Testing for Mobile Device Management (MDM) solutions

The client is a leading solution provider for the enterprise mobility sector. Their business activities include IT-consulting, application development, middleware for enterprise mobility as well as backend integration. The client approached PSI for the development and testing of its Mobile Device Management (MDM) solution. The solution allows organizations to control and secure access to smart phones, tablets and Windows desktops.

Client's Technology Requirements

The Mobile Device Management (MDM) solution is being utilised in large scale industries, hence it is inevitable that client wants the technology partner with thorough understanding of their system and design an effective test strategy for the comprehensive testing of integrated system. Their main requirements include:

➤ Understanding business needs and system architecture

➤ Proactive collaboration among development and QA teams

➤ Preparation of effective test strategy and test plans, test scenarios

➤ Functional testing on real devices covering iOS, Android, Windows phones and Windows 10 desktops

➤ Automation testing using Ranorex

➤ Refactor existing automation scripts and regular reporting

Solution Approach & Methodology

➤ The working environment created is close to agile environment wherein developers work on new builds and QA team carries out verification and validation on previous build. This helps in effective time management

➤ Builds get released to QA team every fortnight for verification, hence smoke and sanity checks are done first for accepting the build. Smoke/Sanity testing are conducted by running the Ranorex scripts on the MDM Solution Web Server

➤ The team takes the lead in carrying out full system testing which includes regression testing on application modules, new feature and functionality testing, UX testing and some part devoted to localization testing

➤ Qualification activity involves testing on different platform devices and various types of browsers viz. IE, Chrome, Firefox, Safari

➤ Incidents in form of Redmine tickets are assigned to QA team to carry out the regression testing

➤ Fully fledged system testing is handled through test scenarios designed in HP Quality Center

➤ The team has suggested creation of automation framework for conducting the automation testing more effectively, wherein the scripts will be developed in robust and scalable manner

Key Highlights of the Approach

- The team worked on: UX, Usability, Smoke, Sanity, Functional and Automation Testing of the MDM solution

- Automation framework was developed using Page Object Model (POM) & Page factory concept

- The team works closely with developers for assisting in unit testing. Besides carrying out the assigned tasks, team proactively raised valid and good suggestions, especially with regards to business oriented functionalities for making the system much better and easy to use

- They suggested automating business facing tests first for live system check. Existing automation scripts were adopted and optimized in a better manner

- The team followed the dynamic approach in client interactions. They proactively asked for details when information is not clear in Redmine tickets

- The team used Redmine updates and regular status reports to communicate with the client

Key Challenges

- Coordination with development team on providing details of the requirements (what and how to test)

- Continuous build releases every fortnight, with less time left for automating new scripts

- Dependency on developers for changing the environment settings or sometimes DB settings

- Knowledge transfer between different development and testing teams across time zones

Achievements

- Automation scripts and their documentation were properly managed and organized

- POM approach adopted for automating scripts was appreciated by the client as it helps increase code reusability and improves code maintainability

- Detailed information was provided in tickets while verifying which includes – test environment data, supporting screen casts and screenshots, test procedure/steps followed for testing, etc. This reduced the effort and time consumed

- The team covered the detailed testing of the MDM solution features and client has acknowledged and appreciated the proactive approach followed by the team throughout the project

Technology Deployed

Technology Stack Used: .NET, C#

Operating System: Windows , macOS

Mobile Devices: Android, iOS, Windows Phones and Desktops

Browsers: IE10, IE11, Chrome, Firefox, Safari

Bug Management Tool: Redmine

GUI Test Automation Tool: Ranorex

Project Highlights

Client: Enterprise Mobility Solutions Provider

Location: Germany

Industry: Mobility Solutions

Project Duration: Jan 2016 - ongoing

Team Size: Three people

Delivery Model: Offshore

Engagement Model: Time & Material

About PSI:

Pratham Software Inc. (PSI) is a global IT services company (with established ISO 9001:2008 practices) providing software product development, consulting and outsourcing solutions to enterprises worldwide. While providing a wide range of solutions, we focus on Outsourced Product Development (OPD), Business Process Management (BPM), Application Development and Maintenance (AMD) and Content Engineering. Our extensive experience in OPD helps us build strong relationships with Independent Software Vendors (ISVs), as we work with them throughout the product development lifecycle. Over 12 years of experience in the BPM field with various tools such as Savvion, IBM Lombardi, SharePoint and open source tools such as Activity have helped us gain leadership position in BPM. In terms of technology and platform, we work across all major technologies such as Microsoft, Java and Open source and have capabilities and experience in developing solutions for web, mobile, Cloud and social media. For Enterprise customers, in addition to Process Automation, we also offer development and support services in BI and DWH.

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