

Charles P. Plinta

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Education

B.S. in Computer Science & Mathematics, University of Pittsburgh, April 1982

Professional Experience

Accel Software Engineering, Pittsburgh, PA, 1993 – present

Founder and Managing Partner.

Accel Software Engineering provides advanced software and systems technology for real-time defense and enterprise information systems.

Details

- Helped many organizations analyze their business processes and created reports based on a variety of client database technologies (Oracle, Progress, Access, FoxPro, dBase) that enabled clients to better manage their business.
- Architected and created a Windows-based client/server Case Management System using Progress. This software is used by organizations that provide extensive, specialized case management services to children and adolescents with mental health and emotional issues. The software tracks and records a variety of information and is used to demonstrate the effectiveness of the organization.
- Created a Progress-based Methadone Clinic System to print barcoded photo ID's, manage client records, appointments, billings, and receipts, medical orders, drug dosages and inventory.
- Architected and created machine control software for a network of four computers for a real-time multi-chamber vacuum thin film deposition system using Progress and Think&Do. This software presents a pictorial graphical interface to the machine operator and provides high-level recipe writing, recipe execution and control, data-logging, manual overrides, alarms, and safety interlocks.
- Created a Windows NT-based client/server Sales Incentive Management System using Progress. This software accepts customer-generated incentive program, product, participant, and claim data in electronic form, sends encrypted information to the bank to issue participant debit cards and transfer funds, and creates billing and status reports.
- Created a web-based decision support system using Oracle and Java for a company that provides medical analysis and expertise to the insurance industry.
- Created a Windows NT-based client/server medical office application using Visual Basic, Access, and Crystal Reports to print barcoded photo ID's, manage client records, appointments, billings, and receipts, medical orders, drug dosages and inventory.
- Created a Linux-based shop floor inventory control system using Progress, Intermec RF networks, and barcode technology to manage inventory for an O₂ lance manufacturer.
- Created custom reports in Progress for SyteLine/Symix for several medium sized manufacturing companies running on Windows NT, Sun Solaris, and SCO Unix.

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- Created MTV Builder using Visual FoxPro, Ada, CORBA and SQL. MTV Builder is an easy to use, PC-based tool that simplifies message format specification and automates software generation to facilitate communication between systems & devices of various types.
- Created a Sun Unix-based real-time software/hardware system in Progress and C for locating barcoded steel coils by tracking mill cranes using laser distance meters, scales, Intermec RF networks, and hand-held computers. A production database is used to store floor map and coil location information.
- Created a Sun Unix-based EDI message processor using Progress to populate a client's business database with advanced ship notices, invoices, and status messages.
- Created a Windows-based software package in Visual FoxPro and Visual Basic for collecting coating thickness data and generating color-coded contour surface maps and quality/performance reports.
- Created a real-time SCADA system in Basic and dBase to collect and digitize analog meter signals from an X-ray thickness gauge and transfer them to a Progress database.

Software Engineering Institute, Carnegie Mellon Univ., Pittsburgh, PA, 1986–1993

Worked with a team of researchers that created and successfully transitioned a technology base and engineering practice for performing routine engineering of Ada software for real-time embedded systems, embedded and stand-alone training simulators, design simulators, and command, control, and communication (C³) systems.

Details

- Developed a method for engineering software based on traditional engineering principles called Model-Based Software Engineering (MBSE).
- Created the Object-Connection-Update (OCU) architectural model which allows software developers to use the same package sets, interfaces, and control executive for all subsystems within an application – the basis for achieving modularity, design reuse, and incremental development by areas of domain expertise. Model templates were implemented in Ada83 and tested on VAX/VWS and Unix systems.
- Consulted with ASC at Wright-Patterson AFB and several contractors to develop Ada-based flight simulators based on the MBSE approach and OCU architectural models.
- Consulted with Coastal Systems Station on the development of an Ada-based embedded training simulator for a class of mine-hunter ships based on the MBSE approach and OCU architectural models.
- Designed and implemented in Ada a (prototype) Real-Time Monitor that was later used as the basis for a commercial product developed by a company.
- Consulted with Granite Sentry program office on technical issues related to pattern-based designs, MBSE, and the use of Ada in C³ applications. System designs were later proposed as Air Force generic command center architectures at ESC Hanscom AFB.
- Designed and implemented in Ada a general solution for the message translation and validation problem on the Granite Sentry program. This model solution was also used by other C³ programs. This work provided the foundation research for the MTV Builder™.

Westinghouse Electric Corp, Electronic Systems Division, Baltimore,MD,1982-1986

Performed software research and development, developed hardware test systems, and designed and developed operational software for military radar systems.

Details

- Designed and planned for the implementation of Ada software for a mobile radar system for the Army and a data fusion system for the Air Force.
- Designed and implemented an Ada-based system for simulating a multi-processor environment for embedded computer applications.
- Designed and implemented a FORTRAN-based VHSIC test system that was a combination diagnostic test language and interactive debugging aide for VHSIC hardware. Also designed and implemented a diagnostic controller for Westinghouse's programmable signal processor.