

Porter Schermerhorn

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E-mail Address: porters@digitalperceptions.net**Homepage:** <http://www.digitalperceptions.net>**EDUCATION**

[Earlham College](#), Richmond, IN
Bachelor of Arts in Computer Science, December 2002
Major: [Computer Science](#)

August 1998 - December 2002

**WORK
EXPERIENCE**

[O'Neil and Associates](#), Miamisburg, OH
Lead Web Application Developer (June 2003 - Present)

June 2003 - Present

Scalable Application Generation Engine

- Software engineer for a Perl based object-oriented framework for web applications called SAGE, the Scalable Application Generation Engine.

SAGE provides a rich foundation of Perl objects including a complete content management system, user/session management with role based access control, as well as end user components such as shopping carts and document browsers. O'Neil uses SAGE in several flagship products. My time is split between developing core functionality of the SAGE framework and SAGE applications such as the products detailed below. I have made large contributions to core SAGE foundries such as SAGE's Content Management System. Including a redesign of meta data, the addition of an extensible version rollback system, and support for storage of different types of data in the CMS such as XML, text, and binary globs.

Standard Register Corporation iLearn Learning Management System

- Software engineer for a SCORM 1.1 compliant iLearn Learning Management System utilized by the [Standard Register Corporation](#).

I was responsible for the conversion of legacy XML course content using a combination of Perl based XML parsing scripts and Extensible Stylesheet Language Transformations (XSLT). I also developed XSLT to generate Scalable Vector Graphic charts on the fly. This facilitated visualization of financial data for some of the Standard Register Corporation's courses.

Oshkosh Truck Corporation Wheeled Tanker IETM

- Software engineer for a level 5 Interactive Electronic Technical Manual for [Oshkosh Truck Corporation's Wheeled Tanker](#) vehicle commissioned by the United Kingdom's Ministry of Defense.

I am involved in the development of the applications used for the authoring and publication of the SPEC1000D Issue 2 compliant content of the IETM. I am also responsible for the development of libraries to facilitate communication of SAE-J1708 and SAE-J1587 fault codes from the Wheeled Tanker's ECUs via an RS232 serial line to the IETM. This allows for 'one click' troubleshooting as users are launched automatically into the troubleshooting and maintenance procedures corresponding to the active fault codes generated by the vehicle's ECUs.

U.S. Army Electronic Maintenance System

- Software engineer for the next generation of the U.S. Army's [Electronic Maintenance System](#).

EMS-3 will be a Mil-HDB511/2361C compliant level 5 IETM with integrated diagnostics used for the maintenance and repair of all of the US Army's wheeled vehicles. O'Neil will be leveraging much of the work I did on the Wheeled Tanker IETM for EMS-3 thanks to the reusable component architecture of the SAGE framework.

[Southern Local School District](#), Hemlock, OH

March 2003 - May 2003

Teaching Instructor (March 2003 - May 2003)

- Taught an after school program on Open Source Software to students and faculty.

Developed and taught syllabus involving a discussion of the sociological and philosophical aspects of Open Source Software, an introduction to using and administrating a Linux workstation, and an introduction to programming (both standalone and CGI applications) using the Perl programming language.

[John Wiley & Sons Publisher](#), New York City, NY

September 2000 - May 2002

CGI Programmer (September 2000 - May 2002)

- Contract software engineer writing Perl CGI scripts.

These scripts are used to facilitate the scoring of online questionnaires for two of the text books Wiley currently publishes.

[Appalachian Center for Economic Networks](#), Athens, OH

June 1998 - December 2001

Web Application Developer (May 2000 - June 2001)

- Software engineer for a web based application analyzing the economic networking involved in local business and employee interactions.

The project was coordinated by networking specialist Valdis Krebs as an adaptation of his network visualization software [Inflow](#) to a web based application for use by ACEnet.

Linux System and Network Administrator (May 1999 - August 2000)

- System and network administrator installing and configuring several Linux based servers.

These servers provide email, mailing list, domain name, database, and web services to both the staff of ACEnet and students from 16 schools across South Eastern Ohio involved in ACEnet's [Student Entrepreneurship Training](#) program. I was also responsible for the installation and setup of a Linux based firewall and network address translation server for use by ACEnet's technology incubator tenants.

STUDENT ACTIVITIES

[Earlham College Computer Science Department](#)

August 1998 - May 2001

Beowulf Cluster System Administrator (August 2000 - December 2000)

- System and network administrator in charge of the routine maintenance of one of Earlham College's Beowulf Clusters for one semester.

The cluster includes 16 computers running the Linux operating system and issued as part of the Parallel Programming course and for the independent research of students and faculty.

COMPUTER SKILLS

- C Programming Language
- C++ Programming Language
- Perl Programming Language
- Structured Query Language (SQL)
- Extensible Markup Language (XML)
- Extensible Stylesheet Language Transformations (XSLT)
- Linux Operating System
- Windows NT/XP/2000 Operating System

Software Projects

These are a collection of software projects that I have contributed to which I feel are a good representation of the depth and breadth of my programming capabilities. Some of them are personal projects of my own and others are group projects.

Below you will find a brief description of each project and a copy of the source code to the project if available. Additional software dependencies required in order to compile and run the provided source code are listed as well.

Simple UNIX Shell

This is a basic UNIX command shell. It supports the assignment and interpolation of both local and environment variables, input/output redirection, pipes, backticked strings, single as well as double quoted strings, changing directories, and execution of commands. The syntax is based on that of the Bourne Again Shell (BASH) and is defined using lex and yacc. The project is written in C and was developed under Solaris and Linux.

Software Dependencies: Yacc and Lex (Solaris yacc/lex, BSD yacc, GNU Bison, and GNU Flex are known to work).

Jungle Simulation

This was a group project that I worked on with 3 other students. The project includes a multithreaded server which acts as the 'Jungle' and several autonomous clients which act as the 'animals'. The client and server communicate via Sun RPC. Clients can use RPCs to query the server for information and to take actions (move around the world, eat grass, eat other animals, etc.) I was personally responsible for development of the display and main threads of the server. The display thread give the server user a visualization of the jungle world. It uses the Evas 1 graphics library which supports several rendering backends such as Xlib, Imlib 2, and OpenGL. Event handling is abstracted using the ECore library. The project is written in C and was developed under Linux.

Software Dependencies: Evas 1 (with a combination of either Xlib, Imlib 2, or OpenGL libraries), Ecore (>= 0.0.2), Sun RPC compliant facilities (properly mapped via portmap).

Read-only EXT2 Filesystem Library

This is the start of a library for the read-only access of a file image of an EXT2 filesystem. It is currently only capable of reading in the super block, group descriptors, and directory entries of the filesystem. This project is written in C and was developed under Linux and Solaris.

*References Available Upon Request