Behavioral-Driven Development

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- Given
- When
- Then
- And

2. Examples

2.1. No code

```
Feature: Reviewing a Ph.D. Thesis
    Every PhD thesis review has some recurrent steps

Scenario: A reviewer, being an expert on the field, should be cited somewhere
    Given A PhD thesis to review
    And a reviewer John Smith
    Then The thesis should cite John Smith's work

Scenario: A Ph.D. thesis should be an original work
    Given A PhD thesis to review
    And a reviewer John Smith
    Then The PhD.pdf should be checked agains plagiarism
```

Figure 1. Review PhD feature

2.2. Android example

[Android app] | *sample_video.gif*

Figure 2. An Android app (source here)

A feature for this app (source here)

```
Feature: Book Search
    Scenario: Search books by author
      Given there's a book called "Tips for job interviews" written by "John Smith"
        And there's a book called "Bananas and their many colors" written by "James
Doe"
        And there's a book called "Mama look I'm a rock star" written by "John Smith"
      When an employee searches by author "John Smith"
      Then 2 books should be found
        And Book 1 has the title "Tips for job interviews"
        And Book 2 has the title "Mama look I'm a rock star"
```

2.3. Angular example

2.3.1. A "Getting Started" app

https://github.com/petermorlion/angular-getting-started

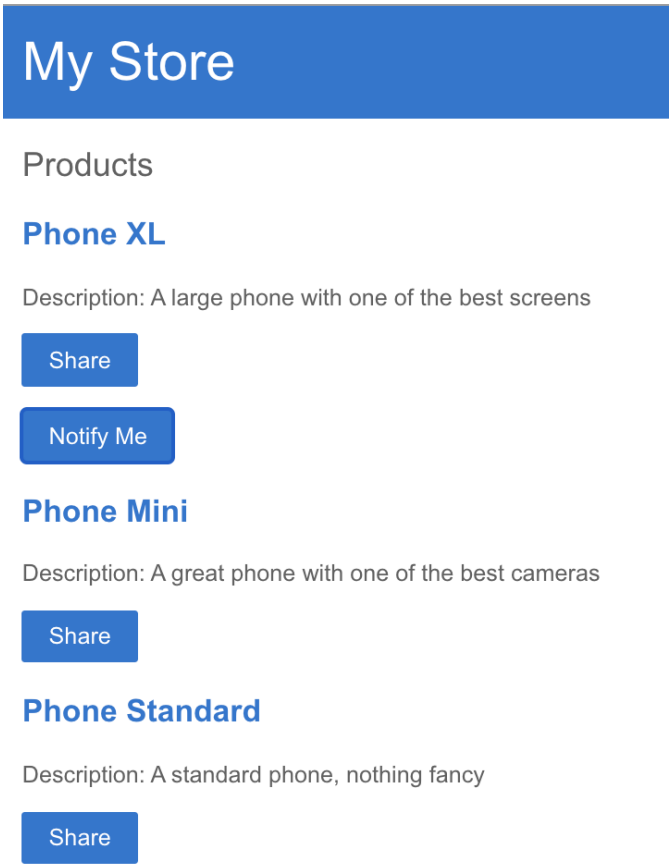

Figure 3. An Angular example app

2.3.2. Some feature description

```
Feature: Automatic discounts for premium customers
    Premium customers should automatically get a
    discount of 10% on purchases over $100.

    Scenario: Purchase over $100
        Given a premium customer
        And an order containing
            | item   | amount | price |
            | pencil | 100    | 1     |
            | paper  | 1      | 35    |
        When the customer checks out
        Then the total price should be 121.5
```

Figure 4. Some feature example

2.3.3. Running Cucumber (fail)

```
[→  /tmp/angular-getting-started git:(master) ✗ cucumber features/products-list.feature
Feature: Products List

  Scenario: Load the products list    # features/products-list.feature:3
    When we request the products list # features/products-list.feature:4
    Then we should receive            # features/products-list.feature:5
      | name           | description                                |
      | Phone XL       | A large phone with one of the best screens |
      | Phone Mini     | A great phone with one of the best cameras |
      | Phone Standard | A standard phone, nothing fancy            |

1 scenario (1 undefined)
2 steps (2 undefined)
0m0.051s

You can implement step definitions for undefined steps with these snippets:

When('we request the products list') do
  pending # Write code here that turns the phrase above into concrete actions
end

Then('we should receive') do |table|
  # table is a Cucumber::MultilineArgument::DataTable
  pending # Write code here that turns the phrase above into concrete actions
end


  Share your Cucumber Report with your team at https://reports.cucumber.io

  Command line option:    --publish
  Environment variable:   CUCUMBER_PUBLISH_ENABLED=true
  cucumber.yml:           default: --publish

  More information at https://reports.cucumber.io/docs/cucumber-ruby

  To disable this message, specify CUCUMBER_PUBLISH_QUIET=true or use the
  --publish-quiet option. You can also add this to your cucumber.yml:
  default: --publish-quiet
```

Figure 5. First run of the tests

2.3.4. Write Steps definitions

This is code linking the assertions with the running code.

Steps definition

```
import { When, Then } from 'cucumber';

When('we request the products list', function () {
    // Write code here that turns the phrase above into concrete actions
    return 'pending';
});

Then('we should receive', function (dataTable) {
    // Write code here that turns the phrase above into concrete actions
    return 'pending';
});
```

2.3.5. Running Cucumber (pass)

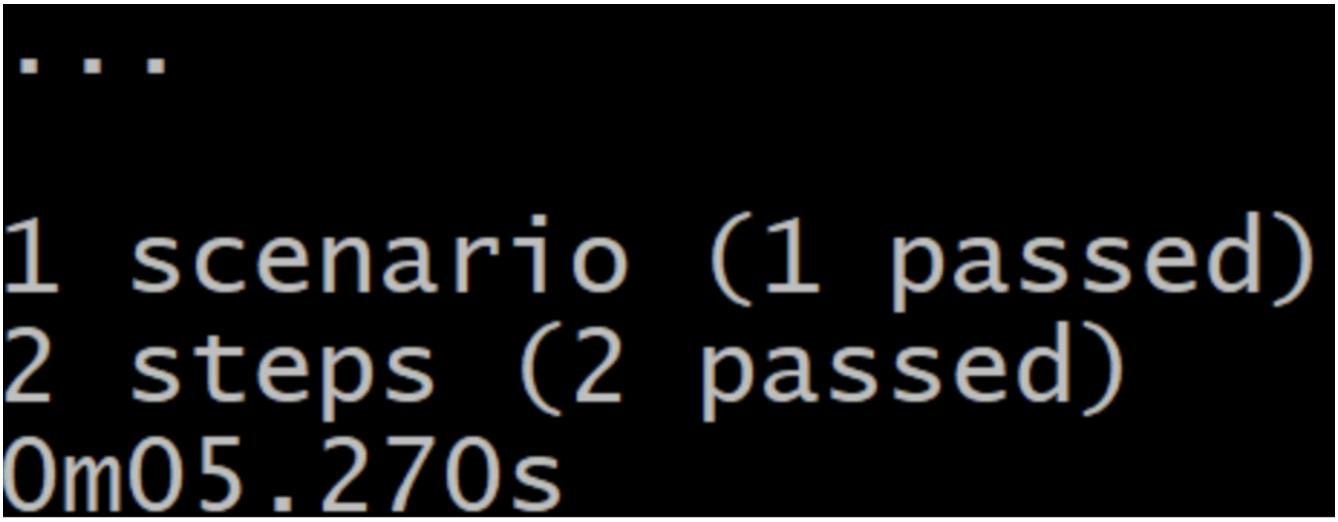

Figure 6. New run of the tests

2.4. Remember to find a plugin for your IDE

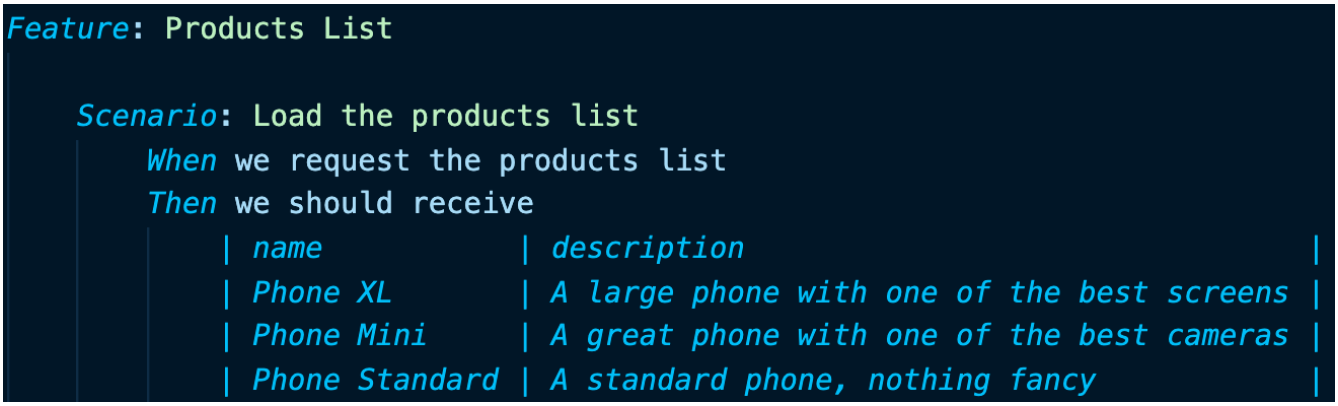

Figure 7. Cucumber plugin in use in VS Code

3. Useful links

- A 10' tutorial
- An Android example
- An Angular example

3.1. Les erreurs les plus courantes

http://blog.takipi.com/the-top-10-exceptions-types-in-production-java-applications-based-on-1b-events/?utm_content=buffer0c58b&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer