BEHAVIOUR DRIVEN DEVELOPMENT TESTING WITH SELENIUM WEBDRIVER

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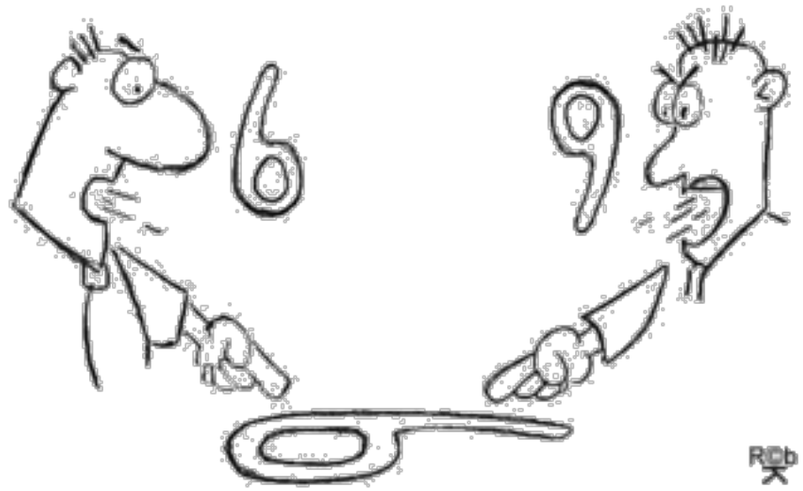
WHO AM I?

- Guillem Hernández Sola (ITNOVE)
- QA Engineer, certified ISTQB
- Test Automation Engineer specialised in
  - WebDriver
  - Appium
- Jenkins Certified Engineer

THANKS WALLAPOP FOR HOSTING US!

NEED FOR BDD



- Most common impediment for a team:
  - ***Unclear Specifications!***

INITIAL IDEA

- 2006 – Dan North

- ”TDD/ATDD done well, but TDD will cause me to have lots of tests, but it won’t necessarily get me nearer the goal of delivering business value through software.”

  - Test Driven Development – TDD

  - Acceptance Test Driven Development - ATDD

BDD IS ABOUT BUSINESS VALUE

BDD IS A COMMON LANGUAGE BETWEEN QA, BUSINESS AND DEVELOPMENT

BDD IS A SOFTWARE DEVELOPMENT METHODOLOGY

AN OUTSIDE METHODOLOGY

- BDD is an "outside-in" methodology.

- Starts at the outside by identifying business outcomes, and then drills down into the feature set that will achieve those outcomes.

STORY

- Each feature is captured as a "story", which defines the scope of the feature along with its acceptance criteria.

- BDD "Story" = Narrative (User Story) + Acceptance Criteria (Scenarios)

USER STORIES

- User Story as narrative (context)
- User centric
- Focus on What not so much How
- Contains sufficient information so that all stakeholders understand the context (who, when, what, why)

USER STORIES

THEME

EPIC

EPIC

USER STORIES

USER STORIES

TASK

TASK

TASK

TASK

TASK

TASK

As a “power user”, I can “have my reports” on my “dashboard”

As a “user”, I can “backup” my “hard drive.”

USER STORY DESCRIPTION

- **+ Title of the Story +**

- As a <role>,

- I want <feature>,

- So that <benefit>

USER STORY NARRATIVE EXAMPLE

- **As a** customer,
- **I want to** withdraw cash from an ATM,
- **so that** I don't have to wait in line at the bank

ACCEPTANCE CRITERIA: SCENARIOS

- A User Story's behaviour is its acceptance criteria

- Acceptance criteria define the scope of the narrative/behaviour

- Acceptance criteria gives us a shared definition of "done"

ACCEPTANCE CRITERIA STRUCTURE

- **Scenario Title**

- Given <context>,

- When <event>,

- Then <outcome>

ACCEPTANCE CRITERIA EXAMPLE

- **Scenario 1: Account is in credit**
- **Given** the account is in credit
    - **And** the card is valid
    - **And** the dispenser contains cash,
- **When** the customer requests cash,
- **Then** ensure the account is debited
    - **And** ensure cash is dispensed
    - **And** ensure the card is returned.

ACCEPTANCE CRITERIA EXAMPLE 2

- **Scenario 2: Account is overdrawn past the overdraft limit**
- **Given** the account is overdrawn
    - **And** the card is valid,
- **When** the customer requests cash,
- **Then** ensure a rejection message is displayed
    - **And** ensure cash is not dispensed
    - **And** ensure the card is returned.

POWER OF SCENARIOS

- Scenarios
- Test Cases
- Acceptance Criteria

GOOD STORY

- The title should describe an activity
- The narrative should include a role, a feature and a benefit
- The scenario title should say what's different
- The scenario should be described in terms of Givens, Events and Outcomes
- The givens should define all of, and no more than, the required context

  The event should describe the feature
- The story should be small enough to fit in an iteration

SPECIFICATION COMMON LANGUAGE

- Great for discussing with customer, end-users, other stakeholders

- Great for coding, testing, validation

- Promotes an Ubiquitous Language (everyone speaks the same language!)

TDD VS BDD

- BDD is ”Specification by Example”
  - Examples tell a story about what the system does
- TDD is then more ”Coding by Example”
  - Examples tell a story about what the code does

BDD IN THE REAL WORLD

- Better requirements workshops / User Stories writing workshops
- Iterative work – clarify requirements:
    - Write user story + scenarios
    - Re-write user story (break down?)+ scenarios
- Helps to understand ”What do we want?”
    - ”Aha!” reaction from participants
- Helps to write clear, concrete requirements

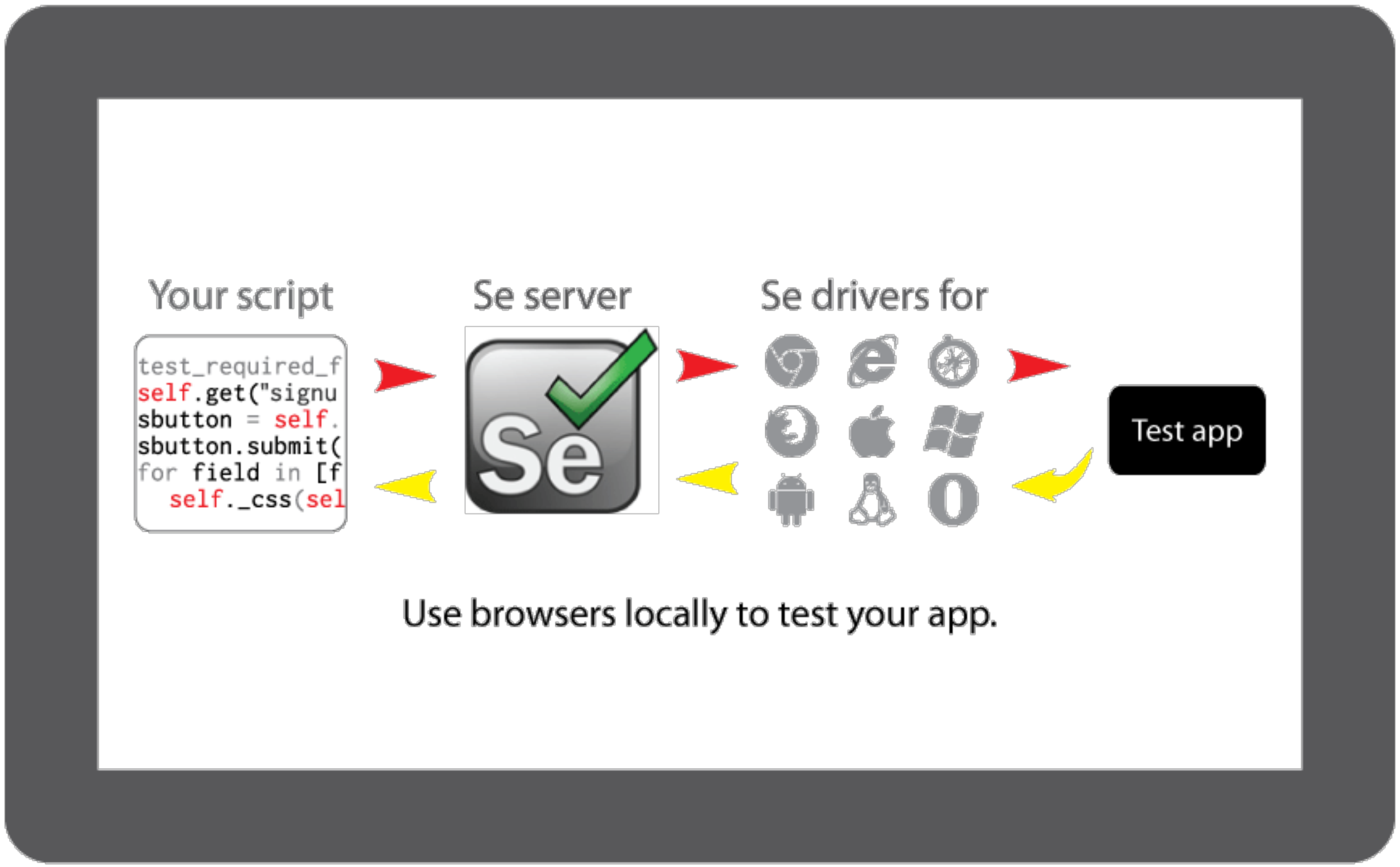
INTRODUCTION TO WEBDRIVER

- Open Source Test Automation Framework
- Developed by ThoughtWorks and Google
- Robust set of tools for web-based applications
- On multiple browsers
- On multiple Operating Systems
- Support many languages, including Ruby, Python, Java, c# and so on

AUTOMATE THE WEB

- Open a browser
- Navigate the page
- Read the page title
- Read the url
- Get text from the page
- Click on links
- Fill in forms
- Click on buttons to submit forms

WEBDRIVER ARCHITECTURE



PAGE OBJECTS

- A Page Object simply models these as objects within the test code

- This reduces the amount of duplicated code and means that if the UI changes, the fix need only be applied in one place

PAGE FACTORY

- There is a PageFactory in the support package that provides support for this pattern, and helps to remove some boiler-plate code from your Page Objects at the same time.

DEMO
SHOWING THE ACTION

HTTPS://GITHUB.COM/GUILLEMHS/CUCUMBERJVM-WALLAPOP-TESTNG
OR JUST SEARCH CUCUMBER WALLAPOP TESTNG ON GITHUB

THANKS!
QUESTIONS?

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