DelBer
learning center
In this paper we are going to dive into the world of this test automation framework and will show how to create a simple and efficient test automation framework project with TestCafe, making a demo with a script running across different web browsers configured with CI.

So, grab a cup of coffee, and let's try to finish our test before our coffee gets cold.
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Approach to building our automated testing framework, including our market investigation, methodologies, tools and benefits

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# INTRODUCTION

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E N H A N C E D P E R F O R M A N C E  E N G I N E E R I N G

TestCafe: grinding automation issues / #EnhancedPerformanceEngineering

Aguascalientes, México
THE TEAM

01

JUAN DELGADO
PROFESSOR
More than 15 years on IT industry participating in several different projects across the world delivering major test solutions on Fortune 500 technology companies.

02

ERICK GUTIERREZ
SOFTWARE DEVELOPER IN TEST
Artificial intelligence Engineer Specialized in QA with experience in Machine Learning in Computer Vision for Medical Research and Lead developer in a Software Development Company interested in bringing solutions through technology.

03

IVAN MEDINA
SOFTWARE DEVELOPER

04

JUAN CARLOS PATRON
QUALITY ASSURANCE
Industrial Engineer with a specialization in Engineering and Quality of Software Projects. Primarily focused on Full-Stack Development with a passion for joining the Software and Business/Industrial worlds of a company.

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E-COMMERCE

Conversion Rate

Global standard between 2.89% - 3.31%

Shopping Cart Abandonment

70% of customers leave before purchasing

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E-COMMERCE

Bugs
Cause 13% of abandonments

Trust
Lack of trust cause 17% of abandonments

Checkout
Long and complicated checkout process originate 21% of abandonments

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**Business Case**

1. **Mission Statement**
e-commerce web application poor quality product

2. **Proposal**
Approach an Automated test solution fit with the client

3. **Tools**
TestCafe, Browserstack and Jenkins

4. **Goal**
Automated E2E test tool In-House

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Plan
Decide tasks to be built

Build
Construct the planned tasks

Test
Using a Test Plan, check what was built

Review
Evaluate the test report

Scrum
IN 3 WORDS
Manage Project Development

PRODUCT OWNER
Key stakeholders in a project

SCRUM MASTER
Ensure team works as well as possible

TEAM MEMBERS
Organize and manage their own work

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Working with Scrum initiate identifying the problematic and its core components.

**Methodology - Scrum**

START

01 Product Backlog
Showing end user requirements as user stories

02 Sprint Planning
WHAT meeting?
HOW meeting?

03 Sprint Backlog
Make visible all the work for the Sprint
Key identifier factor of this methodology is the subdivision of the tasks to achieve, making the workflow more fluent.

**Sprint Review**
Feedback of project development, helps to adapt Product Backlog

**Sprint Retrospective**
Opportunity to inspect yourself and create an improvement plan
Best Practices

During the development of this automated framework our team focused primarily on three main types of testing. Functional testing, black-box testing, and regression testing. For coding we based on ESLint rules.

**Best Practices Testing**

We use various techniques during the design process of our test suites and tools for better review and improvement of our testing.

**Best Practices Coding**

Industries have been working on creating rules to have an organic flow throughout the code structure, we also get a software architect for code reviews.
**Methodology - Best Practices**

**Code Reviews**
Process in which a programmer consciously and systematically checks the code for mistakes or structural mistakes.

**Code Structure**
We use Page Object Model for our code structure and for best quality of code: ESLint, tool that helped us to find and fix structural and compilation problems in the JavaScript code.
The Framework

Web Pages undergoes rigorous functional tests that ensure the correct functionality of the page and fulfil the expectations of the customers. Maintaining and Automating these tests help maintain the quality of the web page releases.

### 01. Tools
Tools that help the core of the project.

### 02. Core Structure
How is the Code structured.

### 03. App Development
How was the code made.

### 04. Video Editing
Brief insight of how the video was made.
FRAMEWORK - TOOLS

- TESTCAFE
- GITHUB
- BROWSERSTACK
- JENKINS

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FRAMESWORK - CORE

README
How to Download and Set Up the tools.

Page Model
Identify the Web Elements that will be used

Suits
Code the each Test. With the parameters of each individual test

Reports
In this Folder we save the reports generated

Package
General Info about the tools and the Programmer

Get Started

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FRAMEWORK - CORE

**FRAMEWORK - CORE**

- **README**: How to Download and Set Up the tools.
- **Page Model**: Identify the Web Elements that will be used.
- **Suits**: Code the each Test. With the parameters of each individual test.
- **Reports**: In this Folder we save the reports generated.
- **Package**: General Info about the tools and the Programmer.

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P A G E  M O D E L  F I L E S

01  Log In Model
This file contains the web elements needed for the Log In process.

02  Purchase Model
This file contains the web elements needed for the Purchase process.

03  Registration Model
This file contains the web elements needed for the Registration process.

04  Shopping Cart Model
This file contains the web elements needed for the Shopping process.
# FRAMEWORK - CORE

- **README**: How to Download and Set Up the tools.
- **Page Model**: Identify the Web Elements that will be used.
- **Suits**: Code the each Test. With the parameters of each individual test.
- **Reports**: In this Folder we save the reports generated.
- **Package**: General Info about the tools and the Programmer.

**GET STARTED**

**IDENTIFIED**

**ANALYSIS**

**TEST CODE**

**TOOLS INFO**

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SUIT FILES

01 Log In Tests
Contains the tests needed for the examination of the Login process.

02 Purchase Tests
Contains the tests needed for the examination of the Purchase process.

03 Registration Tests
Contains the tests needed for the examination of the Registration process.

04 ShoppingCart Tests
Contains the tests needed for the examination of the Shopping process.
FRAMEWORK - CORE

README
How to Download and Set Up the tools.
Get Started

Page Model
Identify the Web Elements that will be used
Identify

Suits
Code the each Test. With the parameters of each individual test
Test Code

Reports
In this Folder we save the reports generated
Analysis

Package
General Info about the tools and the Programmer
Tools Info

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E-Commerce
Automates script
Examples:
• Add new User
• Add Item to cart
• Make a Purchase
• Log in
• Add multiple items to cart and proceed to purchase

Results
• Validation of the scenario
**Variety**
Team constituted for a variety of engineers with different formations.

**Experience**
Very enriching to be able to work with people with different academic backgrounds and ways of working.

**Challenge**
Since we wanted to challenge ourselves, we assigned unfamiliar roles to each other.

**Teamwork**
If any of us had a problem, we helped each other.

**Benefits**
Purpose was not only to create an open source project, was also to aggrandize our expertise, proficiency and team working.

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THANKS