



National testing program builds Malaysia's software skills

National software testing skills base created with HPE Software University program

Objective

To fulfil Malaysia's growing demand for skilled software testers and eliminate dependency on overseas resources

Approach

Create a national education program capable of delivering marketable foundation skills in software testing

IT Matters

- Addressed a skills shortage by offering the country's first software testing training program
- Established a first class educational resource in partnership with Technology Education Leader (TEL) and the Ministry of Higher Education
- Created a pool of 800 software testing professionals to add to the country's IT skill base

Business Matters

- Introduced an educational program that won government backing and funding
- Helped cut the high TCO incurred by Malaysian companies hiring international expertise
- Delivered a software testing professional's career pathway for Malaysian nationals



For a number of years Malaysia had to outsource critical software testing projects overseas. The HPE Software University program partnering with Universiti Teknologi Mara (UiTM) has reversed that trend and is creating a successful career path for Malaysian software testing professionals.

Challenge

Tackling the software quality challenge

Sophisticated software is the fuel that turbo charges everyday global transactions. The exponential growth in applications relies on that turbo charger.

The phenomenon is both exciting and challenging. Exciting, because of the previously unimaginable opportunities the applications have made possible. Challenging, because of the pressure it places on the ability of the software developers to realize such opportunities.

A qualified software tester, capable of evaluating a program or system to determine if it meets its specification, is a valued asset in any company. He or she has to possess the skills to dissect the product and detect whether or not it successfully achieves its criteria in quality assurance, reliability, verification and validation.

“Through the first class HPE Software Testing Program, we’re giving our students the best possible opportunity to make a career in this important profession. It has the potential to turn our students into tomorrow’s entrepreneurs not only here in Malaysia but internationally.”

— Dr Isahak Kassim, assistant dean, Universiti Teknologi Mara (UiTM)

Like many rapidly developing nations, Malaysia faced a dilemma. There was an absolute need for assessing the reliability, scope, breadth and performance of software but there was no national pool of software testing expertise. The country had to rely on software testers based in India and Singapore.

This outsourcing not only meant an inflated Total Cost of Ownership (TCO) on projects but that Malaysian nationals were missing out on a growth industry. The worldwide market for computer software and systems testing was said to be worth US \$56 billion in 2013.

The challenge of harnessing the necessary elements to create co-ordinated national software testing was daunting. The project required government support and a technology partner capable of drawing together the necessary organizational, logistical and delivery resources.

Solution

Practical and specialized mission

In response, Malaysia’s Ministry for Higher Education brought together three stakeholders; Malaysia’s largest university, Universiti Teknologi Mara (UiTM), Kuala Lumpur-based Technology Education Leader (TEL) and Hewlett Packard Enterprise. The three organizations arranged for the provision of practical and specialized skills in software testing for final year students from the Faculty of Computer and Mathematical Sciences.

Associate professor Dr Isahak Kassim, assistant dean of the UiTM faculty, handled the course organization within UiTM: “Timing of the course was important. We scheduled it to take place before the final semester. Because the program also had the goal of enhancing the employment prospects of students, we wanted the training to take place prior to job placements.”

Case study

Universiti Teknologi
Mara

Industry

Education



The licensed technology solution was taken directly from the global HPE Software University curriculum, funded by the Ministry of Education and managed by TEL. The pioneer group of 100 students entered the course, facilitated by TEL, with course materials and software testing structure provided by HPE.

Flexibility and learning curves

Dr Kassim says flexibility was required from all stakeholders in setting up the project: “Inevitably, we all faced steep learning curves. We had different processes and approaches. Although the training concept had been proven internationally through the HPE Software University program, we needed it to be adapted for local participants. Credit is due to HPE and TEL for making that a seamless operation.

“HPE staff members were very helpful in delivering the four software testing tools that would help UiTM students achieve the HPE Accredited Technical Professional (ATP) certification. This is a recognized measure of excellence, prized not only by companies in Malaysia and Asia but around the world.”

The four software testing tools that comprised the course were:

HPE Quality Center

This is a single web-based application for managing all aspects of software testing initiatives. It provides a consistent, repeatable process for gathering requirements, planning and scheduling tests, analyzing results and managing defects and issues. It supports and enables high levels of communication and collaboration between members of an IT team.

HPE Unified Functional Testing (UFT)

This supports functional and regression test automation that addresses every major software application environment. Test cases are built by capturing flows directly from the application screens. A keyword-driven interface simplifies test creation and provides an integrated scripting and debugging interface.

HPE LoadRunner

From a single point of control, a user measures end-to-end performance of an application. It allows the user to diagnose problems and tune a system for better performance. Scalability of an application is measured by performance testing and stress testing of systems.

HPE Performance Center

A resource management tool that enables a user to monitor the demand for resources in a performance testing project; to schedule performance tests through a web-based interface and to provide visibility of results across the team.

Case study

Universiti Teknologi
Mara

Industry

Education

Customer at a glance

Hardware

- HPE SU Software Testing Program

Software

- HPE Quality Center
- HPE Unified Functional Testing (UFT)
- HPE LoadRunner
- HPE Performance Center

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– Dr Isahak Kassim, assistant dean, Universiti Teknologi Mara (UiTM)

Benefits

Enriched skills to compete globally

Dr Kassim says the project reinforces UiTM's vision to upgrade the skills of all graduates: “The HPE Software Testing Program is helping produce graduates with enriched skills. It helps them compete on a global platform with good work ethics.

“The students receive assistance with job placements. TEL does a thorough job in monitoring and tracking their employment progress to ensure the sustainability of the program. Arming the undergraduate IT students with practical and specialized skills in software testing will certainly lift their employment opportunities.”

With TEL championing the cause and the Ministry of Higher Education committed to meeting the growing demand for software testing professionals in Malaysia, the HPE Software Testing Program now also embraces four other universities in Malaysia - the University of Malaya, International Islamic University Malaysia, Universiti Malaysia Pahang and Universiti Putra Malaysia.

Since its inception, over 800 IT undergraduates have been trained with 87 percent obtaining jobs related to software testing. Building on this positive achievement, the plan is to train more students and because of its proven effectiveness the partnership also plans to extend the course to other public universities in Malaysia.

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4AA5-1790ENW, February 2016, Rev. 1