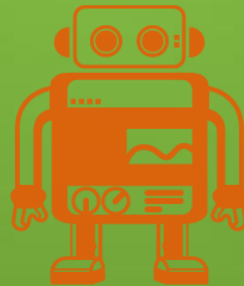


How to Automate Web App Testing Using Open Source Frameworks



Protractor

end to end testing for AngularJS



Perfecto

Seek Perfection

- Please participate in our live poll and end-of-webinar survey
- Ask us questions in the QA panel
- We will send you the recording and slides



- Web Testing Landscape Overview
- Realizing Web Testing challenges (Coverage, Scale, Flakiness)
- Introduction to Protractor
- Technical walkthrough demo
- Q & A



Eran Kinsbruner
Dir., Product Evangelist
@ek121268
<http://mobiletestingblog.com>
Author: The Digital Quality Handbook



Wim Selles
Test Automation Engineer
Company: deTesters
<http://www.wswebcreation.nl/>

Web Development Trends

13 Recommended Products	Recommendati...	Price	Price	GZipped size
 #1 Aurelia	30 (thumbs up) 1 (thumbs down)	-	0	-
 #2 Vue.js	35 (thumbs up) 3 (thumbs down)	-	-	25.4 kB
 #3 Mithril	18 (thumbs up) 0 (thumbs down)	-	-	7.5kb
 #4 React	29 (thumbs up) 5 (thumbs down)	-	-	45K
 #5 Riot	9 (thumbs up) 0 (thumbs down)	-	-	14.5 kB
 #6 Ember	10 (thumbs up) 4 (thumbs down)	-	-	-

Top 5 programming languages for web development

Average ranking from [Github.info](#), [W3Techs](#) and [Stack Overflow developer survey](#).

1. JavaScript
2. SQL
3. PHP
4. Python
5. Ruby



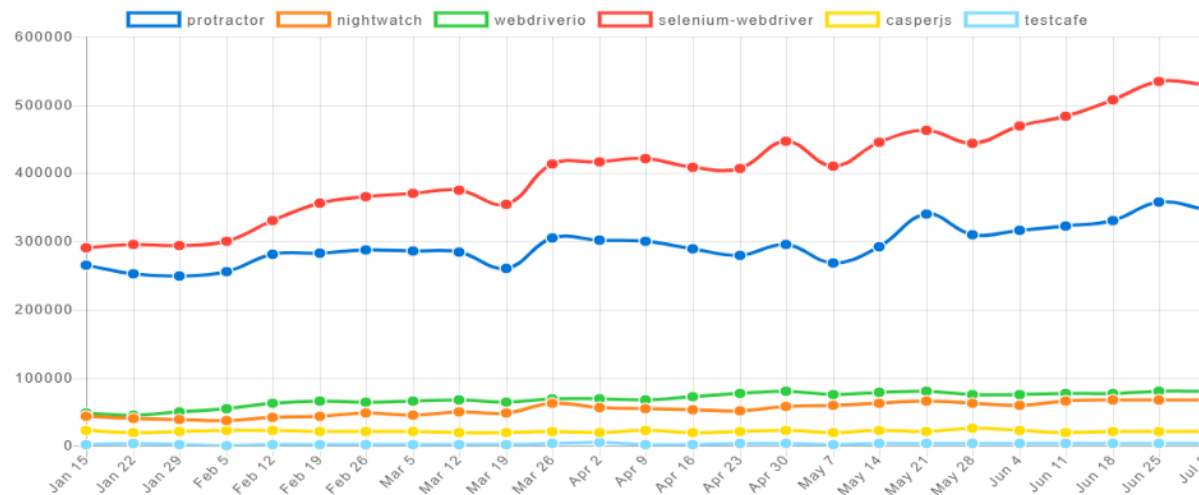
Sources:

- 1) <https://medium.com/@chriscordle/why-angular-2-4-is-too-little-too-late-ea86d7fa0bae>
- 2) <https://www.slant.co/topics/4306/~angular-js-alternatives>

Web Market Testing Landscape

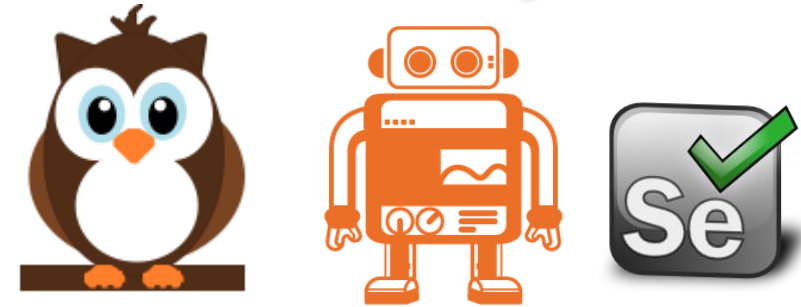
- protractor x
- nightwatch x
- webdriverio x
- selenium-webdriver x
- casperjs x
- testcafe x

Downloads in past 6 Months ~



Github Stats

	stars 🌟	forks 🍴	issues 🚩	updated ✖	created 🕒
protractor	6715	1701	216	Jul 4, 2017	Jan 15, 2013
nightwatch	6680	608	250	Jun 27, 2017	Mar 17, 2012
webdriverio	3136	846	91	Jul 5, 2017	Aug 30, 2011
selenium	6974	3000	660	Jul 6, 2017	Jan 14, 2013



Protractor
end to end testing for AngularJS

Web Dev & Test Challenges

- Lab availability & Coverage
- Test flakiness
- Maintainability, Sustainability
- Execution at scale/parallel
- Tool stack selection
- Automate More (Visual, Locations, more)



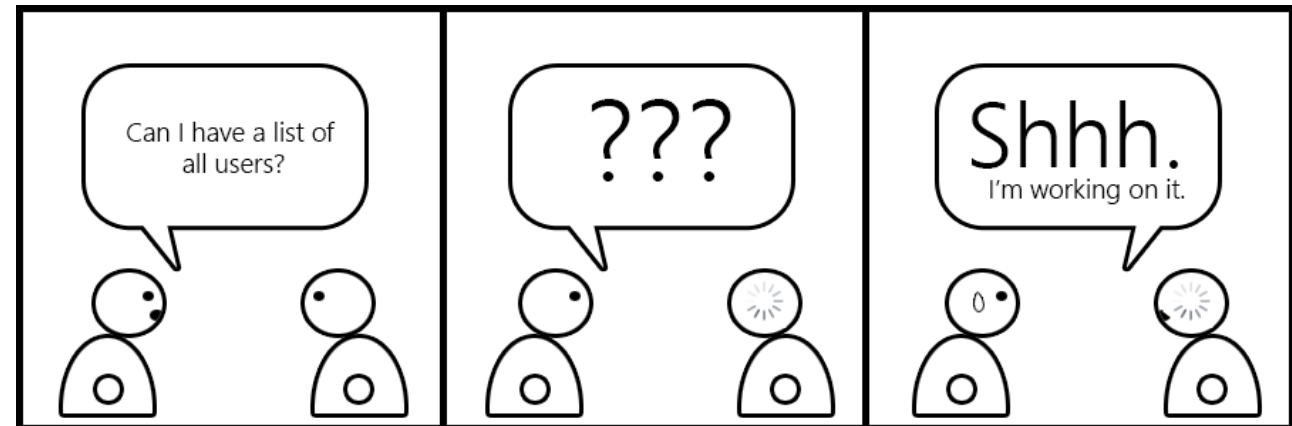
Which Test Automation Framework Are You Using for your JS/Non-JS WebSite

- Protractor?
- WebDriverIO?
- NightWatch.JS?
- Selenium?
- TestCafe?
- Busters.JS?
- Other?

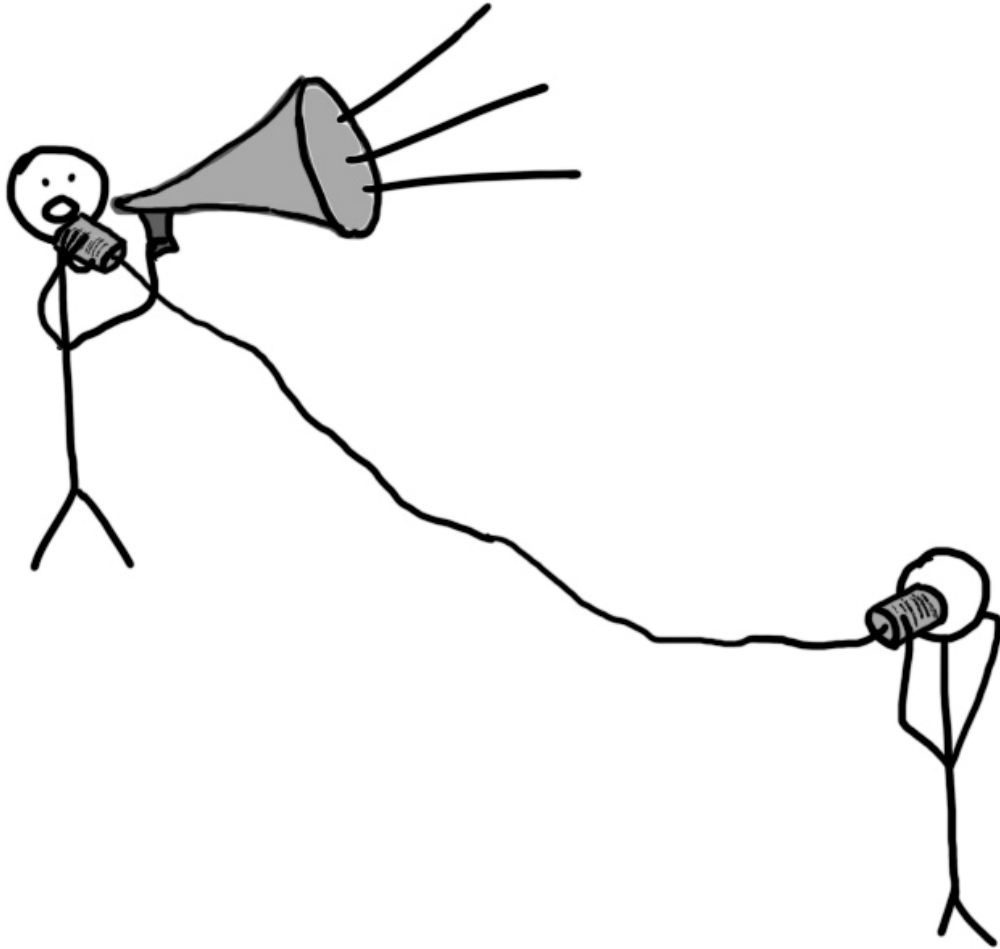


Selenium WebDriverJS is a purely
asynchronous API,
it's based on ***promises***

*“A promise is a guarantee that you will
receive something in the future”*



Source: <http://mcgivery.com/wp-content/uploads/2015/03/promises.png>



```
// Say "Hello."  
console.log('Hello.');
```

```
// Say "Goodbye" two seconds from now.  
setTimeout(function () {  
  | console.log('Goodbye!');  
}, 2000);
```

```
//Say "Hello again!"  
console.log('Hello again!');
```

Sync code:

- Say "Hello."
- Do nothing for 2 seconds
- Say "Goodbye"
- Say "Hello again!"

Async code:

- Say "Hello."
- Say "Hello again!"
- Do nothing for 2 seconds
- Say "Goodbye"

Source: http://4.bp.blogspot.com/-YuX8yNn3mY4/UdfH8P9Y7YI/AAAAAAAAEKk/yk_9Hk9k624/s1600/inexplicably+public.jpg

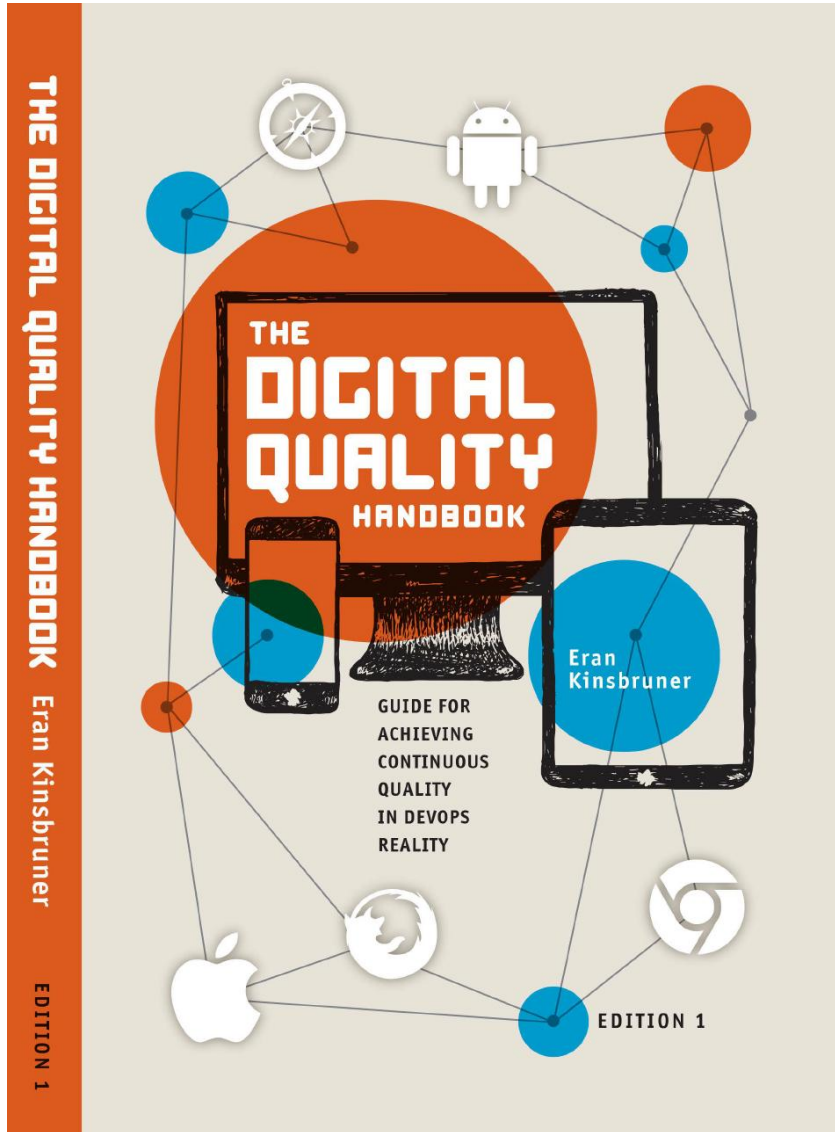
- Protractor and CucumberJS project structure
- Page Object Model Benefits
- Execution Demonstration on Web and Mobile
- Reporting / Visual Analysis modules
- TypeScript example

About the Demo:

- Demo project:
 - <https://github.com/wswebcreation/perfecto-webinar-protractor>
- protractor-image-comparison:
 - <https://github.com/wswebcreation/protractor-image-comparison>
- Reporting:
 - <https://github.com/wswebcreation/multiple-cucumber-html-reporter>
- Boilerplate protractor-cucumber:
 - <https://github.com/wswebcreation/protractor-cucumber-typescript-boilerplate>

About me:

- LinkedIn:
 - <http://nl.linkedin.com/in/wimselles>
- Gitub:
 - <https://github.com/wswebcreation/>
- Stackoverflow:
 - <http://stackoverflow.com/users/5911978/wswebcreation>
- Blog:
 - <http://www.wswebcreation.nl/>



Extending Open Source Frameworks for Advanced Functional Testing

THIS CHAPTER WAS CONTRIBUTED BY WIM SELLES, TEST AUTOMATION ENGINEER AT RABOBANK, NETHERLANDS

Chapter 8 Free Download

<http://bit.ly/2gZB0KT>

WIM SELLES, Test Automation Engineer contracted by Rabobank since 2010, lives in the Netherlands and works for a small company called deTesters. Wim has been using Perfecto since 2014. In March 2015 he started with the implementation of an automation framework with Protractor + CucumberJS to automate a hybrid app based on Angular. Before Perfecto introduced support for Protractor in October 2015, Wim and a colleague of his managed to set up an on-site device lab for Rabobank.

In his spare time Wim likes to make websites and tries to learn more and more about test automation. He is fond of sharing and contributes to a few open-source projects on GitHub.



Thank You



 **Perfecto**

Seek Perfection