



The independent software testing specialists

## **Welcome to IV&V Australia Testing Newsletter**

This e-newsletter provides a practitioner's view of how to manage and perform SOFTWARE TESTING in today's world.

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### ***Pet Hate Defects – Time and Date related defects***

Over the last couple of months you may have seen or heard of some fairly high profile defects related to time and date that have popped up in everyday software and systems. Issues and defects associated with time and date have been around since the dawn of, um, 'digital' time (excuse the pun!). It is likely that at some point as a tester you've encountered at least one defect or issue related to time/date data generation or storage in an application or system. Unfortunately, as testers we tend to focus our attention on functionality as it exists during a normal test cycle, and whilst there is nothing wrong with this approach, testers should be asking the questions of "what if?" If you have seen those sneaky 'time and date' defects, it's likely they were outside of the scope of your normal test cases/scripts right?

And no doubt as you've likely discovered, the most common cause of many defects associated with time and date often occur where two or more systems integrate with each other, or where an application/system or even a database was coded roughly or quickly for one of many reasons (project constraints, development shortcuts, etc).

So why do these bugs keep popping up? Well in the case of integrated systems, often the stored date format can result in a data conflict with other connected systems. And in the case of older applications the date may not have even been stored appropriately at all (Y2K is the most famous example in this regard).

Of the recent defects that have afflicted end users we have seen the '2016 bug' where ATMs and some mobile phones had trouble with the date 1/1/2010 instead converting the date to 1/1/2016 ([Sydney Morning Herald](#)). This issue was caused by a conflict in database storage of dates being both binary and hexadecimal and therefore losing compatibility over time. So when the clock ticked over to January 1st, some systems interpreted the year stored as 16 rather than 10. There is

further discussion about this on [Slashdot](#) for those who want a more detailed technical explanation.

Another recent date-associated defect appeared recently in the original hardware versions of Sony's PlayStation 3 ([Sydney Morning Herald](#)). In this case the problem was found to be with the internal clock interpreting 2010 as a leap year. During this time several popular games could not be played on the PlayStation 3, and access to Sony's online network was denied. This was further frustrating to end users after Sony advised not to turn the system on until a fix was found to prevent any further hardware damage. The problem was rectified ([PlayStation Blog](#)) within 24 hours but begs the question of how such an advanced system could fall into a simple date defect trap.

So some people might ask did we learn nothing from Y2K. Whilst we can't speak for developers, as testers we should always be mindful of where issues relating to time/date could present themselves. Whenever your application is under test and especially where a new year is approaching, perhaps this is the time to investigate how your systems might cope with sudden date changes. Obviously the main dates to test will always be the New Year and the leap year as these areas will be culprits for throwing a defect.

So in summary, in the first 2 months alone of this year we've seen some fairly public examples of even the most stable or technically advanced systems falling victim to issues relating to dates, and these were in everyday systems and social areas such as ATMs (Banking), mobile phones (Telecommunications) and Consoles (Entertainment).

So, rather than wait til the issue report comes in, occasionally try to set your test lab or test machine to some future date to see if your application or system still functions as expected. This should also gradually provide confidence your systems are future-proof and will remain productive regardless the date.

(Editors note: Obviously set your lab timeframes within reason, we are not advocating you go out there hunting the Y3K bug as that might be overly ambitious, even for us testers!)

And this just in; yet another date related defect, this time in Garmin [SATNAV](#) devices (The Register).

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## ***IV&V Canberra End-to-End Software Testing Course***

We'd just like to remind everyone of our first End to End Software Testing course in Canberra for 2010 – on April 13<sup>th</sup> and 14<sup>th</sup>.

Who should attend? Software testers and test managers, project managers, business analysts, developers and development managers. It is suitable for all experience levels.

What is included? All catering (arrival tea/coffee, lunch, morning/afternoon tea), course notes, handouts and lots of stories.

If you know of anyone who could benefit from an intensive 2-day software testing lifecycle course, please pass the word.

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## ***Alice's Adventures***

We'd like to introduce Alice. She works at Wonderland Software Incorporated as a tester and this is a chronicle of her adventures.

Alice works in a close-knit, time poor, dynamic team of four testers, two of whom have experience (one is Alice) and the other two were introduced into the test team as an entry level position (wet behind the ears, but keen to learn). Alice's manager is the Software Development Manager whose goal is to have the software delivered on time (white rabbit syndrome) which is her Key Performance Indicator (KPI).

Alice and her team have been assigned to the Wonderland Whizzbang Gadget project. They are excited as there hasn't been a new product for a very long time and most of their previous testing efforts have been on upgrades and bug fixes to the Wonderland Slapdash product that is the market leader to the used car sales industry. Somehow, the sales department seem to relate to the shiny glossy look of the UI and completely miss the fact that it doesn't always work well and has bugs! Go figure! Alice doesn't mind though, it keeps her in a job. She is experienced and keen, but she still has a lot to learn ....

The Wonderland Whizzbang Gadget is going up market and targeting the finance industry, as Wonderland Software Inc feels their current product line has synergies with that industry. The gadget will be used by financiers to estimate how much could be borrowed and the ability of would-be borrowers to pay back those borrowed funds. They feel that there is clearly a gap in this industry, otherwise they ask, how did the Global Financial Crisis come about?

This is the chronicle of how Alice and her team slay the defect dragons of doom, move from the lowly lackey tester tag to product quality specialists and turn the Wonderland Whizzbang Gadget into a world-beater (Ok, competitive at least)!

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## ***'Clean Up Australia' Day***

IV&V Australia is aware of the importance of contributing to community and therefore encourages staff to participate in community events.

Several IV&V Australia staff recently took part in Clean Up Australia Day. It was a perfect morning to be collecting rubbish at Chinamans Beach and also at Como in the Sutherland Shire. It was a rewarding experience with surprisingly not too much rubbish. Common items collected included cigarette butts, plastic, general paper and surprisingly several complete cartons of alcohol!

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## ***Thought of the day***

"Ever Tried. Ever failed. No matter.  
Try again. Fail again. Fail better."

(Samuel Beckett, Writer)

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## **FEEDBACK**

Have you found this issue useful? We want to hear your comments and suggestions. Email us at [info@ivvaust.com.au](mailto:info@ivvaust.com.au).

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