AMADEUS TRAFFIC REPLAY FRAMEWORK

Presented by Loic Paquette (Amadeus)
Agenda

- Presentation
- Test Selection
- Test Generation
- Test Investigation
- Lesson Learnt
Presentation - Concept

Web Server
Release N

Server Under Test
Release N
N+1
N+2
...

User Conference on Advanced Automated Testing
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Presentation – Usage

E-commerce products (WebApp)

- 3 Major Amadeus Products
- 2 Protocols supported (HTTP / SOAP)
- ~3000 Tests / mth
- ~250 Different sites&config / mth
Presentation – Tool overview

Traffic Replay Tool

- Logs Container
- Test Selection Module
- Test Generation Module
- Test Execution Module
Test Selection

Fine selection using Basket:
- Number of script
- Customer
- Page Reached

Raw Selection
Customer & Flow Repartition
- Prod Alike
- Equivalent
- None
Select the group of regular expression to be applied to validate server response

Apply template to header corresponding to the product to be validated

Select the parameter which have to be update at runtime
Test Validation

Validators:

• Parsing each server response looking for a pre-defined RegEx
• Call another tool to validate RegEx in another system (post execution)

Server Response rebuilt as html file
Test Validation

• Debug Mode

Global parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target host</td>
<td><a href="http://testplatform1">http://testplatform1</a></td>
</tr>
<tr>
<td>Show JSessionID options</td>
<td></td>
</tr>
</tbody>
</table>

Show form details
Show form parameters

Step 0

Step 1

Hide form details

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>/plantgo_nextV18.2/ELALspot/Override.action</td>
</tr>
<tr>
<td>Method</td>
<td>GET POST</td>
</tr>
</tbody>
</table>

Hide form parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARRANGE_BY</td>
<td>E</td>
</tr>
<tr>
<td>BOOKING_FLOW</td>
<td>REVENUE</td>
</tr>
<tr>
<td>B_ANY_TIME_1</td>
<td>true</td>
</tr>
<tr>
<td>B_ANY_TIME_2</td>
<td>true</td>
</tr>
<tr>
<td>B_DATE_1</td>
<td>2015102200000</td>
</tr>
<tr>
<td>B_DATE_2</td>
<td>2016102900000</td>
</tr>
<tr>
<td>B_LOCATION_1</td>
<td>TLV</td>
</tr>
</tbody>
</table>

Select your flights

Tel Aviv Yafo to Kiev
Depart: Thursday, October 22
Kiev to Tel Aviv Yafo
Return: Thursday, October 29
Passengers: 1

Tel Aviv Yafo + Kiev
October 2015

Reservation Details

Outbound Flight
Tel Aviv Yafo to Kiev
Depart: Thursday, October 22

Inbound Flight
Kiev to Tel Aviv Yafo
Return: Thursday, October 29

Passengers: 1
Total price: $187.15
(Fare for all passengers including taxes & surcharges)

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Test Validation

• Execution comparison:
  • Execute tests in 2 different environments (Reference and platform under validation)
  • Compare the result to remove False Negative result
Lesson Learnt

<table>
<thead>
<tr>
<th>Pro</th>
<th>To improve / Limitation</th>
</tr>
</thead>
</table>
| Efficient to find Regression           | Data preparation take a lot of time
|                                        | ⇔ Scenario selection still high level                                                  |
| Scalable QA campaign                   | Required synchro with Dev for specific parameters and put in place the SWAP.          |
| Quick to generate and validate         | Validation of server response only (no UI validation)                                  |
| Usable at all QA phases                | Not possible to action done on client side (ie. Js call..)                             |

- Possible Evolution:
  - Big data/Hadoop to handle communication with server logs.
  - Virtualization system to improve test stability (Avoid external system dependency).
  - Create Selenium test from server logs
  - Extend it for performance validation purpose
Q&A