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Lynn Winterboer and Cher Fox - Test Automation - Agile Enablement for Data Warehousing and Business Intelligence Teams

Premise

Regardless of whether your data warehousing (DW)/business intelligence (BI) team is dedicated to Scrum, a fan of Kanban, or focused on XP, “Agile” in any form calls for small increments of potentially deployable results – which means that QA is essential on a regular, frequent basis. As we develop these small increments, we need to not only test the new development, but also regression test what we’ve already built. Our test suite grows larger with each iteration, and manual testing quickly becomes infeasible. Agile requires that we automate our tests so that regression testing doesn’t become a development bottleneck.

Summary

- Content rating (0-no new ideas, 5 - a new ideas/approach, 9-new ideas): 7
- Style rating (0-average presentstion, 5 - my level, 9-I learned something about presenting): 5

Main idea - since DW/BI applications are driven by SQL (not procedural languages) will need to modify thinking approach. Can (and should) still be done.

Action / Learning

- Book: “Agile Analytics: A Value-Driven Approach to Business Intelligence and Data Warehousing” by Dr. Ken Collier - Chapter 7: Test-Driven Data Warehouse Development
- Book: "More Agile Testing: Learning Journeys for the Whole Team" by Lisa Crispin and Janet Gregory - Includes several chapters on test automaion as well as one dedicated to agile tes4ng for DW/BI.

Presentation

Test Automation: Agile Enablement for Data Warehousing and Business

Video with some of the ideas Lynn Winterboer Talks Test Automation for Data Warehousing Teams at Mile High Agile 2016

My copy: Test Automation - Agile Enablement for Data Warehousing and Business Intelligence Teams

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Notes

Wait for vendor to solve problem

Create own framework based on experience As data warehouse has different requirements

Why test automation important

Qa requires regular testing

Need regression testing to create safety

Cannot do if manual and test suite becomes really big

Agile bi development is driven tests Acceptance criteria definition of done

So why aren't all teams automating tests

5 out 60 data warehousing

Data industry doesn't focus on testing They rock data modeling, moving large amounts of data Don't have same level of skill

Problem is there is no education Find a handful of resources online on the subject

Team members Don't have professional qa people

Care about data is right before anything else

Need some who knows and love data and then teach them qa skills

Skills and discipline

Existing tools are not easily adapted to the data world

Development languages Not same as what data warehouse tools

Traditional Web, Mobile, UI focus But UI in data warehouse

Problem with good test data sets Think about what you develop before you do it

Large or small volumes of data Tests systems are usually shared with the source system 1 in 6 month refresh Traditional development Junk data tests edge cases but didn't

Data sensitivity

Small data sets need extra planning and design

The path to test automation

Top 3 path to automation

Want high quality dw / bi system

Need to have the attitude and culture Test automation Learning culture Build quality in Test as a team sport

Need some skills and practices Testing books need some translation - Java vs SQL as primary language Design tests automation How make it repeatable How measure / monitor Feedback loop - bi role is to provide feedback to organization

Tools and automation Test environment - dedicated, production like Build automation Test data sets Test automation tool

Informatica in colarabo

First thing is to figure out how to do a data warehouse build. First test is “is build good”

Don't want to automate chaos

Test automation pyramid

Push many tests as possible to the lowest possible layer Pulls thinking up front Brittle tests that are affected by the UI Subjective user feedback is essential - data folks rely too much on this

Good places to start

Start doing unit tests on new development - Think about how we validate before we start code Regression tests you wish you had before building something new Deployment test - build built correctly Painful test setup or test execution is slow

What does simple test automation look like

What do we want to test 16 orders selected by BI - static test data Then do results against this in the target schema for those 16

“Leave no trace” - clean up later Data people don't like to delete data Build your tables then tear them down

Can do manually

Hard part is “what are the expected results”

Actual vs expected result - this is a test

Think about some examples Dollar total or 1, 0 (still count as order), biggest, negative order Shipped is flagged, or is it a date or … Sales rep / region - pick a rep for a region,

Happy path is average sized order shipped yesterday

Prove that the logic works Therefore should work in every other case

Perhaps pick a handful of orders that represent this

Still do large scale full production data But this is to catch the small stuff early on

Btw this is also good regression test

Start simple Do examples

Source to target Everything in source gets to target system

Edw and stage data Run a checksum - same number on both sides

2014 sales Source system report matches

Catch misunderstand Even when you both understand the data

Re-baseline the data Drop schema Reload data

Expected results can be one value or multiple values

Group tests - label indicating test type

Every time pass or fail writes to database Microsoft bi desktop to display

Note Access is data entry Actual tests are stored in database

Tool took about 80 hours to develop

~~LINKBACK~~ ~~DISCUSSION~~

DataWarehouse, DW, BusinessIntelligence, BI, Conference, Agile2016, Testing

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