# Robot Framework:
# More than just automation

By Joshua Gorospe
Senior Test Engineer, Intersection

# Introduction

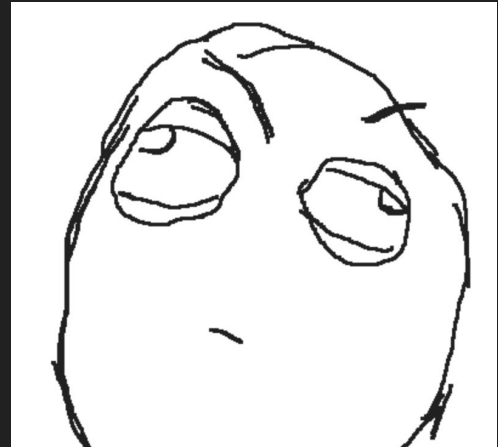**I work at Intersection, a Sidewalk Labs, Alphabet owned company.**

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...

...and...

...conversational

agents.
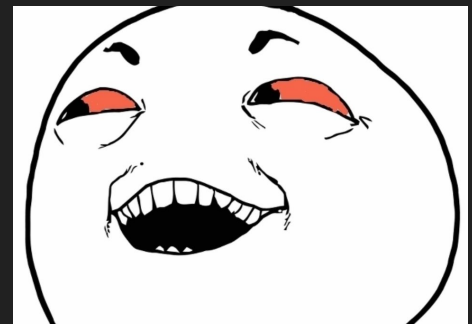
Really quick story...

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...



… 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.

Please provide a Testrail test scenario ID number for this testing session.

TESTRAIL TEST SCENARIO ID NUMBERS ONLY PLEASE.

Do not include the C (for example C12345) in the text box field, or this test will fail.

536736

OK    Cancel

---

Jimmy    Joshua

Secure  https://intersection-kb.atlassian.net/brows

Apps  (Internal) Chroming...  A list of base boxes...  Accessibility Testin...  Accessibility Testin...    » Other Bookmarks

screenshot-1.png
2 days ago    466 kB

YAR Sprint 4 ends 03/Jul/18
Completed sprint:
YAR Sprint 3 ended 19/Jun/18
View on Board

Activity

All    Comments    Work log    History    Activity    Zendesk Support

Jimmy Kang added a comment - 18/Jun/18 7:47 PM

Sample curl request for enrolling in AutoPay

curl --request PATCH \

**TestRail: Cases**

C536736    Sprint -> Enroll user in Autopay for a given bill

Project:    ICS - Yardarm

Add Test Case

---

: 051524b

Commit 05

commit 05
Merge: a6
Date:

Merge pul

Adds emai

---

creating

Please provide a Jira task ID number for this testing session.

JIRA ID NUMBERS ONLY PLEASE.

Only enter numbers into the text box field, or this test will fail.

211

OK    Cancel

---

: 04fb794 --------

Commit 04fb794 has a bug score of 0.2 / 1.0

commit 04fb79445373d3b797b7ecd1d3bed21ac15d2883
Date:    Tue May 29 13:54:20 2018 -0400

Adding imageUri to home expert

normalizers/yardi/1.0-rev-m4/conf/mim.conf                                | 5 +++--
.../yardi/1.0-rev-m4/service/PlaceEntitiesRetrievedNormalizer.scala       | 3 ++-
2 files changed, 5 insertions(+), 3 deletions(-)

---

Secure  https

Apps  (Internal) Chroming...

Yardwork  /  YAR-211

Enroll user in Autopa

Edit    Comment    As

Type:            Tas
Priority:        Hig
Labels:          None
Epic Link:       Paym
Sprint:          YAR Sp

Secure  https

Runtime Manager

---

Secure  https://anypoint.mulesoft.com/cloudhub/#/console/applications/cloudhub

Apps  (Internal) Chroming...  A list of base boxes...  Accessibility Testin...  Accessibility Testin...  Accessibility Testin...

Runtime Manager    Hud

QA    yardarm-mim-qa    Live Console    Deploy

Applications    Search    Advanced

Dashboard    Today

Insight    17:43:06.768    07/05/2018    Worker-0    ActiveMQ Session Task-17    WARN    15:13
No handler configured for eventType train-schedule-retrieved    S

Logs    17:53:11.223    07/05/2018    Worker-0    ActiveMQ Session Task-18    WARN    W
No handler configured for eventType train-schedule-retrieved

Application Data    17:53:11.223    07/05/2018    Worker-0    ActiveMQ Session Task-18    INFO    14:49
Received JMS message: {"body":{"timestamp":1530827591199,"data":[{"rowCrtDtm":"2018-07-
Queues    05T21:53:11.139742","startDtm":"2018-07-05T21:53:11.084","rowCrtBy":"\"current_user\"

---

cxcomm-normalizers Bug Prediction Machine Learning Model is creating
: 04fb794 --------

Commit 04fb794 has a bug score of 0.2 / 1.0

commit 04fb79445373d3b797b7ecd1d3bed21ac15d2883
Date:    Tue May 29 13:54:20 2018 -0400

Adding imageUri to home expert

normalizers/yardi/1.0-rev-m4/conf/mim.conf                                | 5 +++--
.../yardi/1.0-rev-m4/service/PlaceEntitiesRetrievedNormalizer.scala       | 3 ++-
2 files changed, 5 insertions(+), 3 deletions(-)

>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> End Of cxcomm-normalizers
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

This container finished running on Mon Jun 18 18:05:29 UTC 2018

The following four required fields must be filled out before continuing the te

[1] Please provide a Yardarm Test Environment (Dev, QA, or Staging) for this t
[2] Please provide a Yardarm Buildkite esb-build Pipeline Build number for thi
[3] Please provide a Yardarm Buildkite esb-deploy Pipeline Build number for th
[4] Please provide your first name: Joshua

**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 Su
    Take Screenshot
    Execute Manual Step    MANUAL FUNCTIONAL TESTRAIL TEST ${TESTRAIL} - YARDARM MIM :\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    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 Please provide the Mule request type (GET, POST etc.), a full Mule endpoint URL, Active
    dev.cloudhub.io/api/users/fb4@gmail.qqq, Event Store Streams = normalized-api-person-entity-request-processed
    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 Master Identity Management Platform Processes          | FAIL |
2 critical tests, 1 passed, 1 failed
2 tests total, 1 passed, 1 failed
================================================================
Output:  /Users/joshuagorospe/Yardarm/cxcomm-test-automation_current-work-in-progress/Human_
Controlled_Manual_Testrail_Test_Run_Loops_With_Bug_Prediction_Machine_Learning/Results/Test_
Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3/Joshua-Date_07-05-2018_Time_1759
-1530827978-Iteration-3-functional_test_output.xml
Output:  /Users/joshuagorospe/Yardarm/cxcomm-test-automation_current-work-in-progress/Human_
Controlled_Manual_Testrail_Test_Run_Loops_With_Bug_Prediction_Machine_Learning/Results/Test_
Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3/Joshua-Date_07-05-2018_Time_1759
-1530827978-Iteration-3-functional_test_output.xml
Log:     /Users/joshuagorospe/Yardarm/cxcomm-test-automation_current-work-in-progress/Human_
Controlled_Manual_Testrail_Test_Run_Loops_With_Bug_Prediction_Machine_Learning/Results/Test_
Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3/Joshua-Date_07-05-2018_Time_1759
-1530827978-Iteration-3-log.html
The Robot_Framework_Results_TestRail_Integration tools are uploading the results of this man
ual exploratory session to the following TestRail project.
--> https://intersection.testrail.com/index.php?/projects/overview/45
upload: Results/Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3/Joshua-Date
_07-05-2018_Time_1759-1530827978-Iteration-3-functional_test_output.xml to s3://yardarm-func
tional-test-results/Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3/Joshua-
Date_07-05-2018_Time_1759-1530827978-Iteration-3-functional_test_output.xml
upload: Results/Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-1/Joshua-Date
_07-05-2018_Time_1759-1530827978-Iteration-1-log.html to s3://yardarm-functional-test-result
s/Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-1/Joshua-Date_07-05-2018_Ti
me_1759-1530827978-Iteration-1-log.html
```

Human_Controlled_Manual_Testrail_Test_Run_Loops_With_Bug_Prediction_Machine_Learning...

Name

- Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-1
  - Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-1-functional_test_output.xml
  - Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-1-log.html
  - screenshot_1.jpg
  - screenshot_2.jpg
  - screenshot_3.jpg
- Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-2
  - Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-2-functional_test_output.xml
  - Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-2-log.html
  - screenshot_1.jpg
  - screenshot_2.jpg
  - screenshot_3.jpg
- Test_Run_Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3
  - Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3-functional_test_output.xml
  - Joshua-Date_07-05-2018_Time_1759-1530827978-Iteration-3-log.html
  - screenshot_2.jpg

# 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 |
|---|---|---|
| Critical Tests | 2 | 1 |
| All Tests | 2 | 1 |

| Statistics by Tag | Total | Pass |
|---|---|---|
| CID:536737 | 1 | 0 |
| Yardarm_MIM_End_To_End_Functional_Test | 1 | 0 |
| Yardarm_MIM_Manual_Functional_Test | 1 | 0 |

### Take Screenshot    00:00:00.154
Takes a screenshot in JPEG format and embeds it into the log file.

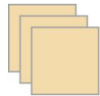20180705 18:07:55.109 / 20180705 18:07:55.263 / 00:00:00.154

# ICS - Yardarm

| Overview | Todo | Milestones | Test Runs & Results | Test Cases | Reports |

## Test Runs & Results

### Open

Joshua Gorospe

**Hudson Yards 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**

**Hudson Yards 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

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.