

## Technology:

SQL Server, ASP.NET,  
Silverlight, WPF (XBAP),  
Click-Once Deployment,  
Atalasoft Imaging Libraries,  
OCR text recognition,  
Dynamic PDF Generation,  
Dynamic Excel spreadsheet  
generation

## Project size:

Continuous development  
since January 2005

## Team size:

2 developers, 1 manager

# IPI Solutions

## Automatic Generation of Complex Forms

### The Client

UK start-up company, IPI Solutions Ltd, was looking to partner with a software development company to develop a suite of products to sell into the aerospace, automotive and medical instrument sectors.

The proposed software would automatically generate the complex compliance documentation - called 'FAIR', 'PPAP' and 'ISIR' - required by the Aerospace, Automotive and Medical Sectors. A key challenge was to develop the products from scratch, without a clearly defined specification.

After extensive consultations with a number of software companies, Blueberry was chosen as IPI's development partner to firstly develop the software, and secondly to take the company from initial start-up through to an established business.

### The Challenge

Because of its safety-critical nature, the aerospace industry has tightly controlled procedures for ensuring the quality of components supplied to aerospace companies by their supply chains. The principle way this is done is via a material quality assurance document, or a process approval document. However, these documents can take a great deal of time to

prepare because of their critical importance in ensuring the conformity of parts.

IPI Solutions provides 6-sigma consultancy services to the aerospace and automotive industry sectors - a management strategy which aims to improve the manufacturing processes and eliminate defects. As part of this strategy, the company wanted to develop a suite of software products to help reduce the considerable man-power and time required to produce critical compliance documentation.

In essence, the proposed software would allow users to collect together a number of documents - such as scanned drawings, compliance certificates etc - and generate collated reports in the particular formats required by the client companies. In addition, the software was required to provide a sophisticated "mark-up" editor that would allow engineering drawings to be marked-up and the details gathered (via OCR technology) for inclusion in the output reports.

### What Blueberry Did

Blueberry began by conducting a series of consultations with IPI Solutions and industry experts to establish the core requirements of the software. Analysis of the potential markets indicated that the product should be an installed



*"The beauty of VisualFAIR is that it supports the whole process, from balloon diagrams, through form completion to final report production."*

**Brian Harvey, CEO.  
IPI Solutions Ltd.**

client .NET program, which could stand-alone without the need for the customer to install server software.

Blueberry then created a number of prototypes for use in gathering accurate feedback from end-users in order to refine the design.

Once this step was completed, Blueberry developed VisualFAIR – a stand-alone installable Windows program for FAI Report generation. The lightweight nature of the product enabled its rapid adoption throughout a large number of companies in the aerospace sector.

Development is continuing by expanding the support for PPAP and ISIR generation for the automotive and medical instrument sectors. Increasing amounts of functionality are being delivered by server-based applications utilising Silverlight and XBAP technologies, as these would give an ideal platform to gradually migrate delivery of VisualFAIR's functionality from a single 'fat' client to a number of smaller browser-based modules.

These deployment technologies are particularly useful in the environments where VisualFAIR is used, as computers are often heavily locked down, making client program installation difficult. Using browser-based deployment solved the problem of distributing software upgrades.

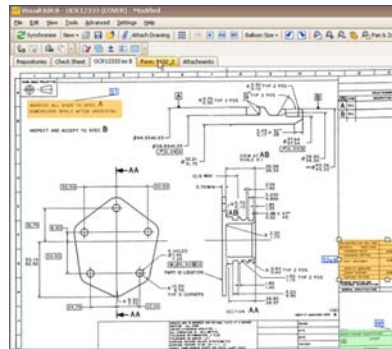
## The Results

Over the four years since the project began, IPI's customer base has grown steadily to over 600 installations for more than 100 companies.

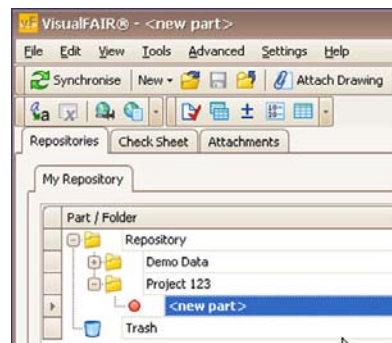
VisualFAIR is increasingly being seen by customers as the preferred solution to generating compliance documentation due to its combination of ease-of-use and powerful functionality - despite significant competition in

the marketplace. Although VisualFAIR started life as a stand-alone installed client it was always envisaged that it would grow into a full-scale client-server collaborative tool. Furthermore, extensive use of Silverlight and XBAP technologies has enabled the development of a set of fully integrated work-flow and collaboration tools.

As a result of the success of the project, there are plans to expand the current server-based work-flow systems to facilitate the use of the software within supply chains, so increasing the growth of IPI's customer base further.



*VisualFAIR is fully compatible with AS/EN/SJAC 9102 forms and supports OEM specific forms, custom forms and internal forms. VisualFAIR includes customisable OEM specific materials/process/functional test databases for automatic form 2 completion.*



*VisualFAIR allows the critical features of scanned engineering drawings to be visually marked-up and copied into its database using OCR.*

*"The VisualFAIR project has been a fascinating journey. Blueberry has taken an idea in someone's head to a small-scale commercial reality, and onward to a full scale client-server system with hundreds of corporate customers, including some major players in the world of component manufacture.*

*"Blueberry's extensive skills and experience have been crucial to the success of my company."*

**Brian Harvey, CEO.  
IPI Solutions Ltd.**



**Blueberry Consultants Ltd**  
Unit T1, The Arch  
48-52 Floodgate Street  
Birmingham B5 5SL  
United Kingdom

Web: [www.bbconsult.co.uk](http://www.bbconsult.co.uk)  
Tel: +44 (0)121 285 0100  
Fax: +44 (0)121 772 3103