Datalex

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Hexawise Case Study Overview

2016

Executive Summary

- Datalex, the market leader in digital commerce for travel leaders, used Hexawise to turn sets of existing regression test suites for manual testers into improved automated regression test suites.

- Using Hexawise greatly reduced the time required to create automated test suites.

- In addition, the resulting Hexawise-generated test sets were systematically designed to be more thorough, formatted to be used easily in automated test scripts, and specially-structured to be much easier to maintain over time.

Company Background

- Datalex is the leading digital commerce platform provider to many of the world's largest airlines.

1 BILLION
SHOPPERS

6 BILLION
SHOPPING REQUESTS
PROCESSED

500 MILLION
ACCESS TO 500M
TRAVELERS

- Regression testing suites at Datalex involve ensuring that billions of transactions per year will be processed correctly and in a timely fashion.
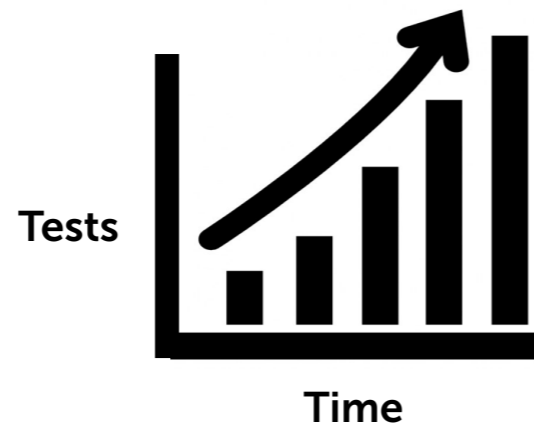
Client Challenge

- Over time, regression testing suites for manual testers had steadily grown. Stakeholder concerns about the regression test suites included:
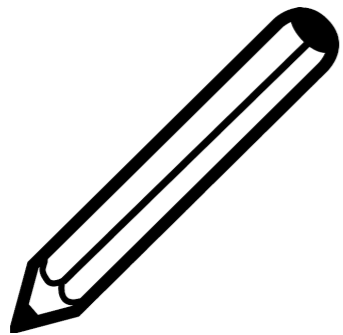
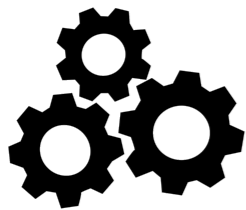| No Automated Test Scripts	Too Many Tests	Incomplete Tests	Unknown Coverage

Insight to Action

As explained more fully in the following slides, testers and BA's at Datalex used Hexawise to:

Rapidly create a regression test suite to replace their existing suites (using Hexawise's automated test selection and Hexawise's automated test documentation features)

Reduce the number of tests required (using Hexawise's test optimization algorithms that systematically eliminate wasteful repetition and systematically select test scenarios that pack more coverage into each test)

Ensure every test is formatted completely, clearly and consistently (resulting in data-driven scenarios that are much faster to automate and maintain)

Achieve a better understanding of testing coverage (and improve coverage achieved by test sets)

1. Rapid creation of regression test suites to replace existing suites

Test Inputs entered into Hexawise

Parameters for Datalex Sample Plan			
Trip Type (3)	OW	RT	MC
Travelers (3)	Adult	Adult and Child	Adult Child ...
Type (3)	Domestic	International	Domestic + I...
Cabin Class (2)	Economy	Business	
Fare Family (5)	Economy	Business	Check & Go	Light & Relax
Baggage Summary Page (3)	Yes	No	N/A
Insurance Summary Page (3)	Yes	No	N/A
Delayed Payment (2)	Yes	No	
Meals (2)	Yes	No	
Seats (3)	Yes	No	N/A
Payment Type (5)	Credit Card	Debit Card	Online Banking	Miles
Insurance Confirmation Page (3)	Yes	No	N/A
Baggage Confirmation Page (3)	Yes	No	N/A
MMB Xbag (2)	Yes	No	
MMB Payment Type (4)	Credit Card	Debit Card	Online Banking	Not Needed

Tests generated by Hexawise

25 Test Results for Datalex Sample Plan — 2-way interactions — Notes Revisions

Search Tests...

#	Trip Type	Travelers	Type	Cabin Class	Fare Family	Baggage Summary Page	Insurance Summary Page
1	OW	Adult	Domestic	Economy	Economy	Yes	Yes
2	RT	Adult and Child	International	Business	Economy	No	No
3	MC	Adult Child and Baby	Domestic + International	Business	Economy	N/A	N/A
4	OW	Adult Child and Baby	International	Economy	Business	Yes	N/A
5	RT	Adult	Domestic + International	Economy	Economy	No	Yes
6	MC	Adult and Child	Domestic	Economy	Economy	N/A	No
7	OW	Adult and Child	Domestic + International	Business	Check & Go	Yes	No
8	RT	Adult Child and Baby	Domestic	Business	Flex & Fast	No	N/A
9	MC	Adult	International	Business	Light & Relax	N/A	Yes
10	OW	Adult and Child	Domestic	Economy	Business	N/A	Yes
11	MC	Adult	Domestic	Economy	Check & Go	Yes	N/A
12	RT	Adult Child and Baby	International	Economy	Light & Relax	Yes	No

Evidence: It **took approximately 2 seconds per regression test suite** for Hexawise to identify 100% of the necessary test conditions in each optimized set of Hexawise-generated tests once testers entered test inputs inputs and constraints into Hexawise. The generated tests scenarios were all consistently and clearly formatted (and significantly easier to translate into automated test scripts as compared to the original set of manually selected tests which were occasionally ambiguous or incomplete).

2. Slashing number of tests required (by eliminating wasteful repetition)

Number of Required Tests

Without Hexawise

>65% Reduction in Tests
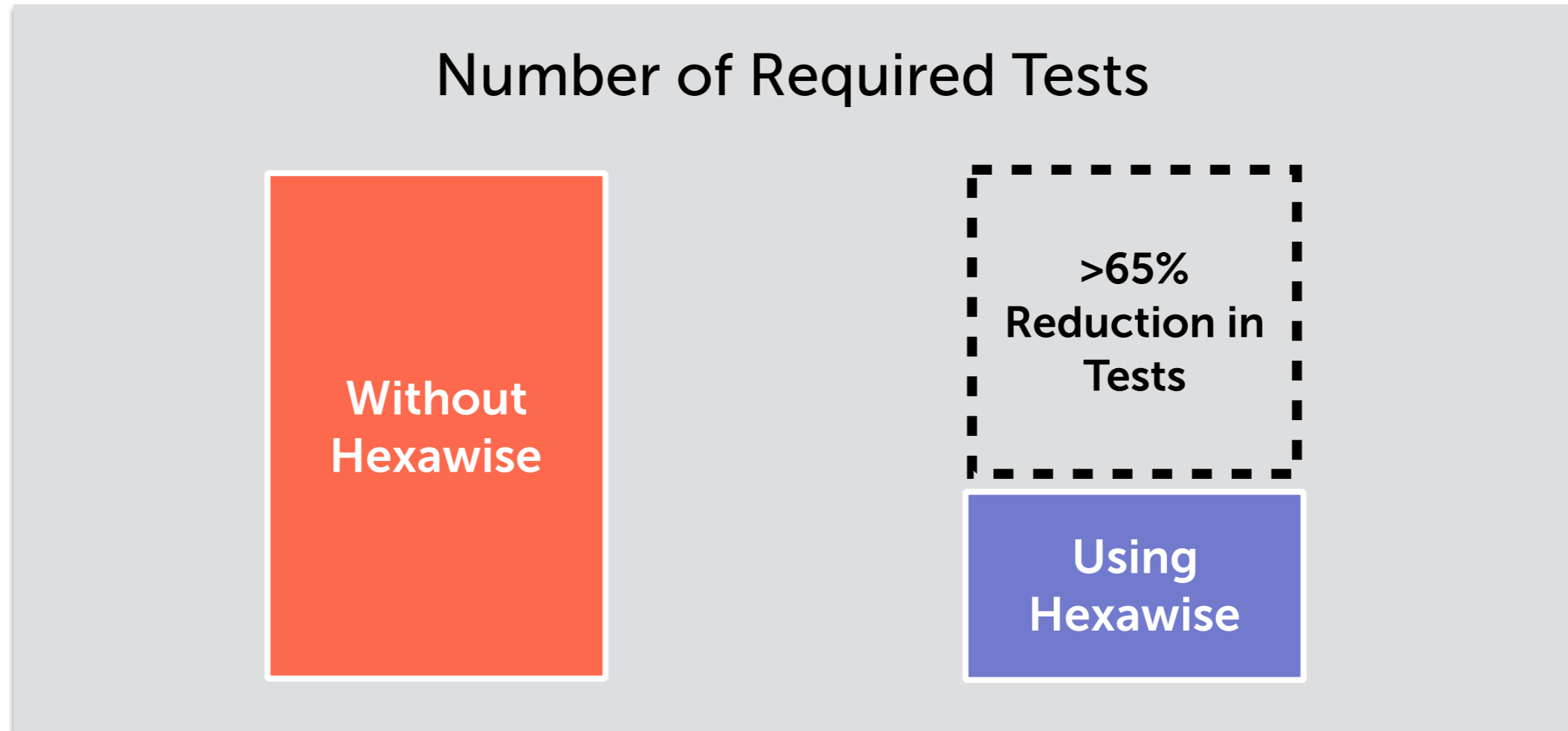
Using Hexawise

Evidence: Using Hexawise allowed Datalex to reduce their test suite by 65%, saving them considerable time and effort without decreasing their overall test coverage. How was this possible? (Hyperlink to Too Many Tests video to come)

3. All generated tests were complete, clear, and consistently formatted, making it much easier to turn them into automated test scripts.

Evidence: Testers "Auto-Script" tests in Hexawise. At the push of a button, Hexawise automatically "fills-in-the-blanks" with the appropriate test conditions... for every step in every test. Once the test designer entered rules into Hexawise, Expected Results are generated instantly for every applicable test. Hexawise creates complete, clear, consistently formatted, and reusable test assets that can easily be automated.
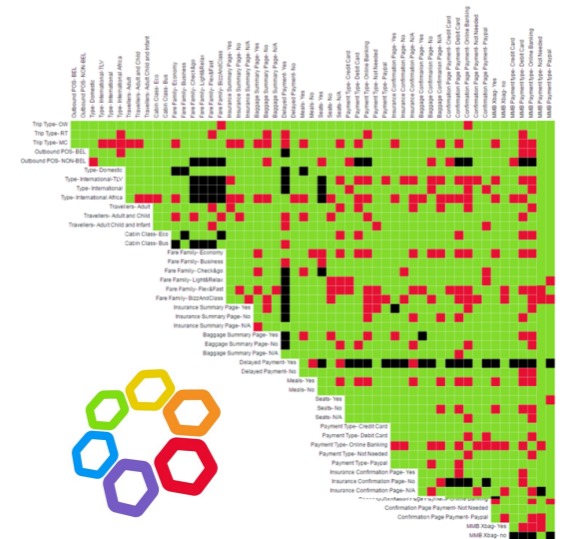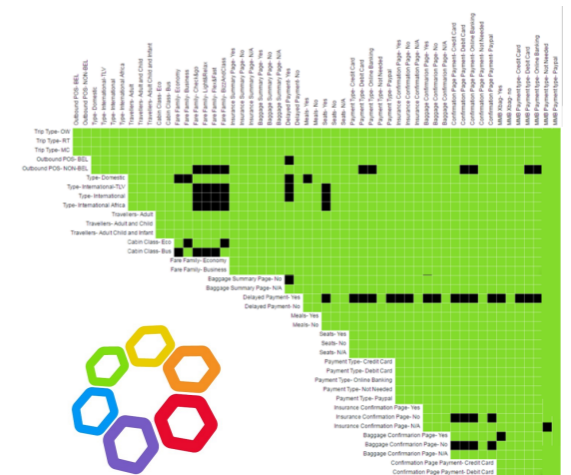
4. Achieve a better understanding of testing coverage
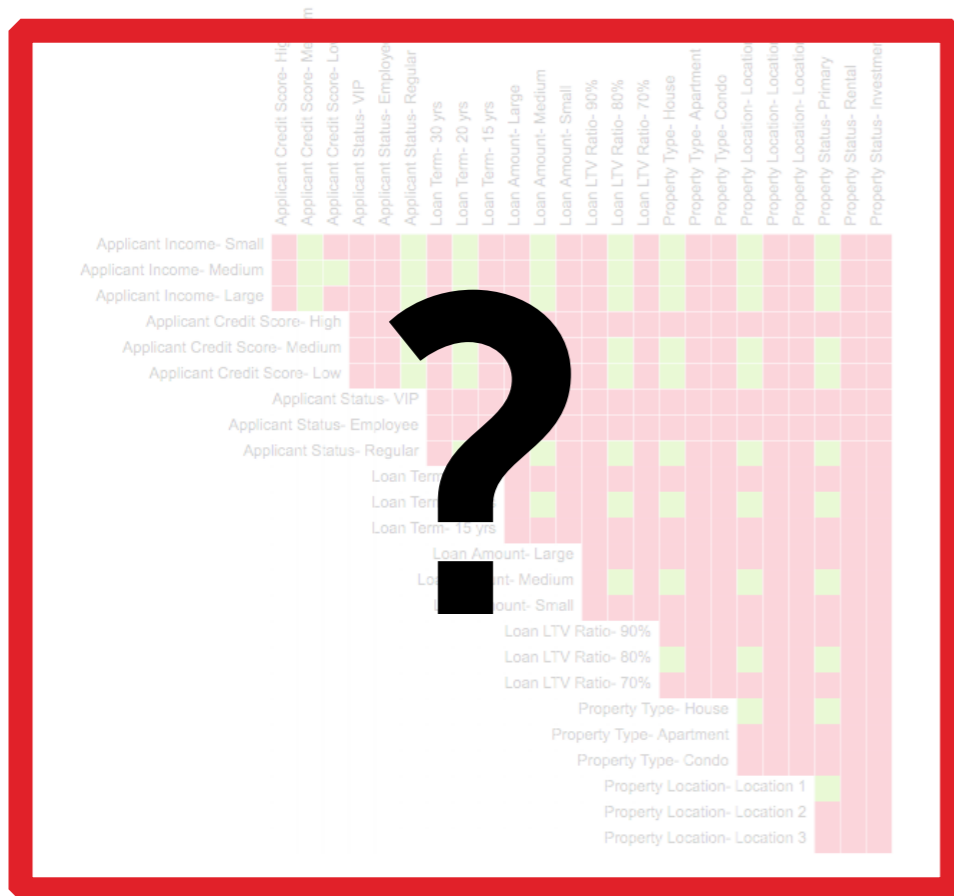
Test Coverage Achieved After 24 Tests

Test Coverage Achieved After 50 Tests

Evidence: Prior to implementing Hexawise, Datalex required a better understanding of exactly what was covered after each test they executed. Hexawise now provides Datalex with a quantitative representation of exactly what is covered after each test through the Coverage Matrix feature. Coverage analysis consistently shows that Hexawise-generated test sets achieve more thorough coverage than hand-selected tests.

Testimonials from Hexawise users at Datalex:

"Hexawise has been fundamental in improving the way we approach our Test Design, Test Coverage and Test Execution at Datalex... My team love using Hexawise given its intuitive interface and it's ability to provide a risk based approach to coverage which gives them more confidence during release sign-off."

- Áine Sherry (Global Test Manager at Datalex)

"As well as saving time creating test cases and producing test specs, the thing I like about Hexawise is its ease of use, the speed of which the test cases are generated, and the way you can track requirements to the test cases. Also a nice touch are the online tutorials on how to use Hexawise that will help you utilise Hexawise more efficiently and feel confident using it by progressing from level to level."

- Larry Dinoff (Test Lead at Datalex)

"As a senior engineer in a highly innovative company, through its intuitive GUI, I find Hexawise crucial in regards to achieving excellent coverage within a fraction of the time and effort. Hexawise will also facilitate us to scale onwards and upwards as we continue to innovate and grow."

- Dean Richardson (Software Test Engineer at Datalex)