**Telerik Test Automation in the Cloud**

**CHALLENGES AND OBJECTIVES**

The initial objective was to introduce test automation into the company and within the development capability based in three global locations (LA, London and Kiev). This involved carrying out a tool evaluation phase as part of the automation maturity model index (AMMi) review.

**CASE STUDY**

**Overview**

**INDUSTRY**
Real-Time Retail, Integration, & Loss Prevention

**BACKGROUND**
Sysrepublic specialise in the provision of software products and consultancy services to the retail and hospitality sectors. Sysrepublic are industry pioneers in the use of Microsoft technologies for the implementation of Real Time Retailing and Loss Prevention.

**CHALLENGE**
The introduction of Test Automation across the company using the AMMi test tool evaluation approach. Including integration with the continuous, build and deployment process used by GAP. Finally, test execution within the Azure cloud test agents in the cloud.

**WHY TELERIK**
Primarily the flexibility of the IDE to be used by both Testers (Test Studio) and the developers through Visual Studio 2013 along with native support of cross browser testing (Chrome, Firefox, internet explorer and opera).

**TECHNICAL DETAILS**
- Operating System: PaaS - Windows Server 2012 R2 (IIS 8.5)
- Database Platform: IaaS - SQL Azure and mongoDB
- Number of developers: 20+
- Development Time: 3 months
- Deployment Highlights: Team Foundation Service 2013 (ASP.net MVC4)

Assessment to provide a current automation maturity level and the target maturity level:
- Level 0 - Traditional - Framework Driven (Gen 1-5)
- Level 1 - Accelerating - Automated Test Lifecycle Methodology (ATLM)
- Level 2 - Managed - Processes are planned, performed, measured and controlled
- Level 3 - Sustaining - Automation process defined and validated against international standards (ISO-29119/25010)
- Level 4 - Quantified - Predictability of automation process performance
- Level 5 - Optimising - Automation process variation and statistical predictability

The ATLM methodology represents a structured approach, which depicts a process with which to approach and execute testing:
- Decision to Automate Testing
- Overcoming False Expectations for Automated Testing
- Immediate Reduction in Schedule
- Benefits of Automated Testing
- Test Tool Acquisition
- Automated Testing Introduction Process
- Test Planning, Design, and Development
- Execution and Management of Tests
- Test Program Review and Assessment

Each tool evaluation will involve the following test scenario workflow:
- Planning & Monitoring Test Scenarios
- Designing Test Scenarios
- Constructing Test Scenarios
- Executing Test Scenarios
- Reporting Test Scenarios
- Tracking Test Scenario Defects
- Release Test Scenario Maintenance

Tool evaluation – score card
- Platform Support – Support for multiple operating systems, tablets & mobile
- Technology Support - “multi-compiler” vs. “compiler-specific” test tools;
- Browser Support - Internet Explorer, Firefox, Google Chrome or any other browser based on web browser controls;
• Data Source Support - obtain data from text and XML files, Excel worksheets and databases like SQL Server, Oracle and MySQL;
• Multi-Language Support - localized solutions supporting Unicode;
• Test Type Support - functional, non-functional and unit (i.e. nUnit & MSTest);
• Test Approach Support – Hybrid-Keyword/Data-Driven testing;
• Results & Reporting Integration – including images, files, databases, XML documents;
• Test Asset / Object Management - map an object not only by its caption or identifier;
• Class Identification – GAP analysis of object classes (generic / custom) and associated methods capabilities based on complexity, usage, risk, feasibility and reusability;
• Test Scenario Maintenance – manual effort (XPath/regular expressions), self-maintaining (descriptive programming/fuzzy logic) or script less (DSLs);
• Continuous Build & Integration / Delivery Integration – with build & delivery solution;
• Future proofing – external encapsulation of test assets & associated meta data (XAML/xPDL), expandability (API/DLL/.NET), HTTP/WCF/COM/WSD and OCR/IR;
• License, Support & Maintenance Costs – pricing policy along with any hidden costs.

Telerik’s out-of-the-box controls were well-suited for this engagement. They had all of the desired functionality necessary for the project, which minimized the need for additional programming to achieve the desired results.

RESULTS
Acceleration of the introduction of Test Automation along with Feature-Driven Exploratory Testing. Creation of over 1,000 test scenarios executed on check-in of daily builds. Test Automation coverage of 74.3% of the Solution Under Test (SUT).

Telerik exceeded our expectations in every way. As a Microsoft gold partner the seamless integration with visual studio 2013 and ASP.net allowed us to do daily full regression testing against our flag ship product*.

-Chris Ripingale, Development Lead, SysRepublic
ABOUT Telerik
Telerik is the market-leading provider of end-to-end solutions for application development, automated software testing, agile project management, reporting, and content management across all major Microsoft development platforms. Telerik is trusted by more than 100,000 customers worldwide for its innovation and industry-best technical support.

ABOUT Telerik Partner Network
The Telerik Partner Network extends the reach of The Telerik Services Division by connecting its Partners with its Clients to fulfill consulting, training, mentoring and testing engagements. Backed by the software experts on the Services Team, its Partners are industry-leading consultants skilled in Telerik products.

ABOUT Telerik Services
Telerik Services provides skilled, knowledgeable consultants who can help you successfully implement your solution, improve your processes and increase productivity and quality. Expertise in ALM, UXD, project management, development, customization, testing and training means Telerik Services and its Partners can make an effective contribution at every point in your project.

The automation solution was so successful that we were asked to do a presentation at the 2013 European test conference EuroSTAR. Over 200 people attended this session which was well received and can be viewed via http://www.eurostarconferences.com/community/member/webinar-archive/webinar-71-test-automation-in-the-cloud

THE RESULTS
Telerik Test Studio enabled us to provide agile portfolio management for the solution lifecycle management. This enabled us to provide real-time business process reporting of the health of the Solution Under Test as part of a Continuous Integration Build & Deployment process.

The Test Automation Coverage was 74.3% of the complete Solution Under Test (SUT):

The ability to deploy runtime agent's licenses on our build agents in the cloud and communicate to the test runners over WCF allowed us to run the test automation in the cloud.

This engagement was completed in only six development sprints (three months) enabling the following benefits to be achieved:

- Completion Time: 3 months
- Number of Developers and Designers: 20+
- Reduction in Development Time: Two days per sprint
- Client Benefits: Acceleration (full regression in under 8 hours in the cloud reduced from 10 manual person days).
- Performance Improvements:
- Productivity: 6:1 developer to test ratio achieved (no additional dev. in test resources required)
- Increased Sales Revenue: Annualised opportunity of ¼ million dollars per year.

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