

# Projects - Kai Jaeger

## Ongoing:

### From 2010: Dyalog (APL vendor, UK)

- Implementing Cider, a Project Manager for Dyalog APL
- Implementing Tatin, a Package Manager for Dyalog APL
- Tests and bug reports for the Windows version of Dyalog
- Implementing a configurable HTTP server (Plodder)
- Markdown Converter

### From 2009: contributing to Open Source projects

- APLTree: a set of classes for Dyalog APL. For details see <https://github.com/aplteam/apltree/wiki/Members>
- APL-Cation: a set of applications implemented in Dyalog APL. For details see <https://github.com/aplteam/apl-cation/wiki/Members>

## Previous:

### 2015 – 2019: Carlisle Group (USA)

- Implementing and testing an HTTP server application and a client application.

### 2010 – 2014: Optima Systems (UK)

- Converting APL applications into Windows Scheduled Tasks and Windows Services incl. the implementation of a framework for both, Windows Scheduled Tasks and Windows Services running with Dyalog.
- Formalising release procedures for a team of more than ten developers via a set of User Commands.
- Implementing a Remote Procedure Server that allows either the execution of pre-implemented commands or executing any piece of APL code on a remote server.
- Implementing a test framework.
- Modernizing a large legacy application.
- Implementing a ticket system for bug management.

### 2008 – 2013: Carlisle Group (USA)

- Implementing a fully object-oriented (internally) relational database in Dyalog: FlipDB.
- Implementing test cases for all built-in functions and operators on all data types, locally as well as remotely.

- Implementing automated test cases for FlipDB's GUI.
- Implementing a help system that automatically generates HTML help files from APL variables, holding the textual information, including links, index and search.
- Miscellaneous developer tools.

## 2005 – 2007 Optima Systems (UK)

- Automated quoting and processing of pensions for the largest UK pension fund.
- Implementing new rules according to changed legal requirements (pension simplification).
- Generalised error trapping routine including the generation of an HTML document with details regarding the crash, saving an error workspace (or a DCF file when threads are involved) for analysing purposes, sending a message to a watchdog application via TCP and sending emails to admins to alert them.
- Automated generation of RTF documents.
- Automated generation of PDF, XML and TIFF documents from RTF files.
- Implementing a code management system including comparing, merging, reporting and archiving.
- Maintenance and trouble-shooting.

## 2004 to 2005: SimCorp, Copenhagen

Working on a Portfolio Management System designed for banks and large investors:

- Automated booking changes for hundreds of positions/portfolios.
- Extending built-in reporting capabilities by sending data via XML to external services.

## 2004: Casting Agency

- Implementing a CRM-Software with SQL Server 2000 and Dyalog APL/W.
- Marketing, relationship management, appointment management including support for different types of communication: email, phone, fax, SMS and individualized letters.
- Detailed reports and automated reminders.

## 2004: Web Agency

- Implementing a Plug-in for a Content Management System.
- Software, Hardware: MS Access, Dyalog APL/W, CSS, JavaScript.
- The plug-in is used to automatically insert menus (main menu as well as sub menus; sub menus may be nested as deep as needed), navigation help (bread crumbs), a sitemap, a glossary, special links to, for example, glossary entries, marking certain XHTML objects with CSS in an automated manner by defining classes.
- Additionally, the plug-in checks and corrects the XHTML code.

## 2003: Software Company

- Adaptations and enhancements to SAP Business One.
- Automated import of data created by special business processes. The data is used to generate dispatch notes and invoices.
- Implementing additional (non-standard) reports on the underlying MS SQL Server database of SAP Business One with ADO.NET.

## 1997 – 2002: DATEV

Building a “Trust Centre”: production of smart cards for encryption and electronic signatures.

- Design and implementation of all necessary GUI applications for order registration and administration, locking smart cards and managing the Trust Centre.
- Database design (MS SQL Server).
- Implementing generalized tools for internal usage.
  - Communication tools between applications and SQL Server (ODBC, ADO.NET).
  - TCP/IP communication tools, using and XML-over-HTTP protocol.
  - On-demand generation of GUI objects for common commercial tasks.
  - Implementing a server acting as communication turntable between the Trust Centre internal applications and the outside world, including firewall functionality.
  - Implementing an application to manage scanned image files. Needed to circumvent the limitations of the ODBC interface.
- Production Planning and Control System:
  - Design and implementation of database server tools needed to insert, change, and select real mass data (maximum of 1.200.000 new rows per day) on an SQL Server.
  - Design and implementation of tools for the communication between numerous applications and the SQL Server via ODBC.
  - Inter-Application-Communication via TCP/IP.
  - Implementing a generalized and very fast solution for updating the contents of all currently opened GUI objects displaying data from the database. Achieved with the by then new multi-threading capabilities of Dyalog APL/W.
- Introduction of Dyalog APL/Windows to a group of nearly forty APL programmer, including training in event driven programming and object oriented principles.
- Support and design coaching for porting APL2/DOS-based applications to Dyalog APL/Windows.
- Design and implementation of a Web server for an Intranet Information System with dynamic generation of HTML code based on client demand.
- Tuning multiple APL2 applications running under MVS/TSO. Reducing the CPU load to less than 7% of the original value.

## 1991 – 1995: Deutsche Bank (Germany)

- Supporting a Risk Management System for all kinds of derivatives.
- Implementing new technical solutions.
- Implementing new features on user demand.
- Trading systems for derivatives and options.
- Adding new option and derivative types to a certain trading system (Black-Scholes option pricing system).
- Porting a mainframe based trading system to Dyalog APL/X (AIX).
- Adding new features on user demand, for example FRAs.

## 1990: Deutsche Post and successors

- Porting a reporting application used by top level management from VSAPL/MVS to Dyalog APL/W (Windows NT)

## 1990 – mid 1990: ICI Lacke & Farben

- Migrating operating system and programming language from VSAPL under VM/CMS to APL2 under MVS/TSO.

## 1986 – 1989: Ruhrgas

- Multiple applications for settlement purposes with APL2 & VSAM & DB2 under MVS/TSO.
- Automatic generation of billing records.
- Implementing a highly specialized spreadsheet for the users (with GDDM: overlapping and moveable windows, scrollbars, and more).
- Devising software for supervision of gas transmission systems. Used for automatic recognition of leaks by interpreting the measurements.

## 1983 – 1985: Blaupunkt

- Implementation and support for a reporting system used by the top management and the controlling department with VSAPL under MVS/TSO.
- My main task was filtering and accumulating the mass data from the accounting system and the material management system.

## 1980 – 1983: Various small company contracts

- Implementing order management, reminder management, material management for a period furniture importer.
- Implementing a tax calculation and office management system for a tax consultant.
- Implementing a management system for working plans, parts lists, and success control including pre-calculation for a small industry company.