

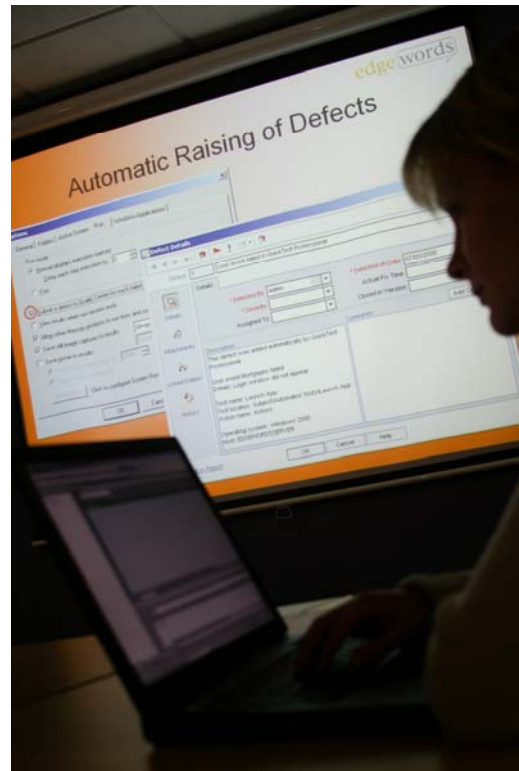
## Can you afford NOT to train?

**In the current economic climate, when many companies are feeling increased budget pressures and organisations are naturally trying to reduce their spending, Tom Millichamp, Company Director of Edgewords, warns companies not to make the expensive mistake of freezing their training requirements. The question is not whether a company can afford to train, but rather “Can your company afford NOT to train?”**

All too often businesses make the mistake of thinking that not spending, directly equates to saving money. However, a test team that is not properly trained to do its job, is at best not working to its optimum capacity, and at worst, a financial disaster waiting to happen.

Within the testing industry, the cost of inadequate training can be felt in a variety of ways. It may be that a project simply overruns, incurring additional cost in man-hours. Or, a lack of training may result in defects being missed in the software, exposing the business to the risk of software failure. This would invariably lead to escalating costs to fix these defects, either later in the development life-cycle, or worse still, post implementation.

During the past decade, testing has matured into a recognised and respected profession. Rather than drafting in developers and end users, organisations recruit dedicated testers to form independent test teams. Testers are now an integrated part of the software development life-cycle, involved from the very beginning with the writing of software requirements. If the test teams have not had suitable training, how are they expected to understand



what makes a good requirement or, if there are errors in these requirements? As these requirements are used as the foundation for developing test scripts, errors at this stage will result in errors in the tests. The cost of not detecting faulty requirements at this early stage becomes much more significant later on. For each software requirement there may be hundreds of lines of code, many tests cases, pages of user-help and other documentation; if one requirement has a defect, the impact can ripple out and affect

numerous other entities, each carrying an escalating cost to fix.

### The right skills

If testers are not equipped with the right skill set they can easily miss defects, and this will be costly to the organisation. The further along the development life-cycle a defect is detected, the more expensive it becomes to fix. Worse still, if a defect continues into the live application and the application then fails, the costs are even higher, as well as financial losses, there will be damage to the testing company's reputation, maybe legal action, possibility even death.

Companies should take warning from a case in 2006. A third party company's software was used by the London Underground, and unfortunately a failure in this software caused the closure of the Central Line during rush-hour. This caused further knock-on delays throughout the week. This company was then threatened with a fine of over £1million from London Underground. In addition to this, numerous London businesses incurred costs from employees not arriving in to work on time. Combine this with the loss of customer confidence and the cost incurred having to fix the problems in a live system and it clearly shows, what may begin as a relatively small software problem, can easily escalate into huge financial and reputational losses.

Had the testers been well trained, the defects which caused the central line closure may have been detected earlier, preventing the subsequent problems from arising. The final costs of the disaster are almost immeasurable; compare this

to the modest cost of training the testers properly in the first place!

### Certification

Thanks to schemes such as the ISEB certification, there is now an accepted formal training structure for learning the key foundation skills of testing.

### Test automation

Training in automated testing is more specifically tailored to users' requirements and training providers are fewer. Automated testing tools are not cheap: licences, maintenance agreements, external consultancy, the use of contractors and of course the training, all mean that automated testing is a major investment for any organisation. To ensure a return on this investment, these tools must be used correctly and to their maximum potential. If a test team is not properly trained in the tools they are using, they will quickly become frustrated and that expensive piece of software all too often becomes 'shelfware'.

Automated test engineers who do not fully understand the tools they use cannot develop good automated tests. Once again, defects will be missed, scripts will not be robust and will need a high amount of maintenance and re-work as time progresses, results reporting will be inaccurate, all of which will result in higher costs to the project.

Many companies adopting automated testing tools also rely on external skills from consultants and contractors to give them a 'quick start'. During times of recession, these external resources are often dramatically reduced, or removed, so it is imperative that the

permanent test team can cope with the understanding and maintenance of the automated scripts. Training an in-house test team in the tools should be seen as an essential part of the entire automation package.



### Training the managers

A recent, and very positive industry trend, is to also train the test managers and project managers in the automated tools. This makes sound business sense, as without training, how can people in these positions effectively plan for test automation? How can they assess how long the automation will take, or understand what can and should be automated, as well as what testing should not be automated?

All too often managers see automation as a black art and rely heavily on information from the external automated test 'experts' for planning. Now how accurate would that information be from external consultants and

contractors who are looking to ensure their on-going daily rates?

Some managers fear that as soon as they train their testers in test automation, these testers will leave to go contracting. This is an extremely short sighted and risky viewpoint. It must be remembered that employees see training as an essential part of their remuneration package. It is part of the company's investment in that individual, and the more that is invested, the more empowered the individual feels and will then in turn reward the employer by being more energised, more productive as a result of their increased skill set, and offer a higher degree of loyalty to them. Research shows that a 5% rise in the training rate increases gross value added per employee by 4% and employee retention rates directly increase with training.

Fully trained employees will always be much more productive for a business, lowering a company's overheads in the longer term, while also greatly enhancing its reputation. Professor Mike Campbell director of research and policy for the UK Commission for Employment and Skills, recently stated that "the failure rate among companies that never gave their staff any training was 2.5 times higher than those that did".

### The right trainers

When competition is at its fiercest, such as during a 'credit crunch', having the best and most productive employees gives a company that all important leading edge. The company which has the highest trained employees will undoubtedly be in a better position to meet the needs of its customers

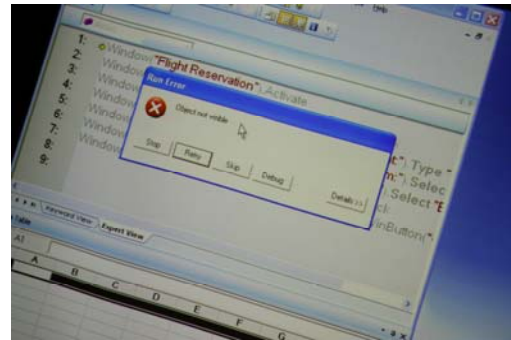
and provide the better product. This will increase reputation and, therefore, increase custom.

As we continue to operate in a negative economic climate, it is more important than ever that organisations ensure their permanent testing teams have the capability to perform all testing requirements; this is particularly important for businesses that are trying to reduce their dependency on more costly contractors.

Professional, expert training can at first appear to be an unwanted expense, but when considered against the cost of *not* training:

- cost of external skills: consultancy, contractors
- cost of missing defects early in the project
- cost of failure or project delays due to under-trained staff
- impact on customer service, both internal and external
- cost of losing staff due to lack of skill & career progression
- cost of tools being used incorrectly or becoming 'shelfware'

it is a small investment for maintaining a solid business.



To ensure that investment is well placed, and for training to be of real value, using the best, most suitable training provider is crucial. The following questions should always be asked to help achieve this:

- Are the training provider's trainers of the right quality?
- Do the trainers have working backgrounds in what is being taught so that they can provide real-world examples and answer specific industry questions that delegates may have?
- Can the training be provided on-site to reduce costs of staff expenses?

For example, at Edgewords, every trainer has over 10 years testing consultancy experience, as well as being certified in the products they train in.

**So next time you question whether you can afford to train, ask yourself, whether you can afford NOT to train!**

## About the author



Tom Millichamp is the director of Edgewords, a company that specialises in providing expert training to testing professionals. Edgewords is one of only three companies throughout the UK that is authorised to deliver HP training in its Mercury software products. Tom's testing career has spanned over a decade, he is highly regarded within the testing industry as an expert in software automation. He began his career working as a Test Manager, and then became a Test Automation Consultant when he helped establish a leading test consultancy in 1999. In 2003 Tom founded Edgewords, and has since dedicated his time to training other testing professionals.

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