

RSpec

Specification rather than Verification

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BDD

Behaviour Driven Development

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Following excerpt from <http://behaviour-driven.org/Introduction>

“Experienced practitioners, particularly those that have been involved in helping other developers learn the practice, note a life-cycle to TDD's learning and adoption:

1. The developer starts writing unit tests around their code using a test framework like JUnit or NUnit, etc.
2. As the body of tests increase the developer begins to enjoy a strongly increased sense of confidence in their work.
3. At some point the developer has the insight (or are shown) that writing the tests before writing the code, helps them focus on only writing the code that they need.
4. The developer also notices that when they return to some code that they haven't seen for a while, the tests serve to document how the code works.
5. A point of revelation occurs when the developer realises that writing tests in this way helps them to “discover” the API to their code. TDD has now become a design process.
6. Expertise in TDD begins to dawn at the point where the developer realizes that TDD is not about testing, it is about defining behaviour.
7. Behaviour is about the interactions between components of the system and so the use of mocking is a fundamental to advanced TDD.

We have observed this progression in many developers, but unfortunately while most, with a little help, find their way to step 4, many miss the big wins found at steps 5, 6 and 7.

Example Spec

Rails based example of a model spec

```
describe "A new User object" do
  include UserSpecHelper

  before do
    @user = User.new
  end

  it "should be invalid without a login" do
    @user.attributes = valid_attributes.except(:login)
    @user.should_not be_valid
    @user.login = 'bob'
    @user.should be_valid
  end

  it "should be invalid without a name" do
    @user.attributes = valid_attributes.except(:name)
    @user.should_not be_valid
    @user.name = 'Bob Marley'
    @user.should be_valid
  end

  it "should be invalid without an email" do
    @user.attributes = valid_attributes.except(:email)
```

A new User object

should be invalid without a username

should be invalid without a realname

should be invalid without a password

should be invalid without a password confirmation

should be invalid without an email

should be valid with and without a jabber id

should be valid with valid parameters

should be invalid if an existing user exists with the same username

should be invalid if the username is less than 2 characters

should be invalid if the password is less than 8 characters

should not be an administrator by default

RSpec Usage

installing, generating and running

RSpec gem:

```
$> gem install rspec (or as a plugin)
```

RSpec on Rails **plugin**:

```
$> script/plugin install ...
```

Create **helpers**:

```
$> script/generate rspec
```

Use **generators** and **runners**:

```
$> script/generate rspec_scaffold user
```

```
$> spec -f s spec/models/user_spec.rb
```

Editor integration

Closer Look

Rails model, controller and view specs

C0 code coverage information

Generated on Sat Feb 24 19:48:49 EST 2007 with [rcov 0.7.0](#)

| Name | Total lines | Lines of code | Total coverage | Code coverage |
|--|-------------|---------------|----------------|---------------|
| TOTAL | 1232 | 921 | 97.9% | 97.3% |
| app/controllers/application.rb | 21 | 17 | 100.0% | 100.0% |
| app/controllers/authentication_controller.rb | 23 | 20 | 100.0% | 100.0% |
| app/controllers/sites_controller.rb | 82 | 58 | 92.7% | 89.7% |
| app/controllers/users_controller.rb | 90 | 66 | 86.7% | 81.8% |
| app/helpers/application_helper.rb | 3 | 2 | 100.0% | 100.0% |
| app/helpers/authentication_helper.rb | 22 | 17 | 81.8% | 76.5% |
| app/helpers/sites_helper.rb | 2 | 2 | 100.0% | 100.0% |
| app/helpers/users_helper.rb | 2 | 2 | 100.0% | 100.0% |
| app/models/observation.rb | 4 | 4 | 100.0% | 100.0% |
| app/models/site.rb | 13 | 11 | 100.0% | 100.0% |
| app/models/user.rb | 45 | 35 | 100.0% | 100.0% |
| config/environment.rb | 58 | 7 | 100.0% | 100.0% |
| config/routes.rb | 25 | 8 | 100.0% | 100.0% |
| lib/hash_except_only.rb | 15 | 12 | 100.0% | 100.0% |
| spec/controllers/authentication_controller_spec.rb | 106 | 87 | 100.0% | 100.0% |
| spec/controllers/sites_controller_spec.rb | 202 | 162 | 100.0% | 100.0% |
| spec/controllers/users_controller_spec.rb | 268 | 217 | 100.0% | 100.0% |
| spec/lib/hash_except_only_spec.rb | 20 | 15 | 100.0% | 100.0% |
| spec/lib/notification/jabber_notification_spec.rb | 8 | 4 | 100.0% | 100.0% |
| spec/models/site_spec.rb | 59 | 47 | 93.2% | 93.6% |
| spec/models/user_spec.rb | 138 | 114 | 100.0% | 100.0% |
| spec/spec_helper.rb | 26 | 14 | 100.0% | 100.0% |

Inbuilt support for **Heckle**

Yaml-to-Spec tmbundle available

<http://rubyforge.org/projects/seattlerb>

http://jeremyhubert.com/tags/rspec_rails_yaml

Details

<http://rspec.rubyforge.org/>

<http://behaviour-driven.org/>

<http://rbehave.rubyforge.org/>

<http://jbehave.org/> (Java based)