



# Digital Asset Management System

## Quality Assurance Testing – A Case Study

### Executive Summary

With the overwhelming response they got in the initial week of agreement, the Client Firm defied the hesitant approach of trying the External QA Services. They started with a small monthly assignment just to see how it could help them - the encouraging results from our expert QA team made them feel safe and they extended the business relation. Thus the supposed monthly trial ended up in a relationship of over 24 months! A dedicated team of 5 test engineers with a QA Lead were involved in the Project, working simultaneously with the Client Side development team. The service from our high potential enterprising team, the zestful thought “Constructive Ways to destruct an Application” and a combination of various testing techniques including Manual and Automated services helped us to make the product very stable with logging about 2500 bugs for 2 products. The tests were carried on Cross Platform (WIN XP, 2000 server, Vista, Mac OS X etc), Cross Browser (IE 6, 7, FF 2x, 3x, safari etc), including the Web and Desktop environment.



### About our Client

**Client** A Photography Services Firm | **Location** Norway | **Industry** Digital Asset management Industry

### Business Situation

A product with a lot of business potential but without any planned QA cycle made the client worried with hundreds of calls from unsatisfied customers every day. This made them realize that their baby needed to be doctored. That is when they planned to outsource the project for testing. And as opportunity knocks the doors at right times, they were contacted by Mindfire at the same time, which turned out to be a success mantra for one of the finest product we have seen down the line.

Being a company which deals with Digital Asset Management Systems, they have developed 2 products, “TStation”, “TWeb”.



**Tstation**, A desktop application, which was designed for people who work professionally with digital assets. The functionalities it includes:

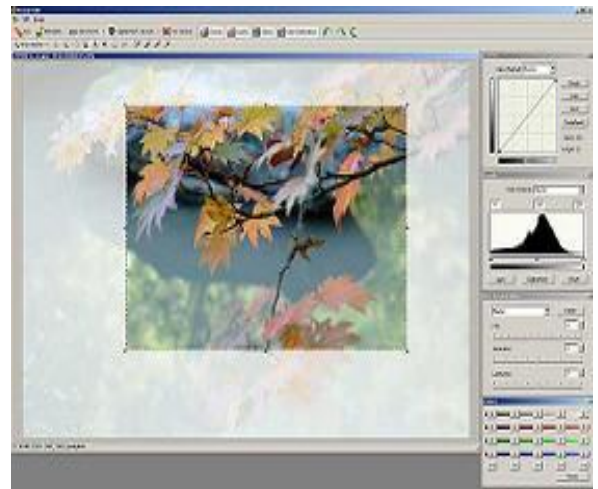
- Advanced Metadata technology for annotating, searching, cataloging and retrieving multimedia files locally or over network in seconds.
- Visual Search while managing your archives with Data Mining
- Allows you to arrange the files the way that suits you best, create archives, and 70 different ways to sort the contents of an Archive!



- Comes with several metadata editors for automatic captioning of files, XMP-Compliant and with options to further customize them.
- Inbuilt Image Editor, with automatic balancing the level, reducing noise, and allows directly opening the image files in Photoshop from Tstation.
- Crop and Drop for cropping an image and dropping images for preparing power point presentations directly.
- A well built configuration window, for selecting/ creating the appearance of skins, and for other options.
- You can automate repetitive tasks, such as file upload to a web server or tagging of a file.
- A very user friendly interface that is available in 10 different languages.
- And a lot other minor functionalities.

**Tweb:** All the existing features of Tstation and some new exciting features make Tweb a comprehensive product. It helps in online collaboration of digital files.

- Browser based architecture of Tstation across Windows/ MAC/ Linux systems
- Compatible with index manager for search capabilities.
- Online text editor for captioning files.
- Online collaboration of files and images through simple e-mails.
- Supports encrypted connections with HTTPS.
- Supports Active Directory and Novell's e-directory synchronization
- Online Image Editor Supports Image Cropping,
- It has almost every option that a normal desktop based image editor has.
- Integrated Shopping Cart.
- Supports e-commerce totally.
- Easily methods of obtaining image through direct download, FTP, E-mail Transfer.
- Secured over HTTPs connection.



We started both Tstation and Tweb with versions 5.0 & V 2.8 respectively, the requirement of client to make their product bullet proof and our vision of making our client success.

### *Solution Details*

#### **The Mindfire Solution**

Since the Products were not QA'ed, and the numerous complaints from the customers on daily basis had increased their maintenance cost to up much higher than they anticipated, and it raised a question on the reputation of such a big firm.



The collective efforts from our dedicated virtual team and the client team planned the process and we agreed upon to set high standards to maintain and to eliminate all critical, major, minor issues.

Our Mindfire Team designed the workflow.

- We gathered requirements, had several walkthroughs and web sharing sessions for understanding the applications.
- Designed the Test Strategy, and prepared the Test Plans,
- Prepared the Test Cases and reviewed by developers from client side
- Set up the Test Bed, that includes Windows Server 2000, XP, Vista, with Mac OS X, and browsers involved IE, FF, Safari.
- Starting with smoke testing for individual builds, we maintained doing Installation testing followed by Functional, UI, Database, Regression and Compatibility testing.
- As Files such as JPG, TIFF, EPS, PDF, Illustrator, MP3, Word and Powerpoint documents were supported by the products, hence we covered testing with all variety of files.



The Main USP of the application is Data Mining and Meta Data feature, which makes the standard of the application so high, with XMP compliant and can directly read captions from digital files which were opened in Photoshop as well.

Also special attention has been given for the critical/ special features like the indexing service, file upload directly from the application interface to HTTP, FTP, Sending some files to colleagues via email / SMTP Server on the fly, editing Images for different noise levels and different Color Bands, Cropping and Dropping images directly to PowerPoint Presentation files, Preparing Movies with selected files with customized layouts, creating different Print Templates/ catalogues, Multi Language feature and a lot more.

Mindfire team had also caught some performance loopholes; when Tweb is kept open for prolonged hours (e.g continuous 2 days) it was behaving very strange and making the features dead. Our QA team dug into it using JMeter, Process Explorer and nailed down the DLL which was causing the bottleneck.

As Client team preferred us to use their Defect Management System (TestTrack) so we used that for our Bug Life Cycle through out the project. Logged all the bugs obtained starting from priority 1 to 5 and severity 1 to 5, which in turn were attended by the Project Manager of Client side with assigning all the defects to respective Development team. The fixed bugs were verified in the new builds, the regression cycle was repeated for all the builds and a Test Matrix was maintained for the Bug Count Flow.

Mindfire team provided deliverables in terms of Bugs, Matrix Summaries, Defect Seeding Graphs and regular feedback on the product in terms of quality and stability.



## Achievements

Well we achieved Client's Confidence, a bullet proof Product and some Yummy Norwegian Candies and Gifts for our tremendous effort☺.

That's not all; we started working with a single resource and for a monthly trial and ended up with a team of 5 and a long 2 year contract. We got a chance to work on such a unique product with having so many unique features, which groomed our team and this added so much knowledge to our profile on this domain. The experts become more expert.

We learned the Mac and windows linking which will use the same share for digital files, indexing in windows servers which will be used in MAC, the Adobe's XMP and Fotoware Meta Data compatibility, worked with RSA Secure Keys.

We gained knowledge in working with different image formats, resolutions, RGB Scales and different color levels.

## Technologies

Connected with RSA Secure keys, used Hardware Dongles for license certificate files for the products, and worked over a shared environment with our test lab.

The Applications were developed using C# , C++ , .Net , Java. The Configuration files contained the setting details of the applications, so customizing Layouts, setting up the appearance, search filters, print catalogues and a lot other features were manipulated by editing the configuration files.

The Application data such as Meta Data, files/ folder details, their sharing permissions, locations etc were stored in XML files which can be manipulated.

## Final Results

### Software System

We started our testing cycle for Tstation with Version 5.0 and Tweb with version 2.8. After spending 2 long years for each product simultaneously, logging over more than 2500 bugs, resulted in a beautiful and stable product with the final release versions as 6.0. (for both)



Involved in 4/5 major releases, 3/ 4 SDLC Cycles for different phases, and followed a scratch to end testing cycle for a lot new modules which integrated with these products later.

Not only we worked with Tstation, Tweb and Index manager but also assisted overall integration and linking of individual products as well.

### Suits Integration

## Customer Benefits

They couldn't have asked for more, the several appreciation emails/ letters from Client team on regular intervals for our Mindfire's team showed how Client firm got immensely benefited and were able to reduce the maintenance cost.



Since then, they have distributed this Digital Asset Management Solutions through out the world with several millions of license sold! And they expanded their base from Europe to US, Asia Pacific. A success for our Clients is a success for us, that's what we believe at Mindfire and work off site, in sight.

### *Future Relationship*

After spending 2 years for each individual product the Testing service was terminated as the product was successfully released to market and the babies were in safe hands. Of course we will work together when any new target the client firm will have.