Page Objects or Application Actions in Cypress?

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Overview

- Selenium and Cypress Overview
- Cypress Practices
- Researching Cypress Practices
- Resolving the Controversy
- Conclusions
Selenium and Cypress Overview

- Selenium
  - Well-established, well-documented, widely used.

- Cypress
  - Increasingly adopted.
Selenium Overview

• Almost a standard for end-to-end automated testing.

• Well-established best-practices centered around object-oriented design principles.
  ○ Page Object Model a necessary design pattern for test maintenance.
Selenium Overview

- Learning curve - Requires some experience to use effectively.
  - Waiters - for avoiding 'flaky tests'.
  - Page Objects - for code maintenance.
Selenium Overview

- Page Objects
  - A single place for storing element locators reducing duplicated code.
  - A single place for storing functional code that simulates user interactions with the application.
  - Readability.
  - Maintainability.
Cypress Overview

• New, but rapidly gaining a following.
• An E2E test tool for front-end developers.
• Easier to get started, flaky tests are less common.
• Waiting for UI elements is built in.
• Assertions are automatically retried.
Selenium and Cypress Overview

- Two Tools, Two Cultures
- Selenium from the Java and OO communities.
- Cypress from Front-end, JavaScript community.
Cypress Practices

- The Cypress community strongly recommends NOT using the Page Object Model.
- The lead developer for Cypress states this in a frequently used Cypress video.
  - Page Objects are an “Anti-Pattern”.
Cypress Practices

- Recommends “Application Actions”.
  - Custom functions for test setup that call the UI JavaScript directly in the browser.
Cypress Practices

- But didn't mention...
  - A single-source-of-truth for the UI element locators.
  - A single-source-of-truth for coding the user-to-application interactions.
  - Test readability.
  - Selenium community doesn't recommend page objects for test setup either.
Cypress Practices

- Should Cypress use Page Objects though?
- Am I missing something?
- Is there something with Cypress or with JavaScript that makes using page objects not necessary?
- I felt I needed to research this.
Researching Cypress Practices

- Several Blogs also recommended not using page objects.
  - Implying application actions should replace them.
  - Reasons for using page objects are not addressed.
  - Comments on the blogs has the same questions as me!
Researching Cypress Practices

- Some blogs recommend page objects but ignore the controversy.
- Some blogs describe Cypress vs Selenium trade-offs but ignore the controversy.
Resolving the Controversy

- My research showed no one is trying to resolve this.
- I found no real reasons to not use page objects and still had the reasons I've always had for using them.
- I recommended
  - Use page objects, they liked it and agreed.
  - Application actions for test setup.
Resolving the Controversy

- At Driveway.com, my team is using page objects.
- Other teams are not, at least not yet.
- But we're just starting out.
  - Test suites are small.
  - Teams haven’t yet been exposed to large test suite maintenance.
My Conclusions

- Cypress community does not address the reasons for using page objects.
- No one has pointed this out.
- Page objects should be used for Cypress test suites.
- Application actions should be used for test setup.