Explore RSpec 3.7.1 - Chrome Headless

An

Growth Session #9 - November 16-17 2017

- Rails 5.1 (System Test)

- Rspec 3.7.1 (Feature test to System Test)

- Poltergeist (PhantomJS) - Selenium (Chrome Headless)

Rails 5.1 with System Tests

- Rails doesn't have UI test. (using RSpec Feature test instead)
- New feature on Rails 5.1 - #26703
- The main goal of this feature is
  - Bring the UI test to Rails.
  - Implement all the setup for Capybara and Selenium and Rails.
  - Handle the DB transaction when running the UI test (before that Capybara use another DB transaction, we have to use DatabaseCleaner instead) - more detail at #28083

RSpec 3.7.1 integrate with Rails System Tests

- A long time with Feature test

- Setup the Capybara, Selenium or Poltergeist configurations manually

- Handle the Transaction between DB and Capybara manually by DatabaseCleaner

- RSpec 3.7.1 release to integrate with Rails System Tests (changelog)

- Now no need to worry about the configurations.

Poltergeist (PhantomJS) - Selenium (Chrome Headless)

- A long time with PhantomJS

- Old, and doesn't support Flexbox

- Poltergeist and PhantomJS sometime has crash with no reason or some weird issues

- [Headless Chrome](#) is shipping in Chrome 59

- Modern browser, real browser, resolve all of issues on PhantomJS

Poltergeist (PhantomJS) - Selenium (Chrome Headless)

PhantomJS - [Stepping down as maintainer](#)

[Announcement] Stepping down as maintainer

65 posts by 65 authors ⊙ G+

Vitaly Slobodin   Apr 13

Other recipients: ariya....@gmail.com, james.m...@gmail.com, detron...@gmail.com

Hi,

I want to make an announcement.

Headless Chrome is coming - https://www.chromestatus.com/features/5678767817097216
(https://news.ycombinator.com/item?id=14101233)

I think people will switch to it, eventually. Chrome is faster and more stable than PhantomJS. And it doesn't eat memory like crazy.

I don't see any future in developing PhantomJS. Developing PhantomJS 2 and 2.5 as a single developer is a bloody hell.
Even with recently released 2.5 Beta version with new and shiny QtWebKit, I can't physically support all 3 platforms at once (I even bought the Mac for that!). We have no support.
From now, I am stepping down as maintainer. If someone wants to continue - feel free to reach me.

I want to give credits to Ariya, James and Ivan! It was the pleasure to work with you. Cheers!
I also want to say thanks to all people who supported and tried to help us. Thank you!

With regards,
Vitaly.

```
-   gem 'rspec-rails' # Rails testing engine
+   gem 'rspec-rails', '3.7.1' # Rails testing engine
    gem 'rails-controller-testing' # brings back assigns to your controller tests as well as ass
    gem 'guard-rspec' # Auto-run specs
    gem 'shoulda-matchers', '3.1.2' # Tests common Rails functionalities
    gem 'capybara' # Integration testing
-   gem 'poltergeist' # Headless browser
    gem 'selenium-webdriver' # Headless browser
    gem 'database_cleaner' # U
```

```
    gem 'rspec-json_expectatic
    gem 'brakeman', require: f
    gem 'rspec-retry' # RSpec:
-   gem 'capybara-screenshot'
```

maschwenk commented on Jul 7   +😀

This appears to be directly baked into AR, so does this obviate the need for `DatabaseCleaner` (or other cleanup strategies) in *all* feature test flavors, or only if we're using Rails 5.1 SystemTest's?

sgrif commented on Jul 7   Member   +😀

You should assume it only affects Rails 5.1 system tests. If it affects other forms of tests, that's an implementation detail that may change in the future

👍 1

- brew install chromedriver (brew upgrade chromedriver) (Chrome)

- brew install geckodriver (brew upgrade geckodriver) (Firefox)

Migrate Braive to RSpec 3.7.1 with System Tests

```ruby
# https://github.com/rails/rails/pull/30876
Capybara.register_driver(:headless_chrome) do |app|
  capabilities = Selenium::WebDriver::Remote::Capabilities.chrome(
    chromeOptions: { args: %w[headless disable-gpu window-size=1280,720] }
  )

  Capybara::Selenium::Driver.new(
    app,
    browser: :chrome,
    desired_capabilities: capabilities
  )
end

# https://github.com/rails/rails/pull/30638
Capybara.server = :puma, { Silent: true }
```

```ruby
RSpec.configure do |config|
  config.before(:each, type: :system) do
    # driven_by :selenium, using: :chrome
    # driven_by :selenium, using: :firefox
    driven_by :headless_chrome
  end
end
```

pport/database_cleaner.rb MODIFIED

```ruby
        DatabaseCleaner.strategy = :transaction
    end

-   # Deletion is faster than truncation on our feature test
-   # and does not create deadlock on database
-   config.before(:each, js: true) do
-     DatabaseCleaner.strategy = :deletion
-     DatabaseCleaner.clean
-   end
-
    config.before(:each) do
      DatabaseCleaner.start
    end
```

Migrate Braive to RSpec 3.7.1 with System Tests

spec/ { features → systems } /backend/activity_idea/edit_an_activity_idea_spec.rb (80% similar)

RENAMED

```
1   1      require 'rails_helper'
2   2
3          -feature 'Edit an activity idea' do
4          -  scenario 'redirects the user to the activity idea index page', js: true do
    3      +describe 'Edit an activity idea', type: :system do
    4      +  it 'redirects the user to the activity idea index page' do
5   5            activity_idea = Fabricate(:physical_activity_idea)
6   6
7   7            login_admin_user
```

Migrate Braive to RSpec 3.7.1 with System Tests

```ruby
module NavigationHelpers
  def select_top_bar_menu(text)
    # Current PhantomJS version still having problem with the flex display
    # If it has been fixed, we can do:
    # find('.avatar-dropdown').hover
    # click_link I18n.t('patient.navigation.activity_idea')
    # TODO: Recheck PhantomJs 2.5 if the issue is fixed - https://github.com/ariya/phantomjs/milestone/16
    find('.app-top-bar a', text: text, visible: false).trigger('click')
    find('.avatar-dropdown').hover
    click_link text
  end
end

module LessonItemHelpers
  def navigate_to_next_lesson_item
    expect(page).to have_button I18n.t('shared.lesson_activity.action.continue'), disabled: false
    first("input[value=#{I18n.t('shared.lesson_activity.action.continue')}]").trigger('click')
    click_on I18n.t('shared.lesson_activity.action.continue')
  end
end

module SurveyHelpers
  def navigate_to_next_question
    # Current PhantomJS version still having problem with the flex display
    # TODO: Recheck PhantomJs 2.5 if the issue is fixed - https://github.com/ariya/phantomjs/milestone/16
    page.execute_script("$('form.form-questionnaire').submit()")
    find('.btn-next-question').click
  end

  def navigate_to_previous_question
    # Next and back question button is invisible because of the flex display
    # TODO: Remove `visible: false` options as soon as we can move to PhantomJs 2.5
    first('.btn-back', visible: false).trigger('click')
    first('.btn-back').click
  end
end
```
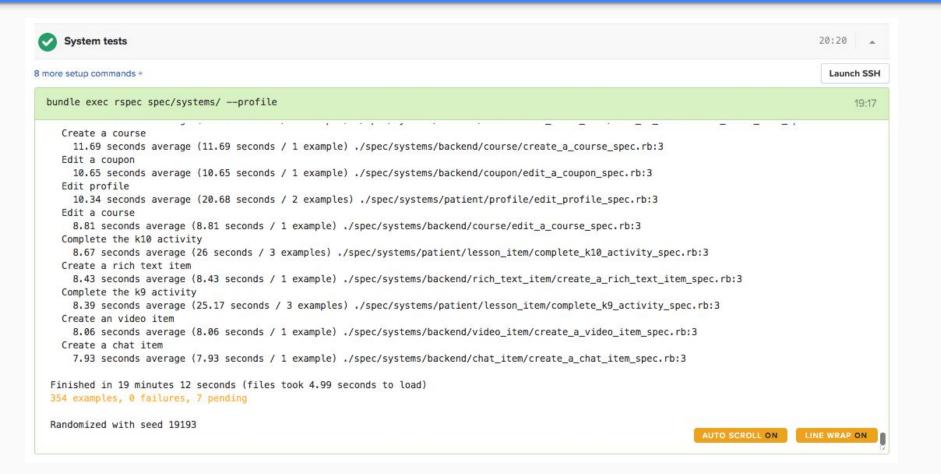
Speed test on Semaphore - Feature tests with Poltergeist (PhantomJS)

✅ **Feature tests**   08:13   ▲

8 more setup commands +   Launch SSH

```
bundle exec rspec --tag js --profile                                         06:58
```

```
  Create a chat item
    6.21 seconds average (6.21 seconds / 1 example) ./spec/features/backend/chat_item/create_a_chat_item_spec.rb:3
  Edit an image item
    5.8 seconds average (5.8 seconds / 1 example) ./spec/features/backend/image_items/edit_an_image_item_spec.rb:3
  View a pmr activity
    3.96 seconds average (3.96 seconds / 1 example) ./spec/features/patient/lesson_item/view_pmr_activity_spec.rb:3
  Edit a pmr item
    3.33 seconds average (3.33 seconds / 1 example) ./spec/features/backend/pmr_item/edit_a_pmr_item_spec.rb:3
  Edit a k9 item
    2.55 seconds average (2.55 seconds / 1 example) ./spec/features/backend/k9_item/edit_a_k9_item_spec.rb:3
  Remove a message from chat item
    2.38 seconds average (4.77 seconds / 2 examples) ./spec/features/backend/chat_item/remove_a_message_spec.rb:3
  Sort lesson
    2.36 seconds average (4.72 seconds / 2 examples) ./spec/features/backend/course/sort_lesson_spec.rb:3
  Create a coupon
    2.32 seconds average (2.32 seconds / 1 example) ./spec/features/backend/coupon/create_a_coupon_spec.rb:3
  Edit an activity idea
    2.06 seconds average (2.06 seconds / 1 example) ./spec/features/backend/activity_idea/edit_an_activity_idea_spec.rb:3


Finished in 6 minutes 37 seconds (files took 20.92 seconds to load)
353 examples, 0 failures, 7 pending

Randomized with seed 921
```

AUTO SCROLL **ON**   LINE WRAP **ON**

Speed test on Semaphore - System tests with Selenium (Chrome Headless)

System tests   20:20   ▲

8 more setup commands +   **Launch SSH**

```
bundle exec rspec spec/systems/ --profile                                    19:17

  Create a course
    11.69 seconds average (11.69 seconds / 1 example) ./spec/systems/backend/course/create_a_course_spec.rb:3
  Edit a coupon
    10.65 seconds average (10.65 seconds / 1 example) ./spec/systems/backend/coupon/edit_a_coupon_spec.rb:3
  Edit profile
    10.34 seconds average (20.68 seconds / 2 examples) ./spec/systems/patient/profile/edit_profile_spec.rb:3
  Edit a course
    8.81 seconds average (8.81 seconds / 1 example) ./spec/systems/backend/course/edit_a_course_spec.rb:3
  Complete the k10 activity
    8.67 seconds average (26 seconds / 3 examples) ./spec/systems/patient/lesson_item/complete_k10_activity_spec.rb:3
  Create a rich text item
    8.43 seconds average (8.43 seconds / 1 example) ./spec/systems/backend/rich_text_item/create_a_rich_text_item_spec.rb:3
  Complete the k9 activity
    8.39 seconds average (25.17 seconds / 3 examples) ./spec/systems/patient/lesson_item/complete_k9_activity_spec.rb:3
  Create an video item
    8.06 seconds average (8.06 seconds / 1 example) ./spec/systems/backend/video_item/create_a_video_item_spec.rb:3
  Create a chat item
    7.93 seconds average (7.93 seconds / 1 example) ./spec/systems/backend/chat_item/create_a_chat_item_spec.rb:3

Finished in 19 minutes 12 seconds (files took 4.99 seconds to load)
354 examples, 0 failures, 7 pending

Randomized with seed 19193
```

AUTO SCROLL ON   LINE WRAP ON

Achievements

- Migrate all Feature tests (PhantomJS) to System tests (Chrome Headless) for Braive - #616

- Update Rails template to Rails 5.1.4 and RSpec 3.7.1 integrate with System test - #29

Issues

- UI Test is 3.times slower than before

- Can't split the UI Test to concurrent job on Semaphore (because it shares the Chrome instance, if 1 job is done, it will close the instance and another job can't get the Chrome)

UI test on Rails is not heavy anymore

Rails developers are happy people
Convention over Configuration
[The Rails Doctrine](...)

Thanks!

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