

ArtSoft
— consult —

The Art of Software Development

Complete software
solution for the printing
and proofing industry

Key Information



Industry:

Printing and proofing



Project duration:

2,5 years (between 2007 and 2009)



Team Size:

8 specialists (4 server-side, 4 client-side)



Technologies:

- C++, Objective C
- .NET 2003/2005, XCode
- wxDesigner, wxWidgets, Win32, Carbon
- Windows, MacOS, Linux



Services:

- Analysis
- Architecture and software design
- Implementation
- Testing

Highlights

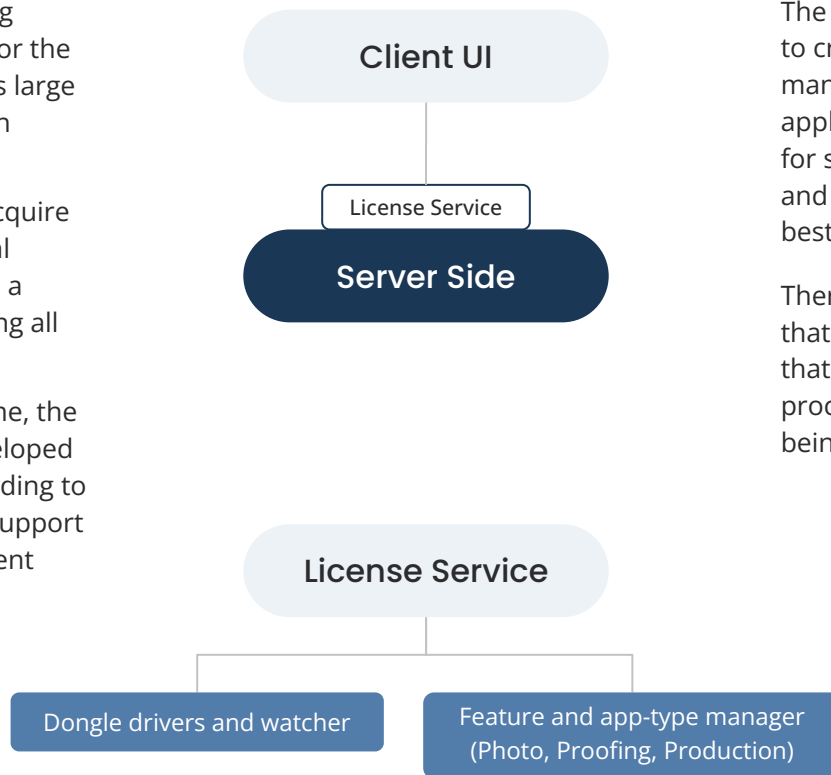
- Company from USA with subsidiary in Germany, specialized in digital printing technology
- Near-shore collaboration with the German subsidiary
- Project has been taken over from another outsourcing company and rebuilt from scratch
- Development in C++, under Windows and Mac OS X
- Application runs also under Linux
- Automated testing implemented in-house (testing with all printer drivers, all profiles, file formats)
- Integrated solution: both on server and client side

Product Overview

The client is specialized in providing hardware and software solutions for the printing industry. It commercializes large size printers, specialised to print on different types of materials.

The clients of our customer may acquire several, different types of industrial printers, and they preferred to use a centralized application for managing all of these printers.

To obtain the best possible outcome, the users used the software tools developed by us to optimize the images according to the type of the printer and of the support material (paper, natural and different types of synthetic fabrics, etc.)



Requirements

The requirement of the client was to create a complete solution for managing printers (server side application that processes printing jobs for several printers of different type) and for enhancing images to obtain the best outcome on the machines sold.

There should be one software solution that manages all types of printers and that contains all the features for image processing, the access to the features being granted using a License Service.

Challenges

The solution had to run on a **variety of printers**. The server-side application had to have a robust architecture to allow extensions for future printer types.

Printing jobs had to run in parallel to achieve optimal printing times.

Unlocking the software features for new printer types had to be done easily through a license service manager that also had to verify the existence of a hardware key.

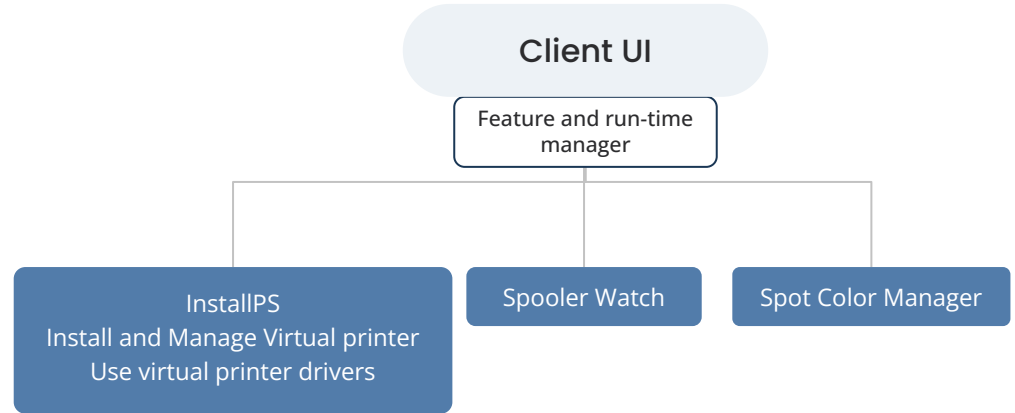
Many low level optimizations were done by the development team in order to obtain **real-time job processing**.

To achieve best performance, the team **developed many modules at low level**:

- virtual driver for Windows and Mac OS
- GUI components using wxWidgets
- handlers for various image formats
- OpenGL components for animations
- auto-updater
- implementation Windows services and Mac daemons
- com interfaces
- multi-threaded processing
- data buffering for handling large files, etc.

Provided Solution

- eXpress Photo features:
 - Produce brilliant images
 - Setup printers guided by a step-by-step Printer Configuration Wizard
 - Perform intuitive color adjustments
 - Automate common tasks like printing contact sheets
 - Portrait sets with the new powerful collection functions
- eXpress Proofing features:
 - Accurate spot color simulations
 - Multi-Color profile support, up to 7 channels
 - A modern and easy to use user interface
- eXpress Production:
 - Fully featured version
- On client side the features are configurable using the Feature and run-type manager that communicates with the License manager that is located on the server side.



The client side of the application can act as a virtual printer for all the applications located on the computer or applications located in the network, accepting printing jobs.

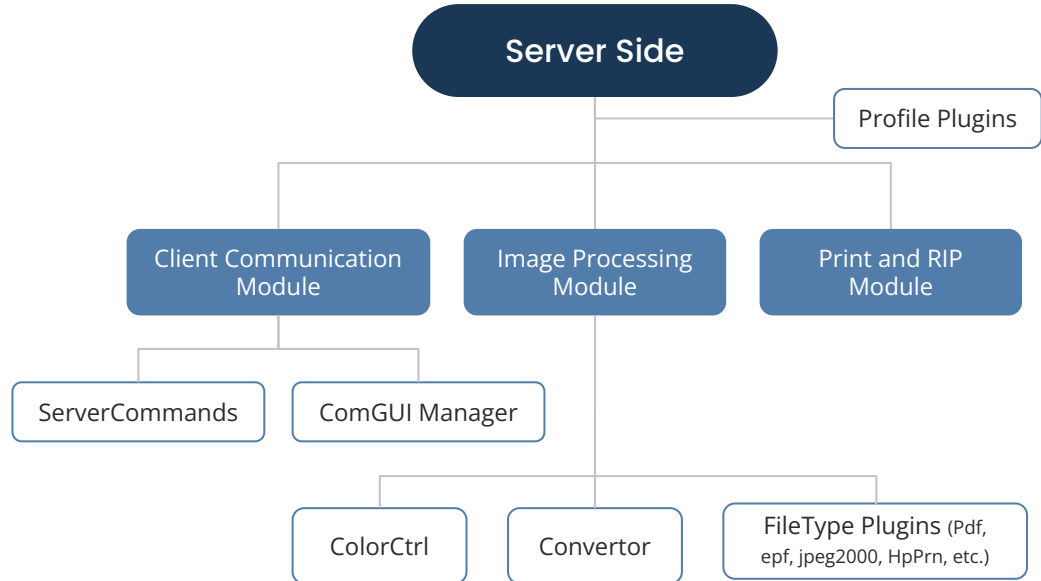
Spooler watch verifies the jobs sent to the virtual printer and passes them to the client UI where they can be previewed. Spot Color Manager helps managing the spot color areas defined in PDF documents.

Provided Solution

Server side is responsible for most of the operations that can be performed on the media files although the operations are set up by the user on the client side.

Client Communication Module is highly optimized and allows the usage of different connectors. The Image Processing Module is the one that performs the operations on the image files: color manipulation is performed by the ColorCTRL module, files can be converted in different formats using the Convertor module. The file types for conversion can be defined using plug-ins.

Profile plugins is a powerful module that allows the definition of different profiles. A profile is a combination of printer, color profile and material (that can have different qualities). The Print and RIP module is the module that prepares the bitmaps (Raster Image Processing) and performs printing.

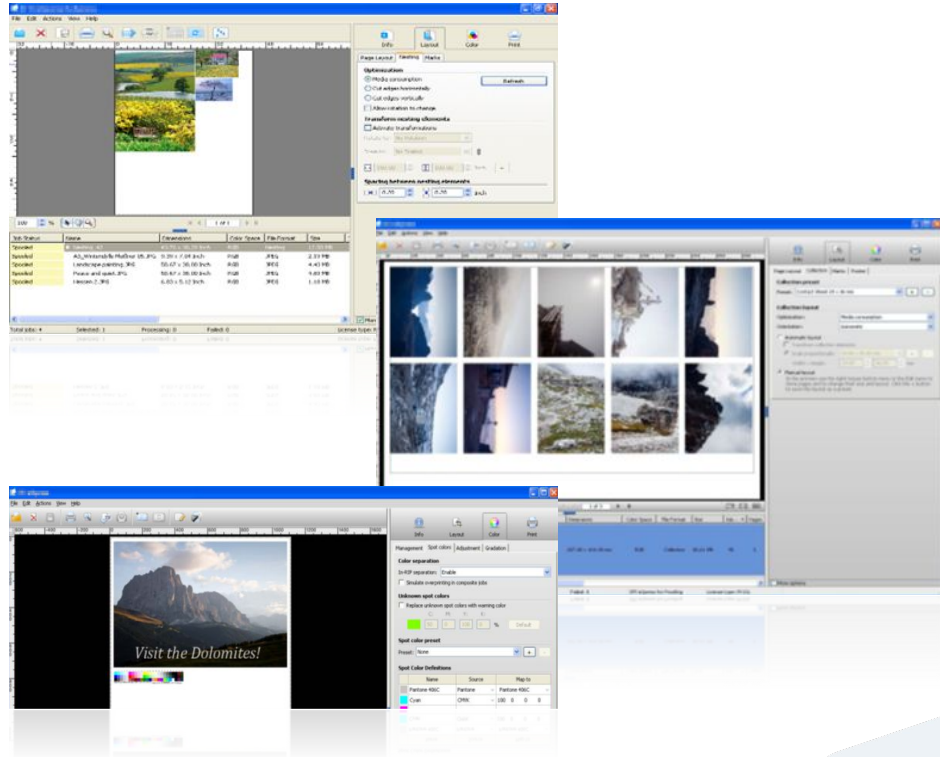


“ Client Words

“Since 2 years we have a successful collaboration with Artsoft Consult. During this period of time we were pleased to co-work with a team that has always proved to be extremely reliable and motivated and has often exceeded our expectations with its professionalism, responsiveness and programming skills.

With Artsoft Consult as a partner, all our ideas, regardless of their complexity, eventually turned into reality. Because of the very good experience we gathered during our cooperation, we highly recommend Artsoft Consult to any company seeking for a partner in software development.”

- Engineering Manager (2008)



Let's get in touch

ArtSoft Consult is a trusted partner in the IT industry, providing tailored solutions to address your unique business challenges.

With our proven expertise our team delivers innovative solutions and development services.

Drawing from years of experience and industry insights, we deeply understand this industry and we look forward to working with your business.

For more details on our services and team, please [contact us](#).



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