

BDD

programming the happy way

by Leon Du

Who Am I

- Freelancer / Ruby on Rails developer
@guangzhou
- github.com/leondu
- twitter.com/leondu
- [flickr.com/leondu](https://www.flickr.com/photos/leondu/)
- leondu@gmail.com

Talk about

BDD, aka, Behavior Driven Development

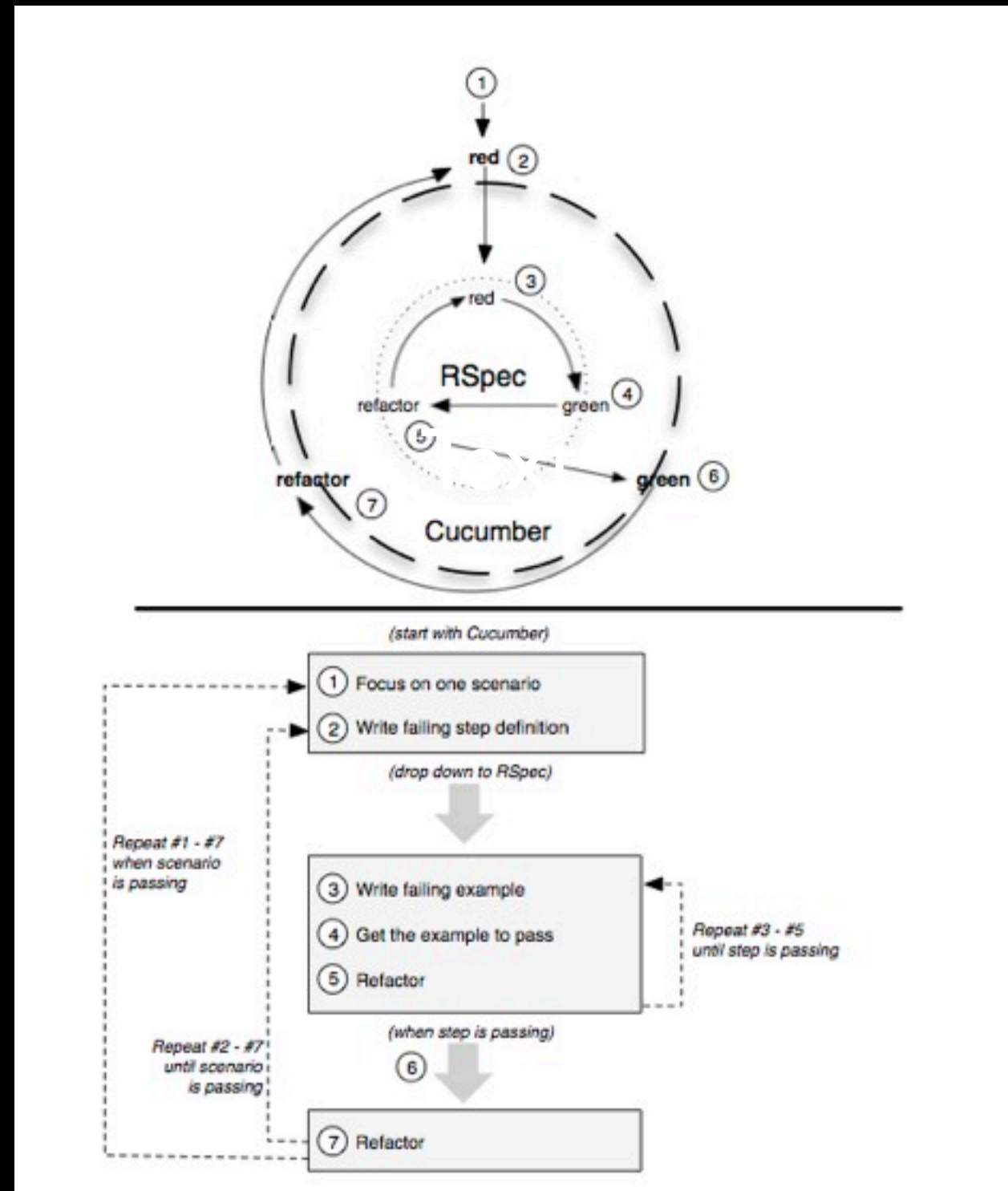
- BDD is a second-generation, outside-in, pull-based, multiple-stakeholder, multiple-scale, high-automation, agile **methodology**. It describes a cycle of interactions with well-defined outputs, resulting in the delivery of working, tested software that matters.
--- from wikipedia.org

- a set of **tools**
 - Rspec
 - Cucumber
 - Webrat
 - Capybara
 - email-spec

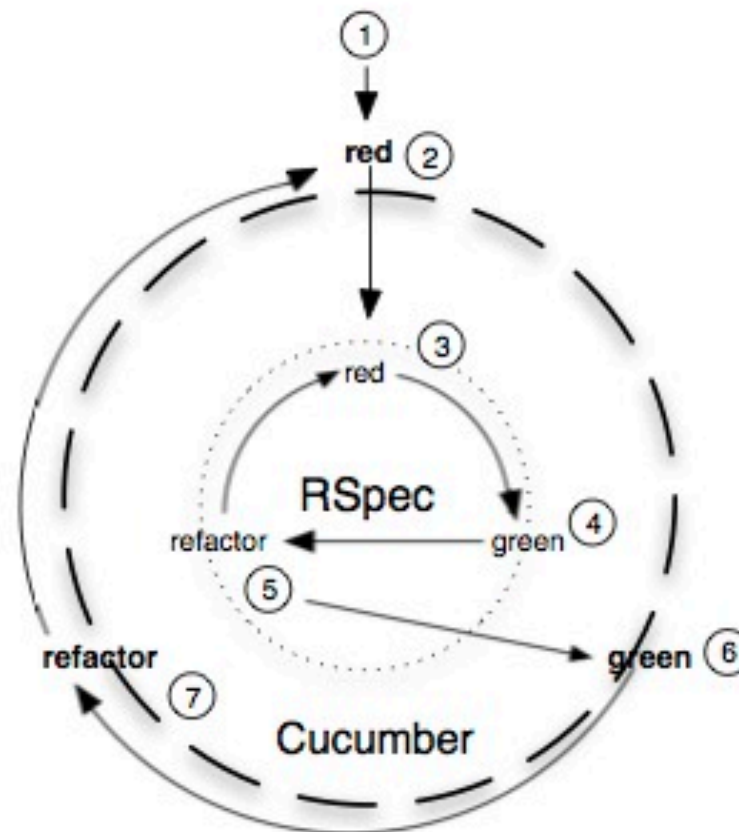
Methodology

- Change the **way of development**
- Focus on **behavior** not only internal structure
- Ease the difficulty of **communication**

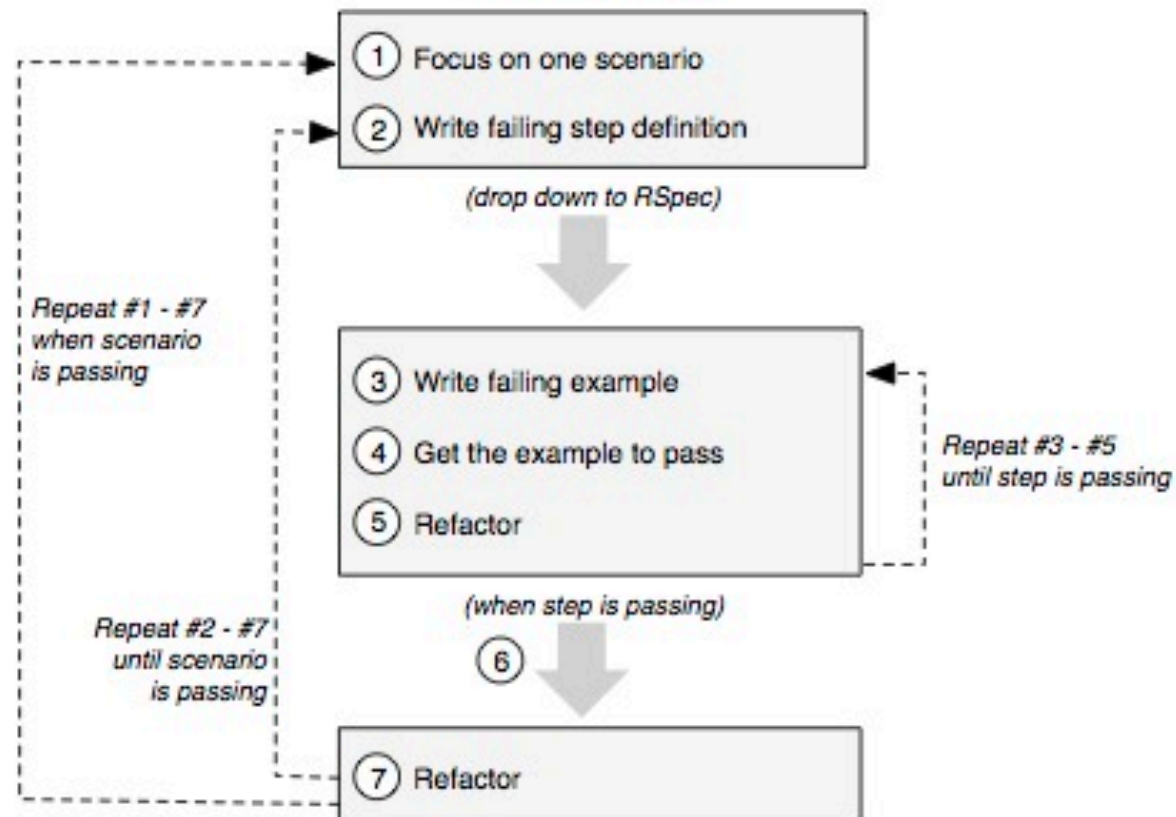
BDD Cycle



---from The RSpec Book



(start with Cucumber)



---from The RSpec Book

the Tools

- RSpec
for internal behaviors
- **Cucumber**
for system behaviors
- **Webrat/Capybara/email-spec...**
for common task steps

Cucumber



Cucumber

Cucumber

Features

Scenarios

Steps

<http://cukes.info/>

Feature

- Plain **text**
- Focus on **behavior**

Feature: Site wide announcements

In order show site wide announcements to all users

As a admin

I want manage and show site wide announcements

Scenario: Only admin can access the announcement manage page

Given I am a confirmed admin and signed in as "tom@example.com" with password "password"

When I go to the announcements page

Then I should see "Listing Announcements"

When I go to the new announcement page

And I fill in "announcement_message" with "open soon"

And I press "Create"

Then I should see "announcement was successfully created."

And I should see "open soon"

Scenario

- Write Scenario with **Given/When/Then**

```
Scenario: Only admin can access the announcement manage page
  Given I am a confirmed admin and signed in as "tom@example.com" with password "password"
  When I go to the announcements page
  Then I should see "Listing Announcements"
  When I go to the new announcement page
    And I fill in "announcement_message" with "open soon"
    And I press "Create"
  Then I should see "announcement was successfully created."
    And I should see "open soon"
```

Step

Step definition

```
Given I am a confirmed admin and signed in as "tom@example.com" with password "password"
```

and is translated to below:

```
Given /^I am a confirmed (user|admin) and signed in as "([^"]*)" with password "([^"]*)"$/ do |user_type, email, password|
  Given %{I am signed up and confirmed as "#{email}/#{password}"}
  And %{I sign in as "#{email}/#{password}"}
  if user_type == 'admin'
    And %{I am an admin}
  end
end
```

```
Given /^I am signed up and confirmed as "(.*)\/(.*)"$/ do |email, password|
  user = Factory :user,
    :name      => email.split("@").first,
    :email     => email,
    :password  => password,
    :password_confirmation => password,
    :active    => true
end
```

Advance topics

Preparing data with Examples

Scenario Outline: Edit a user unsuccessfully

- When I fill in "Login" with "<login>"
- And I fill in "Email" with "<email>"
- And I fill in "Password" with "<password>"
- And I fill in "Password Confirmation" with "<password_confirmation>"
- And I check "<role>"
- When I press "Update"
- Then I should see error messages

Examples:

login	email	password	password_confirmation	role
	marco@example.com	secret	secret	admin
marco		secret	secret	admin
marco	marco@example.com	secret		admin
				admin
	marco@example.com			admin

Advance topics

Testing email with email-spec

```
When I open my email box with "email@example.com"
Then I should receive an email
When I open the email
Then I should see "Your account has been created." in the email
    And I should see "Please visit the link below and activate your account:" in the email
When I click the first link in the email
Then I should see "Your account has been activated."
    And I should be signed in
When I open my email box with "email@example.com"
Then I should receive an email
When I open the email
Then I should see "Your account has been activated."
```

email steps

```
# Use this step to open the most recently sent e-mail.
When /^I open the email$/ do
  open_email(current_email_address)
end

When %r{^I follow "([^"]*?)" in the email$} do |link|
  visit_in_email(link)
end
```

BDD in other world

- Java

Instinct, JDave, JBehave, BDoc...

<http://java-sources.org/open-source/bdd>

- .Net

StoryQ

<http://storyq.codeplex.com/>

<http://www.codeproject.com/KB/testing/bddintro.aspx>

Special Thanks To

Rain Chen hirainchen@gmail.com

Questions?