ROBOTS, ANDROIDS & THE ETERNAL FIGHT ON FLAKY TESTS

"The Robots have finally taken over the Flaky. Refreshing!"
– The QA Times

"☆ ☆ ☆ ☆ ☆ !"
– Android Developers Magazine

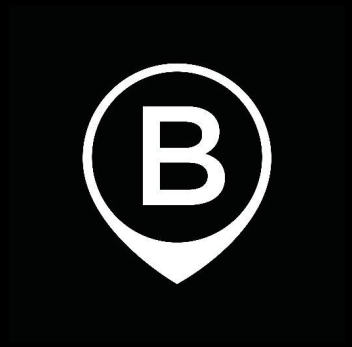
starring

THE FLAKY ONES

“Their evilness knows no boundaries!”

“I cross my fingers when I run my tests...”

“ ¯_(ツ)_/¯ ”



BLACKLANE

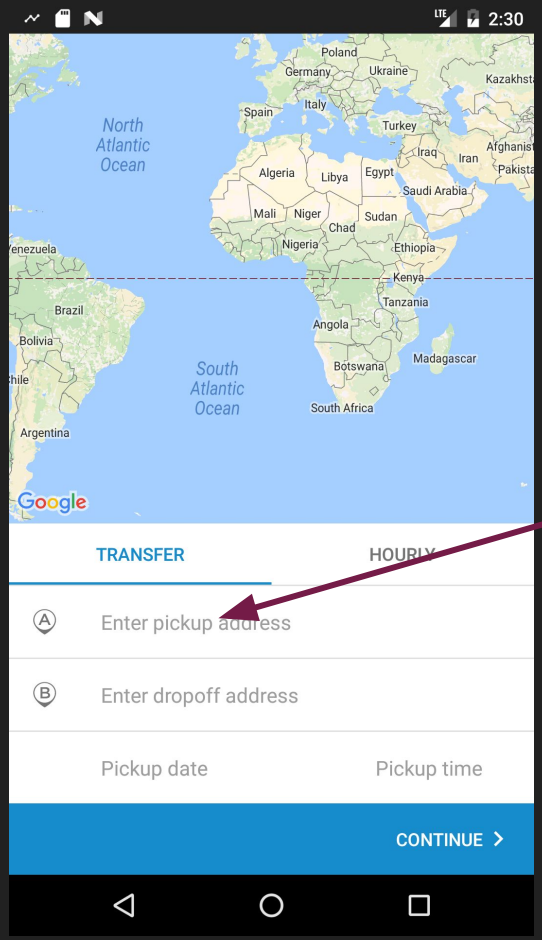
YOUR PROFESSIONAL DRIVER

You. Release. Manual regression testing. — 12pm

UI TESTING FOR ANDROID

espresso

```
compile ‘com.android.support.test.espresso:espresso-core:2.2.2’
```



Click on that pickup field

UI TESTING FOR ANDROID

espresso

- code generated is not easy to read
- waiting for network to load elements causes failures
- testing environment is not hermetic
- no comprehensive report with results

Fight #1

keywords: ‘jake’ ‘robots’ ‘kotlin’

Test canSearchForPickup:

```
@Rule public final ActivityTestRule activityTestRule = new ActivityTestRule<>(BookingActivity.class);

onView(withId(R.id.location_selection_pickup_location_text))
        .perform(click());

    onView(withId(R.id.location_search_input))
        .perform(typeText("Ohlauer Straße"), closeSoftKeyboard());

    onView(withId(R.id.location_search_result_list))
        .perform(waitUntilPopulated())
        .perform(RecyclerViewActions.actionOnItemAtPosition(0, click()));

onView(withId(R.id.location_selection_pickup_location_text))
         .check(matches(withText("Ohlauer Straße")));
```

1

2

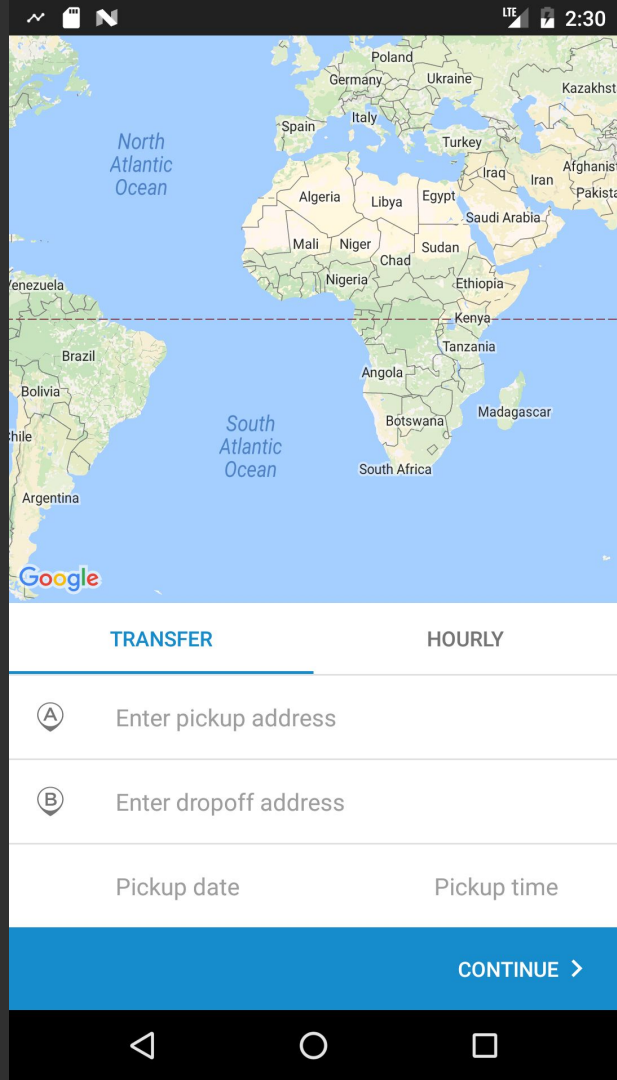
3

Test canSearchForPickup:

```
@Rule public final ActivityTestRule activityTestRule = new ActivityTestRule<>(BookingActivity.class);

new LocationSelectionRobot()
        .clickToSearchPickUp("Ohlauer Straße")
        .assertThat(screen
        -> screen.hasPickupLocationText("Ohlauer Straße"))
```

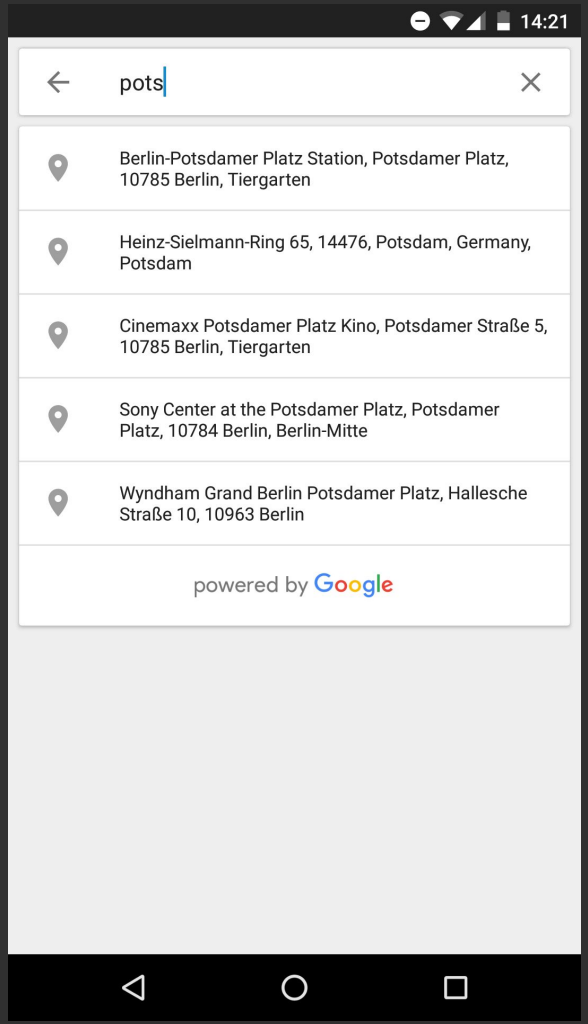
```
public class LocationSelectionRobot {

  public LocationSelectionRobot clickToSearchPickUp(String
pickup) {

onView(withId(R.id.location_selection_pickup_location_text))
        .perform(click());
        ...
    return this;
  }

  public static class TestScreen {

    public void hasPickupLocationText(String text) {

onView(withId(R.id.location_selection_pickup_location_text))
          .check(matches(withText(text)));
    }
}
```

```
new LocationSelectionRobot()
        .clickToSearchPickUp("txl")
        .clickToSearchDropOff("hotel")
        .selectPickupDate(2017,2,23)
        .selectPickupTime(13, 15)
        .clickContinueButton()
        .assertThat(screen ->
screen.hasChangedTo(VehicleSelectionRobot.
Screen.class));
```



Fight #2

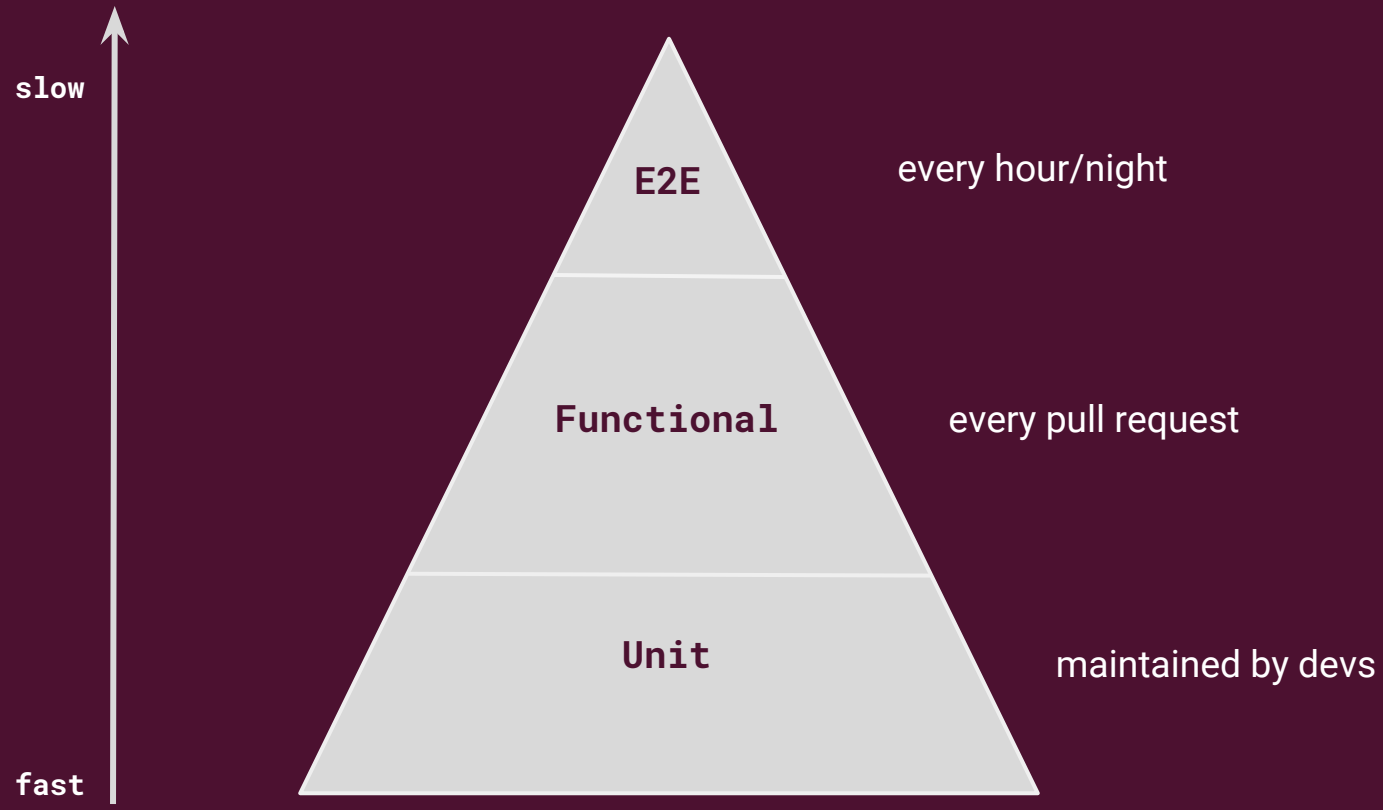
IDLING RESOURCES



IDLING RESOURCES

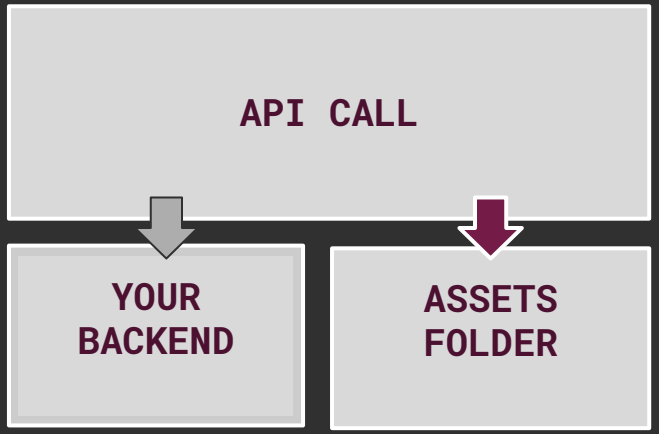
isIdleNow()

```
public class BananasIdleResource implements
IdleResource () {

...

@Override
public void getName() {
  return “BananasIdleResourceName”;
}

@Override
public boolean isIdleNow() {
  Boolean idle = activity != null && callback
!= null && activity.isLoadingFinished();
}

@Override
public void registerIdleTransitionCallback() {
  this.callback = resourceCallback;
}


}
```


slow
fast
E2E
Functional
Unit
every hour/night
every pull request
maintained by devs

Fight #3

OFFLINE INTERCEPTOR



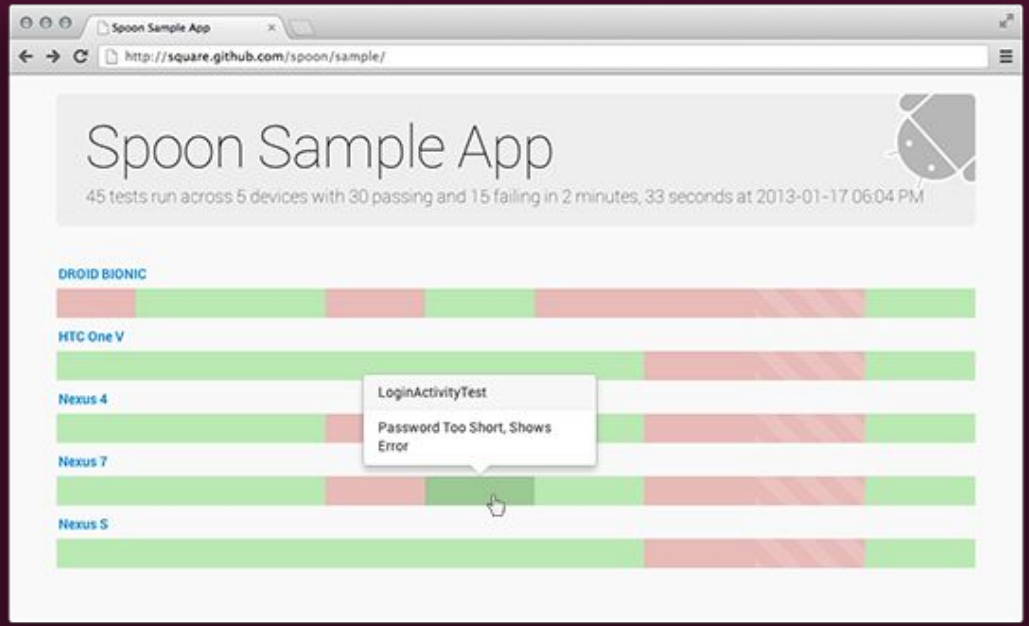
Fight #4

	Clean & Git checkout	Assemble all flavors	Check code quality	Run unit tests	Start emulator	Run functional tests	Generate build report
Average stage times:	18s	3min 22s	53s	1min 58s	1min 21s	5min 37s	1min 30s
#4 Feb 03 21:58 — 1 commits	18s	2min 43s	43s	1min 52s	1min 21s	5min 31s	1min 27s
#3 Feb 03 21:51 — 1 commits	17s	2min 50s	47s	1min 39s	1min 13s	5min 24s	1min 30s

JENKINS PIPELINE

(SRLSLY TRY IT)

Fight #4


Spoon Sample App
http://square.github.com/spoon/sample/
Spoon Sample App
45 tests run across 5 devices with 30 passing and 15 failing in 2 minutes, 33 seconds at 2013-01-17 06:04 PM
DROID BIONIC
HTC One V
Nexus 4
Nexus 7
Nexus S
LoginActivityTest
Password Too Short, Shows Error

Yet Another Checklist:

1. Think maintainability
2. Ubiquitous language
3. Have a plan B
4. Establish a 80/20 rule
5. Test suite accountability
∞. No BS, seriously.

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Materials: github.com/sofiavistas/womenwhocode