John Lewis – A Journey to Awesome
How Difficult Became Easy with Splunk & ITSI

Paul Adams, Splunk Engineer

09/27/2017 | Washington, DC
Q: Who is John Lewis?

- UK Department Store Retailer
- 38,000 Employees
- 150 year heritage
- £4bn Annual Revenue
- 46 Retail Outlets
- 150 year heritage
John Lewis Really Is Different!

It is a Partnership Owned By Employees Making them Happy and Driven To Give Great Customer Service
Great Staff …

"Now Where Are They On This Website?"
Systems were monolithic
Upside was low
Downside was low
Change happened slowly
About humans… by humans
Not many channels / devices
Feedback was
Machine data was at human scale
If all else failed… issues were reproducible
2004
Systems Were Monolithic
Upside was Low
Downside was Low
Change Happened Slowly
About Humans… By Humans
Not Many Channels / Devices
Feedback was
Issues were Reproducible
If All Else Failed …
Machine Data was at Human Scale
2012
John Lewis
splunk> 🌐 2017
So What’s It Like Working Like This?

On a Sunny Day It Looks Like This
It Breaks Down Just When You Need It The Most

 operational personnel

 ticketing system

 best of breed monitoring

 Alert Storm

 Ticket Storm

 context blindness

 overloaded response

 duplicated effort

 impact blindness

 priority confusion

 buck passing

 overloaded response

 confusion

 duplicated effort

 context blindness

 overloaded response

 duplicated effort
Let’s Turn That Noise Into a Valuable Signal

ENLIGHTENMENT
Keep Your Microscopes
And That Includes
A View on Users

Now, What Does
That Look Like?
So How Actually Did We Get Started at John Lewis?
Where Were We Losing Customers?

<1% Loss Rate = $100k’s per week

COST OF LOSS PER CUSTOMER

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COST OF LOSS PER CUSTOMER
Actually We Had No Choice But To Use Splunk

2004 Era Tactics Didn’t Work!
- Speculative Restarts & Reconfigures a no-go
- Issue Not Reproducible
- Steps Vaguely Described

... And To Make Things Worse
- No Server-Side Error Signatures
- SaaS Component Involved

Maybe Just Ignore It?
Er, No!
Far too much at stake!
IF YOU HAVE A PROBLEM
IF NO-ONE ELSE CAN HELP
AND IF YOU CAN FIND THEM
MAYBE YOU CAN HIRE
THE SPLUNK TEAM
REPRODUCIBILITY

EXPLODING THE MYTH
There’s No Such Thing As “It’s Not Reproducible”

“I don’t know HOW to Reproduce”

But Analytics Changed The Game For Us!
Factors

A Particular Release

A Particular User Device

Running a Particular OS

With a Particular Browser Version

Using a Particular Credit Card

Entire Population

Dropout Rate During Checkout

0%

Why?

“Exotic” JavaScript On Cloud Hosted Payment Page

Intolerance of “Exotic JS”

Exotic Cloud Payment Page Comes Into Play

So 5 Ingredients Needed to Reproduce This Problem!
Things Would Never Be The Same Again!

“It’s not OK to Spend All Day Looking at Charts”

Analytics Changed The Mindset!
Stage Two: Let’s Be Bold!
So What Work Went Into This?

Characterise The Data

Sequence The Flow

Process Mining

3DSecure Request 432

CreditCard 442

3DSecure Failure 16

3DSecure Success 415

PayPal 77

CV2 Failure 15

CV2 Success 543

Order Placed 493
So What Work Went Into This?

Develop More Assets

- Develop Insight Assets
  - Develop Query
  - Create Visual Skeleton
  - Plug Results into Visual Skeleton

Productionize
- Make Performant
- Make Flexible

Develop Spin-Offs
- Different Angles
- Different Intents
- Drill Downs
- 1st Line Friendly
- Headlines
- Alerts
- Reports

The World Changes

Characterise The Data
Sequence The Flow

John Lewis
We All Want to Produce Things That Are

- Flexible
- Quick to Dev
- Maintainable
- Performant
- Skills - Light
Reality: The See-Saw of Doom!

BAD

O

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Q

M

P

S

GOOD

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Reality: The See-Saw of Doom!

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F
But With ITSI – We “Could Almost Have It All”

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IT

SI
How ITSI Did That For John Lewis

Flexible
Quick to Dev
Maintainable
Performant
Skills – Light
Checkout Board
2014: Attempt One

Skills – Light
Performant
Flexible
Maintainable

John Lewis
2014: Attempt One

Performance Burden

Results

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<th>Performance</th>
<th>Effort Burden</th>
<th>Maintenance Burden</th>
<th>Skills Burden</th>
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<td>7.3</td>
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<td>6.3</td>
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</tbody>
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Flexible
Quick to Dev
Maintainable
Performant
Skills – Light

SPL

Dashboard

django

Visual Skeleton

Drawing Package

John Lewis

splunk> .conf2017
2014: Attempt One

- Flexible
- Quick to Dev
- Maintainable
- Performant
- Skills – Light

Summary Index

Inflexibility
Effort Burden
Maintenance Burden
Skills Burden

John Lewis

splunk> .conf2017
2014: Attempt One

Dashboard

Summary
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Inflexibility

Effort Burden

Maintenance
Burden

Skills Burden

John Lewis
2016: With ITSI

KPIs, Services & Entities

Accelerated Dev
Less to Maintain
Trivial to Master

Dashboard

Flex Built In
Less Plumbing
Less to Maintain
Less Skilled

John Lewis
What Did This Mean For Our Life Cycle?

Largely Unchanged
- Characterise The Data
- Sequence The Flow
- Develop Insight Assets
- Develop Query
- Create Visual Skeleton
- Plug Results into Visual Skeleton

Develop More Assets
- Develop Spin-Offs
- Different Angles
- Different Intents
- Drill Downs

Improved
- Friendly Headlines
- Alerts
- Reports

The World Changes

More Done In Less Time With Fewer Skills And Less To "Look After"
KEEP CALM AND FIGHT BACK
Q&A