# CREMA TEST ENGINEERING

## ABOUT THIS TALK

- × Who we are, and what our role is
- × Testing services & activities
- × How we work in a team
- × Resources

# HELLO!

Courtney Johnston von Nieda 14 years testing 4 years as a data analyst Launchcode grad

(S) @teststash

Ashley Holbrook 4 years testing 6 years coding

Launchcode grad

# ABOUT CREMA

# CREMA IS A DIGITAL PRODUCT AGENCY

## Digital Product Teams

- Lean product strategy
- Vser experience design
- Agile software development

# Innovation & Agile Coaching

- Workshop facilitation
- × Agile coaching
- Design sprints

# TESTING MISCONCEPTIONS

## TESTING MISCONCEPTIONS

- × Testing increases code quality
- Testing prevents bugs
- × Every bug should be a regression test
- × Testers break software
- Automation is the only test worth spending time on

## OUR ROLE AS TEST ENGINEERS

- × Why not QA
- × Modern Testing Principles
- × Testing vs Checking
- Our other roles are Subject Matter Expert,
   Usability expert

# MODERNTESTING.ORG MODERN TESTING PRINCIPLES

- × Our priority is improving the business.
- × We accelerate the team, and use models like Lean Thinking and the Theory of Constraints to help identify, prioritize and mitigate bottlenecks from the system.
- × We are a force for continuous improvement, helping the team adapt and optimize in order to succeed, rather than providing a safety net to catch failures.
- We care deeply about the quality culture of our team, and we coach, lead, and nurture the team towards a more mature quality culture.
- We believe that the customer is the only one capable to judge and evaluate the quality of our product
- × We use data extensively to deeply understand customer usage and then close the gaps between product hypotheses and business impact.
- We expand testing abilities and knowhow across the team; understanding that this may reduce (or eliminate) the need for a dedicated testing specialist.

# THE WAY WE VIEW TESTING? QA? VALIDATING?

Checking Hardening & Surfacing Confirming Quality

This is everyone's responsibility.

This is the specific function of the testing/QA role.

Only the Client can confirm a product is quality.



# TESTERS

- × We join product teams at the very beginning
- × We work multiple projects at once
- Our first task is defining who the user is so we can narrow the scope
- We also need to define bug severity so we know when to raise red flags
- In Sprint our task is testing new functionality and finding bugs

# DEV TEAM = DEV + TEST

- Setting up test area in code base, dev preference
- Getting project running
- × Writing tests
- × Help with .env files
- × Code reviews

- × git stuff
- Naming branches convention
- Maintaining tags in components
- Helping adding tags if needed

# TESTING SERVICES WE PROVIDE

# FUNCTIONAL TESTING

testing new functionality to meet acceptance criteria and expected boundaries

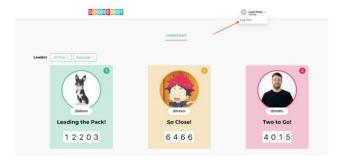
## STORY

### User Dropdown > Add Feedback link



#### Description

When a user is logged in to app.getscorebot.com they should be able to click their name in the upper right hand corner to get a link to leave feedback.

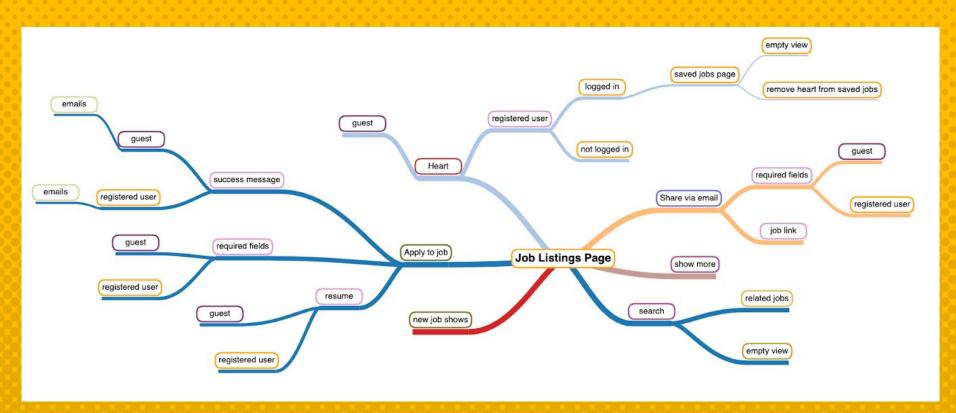


See the above screenshot. Add an option that says Send Feedback above Log Out and link it to https://www.getscorebot.com/feedback

#### Acceptance Criteria:

- · Send Feedback link in user drop-down
- Remove the "Suggestions?Leave us some feedback!" link at the bottom of the page.

## MIND MAP TEST PLANS



## TEST PLANS

- New users:
  - New physician user shows in admin area.
  - New user hasn't verified their email. "Email Confirmed?" says No
  - New user verifies their email. "Email Confirmed?" says Yes
  - o new user can log in 🗸
  - o user can't log in:
    - deleting a user account
    - disabling their account
    - login email confirmed unchecked
  - o changing users username and email changes how they log in
  - o failed login attempts count
  - o admin can change password directly and this changes how user logs in
- Existing users:
  - o can change email address for login
  - o can send reset password
  - o they can reset their password and log in
  - o can do any of the delete or disable actions and they can't log in
  - o failed login attempt count
  - o admin can change password directly and this changes how user logs in

### Emoji updated from 10 to 100 affects a user's score by 20



Add a child issue





in InVision for Jira

#### Description

I logged in to app.getscorebot.com for Crema's slack.

#### Steps to reproduce:

- 1. I looked up the :thumbsup: emoji in the emoji table and saw it's score was set to 10.
- 2. Click the pencil icon to open the emoji value editor
- 3. Update the emoji value to 100 and click the check mark to confirm
- 4. Go to a channel in Slack with Scorebot added
- 5. Give a user a thumbs up emoji

#### **Expected results:**

User's score goes up by 100



User's score goes up by 20

#### Notes:

When I removed the thumbs up emoji the user's score went down by 20 points as well.

Even with multiple editings of the value and multiple refreshes of the page the value of 100 was never reflected in a user's score.

# TITLE DESCRIPTION STEPS TO REPRO

EXPECTED RESULTS ACTUAL RESULTS NOTES, IMAGES, GIFS



what's the most we can discover in 30 minutes?

# TIME BOXED, GOAL ORIENTED TESTING

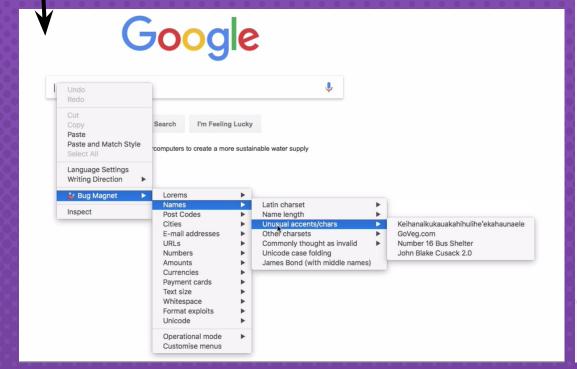
- × Data Types
- × Character Sets
- × Responsive Sizes
- × Race Conditions
- × Whitespace
- × Malformed data

- × Time Zones / Dates
- × Fuzz Testing
- × URL/E-mail Validity
- × Currency \$,..
- × Script Injection
- × Large Data Loads

## TOOLS

- × Chrome extensions
  - Bug magnet, ExploratoryTesting Chrome Extension
- × Quicktime
- × Miro

# BUG MAGNET AND EXPLORATORY TESTING CHROME EXTENSION



## Bug Bug description... <sup>-</sup>0 Cancel Note Question Idea Reset

Add new annotation

## EXPLORATORY TEST PLAN

This Test Plan is for focusing Exploratory testing sess testing. This will be turned into a global template at a			
		Duration:	
Session Name:		Device Types:	
		Operating System:	
Session URL:		Browsers:	
Session Date:	8	Connection Type:	
Scope:		Power Source:	
Explore <target> With <resources> To discover <information></information></resources></target>		Bugs:	
		Questions:	
		Ideas:	
		Notes:	

# APITESTING

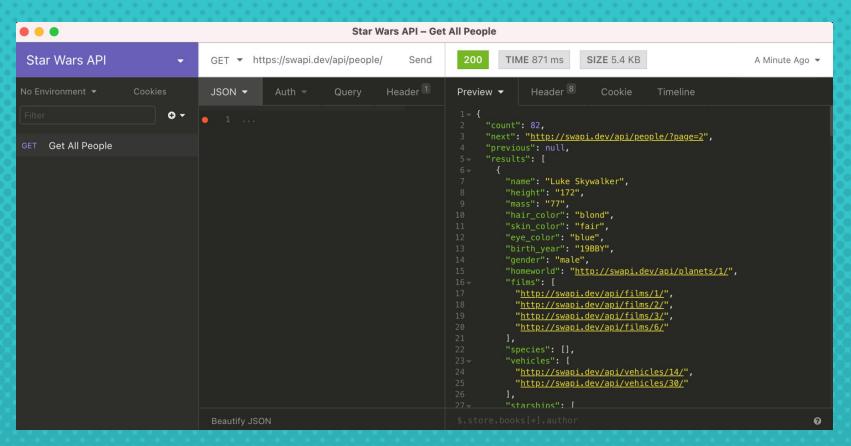
Exploring beyond the User Interface

## HOW IS API TESTING USEFUL?

- Validate backend permissions
- × Test before or beyond the UI
- Confirm call status and response (200, 404, etc.)
  - × ex. Ensure proper error handling
- × Hit endpoints and check for database changes
- × Verify url parameter requirements and logic

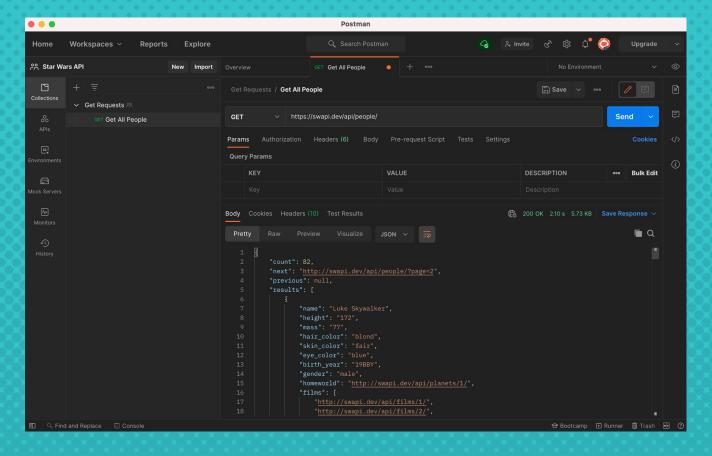
# API RESPONSE EXAMPLES





# API RESPONSE EXAMPLES





# AUTOHATION

A

(and why it's not always the right answer)



## WHEN TO AUTOMATE

- \* tests that are easy to automate and would save time in the long run are the key to efficiency
- × Repetitive tasks: removing items from a queue
- themes: entering text, comparing text, long tests, validations error messages, modals
- ui items like resizing columns, not so great for automation

## **WEB AUTOMATION**

- × Selenium -> WDIO
- × Cypress
- × Reflect
- × Others...

# AUTOMATION CODE EXAMPLES

FUNCTION RAN
IN CONSOLE OF
BROWSER

## AUTOMATION CODE EXAMPLES **WDIO**

METHODS

loginAsGuest() {

this.guestButton.click();

```
class LoginPage {
  get open() {
    return browser.url("/");
                                    OBJECTS
  get email() {
    return $('input[name="username"]');
  get password() {
    return $('input[name="password"]');
  get clientId() {
    return $('input[name="clientId"]');
  get submit() {
    return $('button[type="submit"]');
  get guestButton() {
    return $('button[role="guestLogin"]');
```

```
import LoginPage from "../src/pages/LoginPage";
import Dialog from "../src/pages/Dialog";
import Welcome from "../src/pages/Welcome"
import { expect } from "chai";
describe("successful guest login", () => {
  it("guest user can login and sees welcome screen", () => {
    browser.reloadSession();
    LoginPage.open;
    LoginPage.loginAsGuest();
    Dialog.checkBox.click();
    Dialog.submit.click();
    expect(Welcome.isLoaded.isExisting()).to.equal(true);
 });
```

# AUTOMATION CODE EXAMPLES

**CYPRESS** 

```
/// <reference types="cypress" />
     //Cypress.config("defaultCommandTimeout");
     describe("Log in and navigate to Flex Teams", () =>{
         it ("should navigate to the login page", () => {
             cy.visit("PAGE-URL")
 6
         });
         it ("should log an MSP user in", () => {
10
             cv.get('[data-testid="Email Address"]').type("USER{enter}"),
11
             cy.get('[data-testid=Password]').type("PASSWORD{enter}"),
12
             cv.qet('[data-testid="Sign in Button"] > .MuiButton-label').should("exist").click()
13
         });
14
15
         it ("should navigate to Flex Teams and find Add Project", () => {
16
             cy.findAllByText("Flex Teams").first().click({force: true}),
17
             cy.findByText("Add Project").should("exist")
18
         });
     });
```

#### **Test Status Menu**

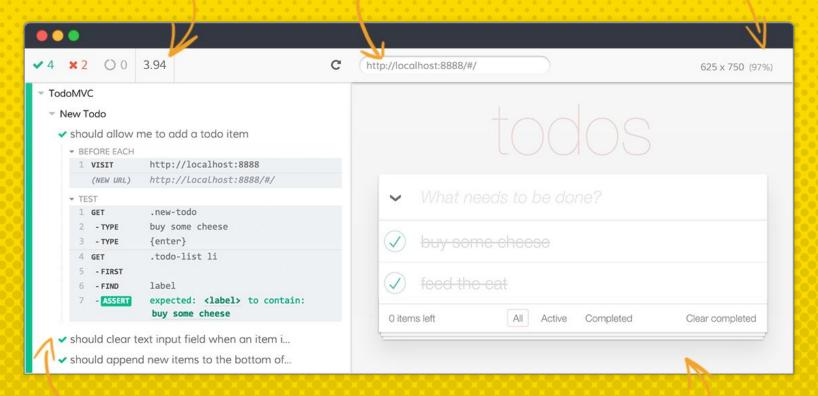
See how many tests passed or failed and how fast the tests took to run.

#### **Url Preview**

The url of your app updates as you test, so you have more visibility on testing routes.

### **Viewport Sizing**

Set your app's viewport size to test responsive layouts.



### **Command Log**

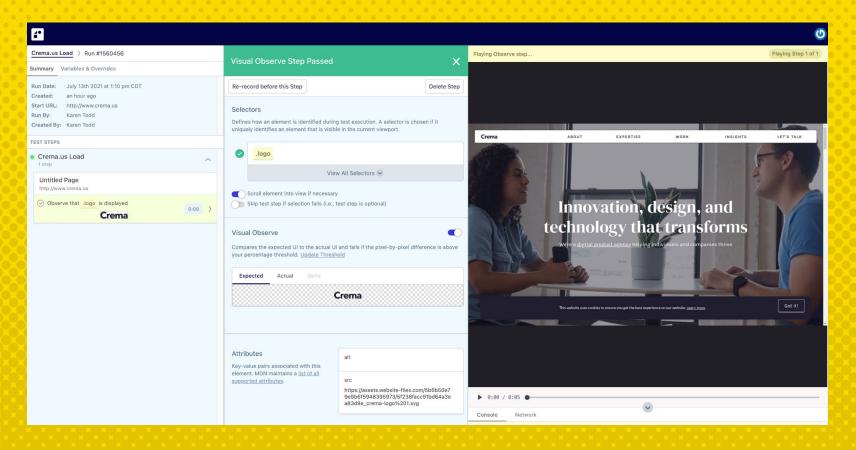
Every command logs as it executes. Hover to highlight the affected element, or click to log more info to the console.

#### App preview

See your app while test commands execute in real-time. Use your devtools to inspect or debug each command.

# RECORD AND PLAY BACK

## REFLECT



# REGRESSION

## BASELINE OF TESTED ACCEPTABLE FUNCTIONALITY

- Testing period to insure new code didn't adversely affect existing features
- × Moving from Jira "shoulds"
- Small, bite sized tests good for automation
- Broadly written so we regress the app and not the tests themselves

## EXAMPLE OF TEST LIST

#### Google Sheet matrices that can be handed over to customers

Reset password	selecting reset password sends email sent with update password URL
Reset password	email field errors when no email address is entered
Reset password	errors shows when invalid email address in entered
Reset password	selecting link in email shows update password page
	Reset password Reset password

Step 1
Step 2
Verify
Verify
Verify
Verify
Verify
Verify
Step 3
Verify

Verify

	9 (2	
UP0001	Update Password	email
UP0002	Update Password	error i
UP0003	Update Password	error i
UP0004	Update Password	sign ir
UP0005	Update Password	submi

	Open collection of pajamas
	Add pajama set to cart
	Item added to cart confirmation notice
	User can continue shopping
	Cart hover shows pajama set name, quantity, price
	Cart count shows 1 item
	Cart subtotal matches item price
ı	User can remove item, change quantity, check out
ı	Add additional set to cart with qty of 2
ı	Cart confirmation, continue shopping

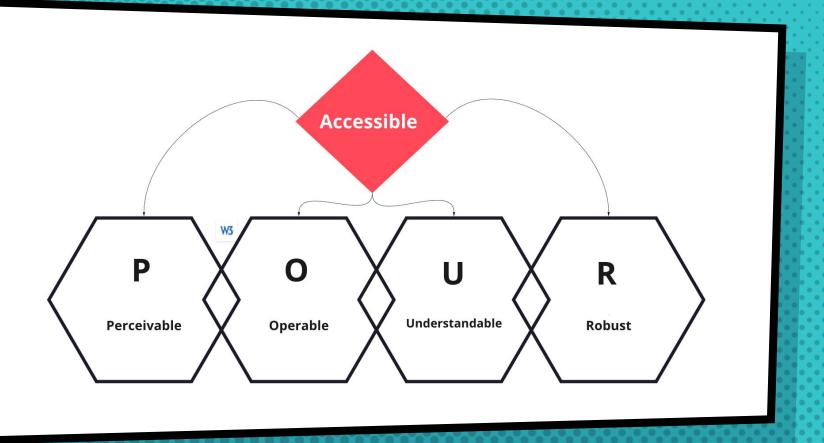
Cart hover shows two paiama sets with correct quantities

Cart count shows 3 items

## ACCESSIBILITY TESTING

## ABOUT ACCESSIBILITY TESTING

Accessibility means websites, apps, tools and technologies are usable by all people. No one is left out, regardless of disability, need or situation.





powered by WebAIM

Styles: OFF





#### Details

















✓ 11 X Linked image missing alternative text























4 X Very Low Contrast

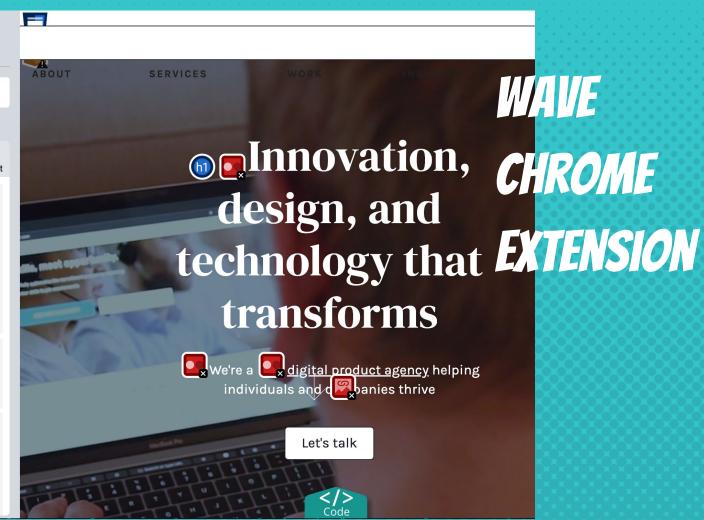


✓ A 12 Alerts

1 X A nearby image has the same alternative text



✓ 1 X Skipped heading level

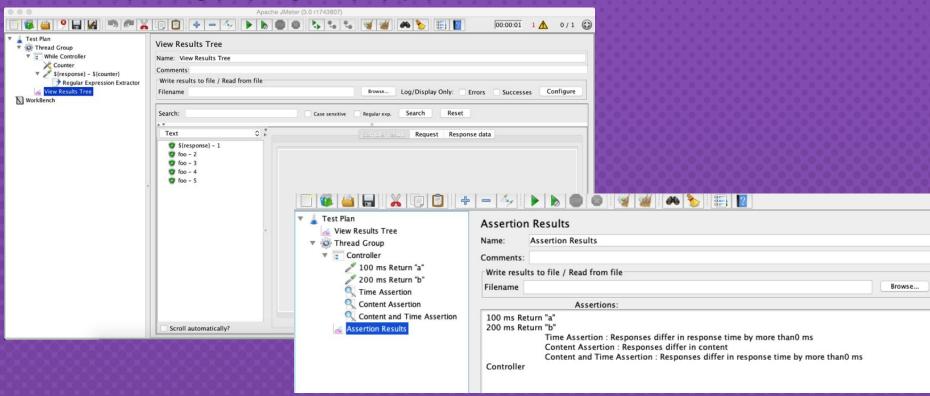




## ABOUT PERFORMANCE TESTING

- Test concurrent users of a certain size
- × Test to find load limits
- × Test file size limits
- Test to find parameters, like memory usage

## APACHE IMETER





### TESTING METHODS

### With a Group:

- × Mob Test
- × Bug Bash
- × Pair up

- × Integrations
- × Connectivity
- Penetration & Security
- × SEO / WebsiteHealth

## THANS!

Any questions?



