



Domain Supported Automation

For mobile app testing

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Tester (since 1997)

Independent tester (since 2005)

Test mobile apps (since November 2014)

Mobile, Logistics, Financial, Telecom



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Android developer (since 2012)

Automation for mobile app (since late 2014)

Consultant at Capgemini (since mid 2014)



Business case

Client: Bank

Vendor: Mobile Agency

Testing: Third party



ALM

Specifications test planning and execution



**Current Test Automation Framework for
Web, API's and Desktop applications**

**Mobile Test Automation
Framework**



ALM

Specifications test planning and execution



**Test Automation Framework for Mobile,
Web, API's and Desktop applications**



Approach





Gherkin



Gherkin

Given – When – Then

"Given" describes the initial context for the example

"When" describes the action that the actor in the system or stakeholder performs

"Then" describes the expected outcome of that action

Example :

GIVEN that watermelon is 92% water

WHEN I plant watermelon seeds

THEN I can grow water in the desert?



```

# PAY001-M01
# =====
# Author: Peter Schrijver
# Reviewer:
# Date: 24 May 2016
# Type: M (Main Scenario)
#     Main flow to make a direct payment to a non-whitelisted account
#
# Note:
# TODO: Review this
#
# Prerequisites:
# Device MUST be in Bound state, UBI = ON
# Daily limit MUST be set to €50,00
# Background must bring App to the "dashboard"
#
# =====
@Payment
Feature: PAY001-M01 | Making a direct payment to a non-whitelisted account
    As a user
        I want to be able to make a direct payment to a non-whitelisted account
        so that I can transfer money to another account

        Background:
            Given I am logged in with my account

        Scenario Outline: I want to make a direct payment to a non-whitelisted account
            Given I am on the screen "dashboard"
            When I tap on tab "Accounts"
                And I tap on account "<personal account>"
                And I see the screen "Transactions"
                And I tap on button "Transfer in mutations"
                And I see the screen "Transfer"
                And I enter "2.00" in the "amount field"
                And I enter "<name>" in the "beneficiary field"
                And I enter "<account number>" in the "accountnumber field"
                And I enter "<description>" in the "description field"
                And I see the screen "Transfer"
                And I tap on button "Next in payment"
                And I see the screen "Overview"
                And I tap on button "Next"
                And I see the screen "Identification"
                And I enter "ETPIN" in the PIN5 field
                And I see a toast with the message "Your payment has been sent"
                And I see the screen "Transactions"
            Then my test has passed

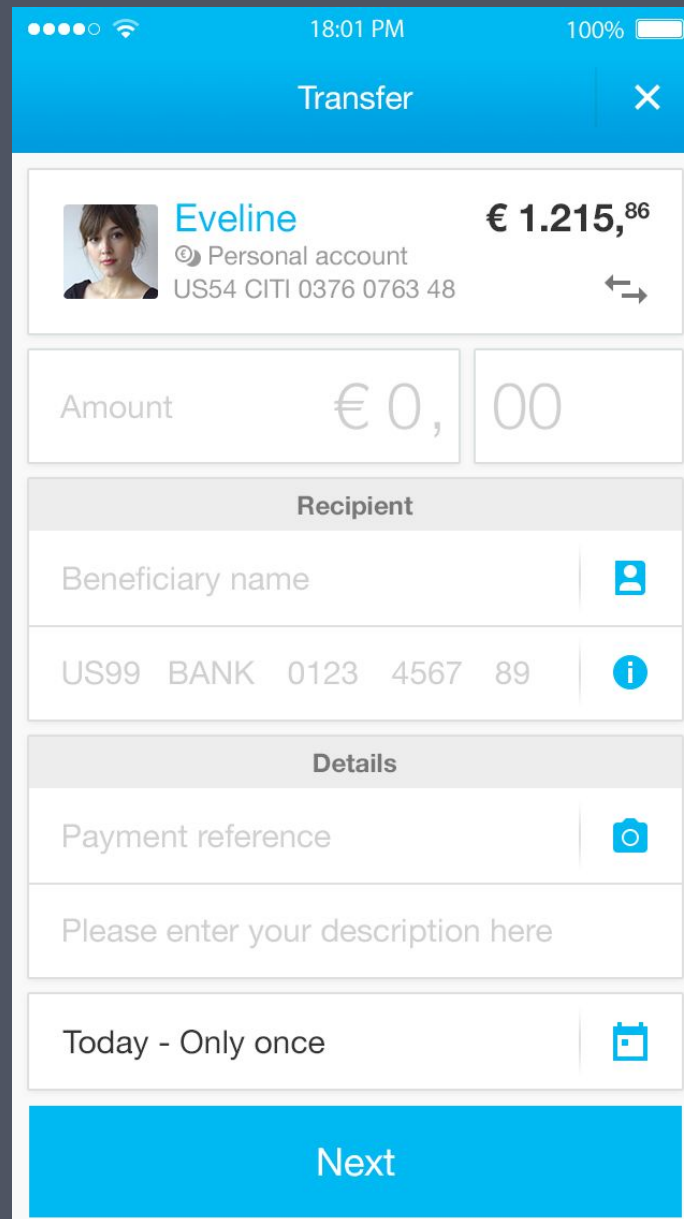
        Examples:
            | name                | personal account | account number | description |
            | ING_Account_PAY001-M01 | Personal account 1 | INGB_GENERATED | Test PAY001-M01 |

```



I see the screen "Transfer"

I enter "1.10" in the "amount field"



The image shows a mobile application interface for a 'Transfer' screen. At the top, there is a blue header with the title 'Transfer' and a close button (X). Below the header, the user's profile is displayed: a small circular profile picture, the name 'Eveline', and the account type 'Personal account' with the account number 'US54 CITI 0376 0763 48'. To the right of the profile, the current balance is shown as '€ 1.215,86'. Below the profile section, there is an 'Amount' field with a placeholder '€ 0,00'. Underneath the amount field, there is a 'Recipient' section with two input fields: 'Beneficiary name' (with a person icon) and 'US99 BANK 0123 4567 89' (with an information icon). Below the recipient section, there is a 'Details' section with two input fields: 'Payment reference' (with a camera icon) and 'Please enter your description here'. At the bottom of the details section, there is a date and time selector showing 'Today - Only once' with a calendar icon. At the very bottom, there is a large blue button labeled 'Next'.

I enter "<name>" in the "beneficiary field"

I enter "<account number>" in the "accountnumber field"

I tap on button "Next"



Gherkin script

And I tap on button "Transfer in mutations"

And I see the screen "Transfer"

And I enter "1.10" in the "amount field"

And I enter "<name>" in the "beneficiary field"

And I enter "<account number>" in the "accountnumber field"

And I tap on button "Next"

And I see the screen "Overview"



I see the screen "Transfer"

Transfer

Eveline € 1.215,86
Personal account
US54 CITI 0376 0763 48

Amount € 0,00

Recipient

Beneficiary name

US99 BANK 0123 4567 89

Details

Payment reference

Please enter your description here

Today - Only once

Another payment Next

I enter "1.10" in the "amount field"

I enter "<name>" in the "beneficiary field"

And I enter "<description>" in the "description field"

I enter "<account number>" in the "accountnumber field"

I tap on button "Another payment"

I tap on button "Next"



Gherkin script

And I tap on button "Transfer in mutations"

And I see the screen "Transfer"

And I enter "1.10" in the "amount field"

And I enter "<name>" in the "beneficiary field"

And I enter "<account number>" in the "accountnumber field"

And I enter "<description>" in the "description field"

And I tap on button "Another payment"

And I see the screen "Transfer"



Advantages for the domains

Using Gherkin ...

- One Language
- Easy for everybody to understand
- Can be used by all domains for their own purposes

Creating 'Test Cases' which can be
used for Automation purposes



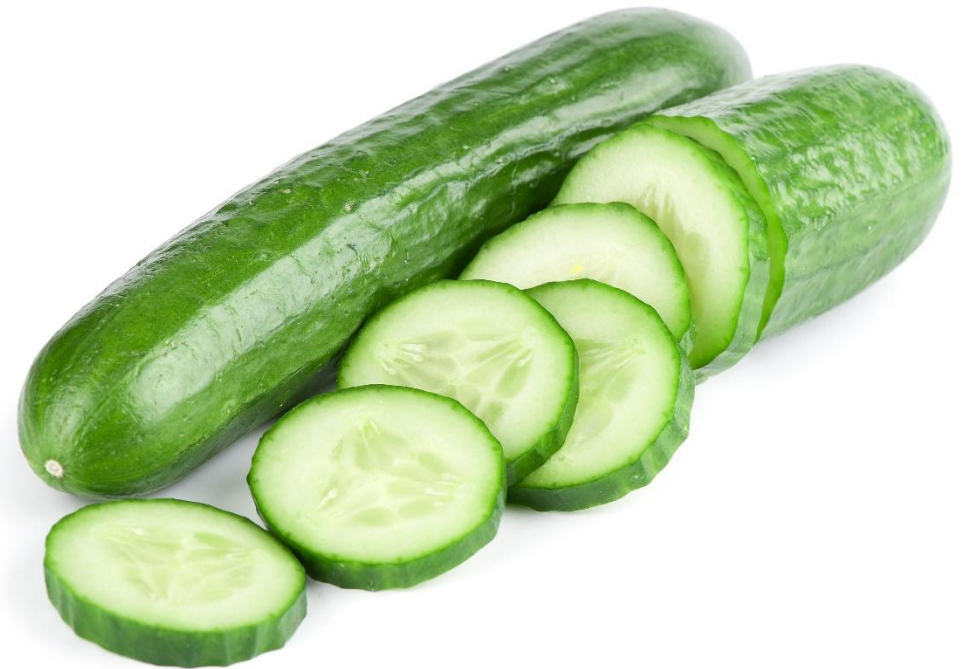


Glue code



Cucumber

A framework which links the Gherkin lines with your automation code methods.



Native testtools



Glue code – Example Java

I tap on button “Next”

```
@And("^I tap on button \"([^\"]*)\"$")
public static void iTapOnButton(String buttonName) throws Throwable {

    final int buttonId = findButtonId(buttonName);

    // Try to hit a button, if we cannot find it, try to first scroll to it and then
    // hit the button
    onView(withId(buttonId)).withFailureHandler((error, viewMatcher) -> {
        onView(withId(buttonId)).perform(scrollTo(), click());
    }).perform(click());
}
```



Glue code – Example Swift

I tap on button “Next”

```
step("I tap on button \"([^\"]*)\"") { (matches: [String]) in
    let accessibilityID = self.mapper.valueForGherkinKey(matches[0])
    self.test.tapAnyElementWithAccessibilityId(accessibilityID)
}

func tapAnyElementWithAccessibilityId(accessibilityId: String) {
    elementWithType(.Button, identifier: accessibilityId).tap()
}

// For performance try retrieving an element by the type you expect
// Otherwise fall back to XCUIElementType .Any
// Supply a unique Accessibility Identifier
func elementWithType(type: XCUIElementType, identifier: String) -> XCUIElement {
    let element = XCUIApplication().descendantsMatchingType(type).elementMatchingType(type, identifier: name)
    if element.exists {
        return element
    } else {
        print("Could not find \(identifier) for supplied type \(type), now try find \(identifier) for type .Any")
        return anyElementForAccessibilityId(identifier)
    }
}
```



“Talk is cheap. Show me the code.”

Linus

Torvalds



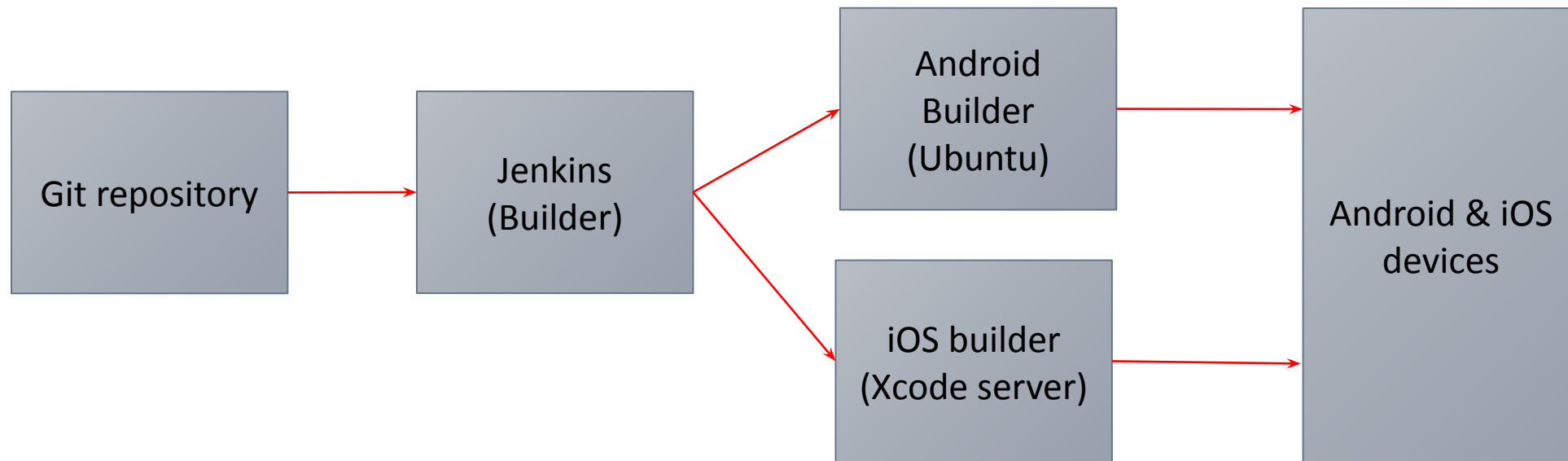
So what's next?



Buildstreet



Setup buildstreet



Requirement for test

Tests will be developed with Gherkin

Definition of Done: Gherkin scripts that can be automated



Towards Continuous Test

First build of App, run automation

Full set

When change is implemented, run dedicated set automation scripts

Every day

- Get latest build

- Run the full set automation scripts

- Run dedicated scripts for a certain build



Reporting to Management



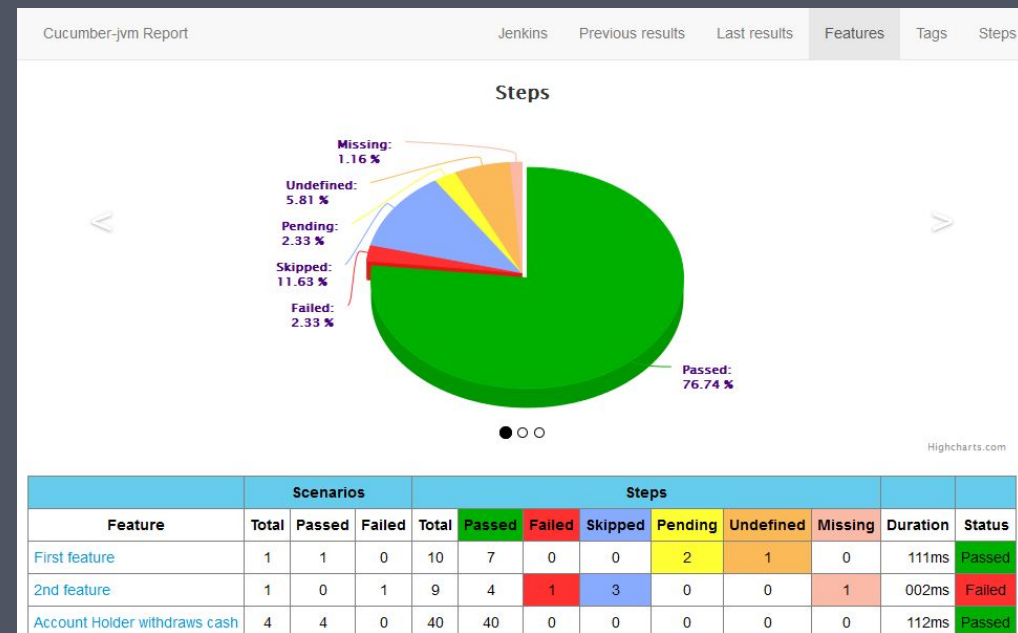
Continuous Integration

Jenkins opensource report tools

HP ALM

Best way to report to your team(s):

Get a big screen where you show your dashboard with the testresults 24/7



Approach - Advantages

Speed

Interaction/working with developer

Native; automation can be done with same program language

Reliability



Approach - Disadvantages

Two frameworks

Two code languages

Specialized work



Questions?



Simon and Carlo Say Thank You



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