BDD with Behat

Webinar in cooperation of Qafoo & Zend

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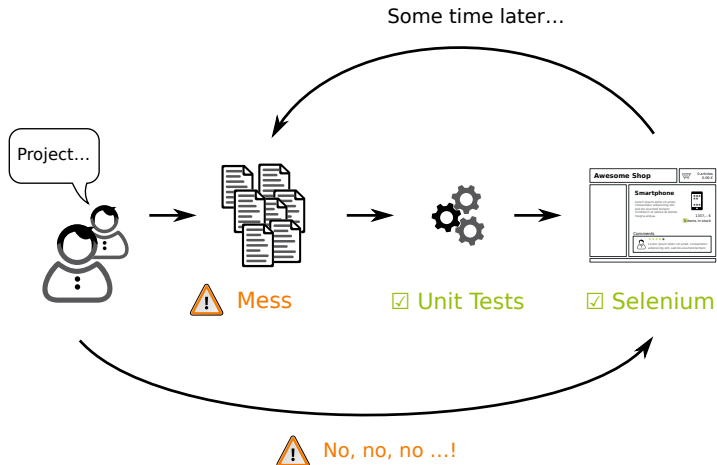**Helping teams to create high quality web applications.**

http://qafoo.com

- ▶ Expert consulting
- ▶ Individual training

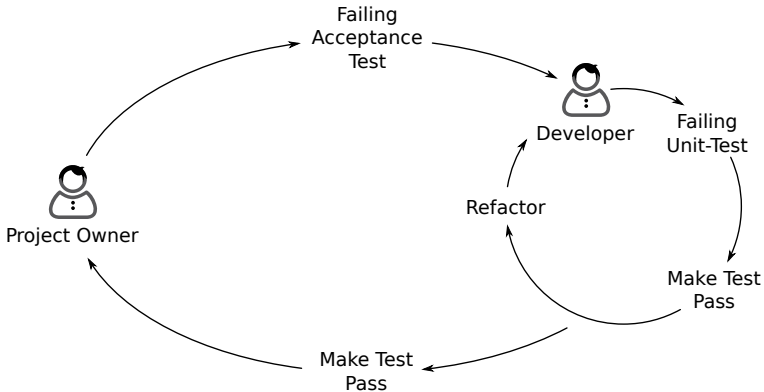   Get your team bootstrapped with BDD effectively!
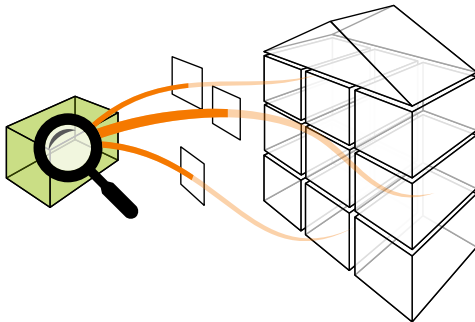
How to do a project

Behavior Driven Development (BDD)

- ▶ Make specification executable
- ▶ Combines:
  - ▶ Test Driven Development
  - ▶ Business focus
- ▶ Uses common language for
  - ▶ Business people
  - ▶ Analysts
  - ▶ Developers
  - ▶ Testers

Double Feedback Test Cycle

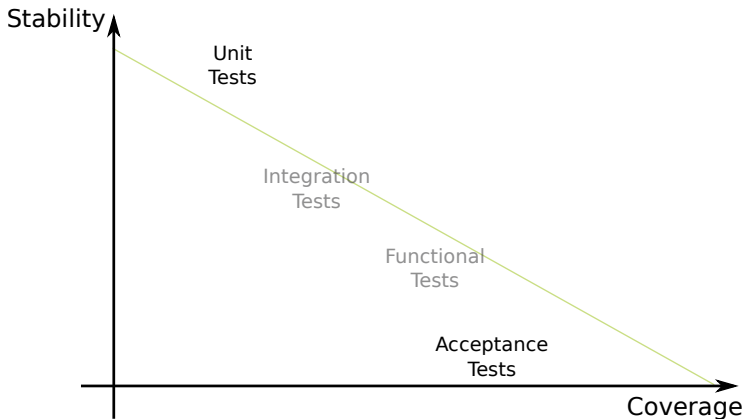# Unit Testing

Unit tests?

- Loosing importance
- Still valid for
  - Libraries
  - Complex business logic
  - High impact code

Instability vs. Coverage

Outline

Behat

Mink

Tool Stack Overview

Behat

- BDD test framework for PHP
- Inspired by Ruby's Cucumber
- Work with Gherkin language framework
- `http://behat.org`

Gherkin

- ▶ Domain Specific Language (DSL) framework
- ▶ Goal: Business readable
- ▶ Create custom DSL on Gherkin
- ▶ Tie test code to DSL sentences

Gherkin in Action

```
1    Feature : DateTime proceeds to end of month .
2
3        Scenario : End of February is reached
4            Given it is date "2013−02−01"
5            When I proceed to the end of the month
6            Then the date is "2013−02−28"
```

Gherkin keywords

- `Given`
  - Precondition
  - Test setup
- `When`
  - Behavior trigger
  - Test stimulus
- `Then`
  - Expected behavior
  - Describe observable result

Binding Code to Sentences

```
1  Feature: DateTime proceeds to end of month.
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3      Scenario: End of February is reached
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```

```
1  class ExampleContext extends BehatContext
2  {
3  }
```

Binding Code to Sentences

```
1   Feature: DateTime proceeds to end of month.
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3       Scenario: End of February is reached
4           Given it is date "2013-02-01"
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6           Then the date is "2013-02-28"
```

```
1   class ExampleContext extends BehatContext
2   {
3       protected $date;
4
5       /**
6        * @Given /^it is date "([^"]*)"$/
7        */
8       public function thereIsTheDate($date)
9       {
10          $this->date = new \DateTime($date);
11      }
12  }
```

Binding Code to Sentences

```
Feature: DateTime proceeds to end of month.

    Scenario: End of February is reached
        Given it is date "2013−02−01"
         When I proceed to the end of the month
         Then the date is "2013−02−28"
```

```php
class ExampleContext extends BehatContext
{
    /**
     * @When /^I proceed to the end of the month$/
     */
    public function iProceedToTheEndOfTheMonth()
    {
        $this->date->modify("last day of this month");
    }
}
```

Binding Code to Sentences

```
1   Feature : DateTime proceeds to end of month .
2
3       Scenario : End of February is reached
4           Given it is date "2013-02-01"
5            When I proceed to the end of the month
6            Then the date is "2013-02-28"
```

```
1   class ExampleContext extends BehatContext
2   {
3       /**
4        * @Then /^the date is "(?P<date>[^"]*)"$/
5        */
6       public function theDateIsNow ($date)
7       {
8           \PHPUnit_Framework_Assert :: assertEquals (
9               $date ,
10              $this ->date ->format ( "Y-m-d" )
11          ) ;
12      }
}
```
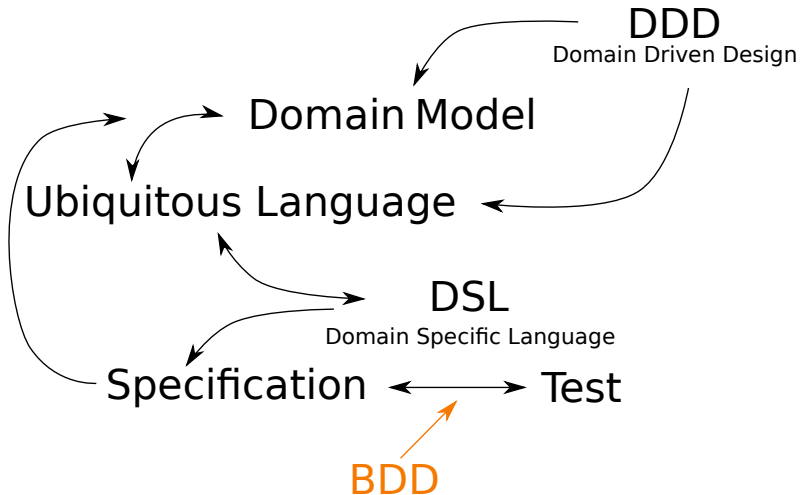
DDD
Domain Driven Design

Domain Model

Ubiquitous Language

DSL
Domain Specific Language

Specification

Test

BDD

Outline

Behat

Mink

Tool Stack Overview

Mink

- ▶ Web acceptance test framework
- ▶ Abstracts browser emulations / controllers
  - ▶ Goutte
  - ▶ Zombie.js
  - ▶ Selenium / Selenium 2
  - ▶ Sahi
- ▶ Mink extension for Behat provides sentences
- ▶ `http://mink.behat.org`

Behat Mink Example

```
1   Feature: Browse Wikipedia
2
3       Scenario: Search front page
4           Given I am on "/"
5            When I fill in "searchInput" with "Kore"
6             And I press "searchButton"
7            Then I should see "Kore may refer to:"
8
9       Scenario: Follow redirect link
10          Given I am on "/"
11           When I fill in "searchInput" with "Kore"
12            And I press "searchButton"
13            And I follow "Kore (energy drink)"
14           Then the response status code should be 200
```

Mink Behat-extension

- Mink integration for Behat
- Pre-build sentences to browse pages
- Extensible with custom sentences
- `http://extensions.behat.org/mink`

Attention!

- ► This is no more BDD!
  - ► Too technical
  - ► Not bound to the model
  - ► Fragile for view changes
- ► However
  - ► Useful for system tests
  - ► Awesome for refactoring!
    `http://bit.ly/behat_cc`

BDD through the Front-End

```php
/**
 * @Given /^I am logged in as "([^"]*)"$/
 */
public function iAmLoggedInAs($user)
{
    $this->currentUsername = $user;

    return array(
        new Step\Given('I am on "/"'),
        new Step\When('I fill in "username" with "' .
            $user . '"'),
        new Step\When('I fill in "password" with "test"'),
        new Step\When('I press "Login"'),
    );
}
```
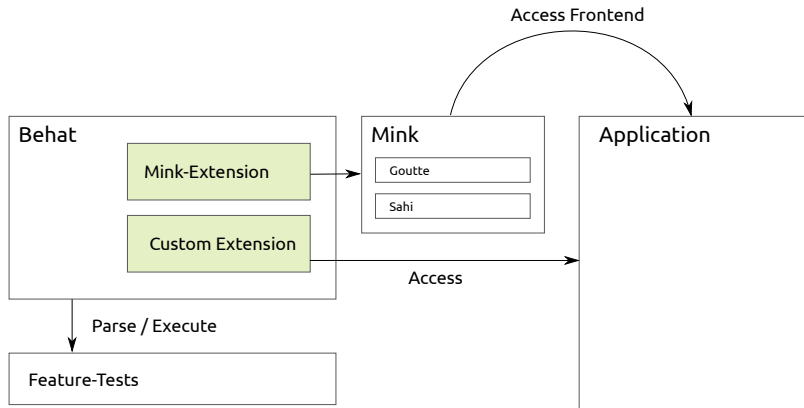
Outline

Behat

Mink

Tool Stack Overview

Behat tool stack

Conclusion

- ► BDD tries to make specification executable
  - ► DDD context
  - ► No low hanging fruit
  - ► Easy to fail
- ► Behat is a tool for BDD in PHP
- ► Behat + Mink = Awesome for refactoring

Thanks for Listening

Stay in touch

- Tobias Schlitt
- toby@qafoo.com
- @tobySen

- Code Coverage with Behat:
  `http://bit.ly/behat_cc`
- Another Behat intro:
  `http://bit.ly/behat_intro`
- Slides later:
  `http://talks.qafoo.com`

Rent a web quality expert:
`http://qafoo.com`