

# Level Up Your QA Workflow

For Freelancers and Small Teams



Interactive  
Mechanics

# About Interactive Mechanics

Interactive Mechanics is an award-winning digital design team. We work with museums and archives on beautiful, user-centered digital projects for web, mobile, and in-gallery exhibit interactives.



IF YOU WANT TO SEE THE HEALTH OF A RIVER OR STREAM, LOOK FOR WHAT LIVES THERE. SPECIES DIVERSITY IS THE PRIMARY SIGN OF A HEALTHY ECOSYSTEM. IF MORE AND GREATER IS THE SPECIES DIVERSITY IN THE WATER, THERE WILL BE A PROBLEM WITH THE WATER QUALITY.

### Diversity is Key



### Why Are Mussels Endangered?





# Objectives

- Understand the value of prioritizing QA
- Learn about a balanced, thoughtful approach to QA Workflow that make sense for Freelancers and Small Teams
- How to approach QA so that you get more out of it



Level Up Your QA Workflow #LevelUpQA

March 29, 2018 | @CAHDEEMER | @INTERACTIVEMECH

# QA Workflow in the Real World



© GOOD NUFF RD.



# Our QA Tools

Checklists



Validators



WebAIM



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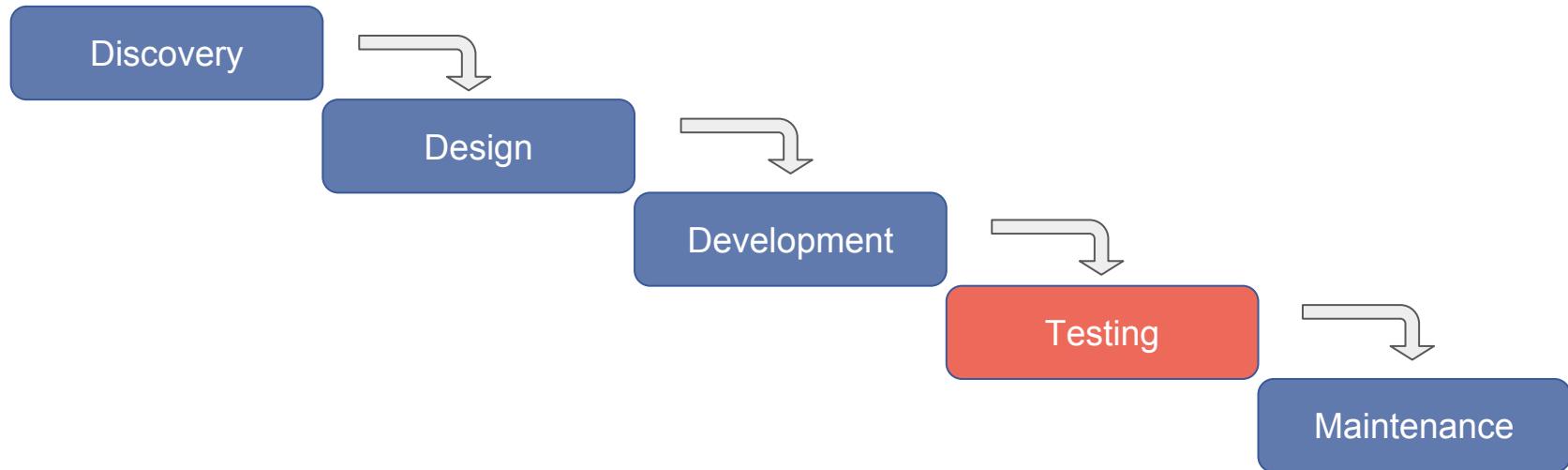
# Our QA Personnel

- Other production team members
- Friends
- Family
- Pets?
- The folks who work down the hall

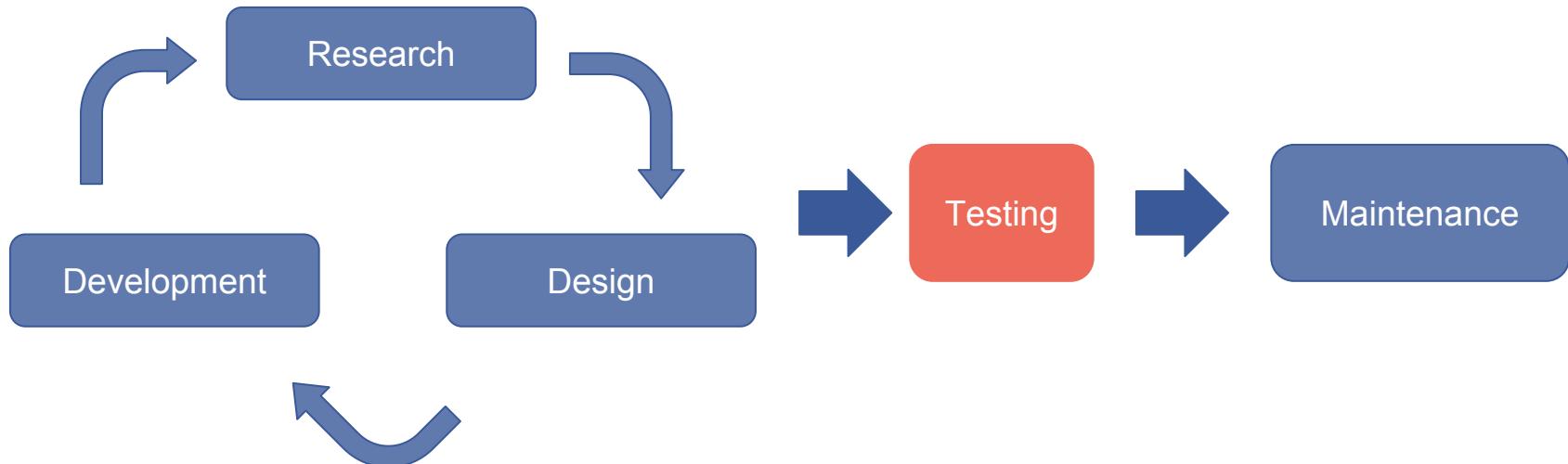


On Call Testing Engineer

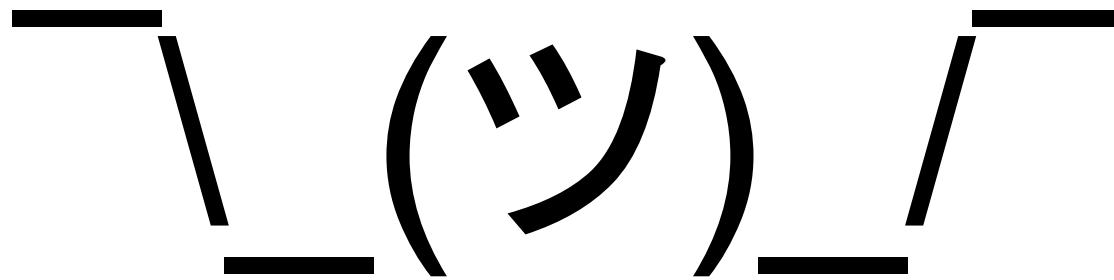
# When We Test: Waterfall



# When We Test: Agile, Sorta



# How much time we devote to QA



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# Why do we do this?

We're Short on Time.



We're Stretched Thin.



It's Good Enough.



# Really, You're Doing Great



- You Design & Build Awesome Stuff
- Your Clients Love You
- Your Are the Envy of Your Peers

# 2nd Principle of Testing

## Exhaustive Testing is Impossible

“Testing everything including all combinations of inputs and preconditions is not possible.”

*-International Software Testing Qualifications Board*

# 1st Principle of Testing

## Testing Shows the Presence, Not Absence, of Defects

“Even after testing the application or product thoroughly, we cannot say the product is 100% defect free.”

*-International Software Testing Qualifications Board*

You cannot test  
your way to perfect

We Can Do Better

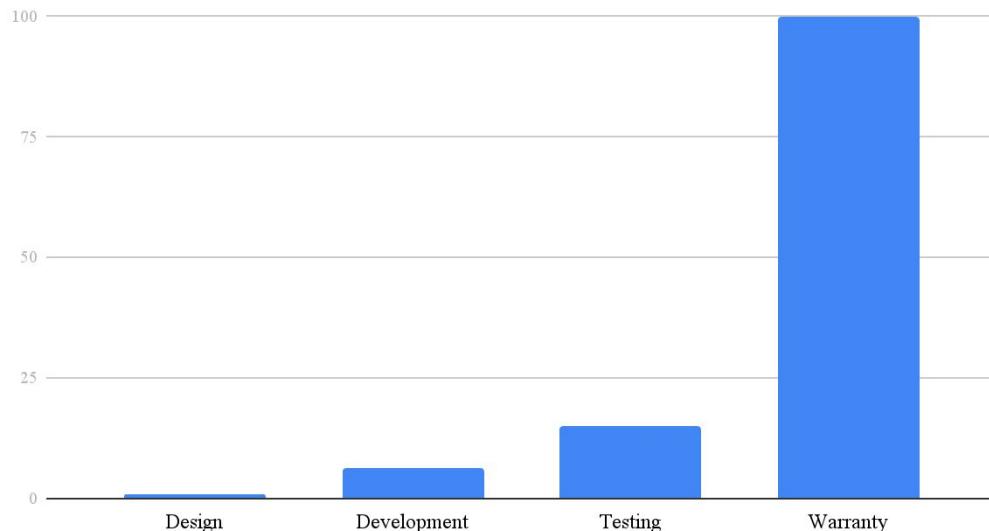
# Because It Could Be Better

- Bugs and defects slip through the cracks
- Other people are defining quality
- Time spent doing QA is not used effectively



# Fixing Bugs in Production is Expensive

Relative Cost of Fixing Defects



Cost of fixing a bug  
in warranty can be  
**100x**  
the cost of fixing it  
in design

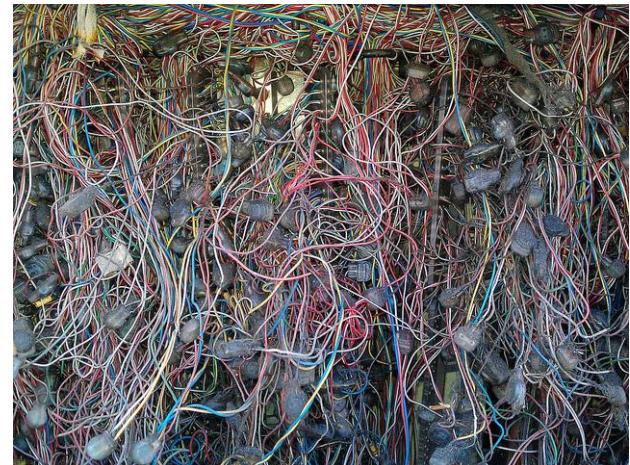
Source: Systems Science Institute

# Fixing bugs in production takes lots of steps

1. Find the bug in the code
2. Figure out how to fix bug
3. Fix the bug
4. Test/review the fix, esp looking for side effects
5. Push the code to staging
6. Test/review on staging
7. Push code fixes to production
8. Test/review in production

# Fixing bugs in production is complicated

Changes to fix the bug could unintentionally affect other components or aspects of functionality on a site, which in turn requires more time to fix, adding to the cost.





# Checklists Let Others Define Quality

Do checklists match

- Current Best Practices?
- Company values?
- Client-specific needs and goals?
- Complexity of the project?



**NOT SURE IF QUALITY IS REALLY  
GOOD**

**OR TESTING WAS REALLY LOUSY**

# Options

# Option: Status Quo



- Working Just Fine
- Comfortable



- Room for improvement
- Things slip through the cracks
- Only do what you have time for

# Option: Hire QA staff or consultants

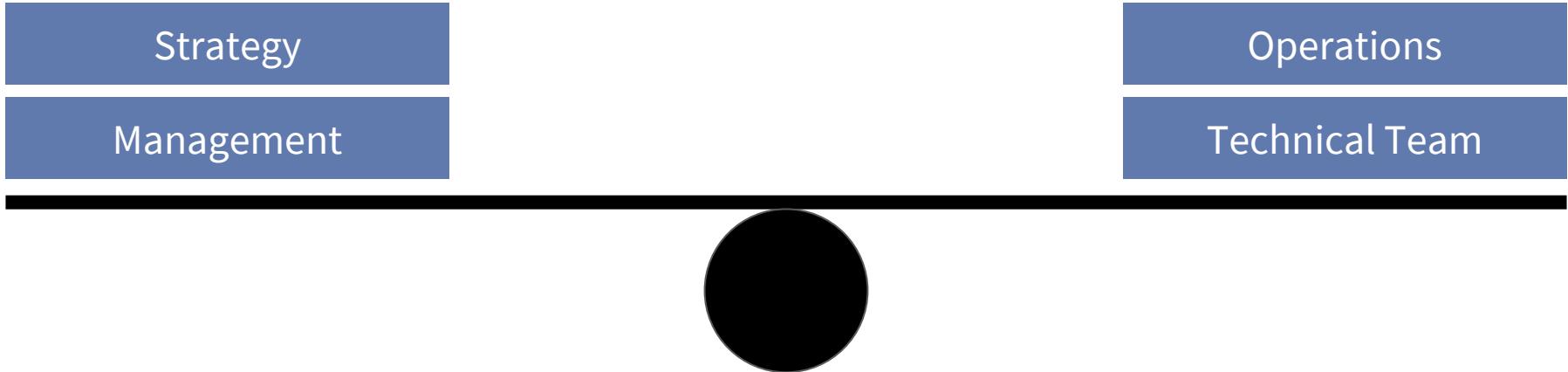


- Dependable expertise
- Increase quality of quality assurance
- Frees up resources
- Builds capacity for larger projects
- Peace of mind if project includes high-risk components

- Requires substantial resources
- May conflict with goals and priorities

# A Balanced Workflow

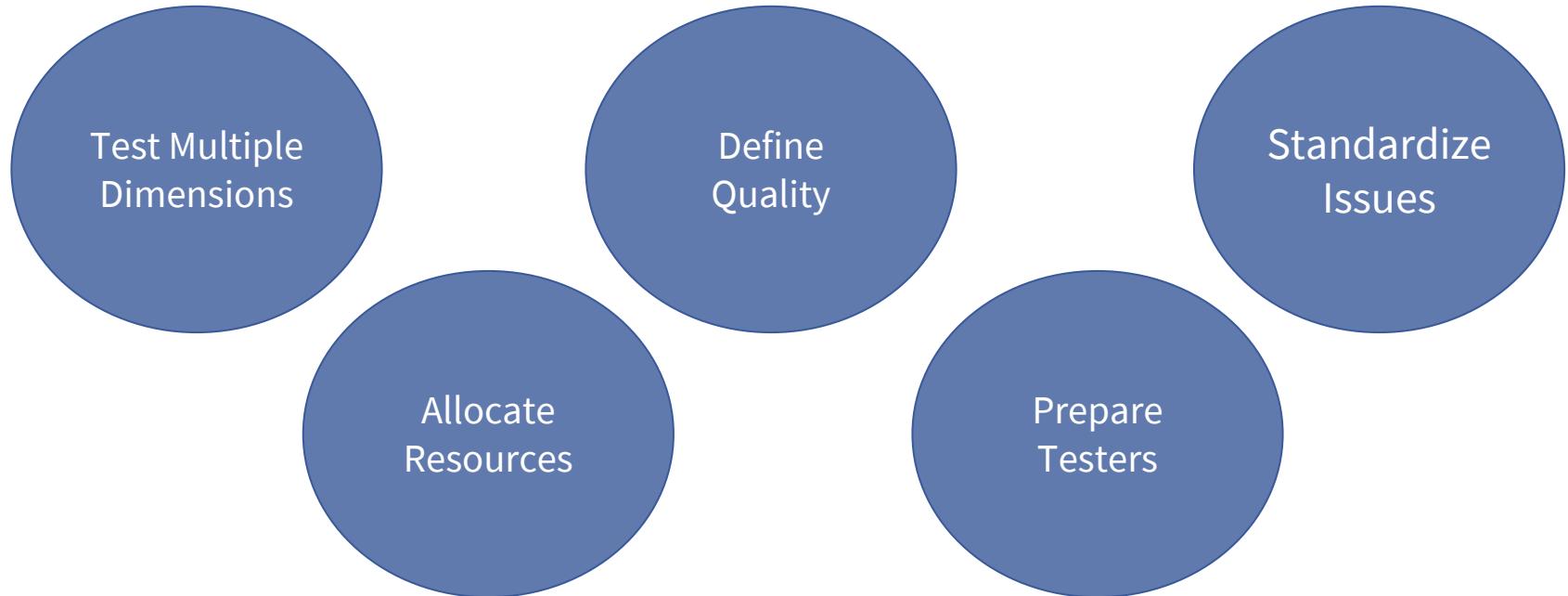
# Balanced Approach



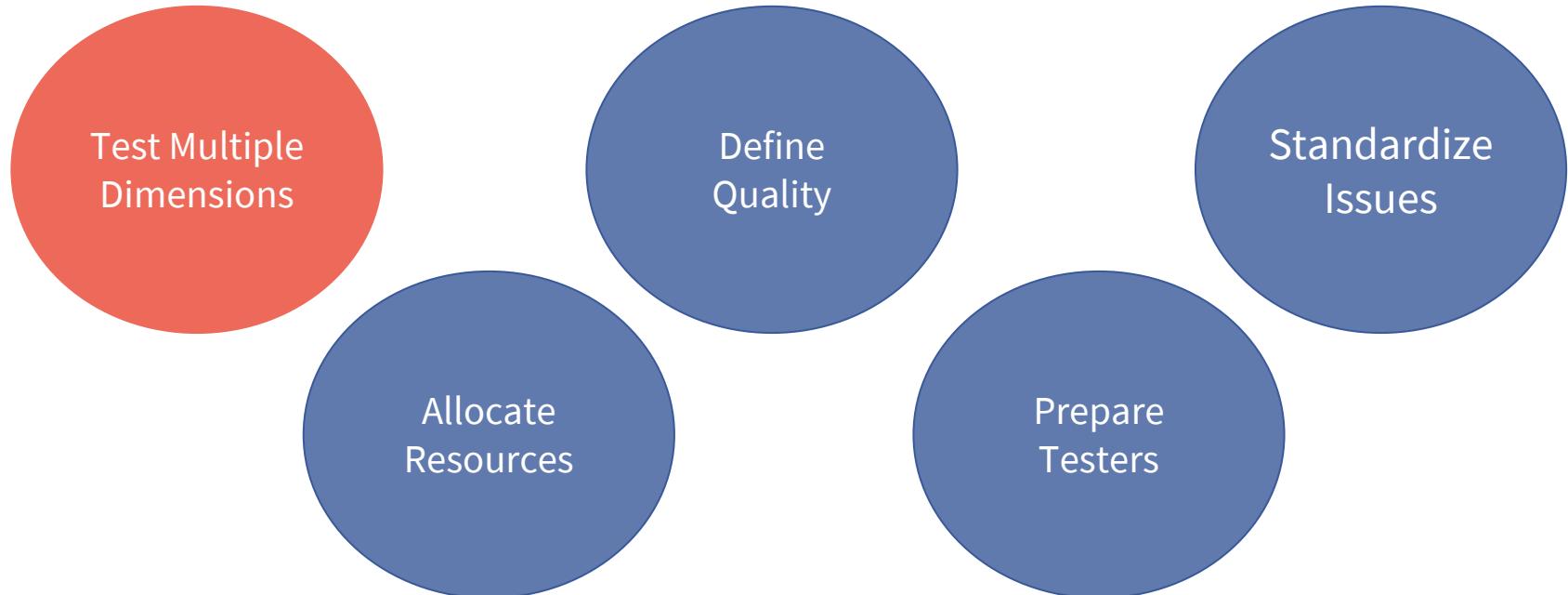
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# Balanced Approach



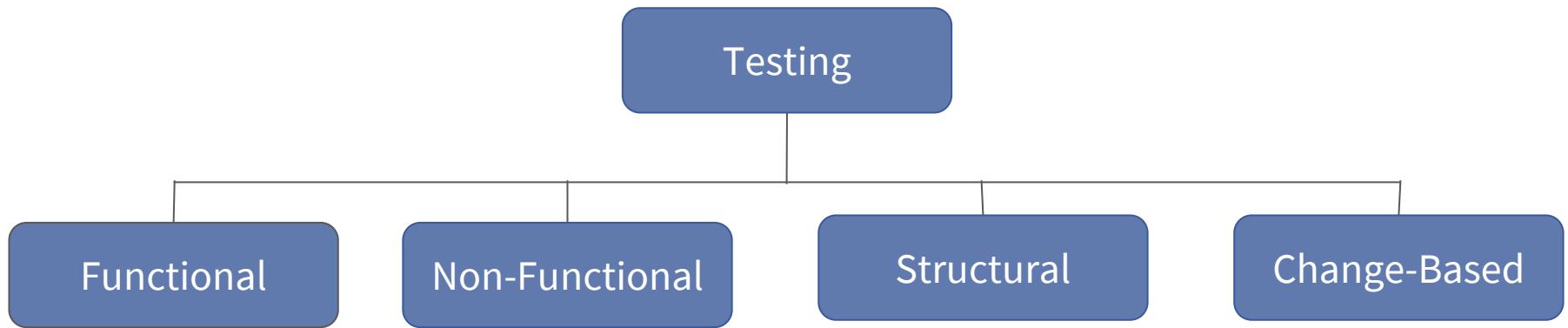
# Balanced Approach



QA



# Test Multiple Dimensions



# Test Multiple Dimensions

## Change-based Testing (Regression Testing)

Checks to see if new defects introduced in previously existing functionality after a change has been made to the code.

# Test Multiple Dimensions

## Functional Testing

Tests whether or not a component works as expected. It answers questions like “can the user do this?” and “does this particular feature work?”

# Test Multiple Dimensions

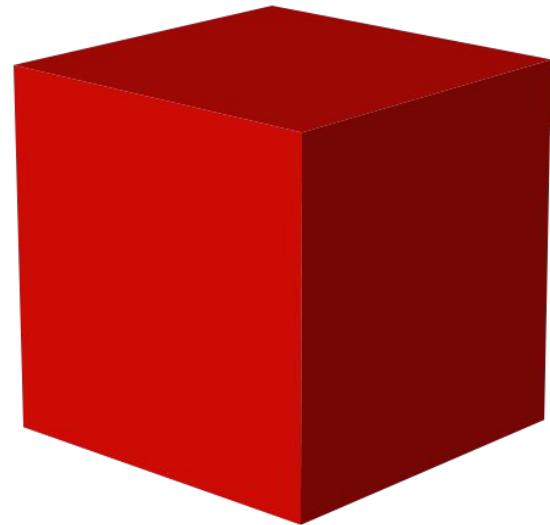
## Non-Functional Testing

Tests the characteristics of software, such as *design, usability, security, performance, reliability, maintainability, etc.*

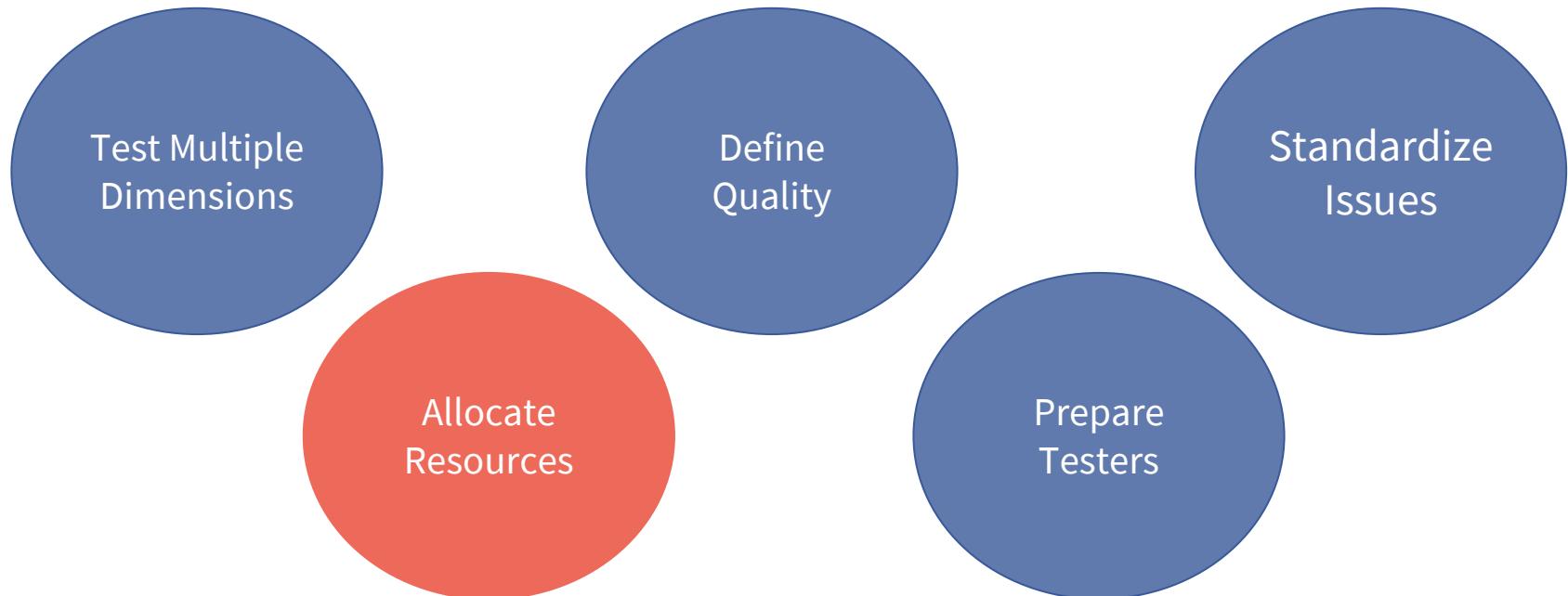
# Test Multiple Dimensions

Demonstrates an understanding of

- Company values
- Client goals and priorities
- Complexity of project
- Areas of risk



# Balanced Approach



## Allocate Resources

Test  
Early

Test  
Often

# Allocate Resources: Time

Before client reviews

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- Alpha
- Beta
- Prelaunch

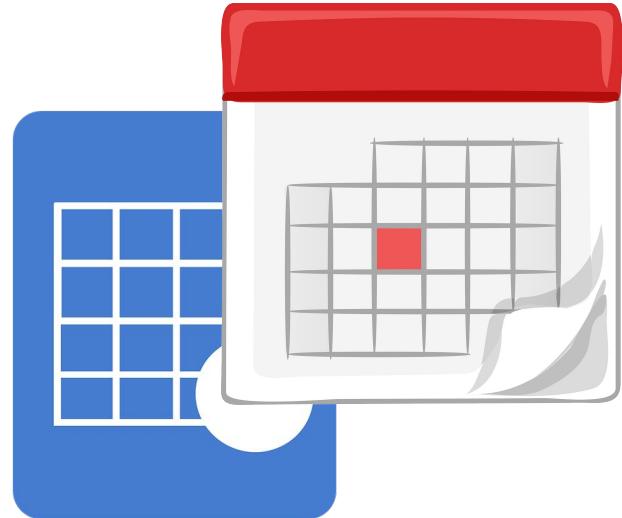
At project phases

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- Wireframes
- Visual Designs (Comps)
- Static Prototypes
- Data Integration
- Prelaunch

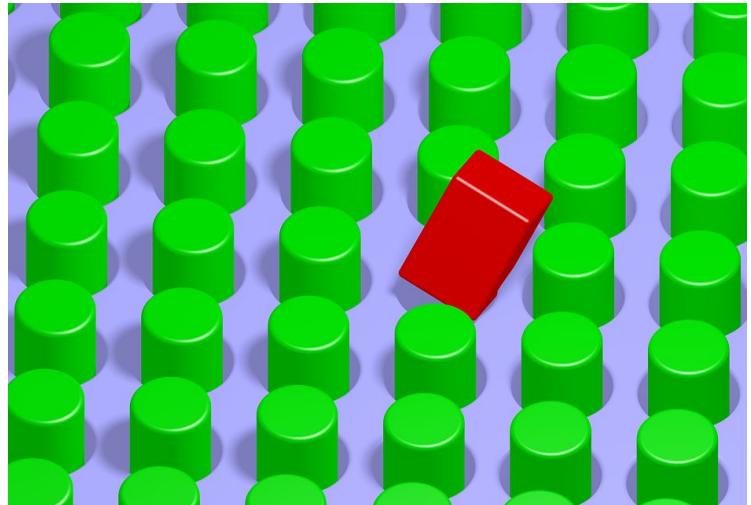
# Allocate Resources

- Proposals
- Budgets
- Timelines
- PM tools (Asana, Trello)

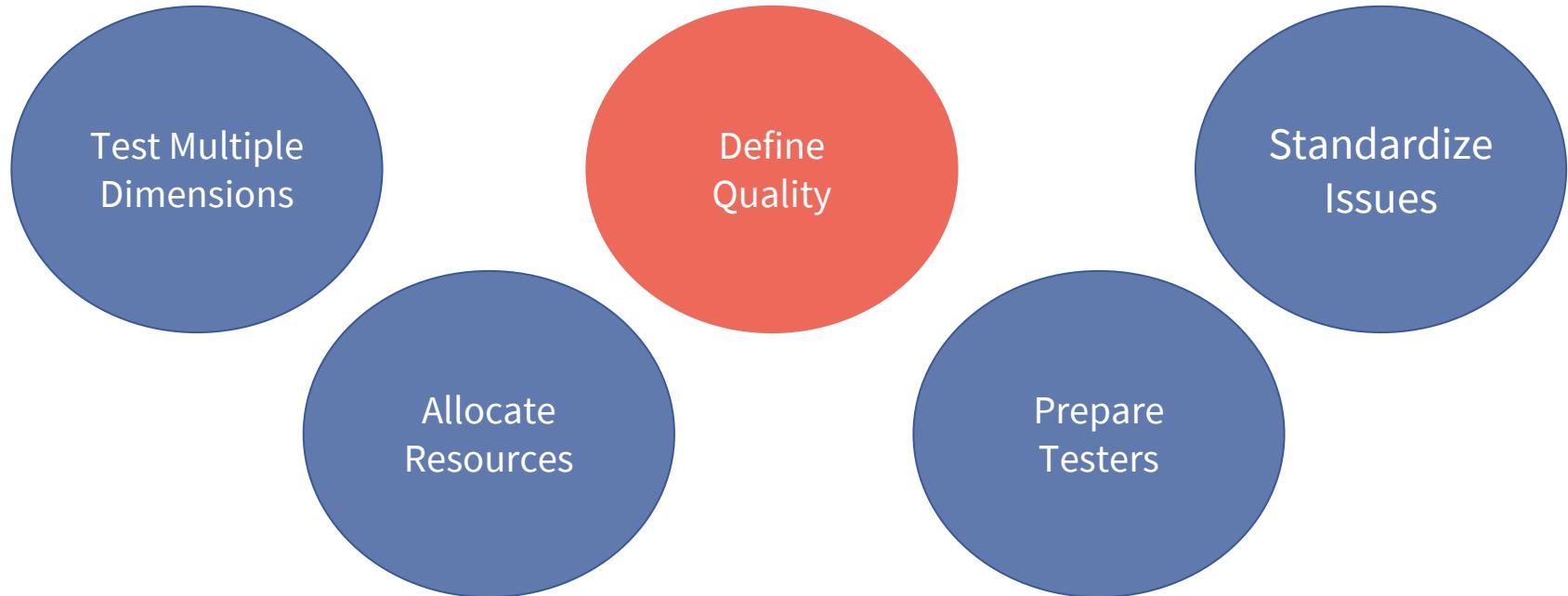


# Allocate Resources

Assign specific team members  
to specific QA tasks that **suit  
their strengths and training**



# Balanced Approach



# Define Quality

- EXCELLENT**
- GOOD**
- AVERAGE**

Quality is “the totality of features and characteristics of a product or service that bears its ability to satisfy  
**stated or implied needs**”

# Functional Specs

- Outline in detail a product's intended capabilities, appearance, and interaction with users
- Should be easy to read
- Items listed are
  - Necessary, not optional or nice-to-have
  - Verifiable or testable
  - Attainable or achievable with the given resources and restrictions
  - Clear and complete

# Define Quality: Functional Specs

	A	B	C	D	E	F	G	H
1	<b>Timeline</b>							
2	Done?	ID	Feature Title	Feature Description	Time Estimate	Milestone	Assignee	In Github
3		1	Instructions					x
4		1.1	Incorporate common instructions		0.25	Alpha	Christina	x
5		1.2	Add activity specific text and graphics		0.25	Alpha	Christina	x
6								
7		2	Footer					x
8		2.1	Incorporate common footer		0.25	Apha	Christina	x
9								
10		3	NK360 Header Navigation					
11		3.1	Incorporate common header navigation element		0.25	Beta	Christina	x
12								
13		4	Main Navigation					x
14		4.1	Display info screen when button is clicked/tapped		0.5	Alpha	Christina	x
15		4.2	Display Selection screen when home button is clicked/tapped		0.25	Alpha	Christina	x
16		4.3	Hide home button on Selection screen		0.25	Alpha	Christina	x
17								
18		5	Structure & Style					
19		5.1	Structure selection screen		1	Alpha	Christina	x

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**DONT MESS WITH MY FUNCTIONAL  
REQUIREMENTS**



# Define Quality: Documentation

- Design Comps
- User-Testing Protocols / User Stories
- Web Content Accessibility Guidelines (WCAG) checklists
- Security checklists, including WordPress-specific checklists
- Lots more out there

# Define Quality: Automation

Theme Check Plugin



QUnit



PHPUnit



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# Define Quality: Automation

Theme Check (WordPress):

<https://wordpress.org/plugins/theme-check/>

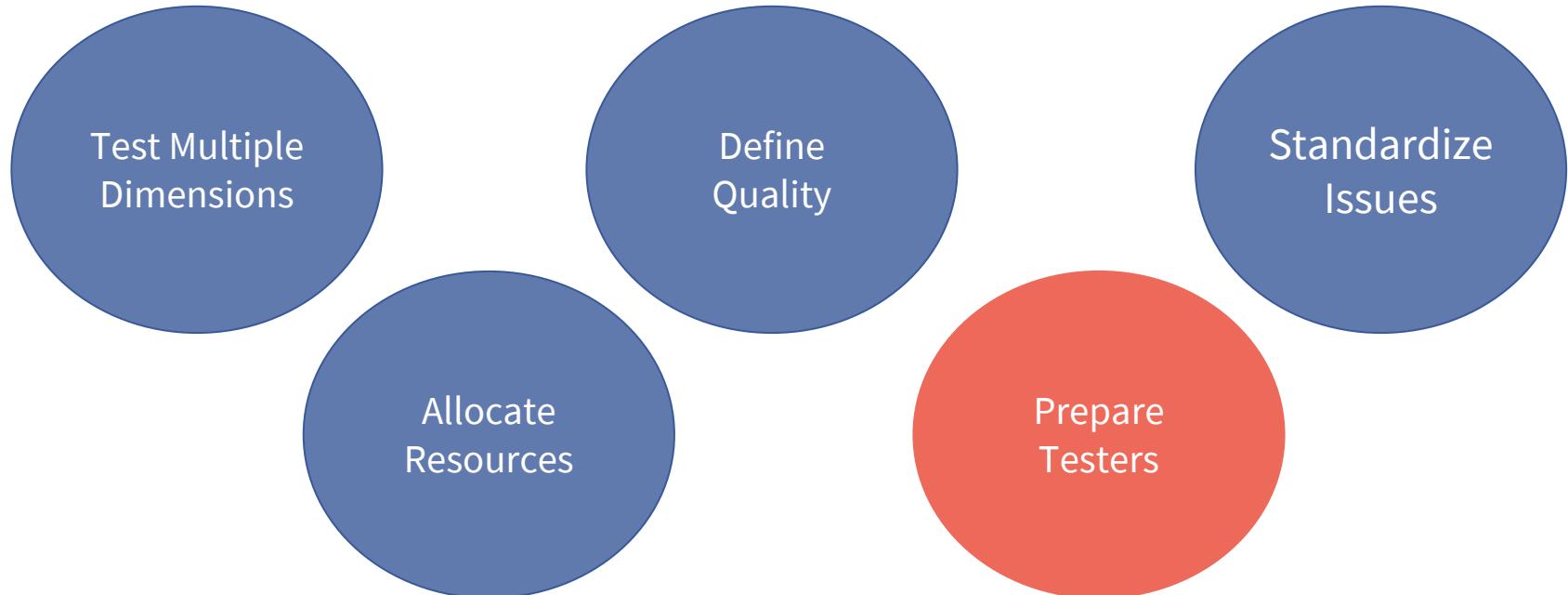
PHPUnit:

<https://phpunit.de/>

QUnit:

<https://qunitjs.com/>

# Balanced Approach



# LOOK OUT WORLD



# I'M GOING TO QA

# Prepare Testers

## Cheat Sheet, Part 1

- Form of testing
- Documentation that set standard for quality
- URLs / components
- Browsers
- Breakpoints
- Devices
- Time budgeted
- Deadlines

# Prepare Testers

## Cheat Sheet, Part 2

How issues should be logged

- Assignee
- Labels
- Milestones

# Prepare Testers

Don't  
know?  
Just ask



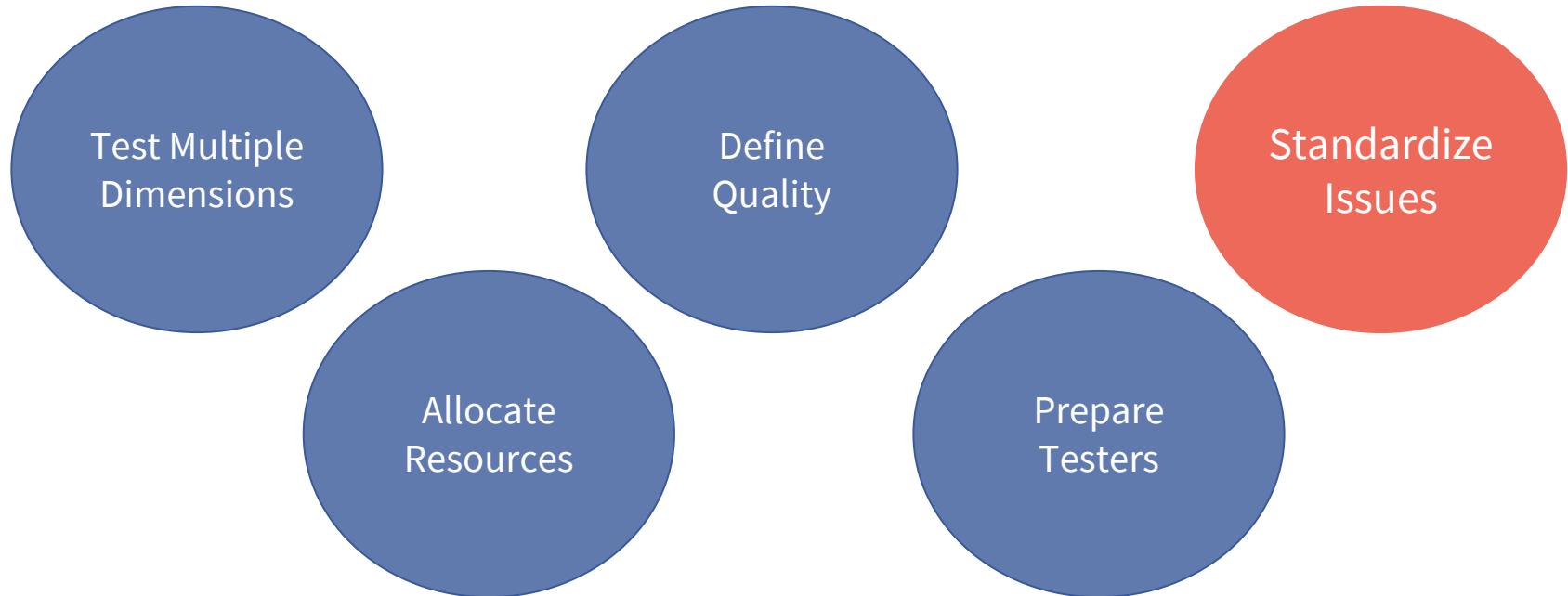
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	desktop XL	desktop	tablet L	tablet P	mobile L	mobile P	
Header							
Logo	resolution looks funny on jumbo screen when at top of window only, especially on hover (issue 23)				nav doesn't indicate which items have submenus / nav scrolls	nav scrolls when a submenu is opened	
Nav							
Footer							
Homepage						map marker overlaps with text block / explore this project button not visible with long description	
jumbotron grid		map marker overlaps with text block					
The Project							
What it is			very little padding above page header (issue 21)				
Participating Groups			very little padding above page header (issue 21)				
The Team & Funders			very little padding above page header (21)				
Artwork							
jumbotron submenu Intro	feels invasive - covers content				second button cut off (issue no. 1)		
location	Consider including address in popover?	difficult to scroll down on page b/c just scrolling	(issue 5)	text is in very thin column, only a few characters wide, need to adjust layout so image, which is cut off, is above text and text can flow across 100% of screen (issue 22)- hard to scroll on map	problem in mobile landscape is worse in mobile p		
project				text is in very thin column, only a few characters wide, need to adjust layout so image is above text and text can flow across 100% of screen (issue 22)	problem in mobile landscape is worse in mobile p		
media & resources					url extends outside of container (issue 17)		
artist information							

# Balanced Approach





This repository | Search | Pull requests | Issues | Marketplace | Gist

Watch 0 | Star 0 | Fork 0 | Create New Issue

Search Filters

Code Issues 8 Pull requests 0 Projects 0 Wiki Insights

Filters is:issue is:open Labels Milestones New issue

8 Open ✓ 0 Closed Author Labels Projects Milestones Assignee Sort

[x] Map detail pop-up not displaying correctly on mobile Issue - Responsive #13 opened 13 days ago by tesphenshade

[x] Category title incorrect Issue - Responsive #12 opened 13 days ago by tesphenshade

[x] Close button not displaying correctly Issue - Responsive #11 opened 13 days ago by tesphenshade

[x] Design-Responsive: Map category arrows not pointing right way Issue - Responsive #10 opened 13 days ago by tesphenshade

[x] Arts & Culture icon color Issue - Responsive #9 opened 13 days ago by tesphenshade

[x] Responsive: Close icon not centered on iPad device. Issue - Responsive #8 opened 13 days ago by jmaj

Map key icons are in a different order Issue - Cross-browser #6 opened 13 days ago by amlongo

[x] Responsive: Dropdown options are behind the popup Issue - Responsive #4 opened 13 days ago by jmaj

ProTip! Exclude everything labeled bug with -label:bug.



## InteractiveMechanics / qa-training-repo

Watch 0 Star 0 Fork 0

Code

Issues 8

Pull requests 0

Projects 0

Wiki

Insights



Write

Preview

AA B i “ “ ” ” @

Leave a comment

Attach files by dragging & dropping, [selecting them](#), or pasting from the clipboard.

Styling with Markdown is supported

Submit new issue

## Assignees

No one—assign yourself

## Labels

None yet

## Projects

None yet

## Milestone

No milestone



# Git Hub Issue Description

**User Story: As a [x], when I [x], I see/cannot [x]. I should see/be able to [x].**

Example: As a user, when I enter the word *spooky* in the search bar and click the Submit button, I do not see any search results. I should be able to see all search results that contain the word *spooky*. The search should pull results from the title and body fields of all content types.



## InteractiveMechanics / qa-training-repo

Watch 0 Star 0 Fork 0

Code

Issues 8

Pull requests 0

Projects 0

Wiki

Insights



Title

Write

Preview

AA B i

Leave a comment

Attach files by dragging &amp; dropping, selecting them, or pasting from the clipboard.

Styling with Markdown is supported

Assignees

Assign up to 10 people to this issue

Filter people

- tespenshade
- amilongo
- cahdeemer Christina Deemer
- IntMechBot
- jmaj Jeff M

Submit new issue





This repository Search

Pull requests Issues Marketplace Gist

+ × ☰

InteractiveMechanics / qa-training-repo

Watch 0 Star 0 Fork 0

Code

Issues 8

Pull requests 0

Projects 0

Wiki

Insights



Title

Write Preview

A A B i

Leave a comment

Attach files by dragging & dropping, selecting them, or pasting from the clipboard.

Styling with Markdown is supported

Submit

Assignees

No one—assign yourself

Labels

Apply labels to this issue

Filter labels

Client Feedback

Feature

Issue - Accessibility

Issue - Cross-browser

Issue - Functional

Issue - Responsive

Issue - Usability/SEO

Needs Review

Question

Request

Won't Fix

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This repository Search Pull requests Issues Marketplace Explore

InteractiveMechanics / ashbrook Private Unwatch 2 ★ Star 0 Fork 0

Code Issues Pull requests Projects Wiki Insights Settings

[xs] Image Caption: Too much extra space after image #25 Edit New issue

Closed mtedeschi opened this issue on Mar 20 · 4 comments

mtedeschi commented on Mar 20

Description There's too much extra space after the image/above caption.

Device/Browser/OS OSX El Capitan Chrome 57.0.2987.98

Screenshot

Capitol Prayer Room stained-glass window. Suspended Vitre Rose ipsum. Etiam a tincidunt magna.

Labels Issue - design need review

Projects None yet

Milestone Pre-Launch

Notifications Unsubscribe You're receiving notifications because you were assigned.

3 participants

Lock conversation

mtedeschi added the Issue - design label on Mar 20

mtedeschi added this to the Beta Review milestone on Mar 20

mtedeschi assigned cahdeemer on Mar 20

cahdeemer commented on Mar 22 on figure/caption change display from table-caption to table

cahdeemer commented on Mar 22 that was not a good fix, need to find another solution

cahdeemer commented on Mar 23 just needed to change add specificity to css declaration that affected divs inside the figure element so that height only applied to the img wrapper

amberreeves modified the milestones: Beta Review, Pre-Launch on Apr 13

cahdeemer commented on Apr 23 Very that this is done

cahdeemer changed the title from [X] Image Caption: Too much extra space after image to [xs] Image Caption: Too much extra space after image on Apr 23

cahdeemer added the needs review label on Apr 24

amberreeves closed this on Apr 24

Write Preview

Leave a comment

Attach files by dragging & dropping, selecting them, or pasting from the clipboard.

Writing with Markdown is supported Reopen issue Commit

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# [xs] Image Caption: Too much extra space after image

 Closed

mtedeschi opened this issue on Mar 20 · 4 comments



mtedeschi commented on Mar 20



## Description

There's too much extra space after the image/above caption.

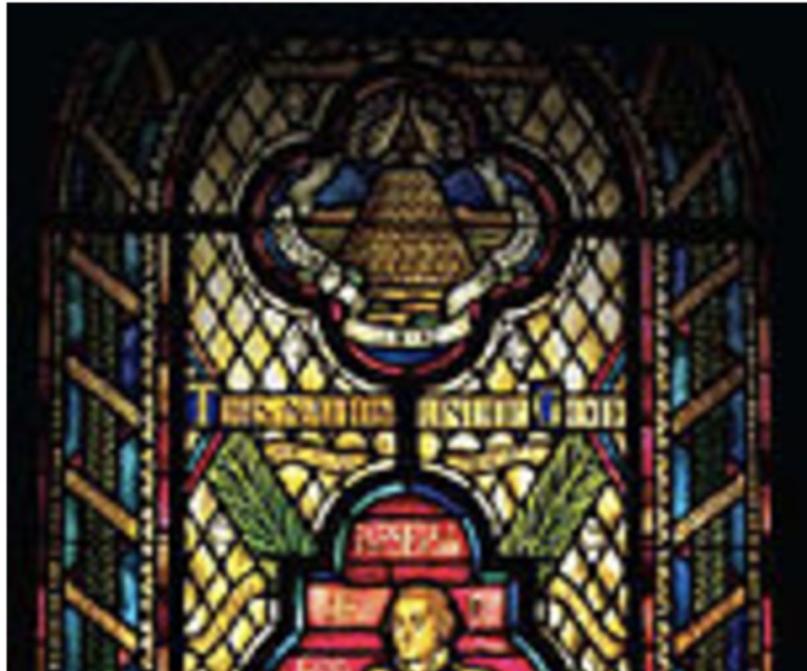
## Device/Browser/OS

OSX El Capitan Chrome 57.0.2987.98

Device/Browser/OS

OSX El Capitan Chrome 57.0.2987.98

Screenshot



Capitol Prayer Room stained-glass window. *Suspendisse Vitae Risus Ipsum.* Etiam a  
tincidunt magna.

## Assignees



cahdeemer



## Labels

issue - design

needs review



## Projects

None yet



## Milestone

Pre-Launch



## Notifications

Unsubscribe

You're receiving notifications  
because you were assigned.

## 3 participants



Lock conversation



cahdeemer commented on Mar 23

+

just needed to change add specificity to css declaration that affected divs inside the figure element so that height only applied to the img wrapper



amberreeves modified the milestones: **Beta Review, Pre-Launch** on Apr 13



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+

Very that this is done



cahdeemer changed the title from [X] Image Caption: Too much extra space after image to [xs] Image Caption: Too much extra space after image on Apr 23



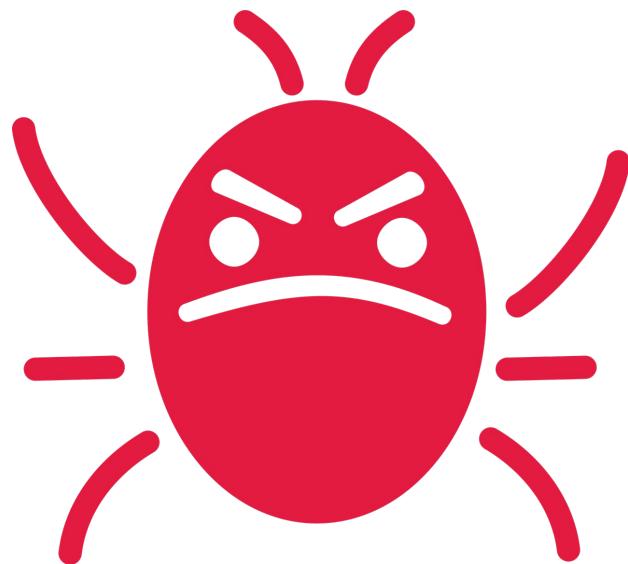
cahdeemer added the **needs review** label on Apr 24



amberreeves closed this on Apr 24

# Standardize Issues

One bug per issue



Test on real devices



# Summary

- Test more than one thing. Choose what to test based on client goals, company values, complexity of the project, and areas of risk.
- Allocate appropriate resources to QA. Test early and test often and be sure that that tactic is backed up in budgets, timelines, and PM tools. Assign testers to the variety of QA that matches suits their expertise.
- Define quality via documentation. Create requirement specifications that are necessary, verifiable, attainable, clear, and complete. Other documents that define quality are design comps, security checklists, etc. Testing tools like PHPUnit and QUnit help here too.

# Summary

- Adequately Prepare Testers. Providing them with a cheat sheet of details about testing as well as documentation that defines quality for that kind of testing.
- Standardize issues. Make it easy for assignee to reproduce issues. Employ user stories in descriptions, use screenshots where appropriate, create a new issue for every bug, and test on real devices.

# Outcomes

# Outcomes

- Improvement in relationships with clients
- Increased productivity and focus
- Increased morale
- Fewer post-launch issues



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# Thank you!

[christina@interactivemechanics.com](mailto:christina@interactivemechanics.com)

@cahdeemer

@interactivemech



# Upcoming webinar

Community Engagement through User Experience

MAY 23 | 3:00PM | FREE



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