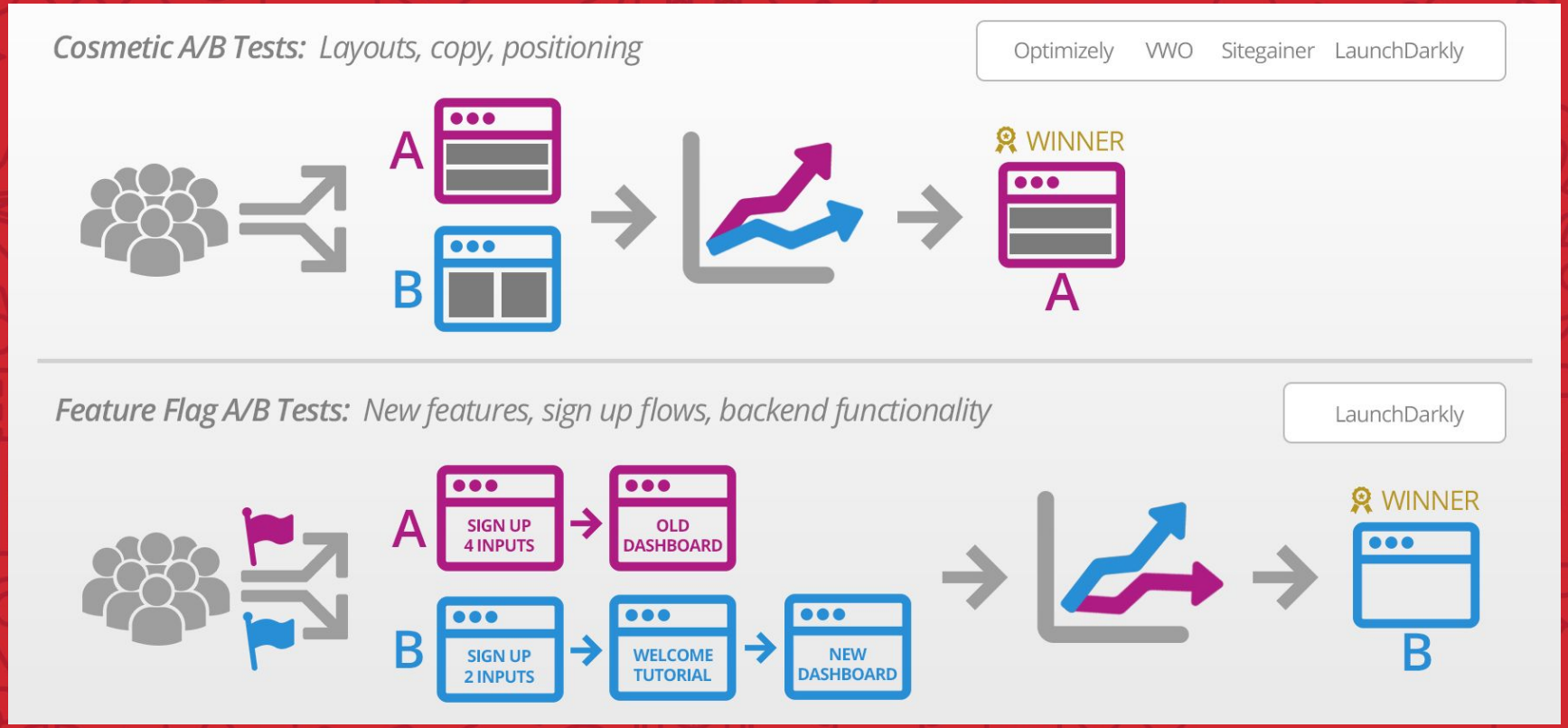
Support

Feature Delivery



http://featureflags.io/feature-flags/

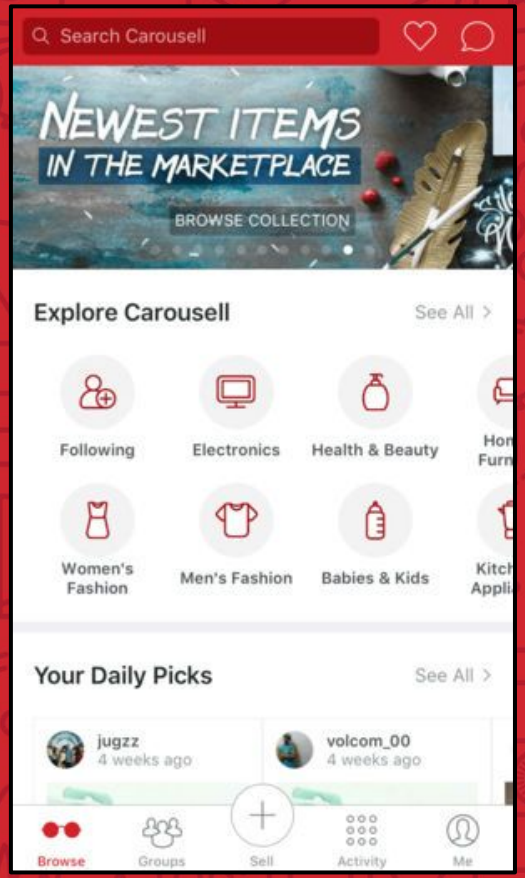
Dogfooding & A/B Test



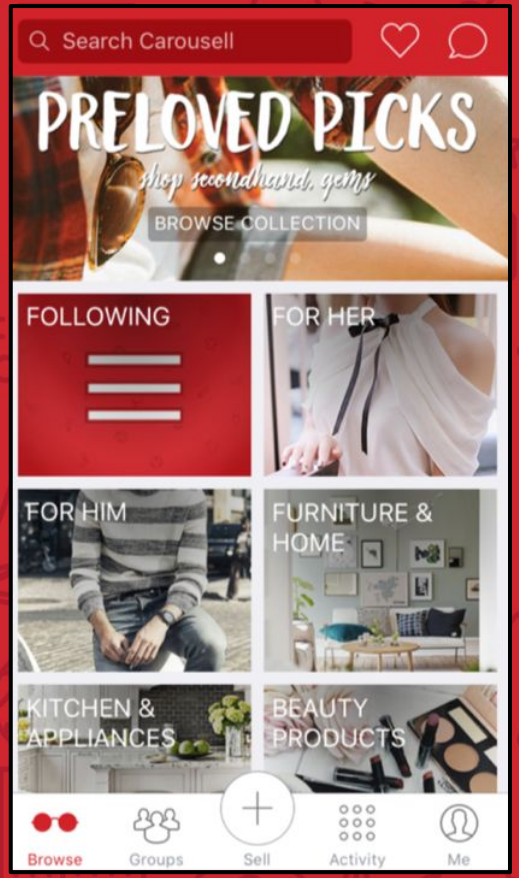
http://featureflags.io/feature-flags/

Dogfooding & A/B Test

Taiwan



Singapore



Backend Build Release

	Build	Deploy Staging	Test Staging
Average stage times: (Average full run time: ~6min 11s)	2min 4s	1min 27s	2min 28s
#392 Nov 15 18:40 — 1 commit	2min 7s	1min 33s	2min 36s
#391 Nov 13 16:35 — 1 commit	1min 54s	1min 37s	2min 25s
#390 Nov 13 13:22 — 1 commit	1min 58s	1min 39s	2min 12s
#389 Nov 09 18:25 — 2 commits	2min 15s	1min 35s	2min 11s
#388 Nov 08 15:20 — 1 commit	2min 3s	1min 39s	2min 28s
#387 Nov 07 19:10 — 1 commit	2min 16s	1min 36s	2min 36s

Release any time

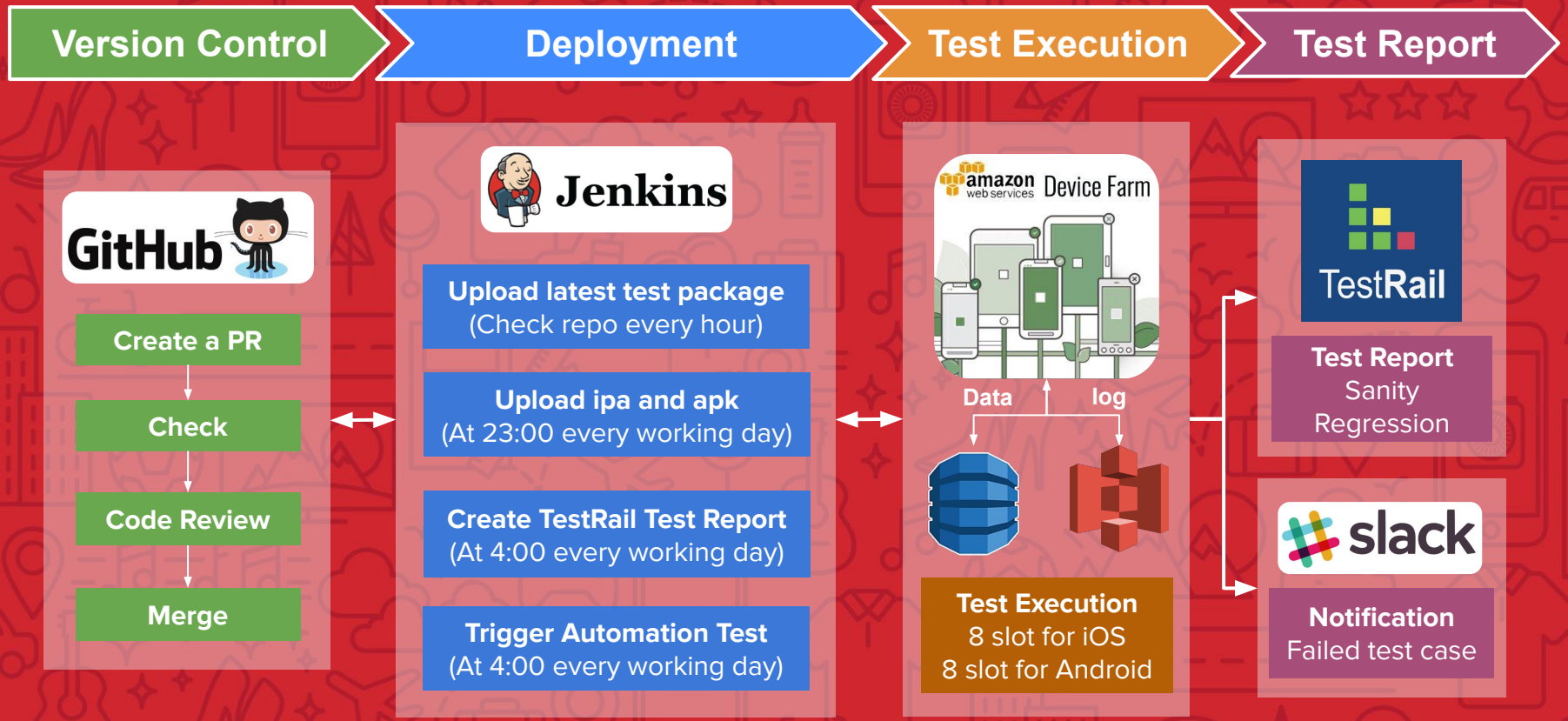
- Environment
  - Stage
  - Production
- Jenkins Pipeline
  - Dev : Unit Test
  - QA : End to End API test

Test Strategy

How do we ensure the release build is qualified.

- **Client Build Release : Weekly Release**
  - Sanity & Regression Test : Test nightly build every early morning, test flaky test and manual test case
  - Phase release and risk control by LaunchDarkly feature flag
- **Backend Release : Release anytime**
  - Covered by Unit test and E2E API test
  - Phase release and risk control by LaunchDarkly feature flag on Client

UI Automation Architecture Overview (Sanity & Regression)



Test Deployment - Jenkins

All

S	W	Name ↓
		Browserstack_Android_FFT
		Browserstack_iOS_FFT
		Caroutest execute tests on AWS 3, 4
		Caroutest FFT Android
		Caroutest FFT iOS
		Caroutest upload app packages to AWS 2
		Caroutest upload test packages to AWS 1

Jenkins

1 **Upload latest test package**
(Check repo every hour)

2 **Upload ipa and apk**
(At 23:00 every working day)

3 **Create TestRail Test Report**
(At 4:00 every working day)

4 **Trigger Automation Test**
(At 4:00 every working day)

Carousell-MobileCucumberTestsuite Private
Automated tests for iOS, Android and Web
Java ★ 3 Updated 18 minutes ago

POM.xml

aws-devicefarm-maven-plugin Private
Maven plugin to run Appium tests on AWS Device Farm 2, 4
Java Apache-2.0 Updated 21 hours ago

gherkin-processor-maven-plugin Private
Maven plugin to convert Cucumber scenarios into plain JUnit tests 1
Java ★ 1 Apache-2.0 Updated 14 days ago

testrail-maven-plugin Private 3
Java Apache-2.0 Updated on Sep 26

Test Deployment - Upload test packages

```
mvn $debug -Paws
-DprojectArn=${sanityProjectArn}
-Dplatform=$2
-DfinalName=$2_sanity_$i
-DappPackage=$2_sanity_$i.zip
-Dtags=$2,sanity$i,~skip_$2,~unstable_$2,~unstable
clean package aws-devicefarm:uploadTestPackage
```

2. Pack test packages by test case detail

```
@case(23114)
Scenario: Seller should be able to list an item with iPhone 8 series category
  Given I login as "sell_user" by skipping ui login
  When I list an item in the "iPhone 8 series" category
  And I enter a random name for the item
  And I choose the "iPhone 8" on the "mobile_model" picker
  And I choose the "64 GB" on the "mobile_storage" picker
  And I choose the "Gold" on the "mobile_color" picker
  And I enter price as "50"
  And I choose the "Used" as a condition
  And I try to scroll the page
  And I turn off the switch for "caroupay"
  And I try to scroll the page
  And I turn on the switch for "meetup"
  And I click on list it
  Then I should see promote page
```

3. Upload test package to different slots 1~8

4. Update test package detail By each slot

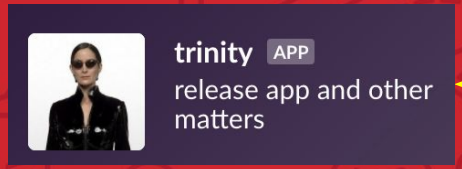
Maven Plug-in
Id : uploadTestPackage

1. Get test case detail by test type

Test Deployment - Upload app packages

```
mvn $debug -Paws
-DskipTests=true
-Dplatform=$platform
-DappPackage=$path
-DappPackageName=${platform}_sanity_latest
-DappVersion="${version}"
...
-DprojectArn=$AWS_SANITY_PROJECT_ARN
initialize aws-devicefarm:uploadAppPackage
```

2. Upload ipa and apk to AWS



Maven Plug-in
Id : uploadAppPackage

1. Download ipa and apk from trinity

3. Update app package detail

Test Deployment - Create Test Report on TestRail

```
$MVN $debug -Ptestrail
-Dusername=${testrailUsername}
-Dpassword=${testrailPassword}
-DprojectId=9
-DsuiteId=17
-DplanId=${PLAN_ID}
-DtestPlatform=${2}
-DtestType=${1}
-DtestRunName=${TESTRUNNAME}
testrail:createrun exec:exec
```

2. Generate custom file including Test Report ID

3. Upload custom file to AWS

Maven Plug-in
Id : createrun

1. Create a Test Report on TestRail

Test Execution and Report - Trigger the test executions

```
$MVN $debug -Paws
-DprojectArn=${PROJECT_ARN}
-DdevicePoolArn=${!AWS_DEVICE_POOL_EXPANSION}
-DtestArn=${2}_${1}_$i
-DappArn=${2}_${1}_$appPackageSuffix
-DexecutionName=${2}_${1}_$i
…
 -DtestSpecArn=${TESTSPEC_ARN}
aws-devicefarm:run exec:exec
```

2. Update the test result on test report

1. Trigger the test execution on AWS for each slot by test type

Maven Plug-in Id : run

3. Send slack notification if test failed

Test Execution - Test Run

AWS Device Farm

https://us-west-2.console.aws.amazon.com/devicefarm/home?region=us-west-2#/projects/0db1ec07-7ffa-4b6e-93e0-9874c56f8043/runs

Device Farm | Project: Sanity tests | Runs & sessions | tiger | Support

Automated tests | Remote access | Project settings

Automated runs allow you to execute built-in tests or your own scripts on one or more devices in parallel, generating a comprehensive report that includes high-level results, logs, screenshots, and performance data.

+ Create a new run

Run	Test results	Test Type	Created	Total minutes
android_sanity_8	3	Appium Java JUnit	2018-11-16T19:07+0800	00:43:32
android_sanity_7	1 / 2	Appium Java JUnit	2018-11-16T19:07+0800	00:55:25
android_sanity_6	3	Appium Java JUnit	2018-11-16T19:07+0800	00:43:26
android_sanity_5	1 / 2	Appium Java JUnit	2018-11-16T19:07+0800	00:41:28
android_sanity_4	3	Appium Java JUnit	2018-11-16T19:07+0800	00:50:35
android_sanity_3	3	Appium Java JUnit	2018-11-16T19:06+0800	00:53:02
android_sanity_2	3	Appium Java JUnit	2018-11-16T19:06+0800	00:53:02
android_sanity_1	1 / 2	Appium Java JUnit	2018-11-16T19:06+0800	00:45:32
ios_sanity_8	1 / 2	Appium Java JUnit	2018-11-16T18:02+0800	00:46:06
ios_sanity_7	3	Appium Java JUnit	2018-11-16T18:02+0800	00:48:01

Test Execution - Video

AWS Device Farm

https://us-west-2.console.aws.amazon.com/devicefarm/home?region=us-west-2#/projects/0db1ec07-7ffa-4b6e-93e0-9874c56f8043/runs/5...

Device Farm | Project: Sanity tests | Run: android_sanity_8 | tiger | Support

android_sanity_8

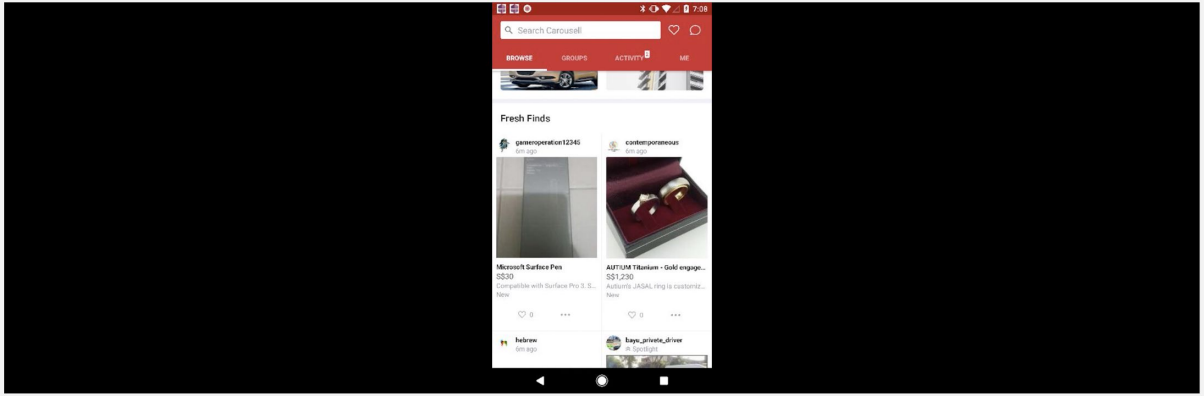
Scheduled at: Nov 16, 2018 7:07:21 PM

Summary > Google Pixel

Video | Suites | Test specification log | Logs | Performance | Files | Screenshots

Video

Download video



Suites

Test Execution - Log

AWS Device Farm

https://us-west-2.console.aws.amazon.com/devicefarm/home?region=us-west-2#/projects/0db1ec07-7ffa-4b6e-93e0-9874c56f8043/runs/5...

Video | Suites | Test specification log | Logs | Performance | Files | Screenshots

Test specification log

Download

```
    /login_page_login_button}))
344 12:00:33.175 I Robot:click:134 Entering click(WebElement element=Located by By.chained({By.id: com.thecarousell.Carousell:id
    /login_page_login_button}),int timeOut=30)
345 12:00:33.176 I Robot:waitForElement:58 Entering waitForElement(WebElement element=Located by By.chained({By.id: com.thecarousell
    .Carousell:id/login_page_login_button}),int timeOut=30)
346 12:00:33.176 I Robot:getDriver:41 Entering getDriver()
347 12:00:33.226 I ElementListener:beforeFindBy:209 Before finding the elementBy By.chained({By.id: com.thecarousell.Carousell:id
    /login_page_login_button})
348 12:00:33.953 I ElementListener:afterFindBy:215 After finding the element By By.chained({By.id: com.thecarousell.Carousell:id
    /login_page_login_button})
349 12:00:34.009 I Robot:waitForElement:62 Leaving waitForElement(WebElement element=Located by By.chained({By.id: com.thecarousell
    .Carousell:id/login_page_login_button}),int timeOut=30)
350 12:00:34.036 I ElementListener:beforeFindBy:209 Before finding the elementBy By.chained({By.id: com.thecarousell.Carousell:id
    /login_page_login_button})
351 12:00:34.417 I ElementListener:afterFindBy:215 After finding the element By By.chained({By.id: com.thecarousell.Carousell:id
    /login_page_login_button})
352 12:00:34.431 I ElementListener:beforeClickOn:221 Going to click on [[io.appium.java_client.android.AndroidDriver, Capabilities: {app
    =/tmp/scratchPzx6Au.scratch/share-UqD8QE.scratch/app-3n03Ku.apk, appActivity=com.thecarousell.Carousell.activities.EntryActivity,
    appPackage=com.thecarousell.Carousell, automationName=UIAutomator2, deviceName=FA7540301010, fullReset=true, javascriptEnabled=true
    , newCommandTimeout=180, platform=ANDROID, platformName=Android, udid=FA7540301010}] -> id: com.thecarousell.Carousell:id
    /login_page_login_button]
353 12:00:34.539 I ElementListener:afterClickOn:227 Clicked on [[io.appium.java_client.android.AndroidDriver, Capabilities: {app=/tmp
    /scratchPzx6Au.scratch/share-UqD8QE.scratch/app-3n03Ku.apk, appActivity=com.thecarousell.Carousell.activities.EntryActivity,
    appPackage=com.thecarousell.Carousell, automationName=UIAutomator2, deviceName=FA7540301010, fullReset=true, javascriptEnabled=true
    , newCommandTimeout=180, platform=ANDROID, platformName=Android, udid=FA7540301010}] -> id: com.thecarousell.Carousell:id
    /login_page_login_button]
```

Logs

Download logs

Source	Time	PID	Level	Tag	Message

Test Report - Result

20181116_190627_#199_sanity_

https://testcarousell.testrail.io/index.php?/runs/view/3335&group_by=tests:status_id&group_order=asc

← Return to Dashboard

Working On | ChiaHung.Chen | Help & Feedback

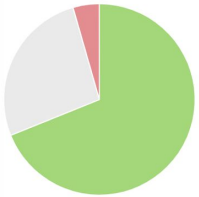
Carousell

Overview | Todo | Milestones | Test Runs & Results | Test Cases | Reports | Administration

R3335 20181116_190627_#199_sanity_android

Reports

Sanity - Android



62 Passed
69% set to Passed

0 Blocked
0% set to Blocked

0 Retest
0% set to Retest

4 Failed
4% set to Failed

69%
passed

24 / 90 untested
(27%).

Created by Carousell.QA. Belongs to milestone Sanity Automated Test.

Tests & Results
Activity
Progress
Defects

All

Passed
Untested
Failed

Sort: Status | Filter: None | Add Results | Assign To | Columns

Passed (62)

ID	Title	Assignee	St.
T304066	Show Coins page from Me	Ngan.Do	Passed
T304067	Search Product Listing on Me	Ngan.Do	Passed
T304072	Search for valid groups	Ngan.Do	Passed
T304073	Search for valid users	Ngan.Do	Passed
T304074	Show AD on search result	Abhijeet Vaikar	Passed
T304075	Show AD on product detail page	Abhijeet Vaikar	Passed
T304081	User should be able to do an urgent bump	Abhijeet Vaikar	Passed
T304082	User should be able to do a three-day bump	Abhijeet Vaikar	Passed
T304084	Search, Join, leave, a Public Group	Long.Ly	Passed

Test Report - log info

20181116_190627_#199_sanity_

https://testcarousell.testrail.io/index.php?/runs/view/3335&group_by=tests:status_id&group_order=asc

← Return to Dashboard

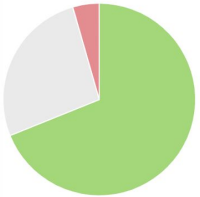
Working On | ChiaHung.Chen | Help & Feedback

Carousell

Overview | Todo | Milestones | Test Runs & Results | Test Cases | Reports | Adm

R3335 20181116_190627_#199_sanity_android

Sanity - Android



62 Passed
69% set to Passed

0 Blocked
0% set to Blocked

0 Retest
0% set to Retest

4 Failed
4% set to Failed

69% Passed

24 / 90 untested (27%).

Sort: Status | Filter: None

Passed (62)

ID	Title	St.
T3040...	Show Coins page from Me	P
T3040...	Search Product Listing on Me	P
T3040...	Search for valid groups	P
T3040...	Search for valid users	P
T3040...	Show AD on search result	P
T3040...	Show AD on product detail page	P
T3040...	User should be able to do an urgent bump	P

T304146 User can star/unstar to save/unsave search key...

```
# Show saved keyword
When I tap back button on top left
And I navigate to Search screen
Then I should see 1 saved searches
And I should see the saved search with title "BMW"
# Show Search Result by saved search
When I click the saved search at 0
Then I should see "BMW" in search textbox
And I should see some product listings
# Cancel saved search
When I click the star icon
Then The saved search should be deleted
When I tap back button on top left
And I navigate to Search screen
```

Expected Result

```
Then I should see 0 saved searches
```

Results & Comments | History & Context | Defects

Add a comment ..

Failed 11/16/2018 8:36 PM Carousell.QA	https://s3.console.aws.amazon.com/s3/object/automated-test-logs-repo/11-2018/16/12/36/android/android_sanity_5/User%2520can%2520star/unstar%2520to%2520save/unsave%2520search%2520keyword.log
Failed 11/16/2018 8:32 PM Carousell.QA	https://s3.console.aws.amazon.com/s3/object/automated-test-logs-repo/11-2018/16/12/32/android/android_sanity_5/User%2520can%2520star/unstar%2520to%2520save/unsave%2520search%2520keyword.log

Add Result | Pass & Next | Assign To

Created by Carousell.QA. Belongs to milestone Sanity A Test.

Tests & Results

Activity

Progress

Defects

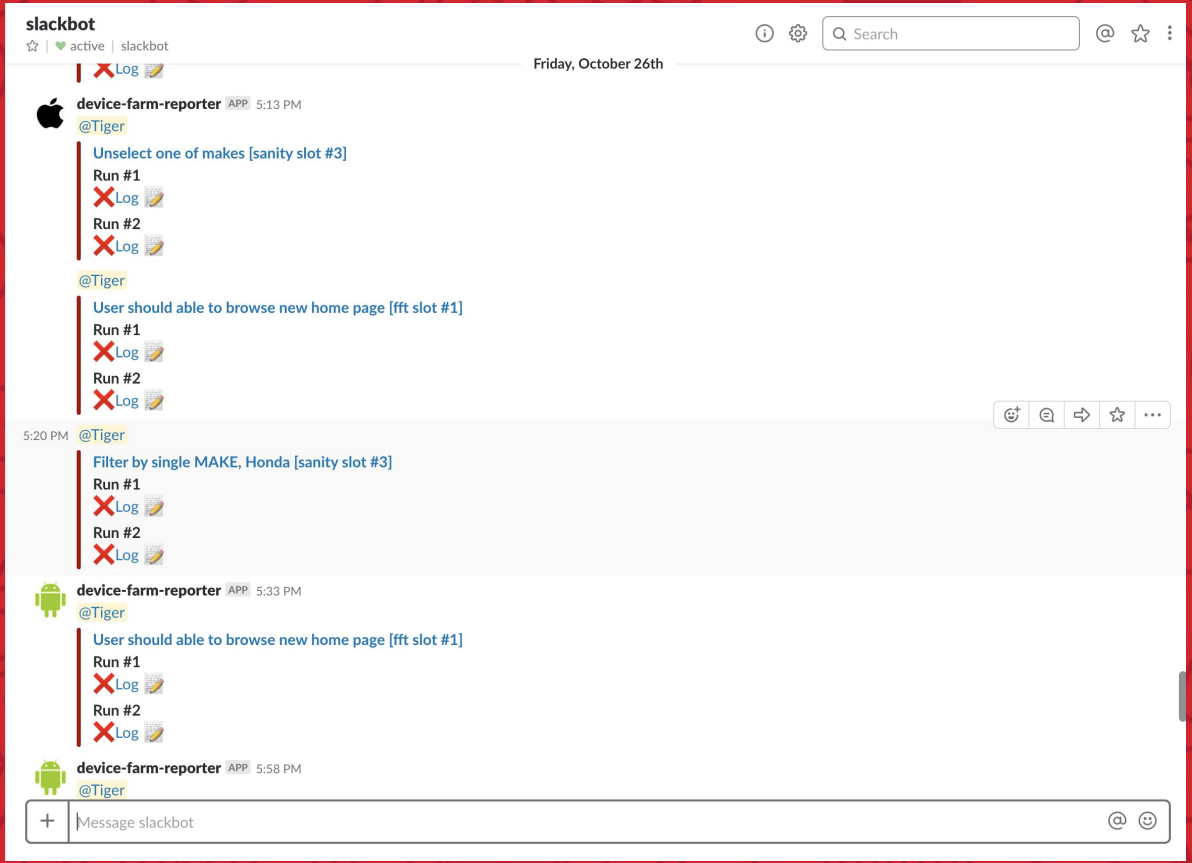
All

Passed

Untested

Failed

Test Report - Slack Notification



Slack Bot - Release Process Automation

Chia-Hung Chen 6:03 PM
@trinity release help

trinity APP 6:03 PM

```
ONLY RELEASE TEAM
[RLS]    release create <platform> <hotfix>
[RLS]    release submit <platform> [force]
[RLS]    release translation <platform> <0 or 1>
[RLS]    release qapass <platform> <0 or 1>
[RLS]    release rollout <platform> <%>
[RLS]    release add build <platform> <buildno>
[RLS]    release new build <platform>
[RLS]    release qapicker <pick/reset> <optional name>
QA COMMANDS
[+QA]    create issue
[+QA]    release add jira <buildno> <jiraticketid> --> release add jira 2.52.0/35 CATS-242
EVERYONE COMMANDS
[ALL]    release status
[ALL]    jira daily alert
[ALL]    jira topten
[ALL]    translation status
```

Chia-Hung Chen 6:03 PM
@trinity release status

trinity APP 6:03 PM

iOS
Latest Dev Build: `2.92.0/869` `(2018-11-16 21:55:26)`
Public Release: `2.91.0/867.3` Rollout status | Crashlytics
Test Release: No Test Release Available

Android
Latest Dev Build: `2.92.214-1376` `(2018-11-17 02:15:15)`
Public Release: `2.90.207.184-1334` `100% Rollout` Crashlytics
Test Release: `2.91.212.190-1358` `Translations: Merged` `QA: Not Passed`

Message trinity

Technique and Service Overview

Service

TestRail, slack, sonarcloud, amazon web services, BrowserStack, GitHub, Jenkins, Travis CI, circleci

Build Tool

Maven, Gradle, fastlane

Framework & SDK

appium, Selenium WebDriver, Spring Framework, JUnit, TestNG, pytest, Velocity, OpenCV

Language

Java, BASH (THE BOURNE-AGAIN SHELL), python, Ruby, Groovy

Challenge and Difficulties

UI Automation	API
■ Design and Implement ● Good Design for 3 platforms ● Module Dependency ● Locator method ■ Test Execution ● Install / Execute / Debug time ● Flaky Test Case ● AWS issues	■ Design and Implement ● gRPC and Protobuf ● API Version ● 3rd party company ● Test environment
■ Solution ● Dynamic class loading ● Custom Maven plugins ● Sprint DI ● Skip Login flow ● Retry	■ Solution ● Protoc tool + Jenkins Multiple SCM ● Mock 3rd party Service

What’s New

We are building ...

- Fast Feedback Test (aka PR test)
- Carousell Simulator Farm
- Data Dashboard
- QA Engineering principle

填寫活動意見表
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填寫活動意見表
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Q & A

填寫活動意見表
拿神秘小禮物

A. 企業文化 / 工作環境 / 公司氣氛

- **Trust and self-discipline**
- **Self Assessment**
  - What are some things I do well?
  - How could I improve?
- **Pair review**
  - What are some things Chia-Hung does well ?
  - How could Chia-Hung improve ?
- **1 on 1 biweekly**
  - Recent work situation
  - Career planning
  - Individual OKRs
  - Review feedback
  - Others
- **Self-Learning**

B. 團隊合作模式 / 軟體開發流程 / 合作難題

Company OKRs / Team OKRs per quarters

Q4 - Functions

Instructions: How and What to Fill in?

1. By filling in this tracker, you help provide a sense of our confidence in achieving our goals
2. This tracker should be filled once every week (Row 3 = deadline)
3. Colour code the cell(s) in green (high confidence), yellow (medium), red (low); brief commentary where helpful

			29 Oct	5 Nov	12 Nov	19 Nov	2
			22 Oct - 28 Oct	29 Oct - 4 Nov	5 Nov - 11 Nov	12 Nov - 18 Nov	1
			W43	**W44**	**W45**	**W46**	
5. Engineering - QA (Ketan)							
	1	**Enable Rapid Release Cycles**					
KR	1.1	Speed up test package creation by 10min from 25 min					
KR	1.2	Improve sanity suite to finish under an hour with 50+ tests from 2 hours					
	2	**Enable Reliable feedback**					
KR	2.1	Success rate in FFT should be 99% (not including the bugs)					
KR	2.2	Success rate in Sanity should be 90% (not including the bugs)					
	3	**New Tests**					
KR	3.1	Implement 30 new tests					
	4	**Framework Improvement**					
KR	4.1	0 blocking issues and 0 critical issues on sonar					
KR	4.2	80% test coverage for the service layer of our test framework					
KR	4.3	Framework improvement, to reduce the debugging time by 50%					
	5	**Analytics/POC Security**					
KR	5.1	Have a dashboard to analyze the health of our app.					
KR	5.2	Work on a POC to implement 1 security test for IOS and Android					

B. 團隊合作模式 / 軟體開發流程 / 合作難題

Individual OKRs

Instructions: How and What to Fill in?

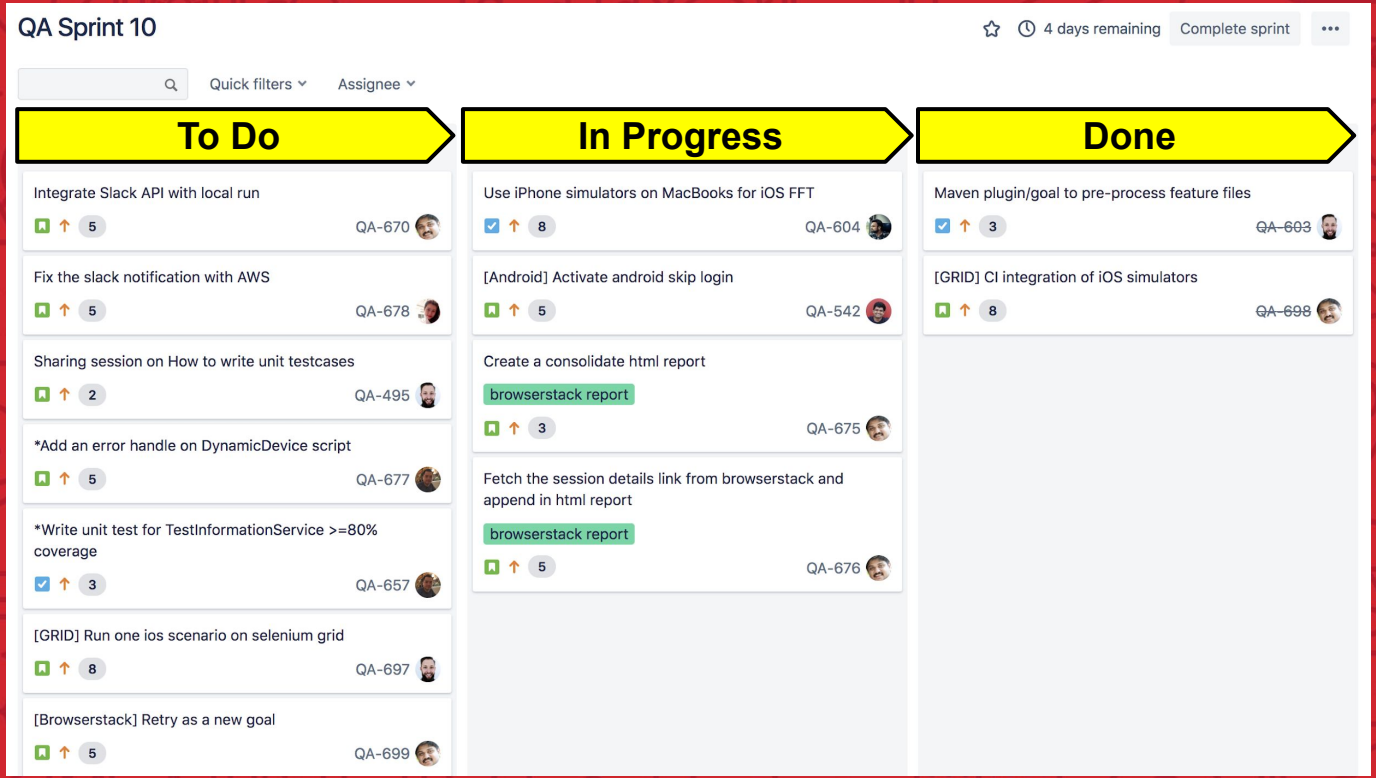
1. By filling in this tracker, you help our teammates understand what everyone is working on
(refer to "readme" if you need the template")
2. Top Tip: Avoid too many OKRs, as it will dilute focus
3. Consult your manager and commit to tracking weekly or biweekly
Colour code the cell(s) in green (high confidence), yellow (medium), red (low); brief commentary where h
The scoring should be based on what you think that KR would be by end of quarter, not based on what th
E.g. if the KR is to sell 1000 vouchers by end of quarter, and currently 100 are sold already and likely to r

Note: You may choose to track your individual OKRs weekly or bi-weekly

		Deadline	22 Oct	29 Oct	5 Nov	12 Nov	19 Nov
		Period	15 Oct - 21 Oct	22 Oct - 28 Oct	29 Oct - 4 Nov	5 Nov - 11 Nov	12 Nov - 18 Nov
		Wk No	**W42**	**W43**	**W44**	**W45**	**W46**
ChiaHung		[redacted]					
Ensure QA Team better than Q3							
KR 1.1	Implement new automated test cases on major user journey features						
KR 1.2	Refactor some automation test case for making them stable to increase whole su						
KR 1.3	Implement unit test to increase test coverage on QA automation framework						
KR 1.4	Guide new QA to pick up QA's task quickly						
Personal abilities Improvement							
KR 2.1	Host a sharing in TWDC						
KR 2.2	Workshop : Implement UI automation test with Java on Appium						
KR 2.3	Book Reading : Kent Beck的實作模式 - Implementation Patterns						

B. 團隊合作模式 / 軟體開發流程 / 合作難題

Sprint Board and Daily Sync up meeting



B. 團隊合作模式 / 軟體開發流程 / 合作難題

- **Difficulties**
  - Reorg fast
  - Remote Team
  - Information Sync
  - Communication effort
  - Language and accent
  - Working style and Culture
  - Leadership
  - Open mind !!

But my colleagues are competent, open mind, humble, attentive and helpful !!!

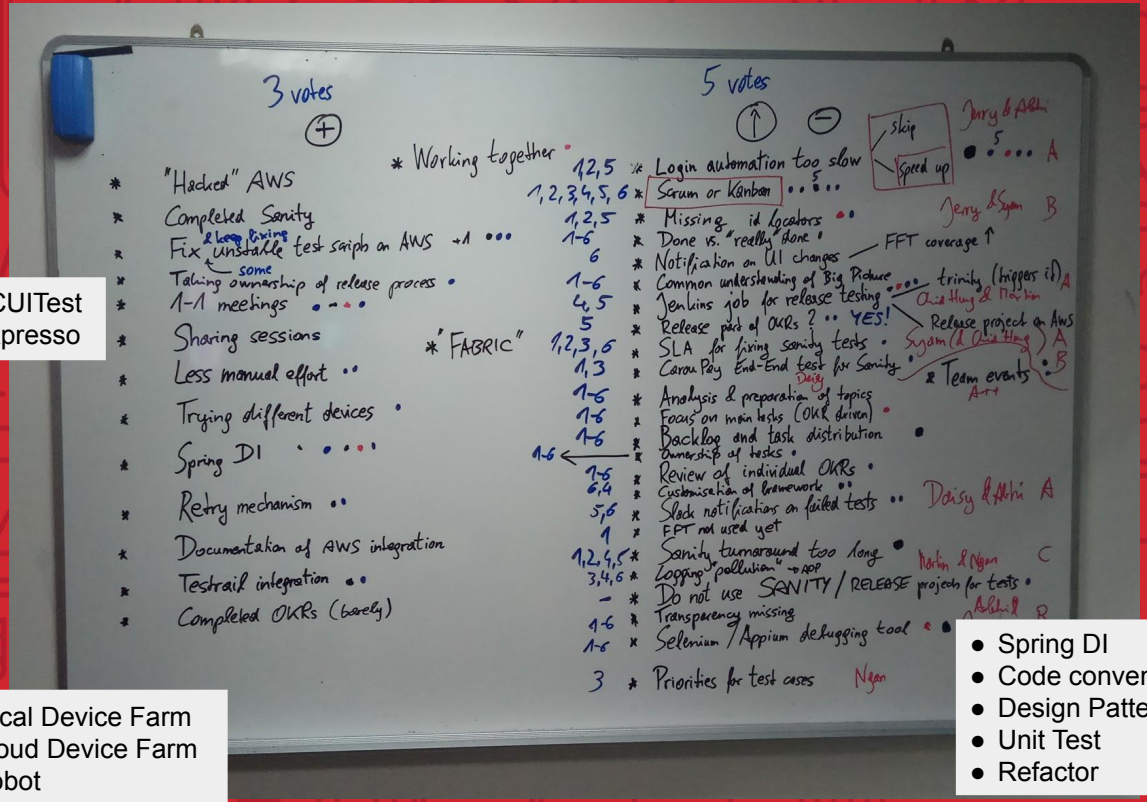
QA Team

B. 團隊合作模式 / 軟體開發流程 / 合作難題

Buyer Experience Team

C. 測試技術 / 技術決策 / 優化

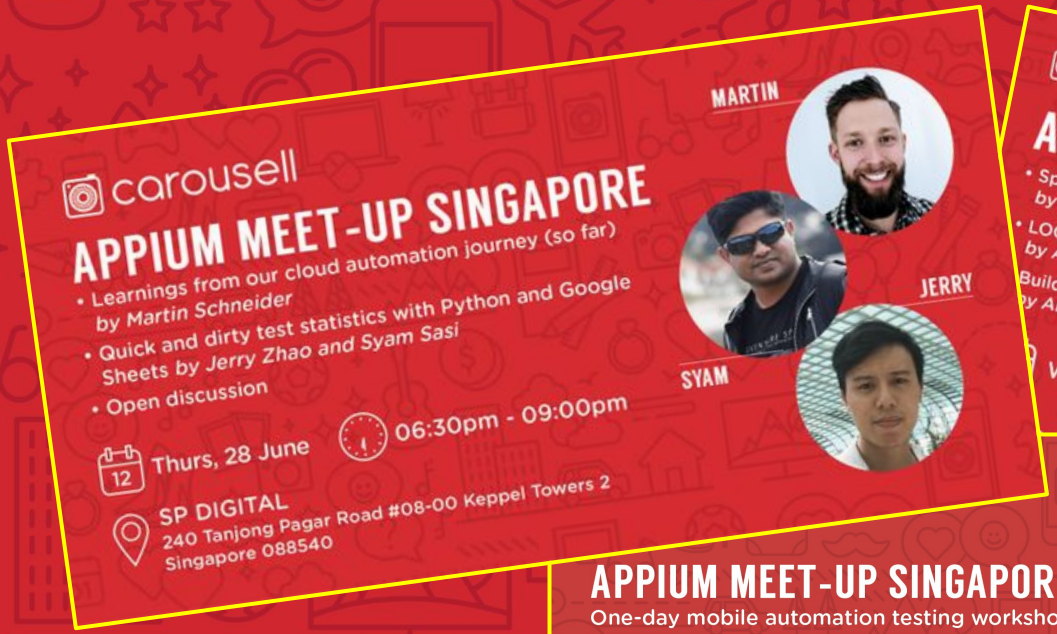
- XCUITest
- Expresso

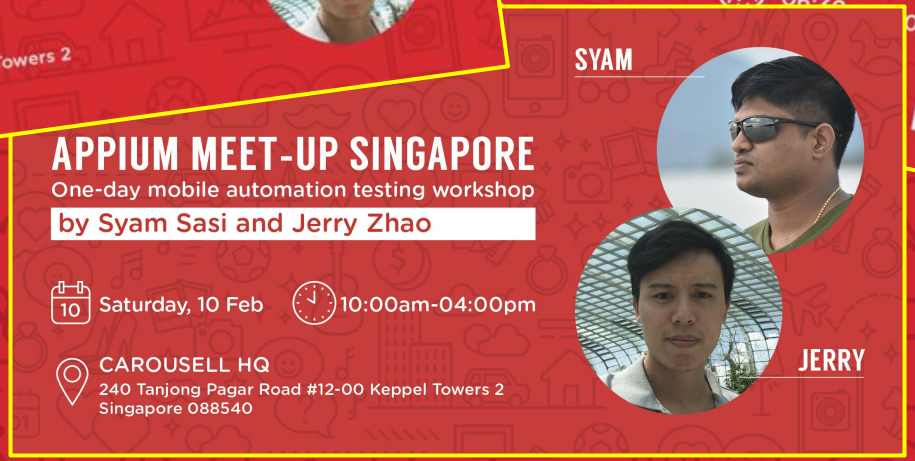


- Local Device Farm
- Cloud Device Farm
- Robot

- Spring DI
- Code convention
- Design Pattern
- Unit Test
- Refactor

C. 測試技術 / 技術決策 / 優化





Thanks for your attention.

填寫活動意見表
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如何第一次玩Appium就上手!!!

手動測試錯了嗎？想試試看手機自動化測試？

但又不知道從何開始？趕緊來報名Workshop吧！

日期時間：12/22 (六) 1:00 P.M ~ 6:00 P.M

內容大綱：

- 從無到有的Appium環境設置 - Mac and Windows
- 用Java實作Android手機自動化測試案例
- 套用潮潮的Page Object設計模式
- 使用Appium的優劣及限制 - 殺敵100自損3000?

Q & A

A. 企業文化 / 工作環境 / 公司氣氛

B. 軟體開發流程 / 團隊合作模式 / 合作難題

C. 測試技術 / 技術決策 / 優化

D. 其它

Fast Feedback Test (PR Test)

Some checks haven't completed yet — Hide all checks

2 pending and 3 successful checks

- ci/circleci: fast_feedback_test *Pending — CircleCI is running your tests* — Details
- ci/circleci: test *Pending — CircleCI is running your tests* — Required — Details
- ✓ ci/circleci: checkout_dependencies — Your tests passed on CircleCI! — Required — Details
- ✓ ci/circleci: run_pr_tasks — Your tests passed on CircleCI! — Details
- ✓ danger/danger — ⚠️ 1 Warning. Don't worry, everything is fixable. — Details

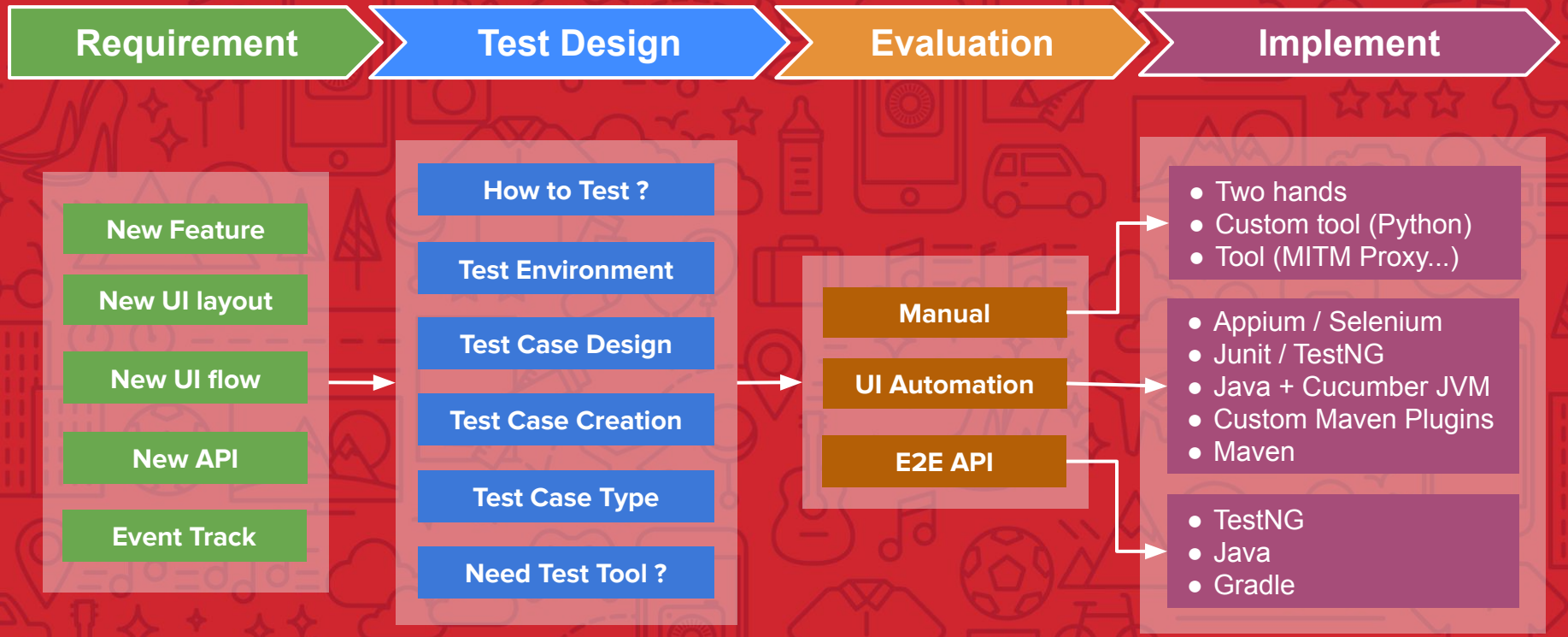
Some checks were not successful — Hide all checks

1 failing and 7 successful checks

- ✗ ci/circleci: fast_feedback_test *Pending — CircleCI is running your tests* — Details
- ✓ ci/circleci: checkout_dependencies — Your tests passed on CircleCI! — Required — Details
- ✓ ci/circleci: deploy — Your tests passed on CircleCI! — Details
- ✓ ci/circleci: fast_feedback_test — Your tests passed on CircleCI! — Details
- ✓ ci/circleci: run_pr_tasks — Your tests passed on CircleCI! — Details

- **Trigger UI Automation in each PR**
  - ~~Native Framework~~
  - CircleCI → AWS Device Farm
  - CircleCI → Jenkins → AWS DeviceFarm
  - CircleCI → Local Virtual Device Farm

Test Deployment Flow



API Automation Architecture Overview

Version Control → Deployment → Test Execution → Test Report

GitHub

- Create a PR
- Check
- Code Review
- Merge

Jenkins

- Jenkins Pipeline (Prod & Stage)
- Trigger API test during deploy
- Test Report

	Build Docker Image	Deploy Image To Canary	Promote Image To Latest	Deploy Image To Production	Deploy Image To Production
Average stage times: (Average full run time: ~14min 17s)	2min 25s	1min 23s	20s	2min 17s	NaNy NaNd
#101 Nov 02 10:45 No Changes	2min 37s	1min 23s	22s (paused for 4min 6s)	49s	3min 22s
#100 Sep 28 11:09 No Changes	2min 31s	1min 20s	17s (paused for 37s)	46s	3min 39s
#99 Sep 27 11:45 No Changes	2min 24s	1min 22s	18s (paused for 2min 30s)	45s	3min 20s
#98 Sep 25 16:25 No Changes	2min 27s	1min 19s	19s (paused for 6min 11s)	49s	3min 10s
#97 Sep 20 12:15 No Changes	2min 25s	1min 25s	22s (paused for 35min 5s)	59s	3min 25s
#96 Sep 03 16:27 No Changes	2min 13s	1min 22s	20s (paused for 1min 45s)	44s	3min 56s