

*Carl Gustav Jacob Jacobi, a renowned mathematician from the early nineteenth century, preferred an approach to education that emphasized discovery over rote presentation. Jacobi's paradigm defines the essence of thinking outside the box and pushing the envelope; the dictates of necessity in the voyage of discovery will fill the gaps.*

*The development of techniques for solving the problems inherent to information technology is similar in approach to advanced mathematics research; eloquent solutions are built on abstractions and generalizations. Often, solutions are simple and straightforward, constructed with familiar tools. Occasionally the abstraction dictates a new path of discovery; the excitement of exploration keeps the frenzy apace.*

## General Skills

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- Rich Web Application Development
- Software Application Development
- Database Resource Development
- C++ Software Development for Windows
- ColdFusion Application Development
- Flash Remoting
- Javascript
- HTML
- XML
- Actionscript
- Server Management
- SQL

## Employment History

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- 1981-1985: Manufacturing & Consulting Services (Irvine, CA)  
Position: CAD/CAM Software Development: Display Database & User Interface Design  
Status: Employee
- 1985-2004: Ameron International (South Gate, CA)  
Position: Software Development  
Status: Contractor
- 1998-2007: Self-Employment | Revenue earned from software sales
- DrugTestNetwork.com
  - RandomWare.com
  - RandomBots.com

## Completed Projects

### DrugTestNetwork.com

#### **An Online - Internet Based (SaS) Data Management Application provided by subscription**

DrugTestNetwork is an Internet Based SAS System (Software as Service) for DrugTesting Management Professionals, Third Party Administrators (TPAs), HR and Occupational Health Professionals who manage drug and alcohol testing for companies that need to comply with the U.S. Department of Transportation, and companies that require employees to participate in drug free workplace programs. The system provides resources for random selection of personnel for drug testing, electronic data interchange modules to retrieve data from labs and update existing records automatically, personnel management utilities and myriad workflow resources to assist in the day to day routines required for drug testing. The system includes billing modules that interface to accounting systems. Security is robust for administrative users and client companies. The entire interface is Internet based and data driven. The system uses Microsoft SQL 2000 for database management. The application is written using Adobe's (Macromedia) ColdFusion MX and Flash components for remote data access. The application is split between two servers; an application server and an SQL data server. The data server is visible to the application server through a VPN and provides a very secure layer for the protection of sensitive information.

Dow Chemical uses the application to manage its drug free workplace program nationwide. Dow runs the application on dedicated servers provided by DrugTestNetwork. Two additional servers provide resources for other subscribers who manage compliance issues for hundreds of companies across the country.

*The application is currently online and available for new subscribers.*

*Visit the website [www.drugtestnetwork.com](http://www.drugtestnetwork.com) and register for a Demo Account for more details.*

#### PROJECT RESPONSIBILITIES:

Total project conception, development, execution, implementation, marketing, sales, website development and customer support.

PROJECT CONCEPTION: February 2004

APPLICATION AVAILABILITY: July 2006

#### RESOURCES:

Dreamweaver, HTML, XML, Javascript, ActionScript (Flash), ColdFusion MX7, Flash MX 2004, Flash Remoting, Microsoft SQL 2000, Server Implementation.

## **RandomWare.com**

### ***Desktop Software for Drug & Alcohol Testing Data Management***

RandomWare is a software application for drug & alcohol testing data management and random selection. The software is written for the PC running under Windows (95, 98, NT, Me, 2000, XP) with access across a Novell style network. Resources include management resources for company profiles, personnel rosters, notification letters, electronic data interchange for lab result retrieval, random selection utilities, and myriad workflow resources. To meet the varied needs of customers, four systems are available.

*At present there are over 2,000 installations.*

*Visit [www.RandomWare.com](http://www.RandomWare.com) and download an evaluation system to review the user interface and resources.*

#### **PROJECT RESPONSIBILITIES:**

Total project conception, development, execution, implementation, marketing, sales, fulfillment, website development and customer support; online credit card order application developed; customer database and demo request application development for CRM and Sales.

**PROJECT CONCEPTION:** 1998

**APPLICATION AVAILABILITY:** Since 1998

#### **RESOURCES:**

C++ for Windows, MFC (Microsoft Foundation Class), HTML and Microsoft Help Workshop for Windows.

## **RandomBots.com**

### ***Random Number and Random Data Utilities***

After developing and marketing the RandomWare suite of products, the need for simple random utility software was apparent. Six packages are offered to meet a variety of needs: simple randomization, random sampling, random permutations, random text strings and lottery style results.

*Over 3500 copies have been sold.*

*Visit [www.randombots.com](http://www.randombots.com) for details of each system, or to download demo programs.*

#### **PROJECT RESPONSIBILITIES:**

Total project conception, development, execution, implementation, marketing, sales, fulfillment, website development and customer support.

**RESOURCES:** All application were written in C++ for Windows.

## **EntryWorks.com**

### ***An Online Nutrition Database and Training Journal for Runners, Swimmers, Cyclists, Fitness Training, etc.***

EntryWorks.com hosts JoT (Journal of Training), a free online training journal for athletes. The training journal manages data for a variety of sports: distance, time, heart rate, etc. Athletes and coaches can keep their entries private or network with others. Also included is the USDA nutrition data base implemented with a new user interface. PDA compatible.

*Over 6,000 users from around the world have registered to use JoT.*

*The application is an ongoing development project and is a live resource available to new subscribers.*

*Visit the website [www.entryworks.com](http://www.entryworks.com) for more details.*

#### **PROJECT RESPONSIBILITIES:**

Total project conception, development, execution, implementation, marketing, website development and user support.

**PROJECT CONCEPTION:** December 2003

**APPLICATION AVAILABILITY:** February 2004

#### **RESOURCES:**

Dreamweaver, HTML, XML, Javascript, ActionScript (Flash), ColdFusion MX7, Flash MX 2004, Flash Remoting, Microsoft SQL 2000, Server Implementation.

## **Real Estate & Property Management Systems for the Internet**

### ***Manage listings and rental properties online for Internet access.***

*Visit [www.pabstkinney.com](http://www.pabstkinney.com)*

#### **PROJECT RESPONSIBILITIES:**

Develop website and interpret program requirements as outlined by PabstKinney for program resource development, testing, installation, support and enhancements.

**PROJECT CONCEPTION:** 1996

**RESOURCES:** HTML & ColdFusion

## **Engineering Applications for Manufacturing and Data Management**

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### **Ameron International, Department of Engineering, Research & Development**

***20 years of application development***

#### **Filament Winding Software**

A proprietary computer aided design application was required for the specification and manufacture of variable diameter and variable length, resin coated, fiberglass filament wound pipe and fitting systems. Interactive software provides resources for engineers to specify the diameter, length and other properties for pipes and fittings (elbows and tees). Once the specifications are complete, the application generates Numerical Control programs that drive the

machinery that manufacture the parts. The applications have been implemented in plants in Argentina, Holland, Saudi Arabia, Singapore, Malaysia, Indonesia, and the U.S.

*The software has been in use, continuously, for over 16 years and is still the primary application that controls the design and manufacturing, worldwide, for one of Ameron's principle products.*

**PROJECT RESPONSIBILITIES:**

Take engineering specifications for program resource development, testing, installation, support and enhancements. No other software developers were involved.

**RESOURCES:**

The first systems were developed in 1988 in Fortran, and evolved to more sophisticated systems written in C++ for Windows.

**Time Cards & Project Management**

*A time card management system was designed and implemented based on specifications outlined by the corporate accounting department and the requirements for project cost accounting for the Engineering Department.*

*The application has been in use since 1985 in multiple corporate locations.*

**PROJECT RESPONSIBILITIES:**

Take specifications outlined by the accounting and engineering departments for program resource development, testing, installation, support and enhancements. No other software developers were involved.

**RESOURCES:**

The system was originally developed, in FORTRAN (1985), on a super-mini (Harris) and ported to a Novell networked PC system.

**Engineering Drawing Control System**

*A data management system was required to record thousands of engineering drawings for Ameron's Engineering Dept. of Research and Development.*

The drawings are the design specifications for manufacturing equipment and plant layouts. The machines were designed and built by Ameron for the development and manufacture of their proprietary product lines. The program was initially developed in 1985 on a Harris super-mini, in FORTRAN, and evolved to a Windows application on networked PCs. The data system was proprietary software developed independently of pre-existing relational data systems due to the expense of an Oracle installation for Harris computers at the time. The data system became a fundamental module for almost every new software project.

**Education**

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**BS Applied Mathematics:** California State University Humboldt

**Graduate Study in Applied Mathematics:** University of California, Santa Barbara