

# **Robot Framework: More than just automation**

By Joshua Gorospe  
Senior Test Engineer, Intersection

# Introduction

I work at Intersection, a Sidewalk Labs, Alphabet owned company.

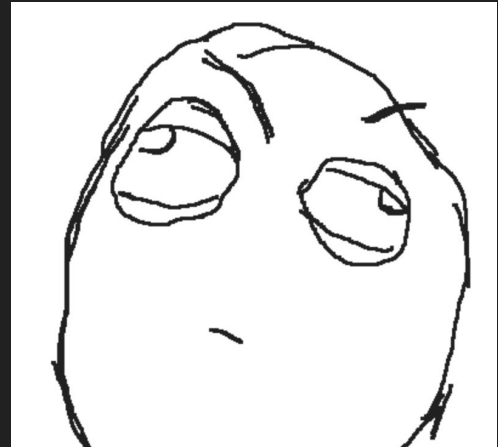
Delivers products such as. In the past, we provided client services for.

- Link Wifi Kiosks
  - New York
  - London... and more
- MTA On-The-Go Kiosks
  - Large telecom companies
  - Hudson Yards
  - Large retail companies
  - Large real estate companies



Automation alone is not enough...

Huh??? ...



Well...this...



Also...this...



## Airport Digital Concierge

FRI 6:49PM

We've received an update for your flight

American Airlines #1621 arrived at Miami Intl (MIA) at 06:48PM EDT from LaGuardia (LGA)

Destination (Miami Intl / MIA): Gate D17

7:41AM

hi

Hello, welcome to LaGuardia Airport.  
Where are you going today? Enter airport code.



Airport Digi...



## Options



Search in

Conversation

Manage Messages

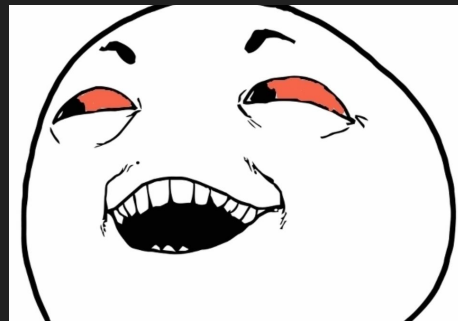
Leave Feedback



Notifications

Facebook Page

...and...

...conversational  
agents.

Really quick story...

Roughly 8 months ago. I worked on a project that was supposed to be only a 2 month project ... it grew to become a 6 month project with **291 end-to-end test scenarios**... and there was only one tester...

The screenshot shows the TestRail web application interface. The browser address bar displays the URL: `https://intersection.testrail.com/index.php?/suites/view/889&group_by=cases:section_id&group_order=asc`. The page title is "Test Cases - TestRail". The navigation bar includes links for "Return to Dashboard", "Working On", "Joshua Gorospe", "Help & Feedback", and "Administration". The main content area is titled "Test Cases" and shows a list of 277 test cases. A callout box on the right side of the interface indicates: "Contains 1 section and 291 cases. Edit description".

ID	Title
C429732	Yardarm Project Test Scenario - 2018: (VMS STYLN - 10 HY Project - February 2018) Query Visitor Management Service API and validate returned JSON for the default 10...
C429733	Yardarm Project Test Scenario - 2018: (VMS STYLN - 10 HY Project - February 2018) Check the integrations with Proxyclick and the Visitor Management Service for the de...
C429734	Yardarm Project Test Scenario - 2018: (VMS STYLN - 10 HY Project - February 2018) Check the latency of all the Proxyclick and Visitor Management Service integrations w...
C1039303	Yardarm Project Test Scenario - 2018: (55 HY VMS - September 2018) New 55HY URL Query Visitor Management Service API and validate returned JSON
C1039305	Yardarm Project Test Scenario - 2018: (55 HY VMS - September 2018) New 55HY URL Check the integrations with Proxyclick and the Visitor Management Service
C1039302	Yardarm Project Test Scenario - 2018: (55 HY VMS - September 2018) New 10HY URL Query Visitor Management Service API and validate returned JSON
C1039304	Yardarm Project Test Scenario - 2018: (55 HY VMS - September 2018) New 10HY URL Check the integrations with Proxyclick and the Visitor Management Service
C460009	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Guest Management - Provides requirements for managing guest registration and keys within the Servi...
C460011	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Rentable Items - Reviewing and leasing items available for rent, such as bike lockers or storage rooms
C460012	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Notifications - Setting notifications preferences, events that trigger notifications and notification display
C460013	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Payments - Viewing charges, setting up payment methods and autopay, and submitting one time pay...
C460014	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Space Reservations - Reviewing and reserving spaces available for rent, such as party rooms or BBQ ...
C460015	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Marketing Preferences - Setting marketing preferences via application
C460016	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Packages - Display Packages List of delivered packages assigned to current user
C473253	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Packages - Display Drop Off List of outside party pick ups
C488116	Yardarm Project Test Scenario - 2018: (MIM Residential Application) Packages - Update Package Preferences through application UI
C460006	Yardarm Project Test Scenario - 2018: (MIM Residential Application) User Profiles - Create the user's profile and check for a new Okta profile
C473215	Yardarm Project Test Scenario - 2018: (MIM Residential Application) User Profiles - Move the user's profile from Prospect to the Tenant User Group by updating a record in...
C473247	Yardarm Project Test Scenario - 2018: (MIM Residential Application) User Profiles - Email credentials to the new user (resident) of the account
C473248	Yardarm Project Test Scenario - 2018: (MIM Residential Application) User Profiles - Email Credentials to an existing user (resident)
C473249	Yardarm Project Test Scenario - 2018: (MIM Residential Application) User Profiles - Associate users and group profiles by unit

... I could only automate 1/4th of it.

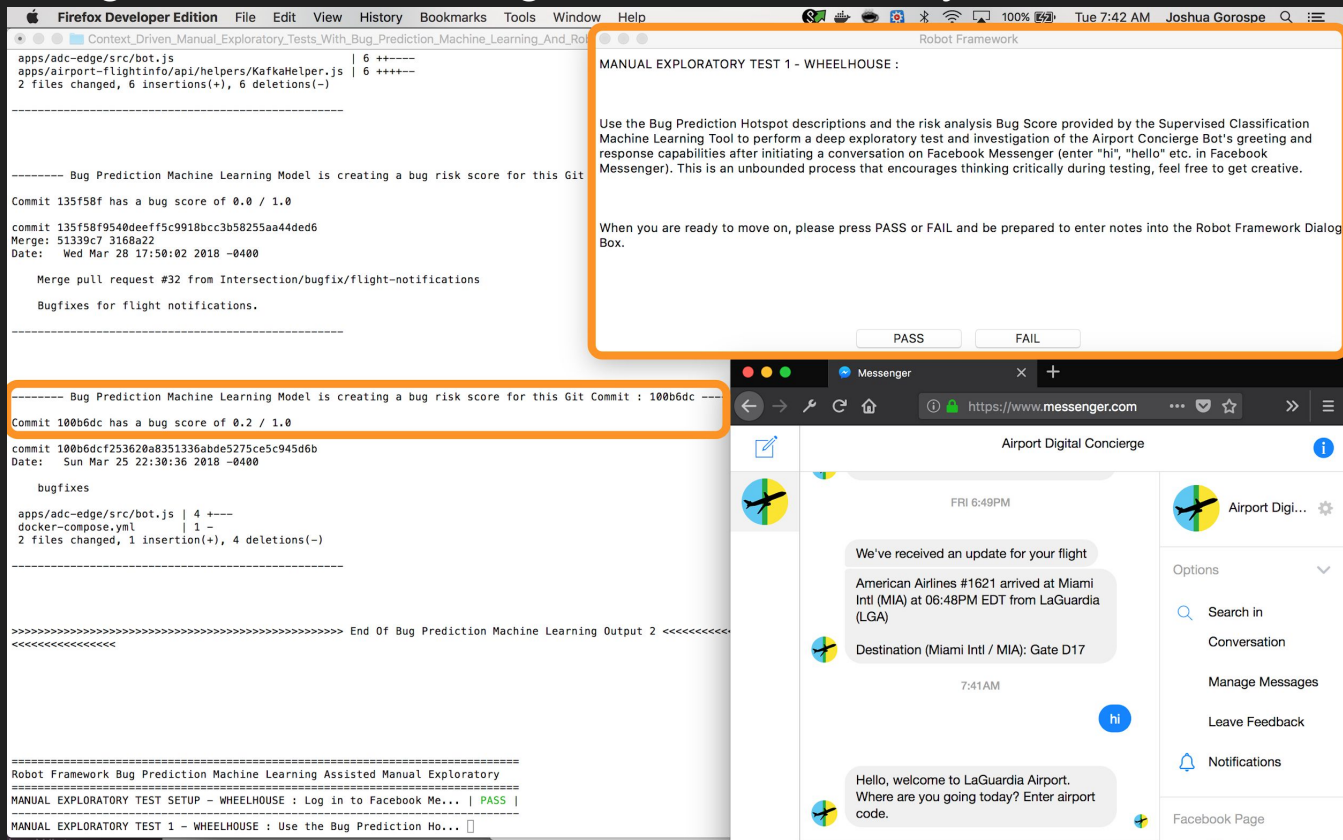


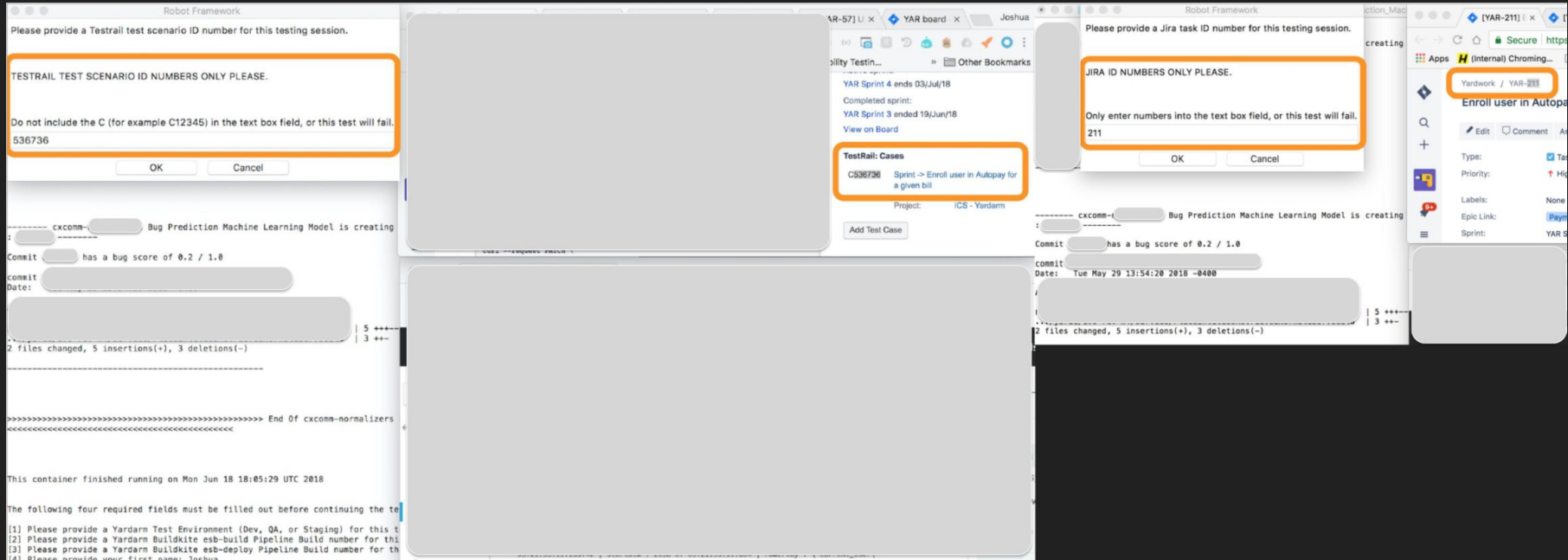
For this specific project.

If I had focused ONLY on creating automation for 291 TestRail test scenarios, during all of those sprints...

**A lot of the testing would NOT get done.**

I needed flexibility and freedom to rapidly search for bugs... so I set up a hybrid manual-automated approach and combined it with other tools. For example I used git log to identify bug hotspots, and generated bug prediction scores for each commit using a machine learning tool called GitRisky.





Store Values For Report Stamps    \${TESTRAIL}    \${JIRA}  
Take Screenshot

MANUAL FUNCTIONAL TESTRAIL TEST - YARDARM MIM : Read the Testrail test scenario description and referenced Jira tasks. Use the Bug Prediction Hotspot descriptions and the risk analysis Bug Score provided by the S  
Take Screenshot

Execute Manual Step    MANUAL FUNCTIONAL TESTRAIL TEST \${TESTRAIL} - YARDARM MIM : \n\n\n\n Read the Testrail test scenario \${TESTRAIL} description and referenced Jira tasks. --> https://intersection.testrail.  
are ready to move on, please press PASS or FAIL and be prepared to enter notes into the Robot Framework Dialog Box.\n\n\n\n Please provide precise details about the failure you found. After this test run is  
\${value} =    Get Value From User    MANUAL FUNCTIONAL TESTRAIL TEST \${TESTRAIL} - DETAILED NOTES - YARDARM MIM : \n\n\n\n Please provide the , Activ

Should Not Be Empty    \${value}  
Log    \${value}

[Tags]    TESTRAILID:\${TESTRAIL}    Yardarm\_MIM\_Manual\_Functional\_Test    Yardarm\_MIM\_End\_To\_End\_Functional\_Test

\*\*\* Keywords \*\*\*

Store Values For Report Stamps

[Arguments]    \${TESTRAIL}    \${JIRA}

Yardarm Platform Processes | FAIL |

2 critical tests, 1 passed, 1 failed  
2 tests total, 1 passed, 1 failed

=====



file:///Users/joshuagorospes/...

Joshua tested Yardarm MIM Jira Task 212 in the QA environment -- The Testrail Test Scenario in this test run traces back to esb-build Buildkite Build 37 and esb-deploy Buildkite Build 30 -- Test Log

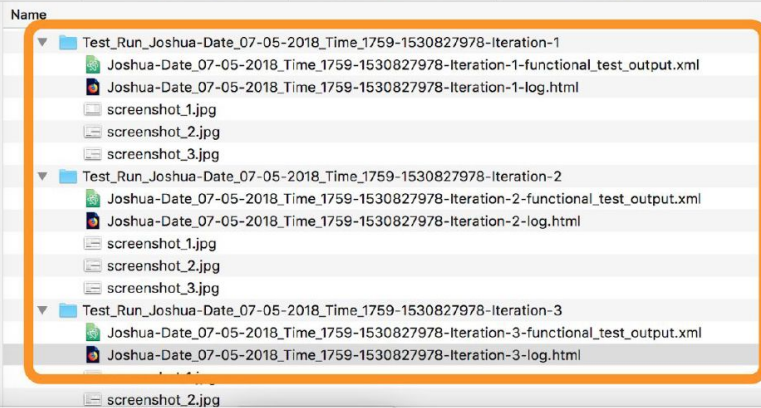
## Test Statistics

Total Statistics		Total	Pass	Fail
Critical Tests		2	1	1
All Tests		2	1	1
Statistics by Tag		Total	Pass	Fail
		1	0	1
		1	0	1
		1	0	1

Statistics by Suite



Test\_Auto... Gatling\_Workspace Lua\_Automation\_and\_P... Wheelhouse\_Function... MIM\_QA\_Results



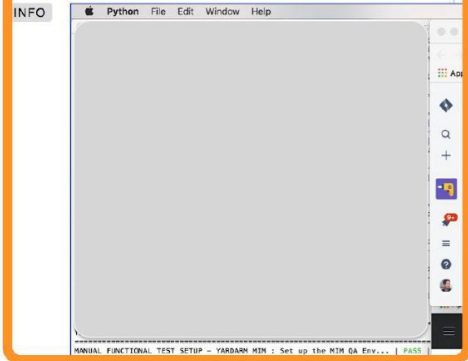
file:///Users/joshuagorospes/...

## Take Screenshot

00:00:00.154

Takes a screenshot in JPEG format and embeds it into the log file.

20180705 18:07:55.109 / 20180705 18:07:55.263 / 00:00:00.154



## ICS - Yardarm

[Overview](#)[Todo](#)[Milestones](#)[Test Runs & Results](#)[Test Cases](#)[Reports](#)

## Test Runs &amp; Results

Open

[Joshua Gorospe](#)

QA Test Plan -- Version 2.0

By Joshua G. on 7/4/2017 | [Edit](#)

0 Pending, 0 Passed, 0 Failed, 0 Blocked, 0 Untested, 0 Retest and 0 Skipped.

## Completion Pending



QA Test Plan -- Version 1.1

By Joshua G. on 10/11/2016

Completed

[Thursday, July 05, 2018](#)

Joshua -- Yardarm MIM QA Environment -- 06:08 PM Test Run For Jira Task 58, esb-build Buildkite Build 37, and esb-deploy Buildkite Build 30

Joshua -- Yardarm MIM QA Environment -- 06:06 PM Test Run For Jira Task 212, esb-build Buildkite Build 37, and esb-deploy Buildkite Build 30

Joshua -- Yardarm MIM QA Environment -- 06:05 PM Test Run For Jira Task 211, esb-build Buildkite Build 37, and esb-deploy Buildkite Build 30

Yardarm Dev Environment -- Daily Scheduled TE Test Automation Run Has Completed

Raphael -- Yardarm MIM QA Environment -- 05:46 Test Run For Jira Task 252, esb-build Buildkite Build 21, and esb-deploy Buildkite Build 28

Raphael -- Yardarm MIM QA Environment -- 04:02 Test Run For Jira Task 287, esb-build Buildkite Build 21, and esb-deploy Buildkite Build 28

Yardarm Dev Environment -- Daily Scheduled TE Test Automation Run Has Completed

Robot Framework is the core of the CXComm TestRail + Jira test reporting process. It was a part of the success of my project.

CXComm  
= Intersection's  
Connected  
Communities  
Team

The screenshot shows a Jira issue page for YAR-355. The issue is a Task with Medium priority, labeled 'Unit Features', and is part of YAR Sprint 6. The status is 'DONE / IN PROD'. The description field is empty. The right sidebar shows the assignee as Joshua Gorospe, the reporter as a redacted user, and the issue was created on 18/Jul/18 and updated on 19/Dec/18. Below the description, there is a 'TestRail: Results' section for Monday, December 17, 2018. This section contains a table of test results, with the first two rows marked 'PASSED' and the last two rows marked 'FAILED'. The 'TestRail: Cases' section shows a single case, C596802, which is the same test scenario as the failed results.

Yardwork / YAR-355

Edit Comment Assign To Do In Progress Workflow

Type: Task Status: DONE / IN PROD (View workflow)  
Priority: Medium Resolution: Done  
Labels: None  
Epic Link: Unit Features  
Sprint: YAR Sprint 6

Description

Assignee: Joshua Gorospe  
Reporter: [Redacted]  
Votes: 0 Vote for this issue  
Watchers: 2 Stop watching this issue  
Created: 18/Jul/18 1:52 PM  
Updated: 19/Dec/18 2:22 PM  
Resolved: 18/Jul/18 4:59 PM

> Zendesk Support

Agile  
Completed sprint: YAR Sprint 6 ended 31/Jul/18  
[View on Board](#)

TestRail: Cases  
C596802 Yardarm Project Test Scenario - 2018: (MIM Platform) Unit Features - Check to see if Lutron is available in the Unit  
Project: ICS - Yardarm  
Related: YAR-135

**TestRail: Results**  
Monday, December 17, 2018

	All Results	For Tests	For Cases
T1794519	Yardarm Project Test Scenario - 2018: (MIM Platform) Unit Features - Check to see if Lutron is available in the Unit	PASSED	>
T1794518	Yardarm Project Test Scenario - 2018: (MIM Platform) Unit Features - Check to see if Nest is available in the Unit	PASSED	>
T1766413	Yardarm Project Test Scenario - 2018: (MIM Platform) Unit Features - Check to see if Nest is available in the Unit	FAILED	>
T1766414	Yardarm Project Test Scenario - 2018: (MIM Platform) Unit Features - Check to see if Lutron is available in the Unit	FAILED	>

Robot Framework helped quickly bridge gaps in the CXComm test process.

It also helped developers on my team jump in, quickly get focused, learn how to think like a tester, and assist me with hunting down bugs.

If you want to see the code for a Session-based Test variation of this hybrid approach.

<https://github.com/jg8481/Robot-Framework-Lone-Tester-Strategies-RoboCon-2019>

^ This link is also posted in the robocon Slack channel.

...(off-topic I also have Robot + Graphwalker + Docker model-based test examples in there as well)



In the not-so-near future...

I personally believe that a variation of this approach + **session-based test management combined with RPA** could be even more effective.

In the near future.

I want to explore Jupyter Notebook robotkernel (great idea Asko and Nicholas!). Possibly re-do my approach utilizing that, and combine it with Graphwalker (model-based test tool) and GitRisky. I wrote a Medium article describing some ideas I have about **tests that learn from the tester, past test results, and generates Graphwalker paths for parallel running model-based tests in Docker**.

<https://ixn.intersection.com/continuous-learning-to-guide-testing-decisions-a69ee295c1fd>

^ This link is also in the robocon Slack channel.



Thank you Robot Framework community.

Meetup Organizers,  
we should meet up later  
let's take a group photo.