

## COVER STORY



**Public consultation:** The STST 2010 forum was intended as a platform for key stakeholder to highlight pertinent issues related to development of the software testing industry. Feedback collated from the forum will be used as input in formulation of future development plans of the industry.

## Public Sector to Lead in Demand Generation for Quality Software

The public sector can play a leading role in inculcating demand for quality software products by leveraging on its status as one of the largest users of software and other ICT products. As a key stakeholder of the market, the Government's demand for quality software will compel the industry to embrace quality culture in their process and product development.

This was one of recommendations made at the Software Testing Straight Talk (STST) 2010 forum, which concluded on Tuesday. The two-day event was held under the auspices of the Malaysia Software Testing Hub (MSTH) initiative, as a platform to consult with stakeholders of Malaysia's software testing ecosystem.

Over 170 participants from the Government, academia and industry attended the forum and took part in the brainstorming/discussion sessions which aimed to gather feedbacks, comments and suggestions on initiatives to develop Malaysia's software testing industry.

Apart from creating the demand for quality, the forum also proposed that the Government look into the formulation of policies, strategies and

possible incentives to catalyse software testing industry growth.

Nevertheless, efforts by the Government alone will not be sufficient. Other stakeholders, namely the industry and academia, must also play their equally crucial roles in concert.

The industry, in particular, must take the lead towards making sure that the country has sufficient capability and the critical mass to sustain the ecosystem. The industry must earn credibility through adherence to global standards and certifications. As a differentiating factor, the industry is also urged to develop strong domain knowledge in selected vertical areas, in addition to software testing competency.

The academia, meanwhile, must be able to produce continuous supply of knowledgeable and skilled workforce in the area of software testing to support industry growth. Institutes of Higher Learning, both public and private, must also undertake more collaborative research with our local industry and with foreign universities in software testing-related fields. This will ensure

*Turn to page 3*

## NEWSBREAK

### Software Flaw in German New ID System

One day after its release, the software used to read new German ID cards is shown to be vulnerable to attack. The Federal Office for Information Security has removed links to the programme from its website.

Jan Schejbal, a German computer security researcher living in Sweden, on Tuesday described a way to hack the new electronic German ID card software. The federal office responsible for the programme stopped allowing the software to be downloaded on Wednesday.

The new cards, which became available since Nov 1 and will gradually replace current German cards, contain an RFID wireless chip which stores digital versions of the card holder's photo, name, address, date of birth, height, eye and hair colour and location of issuance.

The Interior Ministry and the Federal Office for Information Security (BSI) claimed the cards will help the government provide easy-to-use digital signatures and other government services, as well as protection against online scams and phishing attacks. Germans can also use the IDs in place of a passport when travelling within the European Union. But to be useful to individuals, the digital information on the cards needs to be accessed with a card reader. It's the AusweisApp ("ID App") software that runs the card reader which is flawed, according to Schejbal.

After downloading the first version of AusweisApp from a German government website, he noticed a major flaw when the programme checks for updates. The software does not verify the origin of a digital security (SSL) certificate, which leaves the programme open to a spoof attack that conceivably could lead to the download of malicious software.

"The electronic ID itself may have quite a high security level," said Schejbal in an e-mail to Deutsche Welle. "However, this security becomes worthless if the framework which is used to access this secure core is insecure and allows compromising overall security."

In a statement to the German tech news website Heise.de, the BSI said it was looking into the update issue. It also removed the software from its website to prevent more people from downloading the flawed programme.

## ZOOM-IN

# Q-Lab's Testing Professionals Ready for the Market

Pioneering participants of MSTB Professional Scholarship scheme are coming out of the Q-Lab after undergoing six months of trainings and certifications.

They are now re-entering the market as highly competent software test professionals, ready to amplify messages and deeds on software quality excellence.

For the duration, scholars are placed under attachment at the Q-Lab, an advanced testing facility which provides the latest testing tools, testing methodologies and infrastructures that support high-end testing works and activities. By the end of the attachment, they will 'graduate' as "Q-Workers."

A Q-worker is coined to differentiate them from any other testers as they are equipped with Certified Software Testers under the Internally-recognised International Software Testing Qualifications Board (ISTQB) Certified Professional Tester schemes (CTFL and CTAL) and Certified Professional Requirement Engineers, technology skill sets and soft skills.



**One for the album:** A group photo of the Q-Lab-trained software test professionals (back row) and members of MSTB management. The 'graduating' scholars will be re-joining the market after a six-month-stint at the Q-Lab.

## LOCAL FRONT

# Learning from the Success of Software Testing Syllabus Implementation in German Universities

Universities across Germany have incorporated software testing syllabus aligned to the International Software Testing Qualifications Board (ISTQB) scheme into its curriculum and this is working well for the software testing industry in the country.

A standardised and internationally-recognised software testing syllabus, coupled with the ISTQB professional certification, has greatly helped elevate the recognition on the roles of testers as well as on the software testing profession.

Organisations across Germany are also taking software testing more seriously now, according to Prof Dr Ina Schieferdecker, Head of the Competence Centre for Modelling & Testing for System & Service Solution at Germany's Fraunhofer Institute on Open Communication Systems (FOKUS), who played a leading role getting the programme accepted and implemented.

Under the current set-up, the German Testing Board (GTB), the governing body for ISTQB training syllabus and certification examinations, serves as the central authority on university courses related to software testing.

"While universities there are free to design their course formats, the content is monitored and must be authorised by GTB," she said in her keynote address at the Software Testing Straight Talk (STST) 2010, a national forum on software testing, held in Putrajaya recently.

She added that one main factor that had worked in favour of the initiative was that market demand for professional software testers was already strong and there were hardly any



**Prof Schieferdecker:** Sharing valuable experience from her Germany's implementation of software testing syllabus in universities.

training providers in that discipline then.

Sharing her Germany experience with delegates at STST 2010, Prof Schieferdecker said that one of the key lessons learnt in the exercise was that open set-up that gives room for universities to design their course formats works better.

"Software testing is not 'plug and play.' It is important for one must develop the capability to design suitable testing methods for each case," she said, adding that lecturers should also go for certification so that their knowledge and skills in software testing would be instantly recognised without having to explain.

## EVENT CALENDAR

# MSTB Industry Dialogues & Recruitment Drives

The MSTB will embark on a nationwide roadshow to promote awareness on software testing under its Q-Talk industry dialogue series. Together with the Q-Talk, the Board are also running the Recruitment Drives for the MSTB Professional Scholarship scheme.

Scheduled stops:

- Kuantan: November 27 - 29, 2010
- K. Terengganu: December 3 - 5, 2010
- Kuala Lumpur: December 18 - 20, 2010
- Kuching: January 21 - 23, 2011

For more information, please contact:

E-mail: [jobs@mstb.org](mailto:jobs@mstb.org) / [dialogue@mstb.org](mailto:dialogue@mstb.org)  
Tel: 03-7874 2985  
Mobile: 017-206 6079

## Certification Exams

The MSTB will be conducting several sessions of trainings and certification examinations for the ISTQB CTFL and ISTQB CTAL under the Q-Industry Development programme.

Minimum requirements:

1. Malaysian citizen
2. Relevant diploma/degree in any IT, engineering, technical or science disciplines
3. Two years working experience in the related field of studies
4. Awareness of Quality Assurance/ Software Engineering activities in any industry

For more information:

Email: [secretariat@mstb.org](mailto:secretariat@mstb.org)  
Tel: 03-8996 4768  
Fax: 03-8996 5405



## PRESIDENT'S NOTE

# National Focus on Talent Development in Budget 2011



Talent development, as well as professional training and Public-Private Partnership (PPP), are featured prominently in Budget 2011, as unveiled in the Parliament last month.

Some RM53 billion has been allocated to relevant ministries and agencies to run various initiatives under these categories. Indeed it is pleasing to note the emphasis on development of human capital under the new

budget. I am glad that the government views talents as a crucial aspect for the country's growth, and is committed to develop and retain a first-world talent base.

I certainly concur that a quality, skilled, knowledgeable, creative and innovative human capital is a prerequisite towards achieving a developed and high-income nation. One of the initiatives specifically mentioned in the budget is the programme to enhance skills of engineering graduates and technical employees in line with market requirements to enhance their competence and employability through means such as professional certification.

We can certainly relate to this as MSTB has been promoting professional certification as a means to develop local talents in software testing since its inception in 2006. This effort has been greatly accelerated with the establishment of Malaysia Software Testing Hub (MSTH) initiative in 2009. MSTH is a PPP initiative on economic development between the industry represented by the Board and the Economic Planning Unit (EPU) on behalf of the Malaysian Government. More than just developing professional talents, the MSTH initiatives also aims to create an industry that would provide a new source of growth for the economy.

## NEWS

# STST 2010 Forum a Direct Follow-up to Discussions at SOFTEC 2010

From page 1

that Malaysia will be able to generate its own Intellectual Property and methodologies in niche verticals such as Financial Services Institutions (FSI) and telecommunication industries that can be exported.

The STST 2010 was organised by the Economic Planning Unit (EPU) and the Malaysian Software Testing Board (MSTB) as a direct follow-up to the Software Testing Conference (SOFTEC) 2010, held last July. Feedback collated from the forum will be used as input to strategically plan for future development of Malaysia's software testing industry.



**Soliciting stakeholders input:** The workgroup discussion session in progress on the second day of STST 2010 forum.

Under the MSTH initiative, software testing has been identified as a new source of growth for the national economy and the industry is highly relevant in the context of New Economic Model and the 10th Malaysia Plan which outlined the push towards a becoming a high-income nation. STST 2010 was officially opened by Deputy Minister in the Prime Minister's Department YB Dato' S.K Devamany, while General Dato' Seri Panglima Mohd Azumi Mohamed, the Chairman of CyberSecurity Malaysia had the honour of closing the event. He was representing Science, Technology and Innovation Deputy Minister YB Datuk Haji Fadillah bin Haji Yusof.

## Smartphone Apps and Security Risks

Smartphones are relatively safe to use. For example, less than two percent of companies have reported a "serious incident" happening through their employees' smartphones, according to a survey conducted at the RSA Conference, an annual convention for people in the information security field. But that could soon change, security experts warn. As the smartphone market increases, so does the risk of infected apps. In fact, according to several security firms, users would be surprised at what dangers are already lurking.

Because our location, contacts and even banking information are on the phone, it carries a lot of information about each and everyone of us. As more consumers adopt smartphones and start using broadband more extensively the dangers will increase - because the audience looks more appealing to 'bad guys' and there are more opportunities to introduce malicious code.

Lookout Mobile Security pointed out how threats are being downloaded to smartphones in multiple ways. They come from app stores, marketplaces or other download sites. The new open model of apps enables any developer to distribute their app, which can provide ample opportunity for a "bad actor" to distribute malware. Threats can also come through the web browser and other mechanisms such as SMS. In studying 300,000 smartphone apps, Lookout found a number of those apps are accessing more data than users expect or want. For example, an app to change the phone's background sent the phone number to a computer server owned by a Chinese software developer. As smartphone use increases, the security risks increase as well, said a Lookout spokesperson. Consumers have more bandwidth, are downloading more apps, and consuming more data than ever before. They are shopping, engaging in payments and using social networks, all from their phones. - TechNews Daily

## AROUND THE GLOBE

### Virgin Blue Hit by Bug

Eleven days of system outage and the loss is estimated to be up to AUD20 million; not to mention thousands of irate customers. This was what happened when a computer glitch shut down check-in services for Australia Virgin Blue between September 26 and October 5. The airline's reservation, check-in and boarding systems were affected.

Ground crew were forced to run manual check-ins but it just won't do. Many flights had to be cancelled. As many as 25,000 passengers were reported to have been delayed on the first day alone.

### Bugs at Airport Too

More recently, on November 6, the border control computer system at Israel's Ben-Gurion International Airport crashed, causing disruptions to passenger movement. A backup system allowed operations to continue at the airport, but flight delays extended into the afternoon.

This was the second time in the past month that the border control computer system at Ben-Gurion malfunctioned. The system crashed in early October, causing a burden at counters and long lines.

### More Systems Crash

Ticket sales for Comic-Con 2011 came to a grinding halt when the computers handling the transactions couldn't keep up with demand. Badges for sci-fi's biggest event of the year were scheduled to go on sale on Monday (November 1), but ticket-buyers quickly overwhelmed the servers, forcing the cancellation and rescheduling of sales. Actual cause was being investigated.

Comic-Con 2011 will be held from July 21-24 at the San Diego Convention Centre.

### Costly Computer failure

A massive computer system failure at the Kansas Department of Health and Environment in last August cost roughly USD 800,000, coming from replacing the entire computer memory storage system as well as overtime for employees and the cost of shipping hard copies of records an off-site storage.

The problem came from a perfect storm of failures surrounding the computer system. A firmware installation went bad. After that, the storage area network experienced a circular referencing situation, which caused the network to become unstable. Additionally, a required shut down of all servers caused one server to crash. Those three situations combined to make the whole system go down.

## THE WORLD OF SOFTWARE TESTING

# Software Bugs Found on Android Smartphone, Says Report

An analysis of the kernel used in Google's Android smartphone software has turned up 88 high-risk security flaws that could be used to expose users' personal information, security firm Coverity said in a report published on Tuesday.

The results, published in the 2010 edition of the Coverity Scan Open Source Integrity Report, are based on an analysis of the Froyo kernel used in HTC's Droid Incredible handset. The results arrive as Android is increasing its

market share and increasingly being used in the enterprise.

While Android implementations vary from device to device, Coverity said the same flaws were likely to exist in other handsets as well. Coverity uncovered a total of 359 bugs, about one-quarter of which were classified as high-risk.

The report analysed a total of 61 million lines of open source code from 291 widely used projects, including Apache, Linux, PHP and Samba.

While Android's density of bugs per thousand lines of code was lower than the average found in open source software overall, it was higher than that of the Linux kernel, according to Coverity. The company said some of the bugs appeared to be important enough to have been addressed before the code was released.

Coverity said it will hold off releasing the details of the flaws until January to allow Google and handset vendors to issue fixes. – NetMediaEurope, November 2, 2010

## IN THE NEWS

### MSTB Hit the Road for Q-Talk, Recruitment Roadshow

The MSTB has embarked on a nationwide road show to promote awareness on Software Testing under its Q-Talk industry dialogue series as well as the Recruitment Drive – an open interview for candidates for the MSTB Professional Scholarship scheme. The road show kicked off in with Recruitment Drive in Penang early October before moving on to Kota Kinabalu (October 29 – 31) and Miri (November 6 and 7).

Next, the team visited Kuantan (October 27 -29, 2010). This will be followed by Kuala Terengganu (December 3 -5, 2010), Kuala Lumpur (December 18 – 20, 2010) and Kuching (January 21 – 23, 2011). More cities and towns are expected to be added to the list in the future.

The Q-Talk series is part of the awareness campaign under the Malaysia Software Testing Hub (MSTH) initiative. It aims at raising the level of understanding on software testing as well as its significance and relevance.

The Professional Scholarship scheme, meanwhile, is designed to develop a core, highly-skilled professional software testing specialists who will be the catalyst to propagate market demand for certified software testing professionals. The Scheme entails 6 months of attachment at the Q-Lab, an advanced testing facility which provides the latest testing tools, testing methodologies and infrastructure that supports high-end testing works and activities.

During the period, the testing specialists are trained under a real working environment and work on real projects. By the end of the attachment, they will 'graduate' as "Q-Workers". A Q-worker is coined to differentiate them from any other testers as they are equipped with Certified Software Testers under the Internally-recognised International Software Testing Qualifications Board (ISTQB) Certified Professional Tester schemes i.e. CTFL, CTAL and Certified Professional Requirement Engineers, technology skill sets and soft skills.

Candidates for the scheme are selected based on stringent criteria and are subject to rigorous and thorough screening processes. Only those who meet the marks will be offered a place.

Positions offered under the Recruitment Drive scheme are Test Manager, Test Analyst, Tester, Trainer and Consultant. Actual placement during attachment would depend on the depth of relevant experience that an individual tester has acquired.



**Raising awareness:** Mr Rex Black, principal of US-based RBCS presenting a talk on *Software Testing: Return of Investment* during the Miri Q-Talk earlier this month (November).



**Evaluating potential:** A candidate being interviewed during the Recruitment Drive held in Kota Kinabalu last month (October). The drive seeks suitable qualified individuals to join MSTB's Professional Scholarship scheme.

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Editorial Contact: bugfree@mstb.org

Malaysian Software Testing Board (MSTB) (822609-W)  
A member of International Software Testing Qualifications Board (ISTQB)  
Lot G-2, Jalan Kemari 12B,  
Bandar Puchong Jaya,  
47100 Puchong,  
Selangor Darul Ehsan  
Tel: +603-80763579 Fax: +603-80750334  
Email: secretariat@mstb.org Web: www.mstb.org