

# Building Stakeholder Confidence

## Through an Automated Testing Solution

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# Overview

- › Background on me and my organization
- › The growing pains my team experienced
- › The challenges that arose
- › How we are working through these growth opportunities



# Who am I?



I have rainbow hair

Also hold a bachelor & master degrees in computer science

10 years experience in software

Taught various computer courses at local university and  
community colleges

Co-lead the local Spokane QA user group SpoQuality

Spent the last 4 years at Spokane Teachers Credit Union in the  
role of software quality assurance engineer

# Who is STCU?

Spokane Teacher's Credit Union is the 3<sup>rd</sup> largest credit union in Washington state

Based out of Spokane, Washington

Internal software team grew from 5 people to 13 in the last 4 years

Demand for us to build more awesome software has only increased!





# Not that long ago...

We had a small software team of 5 people (*still large in the world of credit unions*).

We mainly built scripts and helper apps for employees.

But we had grand dreams of bigger, all inclusive tools for both employees and members to use!

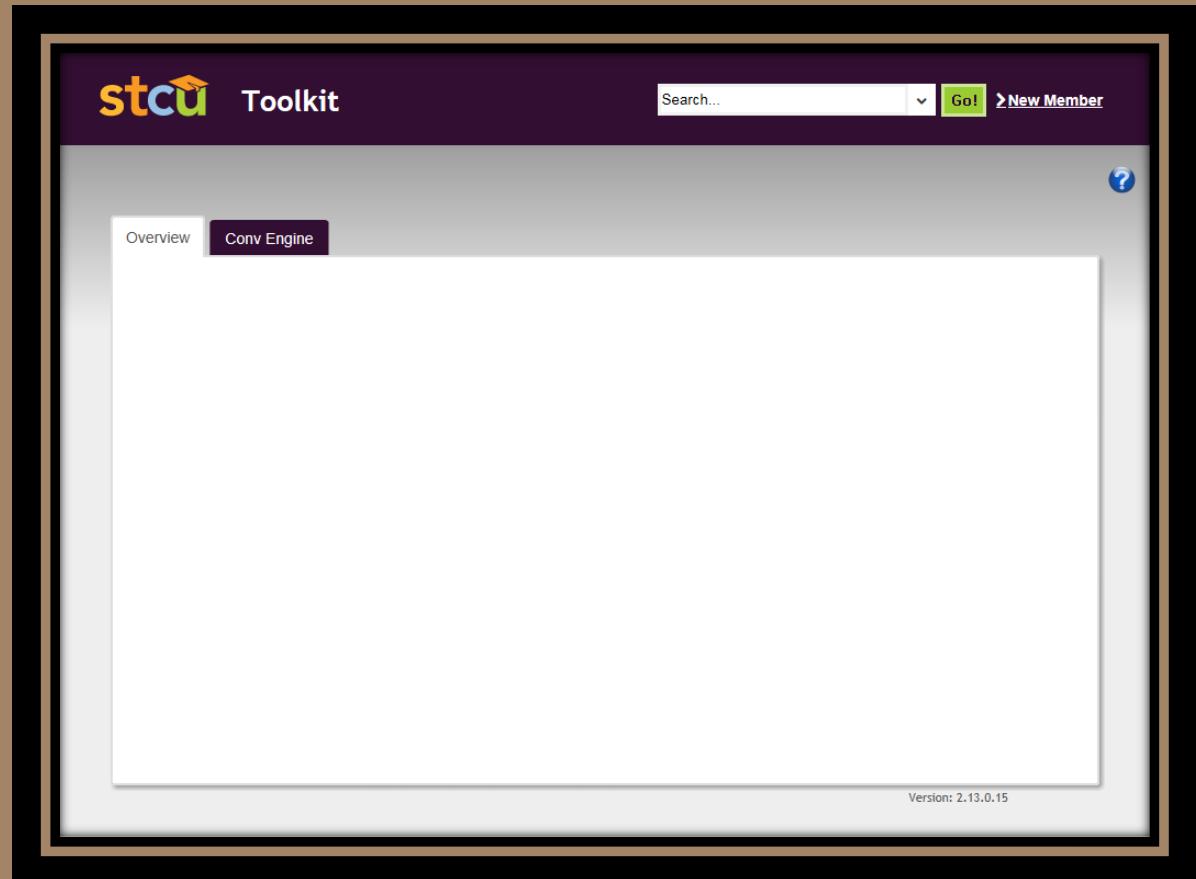
Out of these dreams, our main large application was born → Toolkit

- › *For employees to use to help service our members in one convenient location*

## One stop shop for member service

# Toolkit Features

- ✓ Create new members
- ✓ Look up member accounts & transactions
- ✓ Look up & update member contact info
- ✓ Create & maintenance accounts
- ✓ Credit card balance transfers
- ✓ Order checks & debit cards
- ✓ Member conversation starters
- ✓ Print or eSign forms prepopulated with member info



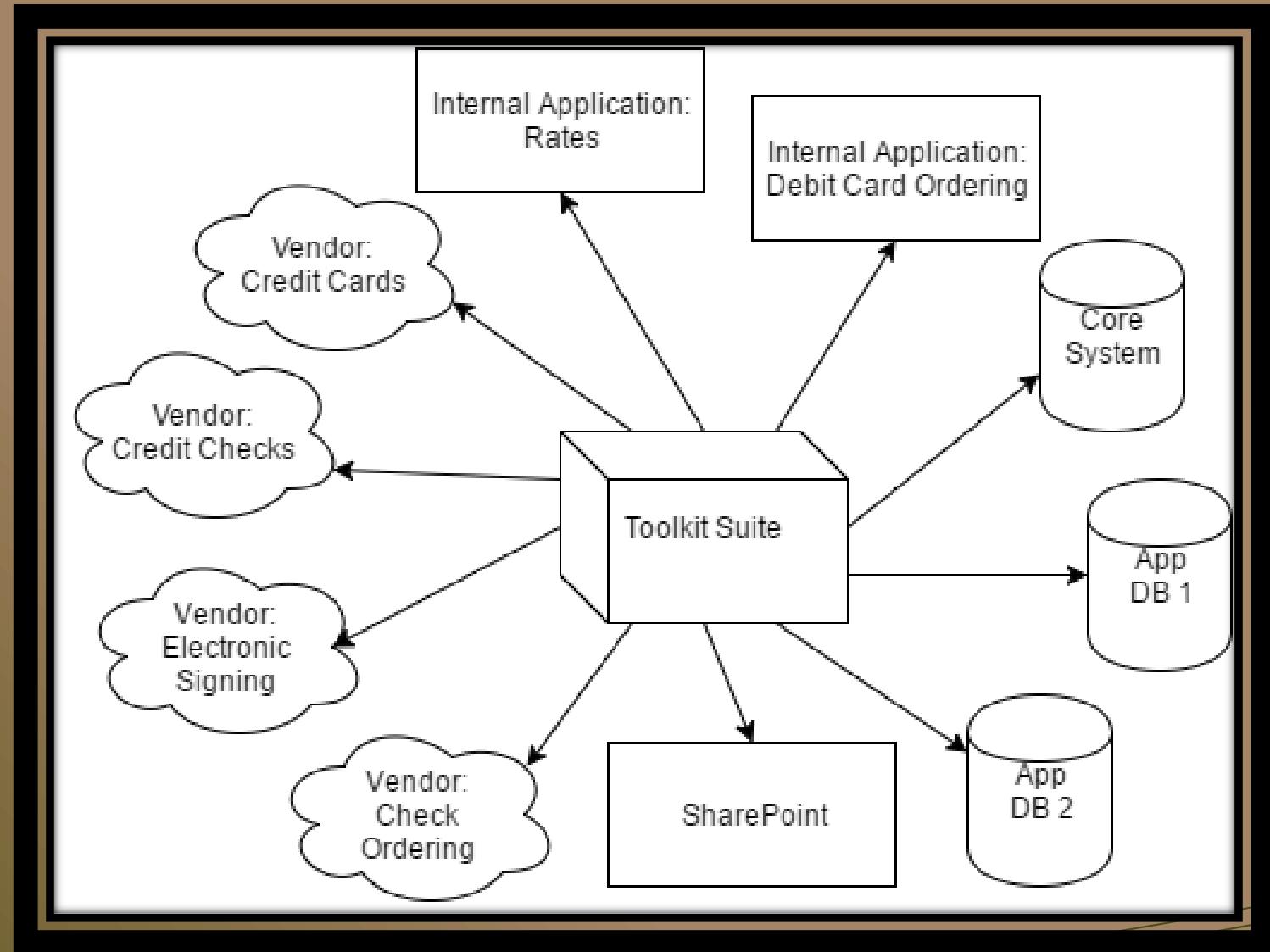


# The Challenges We Faced

## Learning the Environment Setup Needs

- This was our first application with such deep integration into the multitude of vendor systems we work with

# Toolkit Environment



# The Challenges We Faced

## Proper Release & Feature Tracking

- Our tracking processes for what items were contained in releases were under par

# Release Tracking

- :( Did not originally fully utilize our issue tracking tools.
- :( Trying to do too many things in each release.
- :( Extra unexpected changes got included in release builds.
- :( Forgot to include expected changes in release builds.



Stakeholders always noticed

# The Challenges We Faced

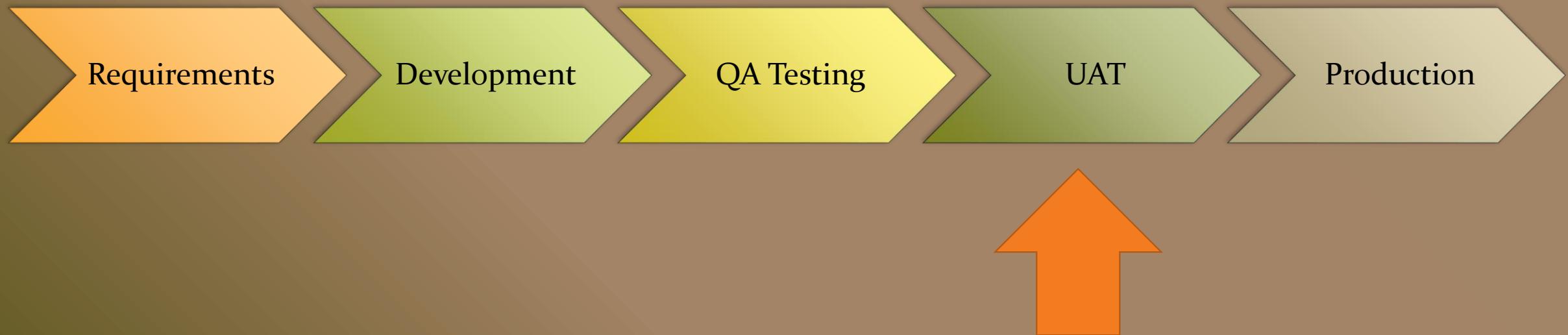
## Using Stakeholders for Testers

- Rush to get things out the door often gave stakeholders more testing responsibilities than ideal

# Stakeholders as Testers

Our Stakeholders = internal back-office departments

Normal to have stakeholders assist with User Acceptance Testing (UAT)



# Stakeholders as Bug Testers



Rush to get features out the door quickly.

- + Insufficient time for full internal testing.
- + Stakeholders leaned upon for bug testing.

=

⌚ Stakeholders discovering  
lots of new bugs

# Stakeholders as Bug Testers

Netscape should have taught us long ago that this was a bad idea...



<http://www.joelonsoftware.com/articles/fogooooooo67.html>

# The Challenges We Faced

## Stakeholder Confidence

- Due to our other challenges, confidence from stakeholders in our processes dwindled



TRUST

# Broken Trust

With confidence lost in both the application and the software team's processes, stakeholders were now...

- › Requesting greater detailed release notes for all release candidate builds
- › Retesting every item in the release notes in addition to performing a full regression test suite by hand

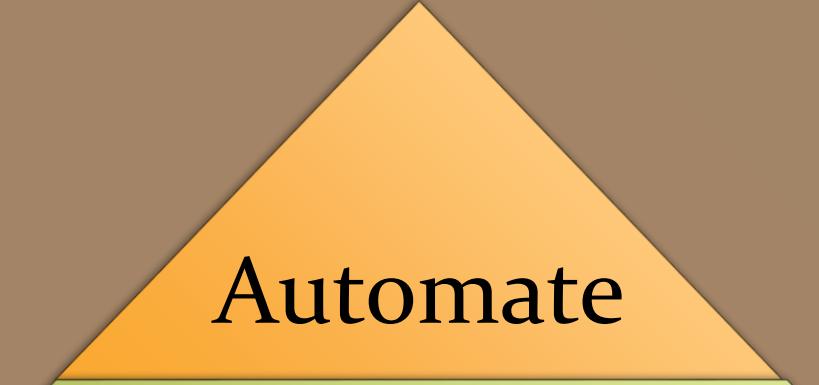


# Let's Rebuild

What ingredients are needed to rebuild trust?



# Goals



Automate



Consistent Tests



Stakeholders Help Write Tests

# Test System Design

Stakeholder

SpecFlow Tests

Selenium

Base Application Class

Page Object

Page Object

Page Object

Page Object

Test Data Library

Core Database



# The Key to Stakeholder Involvement



“bridging the communication gap between domain experts and developers by binding business readable behavior specifications to the underlying implementation”

<http://www.specflow.org/getting-started/>

# Gherkin



**“... a Business Readable, Domain Specific Language** that lets you describe software's behaviour without detailing how that behaviour is implemented. Gherkin serves two purposes — documentation and automated tests.”

<https://github.com/cucumber/cucumber/wiki/Gherkin>

# Gherkin

Uses the Given-When-Then format:

Given some precondition

When some action by the actor

Then some testable outcome is achieved

# SpecFlow Tests

```
1 Feature: BuildVerification
2   Verify that the build is stable enough to run other regression/acceptance tests
3
4 Background:
5   Given Phoenix is in Day Mode
6
7 @BVT
8 Scenario: Load Toolkit
9   Given I want to use Toolkit
10  When I navigate to toolkit
11  Then Toolkit loads without error(s)
12
13 @BVT
14 Scenario: Load Member into Toolkit
15   Given I have Toolkit open
16   When I search for a Personal member
17   Then the member should be loaded into Toolkit
```

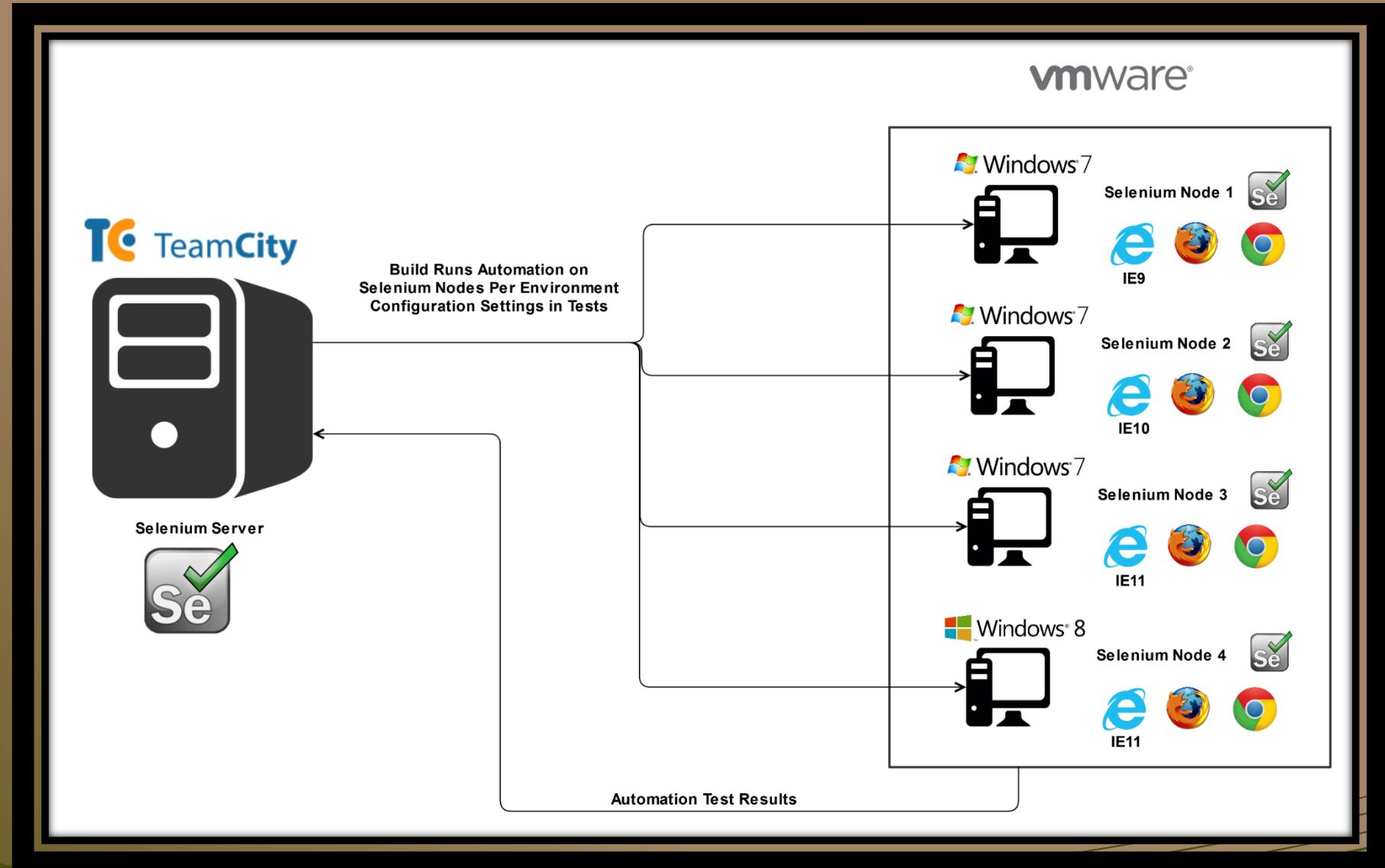
# Selenium Web Automation



## Browser Automation!

<http://www.seleniumhq.org/>

# Selenium + Build System



# Stakeholder Friendly Reporting

The build system produces a **Pickles** report after running the SpecFlow / Selenium tests

“living documentation generator”

<http://www.picklesdoc.com>

## BuildVerification

Verify that the build is stable enough to run other regression/acceptance tests

**Given** Phoenix is in Day Mode

Load Toolkit

Tags: @BVT

**Given** I want to use Toolkit

**When** I navigate to toolkit

**Then** Toolkit loads without error(s)



# Has This Really Helped?

- ✓ YES!
- ✓ While we are still in the early stages of this project we are *already seeing positive benefits* between stakeholders and the software team
- ✓ Stakeholders have an increased understanding and appreciation for the application
- ✓ Stakeholders are gaining investment into our test suite
- ✓ Stakeholders have a greater voice into test coverage and priority



# You Can Do This Too!

Building an excellent partnership with your stakeholders and including them in the development of an automated test suite can boost their confidence in your test coverage and the quality of your tests.

# Thank You!



# Contact Info



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- SpoQuality User Group
  - Facebook: [@spoquality](https://www.facebook.com/spoquality)
  - Twitter: [@spoquality](https://twitter.com/spoquality)



- Spokane Teacher's Credit Union
  - <https://www.stcu.org>