**ATDD - WEB TEST AUTOMATION WORKSHOP**

This is a 2-day interactive and predominantly hands-on technically focused course on web test automation. You will learn how test automation improves the workflow of the entire **Acceptance Test Driven Development** (ATDD) development process. This course introduces **cucumber.js** and **TypeScript**, with tests running in a homogeneous development environment, as well as the techniques necessary to write tests that are robust and easy to maintain.

**TOPICS COVERED**

* Leveraging scenarios to obtain a shared understanding of the acceptance criteria
* Automating and verifying acceptance tests through a browser
* Exploring techniques that helps organize your tests

**LEARNING OUTCOMES**

Participants will be able to...

* Automate acceptance criteria for a website using **cucumber.js**, **TypeScript** and the **Chrome** web browser
* Understanding how test automation supports verifying existing functionality, bug remediation, and new feature development
* Understand testing patterns to keep tests reusable and organized

**TARGET AUDIENCE**

We recommend this course for all team members, including but not limited to the following:

* Quality Assurance / Test Automation (Technical)
* Engineers / Developers
* Product & Design

**PARTICIPANT REQUIREMENTS**

* Recommended experience with a computer programming language
* Windows/Mac laptop manufactured after 2015 capable of running, and configured to support, hardware accelerated virtual machines with at least 8GB of free space on the laptop hard drive and local admin user account that can install software onto the laptop

**SCHEDULE - DAY 1 & 2**

* 08:30am - 09:00am Breakfast
* 09:00am - 12:00pm Class Time
* 12:00pm - 01:30pm Lunch
* 01:30pm - 04:30pm Class Time

**TDD TRAINING**

This 3-day course covers the fundamentals of Test Driven Development with an emphasis on learning the skills and techniques necessary to perform this discipline in the real world. Participants will begin with simple exercises and migrate to advanced techniques for building applications designed for testing, using stubs and mocks. Participants will also learn the benefits of paired programming practices. Additionally, the course will address the issues associated with working in legacy code.

**TOPICS COVERED**

* The Red, Green, Refactor pattern
* Using Mocks, Stubs, Fakes, Doubles and other testing patterns
* Building code that is testable
* How to refactor existing code to make it testable

**LEARNING OUTCOMES**

Participants will be able to...

* Appreciate the benefit of writing clean, maintainable code
* Identify the relationship between software quality and TDD
* Recognize that TDD promotes safe, rapid changes to existing code through immediate feedback
* Understand the appropriate time to use mocks and stubs
* Identify good and bad testing patterns
* Identify code smells for identifying non-testable code

Participants will become familiar with:

* Writing tests first
* Multiple paired testing techniques
* How to modify software design using a test-first approach

**TARGET AUDIENCE**

We recommend this course for attendees with a technical background, including but not limited to the following:

* User Experience Designers
* Quality Assurance
* Developers

**SCHEDULE**

* 08:30am - 09:00am Breakfast
* 09:00am - 12:00pm Class Time
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LD Stuff

ATDD - Web Test Automation

## **Scope of the Course**

This is an interactive and predominantly hands on course. Attendees are expected to have a laptop capable of running a virtual machine (using Oracle’s VirtualBox), and have prior programming experience in some language. Attendees will use Ruby and Rails web site to automate the Chrome web browser in order to understand the Test Automation process given a set of Scenarios to implement.

## **Technology Requirements**

* Laptop capable of running hardware accelerated virtual machine (VT-x or AMD-V capable processor)
  + Current Apple laptops support this feature
* BIOS is enabled to allow hardware acceleration (some large enterprises do NOT allow this, keep in mind)
  + Apple laptops already have the hardware acceleration enabled in UEFI
* At least 8GB of free space on the laptop hard drive

## **Course Outline**

* Introductions
* How automation fits into ATDD
  + *Automation is just one part of it, not the whole ATDD story*
* Overview of the technologies available
  + *This is to cover things like SpecFlow (.NET), Cucumber JVM (Java), Behave (Python), and Cucumber (Ruby) since not everyone attending is a Ruby shop, or will ever plan on using Ruby.*
* What does automation give us & how is it useful to the developer or qa engineer
* Review the pre-canned Puppy Site scenarios we’re going to use to write the step definitions & supporting test code
* Clone the Puppies test project (not web site code) from Github to give us all of the necessary plumbing already setup
* Iterate over exercises to illustrate automating a scenario, based on user stories, using Ruby, Cucumber and Watir.
  + *Attendees write the test, based on how the Puppies page they are testing is structured*
  + *Attendees then run Cukes to determine success or if they need to fix things*
  + *Attendees will implement a new feature*