📄 **CASE STUDY**

ALTEN CALSOFT LABS
AN ALTEN GROUP COMPANY

PRINTER DRIVER FOR
MICROSOFT WINDOWS PLATFORM

THE CLIENT

The customer is a leading printer vendor selling various label printers, ID card printers and printer supplies worldwide.

BUSINESS NEED

The customer envisaged to develop the printer driver for their various lines of ID card printers for Microsoft Windows platform. Some of the challenges were:

◉ To print rapidly with very good color reproduction and black color separation

◉ To support mag encoding, smart card encoding and bar-code printing

◉ To handle errors and multiple print jobs

◉ To enable macro support, EPCL command support, printer specific language support and secured printing support

TECHNOLOGY USED

◉ Development: Microsoft Visual Studio 2013 IDE, C, C++, C#, WPF

◉ Framework: Microsoft Dot Net Framework 4.5

◉ Platform: Version 3 driver (MS Windows XP, MS Windows Server 2003 R2, MS Windows Vista), Version 4 driver (MS Windows 7, 8, 8.1, 10)

BUSINESS BENEFITS

◉ Allows customers to purchase printer to print ID cards on Microsoft Windows platform

◉ Permits to print from both x86 and x64 systems

◉ Allows to project the various features supported by the printer through printer driver property page

SOLUTION DELIVERED

We developed User mode Version 3 and Version 4 printer driver for the old ID card printer models. Individual modules were built to support various features like smart card encoding, bar-code rendering and Ethernet communication. The custom port monitor was used to add EPCL and ELTRON printer commands and Printer specific language and the bi-directional communication support. Reduced printing speed was ensured by queuing the maximum print jobs through constant monitoring of the printer's printing status, pending job count and available memory.

◉ Enabled support for macro based mag encoding by parsing text data and extracting mag data

◉ Established capabilities to deliver the best color on printing and to segregate the black from the image for printing it separately through special image processing algorithm implementation

◉ Ensured secure printing through AES based encryption

◉ Appended features to pop up the window based error message from the driver's system context to user context to handle errors and multiple print job scenarios

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