Driving your domain by examples

Optional short description of theme

DevelopersParadise

2016 / Opatija / Croatia

Marco Lopes

Senior Software Engineer - Session Digital

@mpmlopes

DevelopersParadise

2016 / Opatija / Croatia

Once upon a time...

Everything changes

PANIC! NOW!

Why does it happen?

Short feedback cycle

Short feedback cycle AKA Agile

Can we do more?

Shorten feedback cycle

BDD

Behat & PHPSpec

Modelling by Example

Domain Suite

Scenario: Paying with a credit card
  Given AwesomePay has credit card payments enabled
  When I fill the credit card number with 4444333322221111
  And I fill the expiry date with "04/2018"
  And I fill the CCV with 123
  And the credit card has unlimited funds on payment gateway
  And I press place order button
  Then the payment should be accepted
  And the magento order status should be "processing"

Scenario: Paying with a credit card
  Given AwesomePay has credit card payments enabled
  When I fill the credit card number with 4444333322221111
  And I fill the expiry date with "04/2018"
  And I fill the CCV with 123
  And the credit card has unlimited funds on payment gateway
  Then the payment should be accepted
  And the magento order status should be "processing"

Scenario: Paying with a credit card
  Given AwesomePay has credit card payments enabled
  When I have credit card 4444333322221111
  And the credit card has unlimited funds on payment gateway
  Then the payment should be accepted
  And the magento order status should be "processing"

Scenario: Paying with a credit card
  Given AwesomePay has credit card payments enabled
  And I have credit card 4444333322221111
  And the credit card has unlimited funds on payment gateway
  When I pay £42 using that credit card
  Then the payment should be accepted
  And the magento order status should be "processing"

Scenario: Paying with a credit card
  Given the payment gateway has credit card payments enabled
  And I have credit card 4444333322221111
  And the credit card has unlimited funds on payment gateway
  When I pay £42 using that credit card
  Then the payment should be accepted
  And the magento order status should be "processing"

AwesomePay

Interfaces

Domain

Interfaces

Magento

DevelopersParadise
2016 / Opatija / Croatia

Scenario: Paying with a credit card
  Given the payment gateway has credit card payments enabled
  And I have credit card 4444333322221111
  And the credit card has unlimited funds on payment gateway
  When I pay £42 using that credit card
  Then the payment should be accepted
  And the magento order status should be "processing"

Scenario: Paying with a credit card
  Given the payment gateway has credit card payments enabled
  And I have credit card 4444333322221111
  And the credit card has unlimited funds on payment gateway
  When I pay £42 using that credit card
  Then the payment should be accepted

```php
/**
 * @Given the payment gateway has credit card payments enabled
 */
public function
thePaymentGatewayHasCreditCardPaymentsEnabled()
{
    $this->paymentGateway = new FakePaymentGateway();
    expect(
        $this->paymentGateway->HasCreditCardPaymentsEnabled()
    )->toBe(true);
}
```

```php
/**
 * @Given I have credit card :aCreditCard
 */
public function iHaveCreditCard(CreditCard $aCreditCard)
{
    $this->creditCard = $aCreditCard;
}
```

```php
/**
 * @Transform :aCreditCard
 */
public function transformNumberToCreditCard($cardNumber)
{
    return CreditCard::fromNumber($cardNumber);
}
```

Named Constructor

```
CreditCard::fromNumber($cardNumber);
```

```php
/**
 * @Given the credit card has unlimited funds on payment gateway
 */
public function
theCreditCardHasUnlimitedFundsOnPaymentGateway()
{
    $this->paymentGateway->cardHasUnlimitedCredit(
        $this->creditCard
    );
}
```

Scenario: Paying with a credit card
  Given the payment gateway has credit card payments enabled
  And I have credit card 4444333322221111
  And the credit card has unlimited funds on payment gateway
  When I pay £42 using that credit card
  Then the payment should be accepted

Scenario: Paying with a credit card
  Given the payment gateway has credit card payments enabled
  And I have credit card 4444333322221111
  And the payment gateway has unlimited credit for that card
  When I pay £42 using that credit card
  Then the payment should be accepted

```php
/**
 * @Given the payment gateway has unlimited credit for that card
 */
public function
thePaymentGatewayHasUnlimitedCreditForThatCard()
{
    $this->paymentGateway->hasUnlimitedCreditFor(
        $this->creditCard
    );
}
```

Code closer to the business language

Code changes when business changes

Emergent design

Decoupling

AwesomePay

Interfaces

Domain

Interfaces

Magento

DevelopersParadise
2016 / Opatija / Croatia

AwesomePay

Interfaces

Domain

Interfaces

Magento 2

Mitigates communication problems

Easier development

Docs for free

Test for free

Easier QA

Respond to change

Speaking by experience

How about e2e tests?

```yaml
default:
  suites:
    domain:
      contexts: [DomainContext]
```

```
default:
  suites:
    domain:
      contexts: [DomainContext]
    web:
      contexts: [WebContext]
      filters:  { tags: '@web' }
```

```yaml
default:
  suites:
    domain:
      contexts: [DomainContext]
      filters:  { tags: '~@ui' }
    web:
      contexts: [WebContext]
      filters:  { tags: '@web' }
```

```yaml
default:
  suites:
    domain:
      contexts: [DomainContext]
      filters:  { tags: '~@ui' }
    web:
      contexts: [WebContext]
      filters:  { tags: '@web' }
    mobile:
      contexts: [MobileContext]
      filters:  { tags: '@mobile' }
```

```yaml
default:
  suites:
    domain:
      contexts: [DomainContext]
      filters:  { tags: '~@ui' }
    web:
      contexts: [WebContext]
      filters:  { tags: '@web' }
    mobile:
      contexts: [MobileContext]
      filters:  { tags: '@mobile' }
    integration:
      contexts: [IntegrationContext]
      filters:  { tags: '~@ui' }
```

In sum

Bounded domain

Decoupled parts of our application

Decoupling from frameworks

Better understanding of the business domain

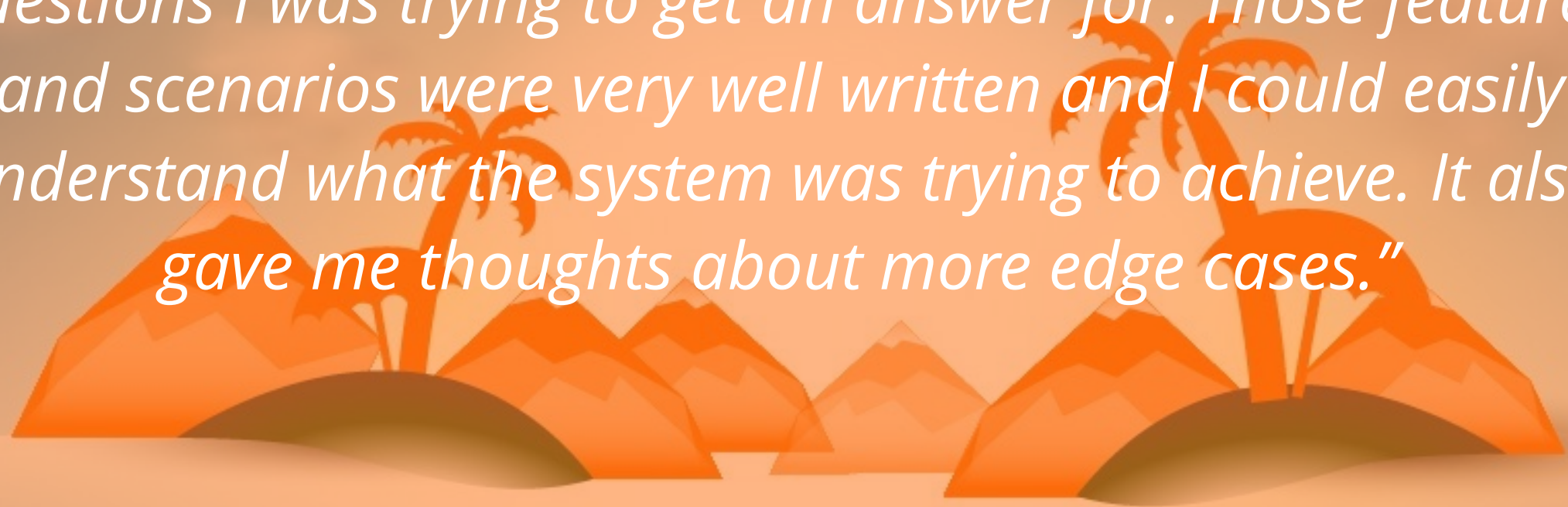# Reduction of communication gaps

Easier development

Quicker CI builds

Easier handover

"I saw those feature files written by you almost when everything was over. I could not believe myself how much better it would have been if I have had a chance to see them before starting the QA, as those where mostly the questions I was trying to get an answer for. Those features and scenarios were very well written and I could easily understand what the system was trying to achieve. It also gave me thoughts about more edge cases."

Questions?

Related Links

Introducing Modelling by Example
http://stakeholderwhisperer.com/posts/2014/10/introducing-modelling-by-example

Named Constructors in PHP
http://verraes.net/2014/06/named-constructors-in-php/

Short Intro to BDD from Konstantin Kudryashov
https://www.youtube.com/watch?v=njcHzGYv7nI

Social

Twitter: @mpmlopes

DevelopersParadise
2016 / Opatija / Croatia

Thank You!

DevelopersParadise

2016 / Opatija / Croatia