

# Michael Gregorowicz

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## Objective

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- To find employment at an innovative technology company where I will be exposed to emerging technologies and challenged to find solutions to tough problems. I have exceptional skill in capacity planning, systems architecture, and in writing middleware, identity management, and authentication software using Perl.

## Overview

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- Perl Programmer with focus on Web Applications, Authentication, and Integration with legacy systems and data.
- 15+ Years Professional Experience in Information Technology
- Full stack software developer with focus on Identity, Web, and E-Mail Services

## Operating Systems

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- Ethereum
- iOS (all versions)
- Android (all versions)
- Linux
  - RHEL/CentOS 5, 6, 7
  - Ubuntu 8.04, 10.04, 12.04, 14.04, 16.04, 17.10
  - Arch
  - Slackware
  - Gentoo
- OpenBSD
- FreeBSD
- Solaris
- MacOS 8, 9, X
- Windows 3.1 - 8.1

## Programming Languages

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- Solidity
- Python
- Perl 5
  - Advanced understanding of Perl OO concepts
  - Mojolicious
  - 20 years experience
  - Authored Modules
    - SVN::Access - Used by several corporations and development projects to manage Subversion access control lists
    - Crypt::Sodium - Perl bindings for the libsodium implementation of djb's NaCL crypto library
- PHP 3-7
- JavaScript
  - jQuery
  - AJAX / XMLHttpRequest
  - Prototype
  - JSON
  - Backbone.js
- C

## Server Software

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- Most Mainstream Version Control Software
  - CVS, SVN, GIT, Trac, GitLab, GitHub
- Zimbra
- Postfix
- Sun Directory Server
- Oracle

- MySQL
- Fedora Directory Server
- iPlanet Application Server 4.1+
- Netscape Enterprise Server
- OpenLDAP
- Mirapoint Messaging Appliances
- Qmail
- Sendmail
- Apache 1.3
  - ModSSL
  - mod\_perl
  - mod\_throttle
  - mod\_rewrite
  - mod\_dav
  - custom authentication
  - custom implementations
- Apache 2
  - mod\_python
- Jakarta Tomcat

## Client Software

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- Adobe Photoshop 6 - CS (Mac and PC)
- Microsoft Office 95 - 2004 (Mac and PC)
- Keynote
- OmniGraffle

## Employment History

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10/01 - Present

### Wayne State University

Detroit, MI

Systems Architect Advisor

- Created an innovative application system overlay that leverages jQuery and AJAX to greatly enhance vendor supplied applications without violating support agreements.
- Migrated enterprise directory from Messaging Direct platform to the iPlanet / SunOne Directory server.
- Wrote a web API based Directory Search utility that will be used in concert with other innovations to modernize the University's search offerings.
- Acted as a key planner and technical resource in the launch of the University's main web page [www.wayne.edu](http://www.wayne.edu).
- Developed solutions to bridge the gap between our Enterprise Directory and SCT's Banner suite of administration software.
- Architected and authored an innovative and intuitive suite of web-based administration tools which enable the help desks throughout the campus to effectively manage users, groups, e-mail settings, and passwords. This feature rich suite of tools was celebrated for its intuition and simplicity, and was effective in reducing the call time required to assist students and faculty by over 7 minutes per call.
- Designed a centralized statistics database for arbitrary log data. The system allows for reading live data from files, sockets, or commands. The data is then transformed by a data source driver into a uniform MySQL database table for statistical analysis.
- Designed and implemented the University's official single sign on framework: wayneAuth.
- Assisted other universities in their implementations of single sign on, and E-Mail systems.
- Submitted and had accepted patches to Blackboard Inc's E-Learning system that repaired bugs that had been present in their system for months.
- Streamlined Blackboard's data integration with our administrative system(s) (Banner) by writing an advanced set of data processing programs and utilities. The programs automated a very complicated procedure which was taking employees hours per day to perform manually.
- Supported and maintained the Blackboard Inc's E-Learning system at Wayne State. Blackboard, under my supervision, achieved record availability.
- Implemented a version control system with LDAP based access control, wiki, issue tracking, and lightweight project management capabilities. Oversaw its adoption and growth to almost 400 university projects.
- Created custom addons for the Blackboard Learning System using their Java APIs.
- Acted as a consultant, contributing developer, and organizer on the Wayne State broadcast messaging team.
- Acted as a policy advisor and then created tools and web services that enhance the strength of passwords in various systems around campus.

- Acted as the sole maintainer and architect behind Wayne State University's LDAP implementation and identity management solutions.
- Designed and authored LDIP the LDIF Data Integration Pipeline system. LDIP is a state machine based IDM. The platform allows for maximum flexibility in dealing with tricky data from multiple sources, exceptions, and special cases. LDIP, now partially decommissioned after serving as Wayne State University's identity management system for over 10 years, has handled over 600 million create/change/delete actions.
- Proposed a world class hardware environment for hosting Blackboard using AMD Opteron processors on 64-bit Red Hat Linux, cluster-aware file systems and Oracle RAC; providing a high availability environment while realizing hundreds of thousands of dollars in cost savings over SPARC based Sun equipment.
- Centralized administration of user accounts and e-mail systems by creating standalone internet services. These services interconnect systems that otherwise would not interface with one another.
- Crafted fair benchmarks based on Java XML parsers to test multiple hardware platforms. Using data gathered from these tests, we were able to clearly identify hardware platforms which could alleviate existing application bottlenecks.
- Helped administer and secure NT and UNIX based web servers running IIS and Apache.

04/00 - 10/01

## Commerce One

Dearborn, MI

Technical Consultant

- Solely responsible for maintaining Ford of Europe's internal web center providing 24/7 support to a worldwide user base. Supervised seamless transition to EMC disk arrays to provide increased storage capacity.
- Supported user base of over 7000 developers and over 80 web servers running Solaris 2.5.1/2.6/8, and Netscape Enterprise Server/iPlanet.
- Supported operating environment by writing and debugging multiple programs to maintain file, user, and system security and uptime.
- Responsible for installing all third-party support software and maintaining documentation.

01/98 - 04/00

## National Tech Team

Dearborn, MI

UNIX / PC Technical Specialist

- Team's key technical contact for all technical support issues
- Provided hardware and software support for Sun, SGI, and HP/UX workstations.
- Promoted repeatedly for excellence.

## Programming Projects

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08/16 -

### MI-OSiRIS (NSF Award #1541335)

Ann Arbor, MI

UofM, MSU, WSU - Principal Architect - Access & Authorization

- Designed OSiRIS Access Assertion (OAA) protocol and framework
  - Enables self-organizing Science Domains to delegate access to experiment data
  - OAAs cryptographically encapsulate service levels, allowing them to be used to configure ad-hoc resources for researchers such as
    - Software defined networks (SDNs)
    - Massive object storage systems, block level devices, or POSIX compliant mountable filesystems using Ceph
    - Virtual Machines, Compute Resources
    - And more!
- Building reference implementation including centralized OSiRIS Access Key Service (oakd), and St. Peter Gateway Service (stpd)
  - Reference Implementation, and early documentation available at [https://github.com/MI-OSiRIS/aa\\_services/](https://github.com/MI-OSiRIS/aa_services/)

02/12 -

### Academica

Detroit, MI

Wayne State University - Architect and Team Lead

- Assembled and inspired a talented, cross-departmental development team to work on this highly visible next generation product
- Oversaw the migration of over 450,000 users from the old Ellucian Luminus portal to the Academica platform
- Maintain the production instance with quarterly releases
- Architected and implemented the highly customizable Enterprise Social Portal experience from the ground up
- Implemented multiple single sign on implementations as Academica plugins
  - Academica::Plugin::OAuth2 - Academica's implementation of OAuth2 includes functionality that allows it to replace WayneAuth enterprise wide, and allows Academica to act as an OpenID Connect Identity Provider (IdP)
  - Academica::Plugin::SAML2 - Academica's SAML2 plugin allows Academica to act as an InCommon compliant, and Shibboleth compatible Identity Provider (IdP)
- Worked with Wayne State's Technology Commercialization office to get Academica Core

released as Open Source technology and to commercialize the Academica Plugin ecosystem

10/09

### **Praux.com**

Dearborn, MI

Praux.com - Founder, Lead Architect

- Architected, implemented, and deployed the premiere resume editing community Praux.com. Praux.com was designed from the ground up to be easy to use, scalable, integratable, supportable, and smart.

05/08

### **Electronic Personnel Action Forms - SCT Banner**

Detroit, MI

Wayne State University - Lead Architect

- Rescued the project after over 4 years of toiling in between the planning and implementation stages. Devised a novel solution leveraging JavaScript, jQuery, and mod\_perl that allowed us to add custom improvements to SCT's Self Service Banner package without violating support agreements. Peripheral web service data integration points and automatically collapsing UI widgets seamlessly enhanced usability and productivity. Automatic calculations that once had to be done by hand, and other obscure business policies were able to be implemented in a reliable and retractable way. This led to the ultimate resounding success of this project and product.

11/04

### **BadNews**

Dearborn, MI

the mg2 organization - Sole Author and Maintainer

- BadNews is a content management system back end that allows for file uploading, article creation and publication, event creation and display, as well as link organization and editable static pages. BadNews is currently a proprietary application available for purchase.

02/03

### **mg2bot**

Dearborn, MI

the mg2 organization - Sole Author and Maintainer

- mg2bot is an open source IRC bot written in perl and based on the Net::IRC perl module. It provides a full fledged plugin system and implements a proprietary networking protocol that enables bots to pass data and requests around it's network. The mg2bot is currently an open source project available at <http://freshmeat.net/projects/mg2bot>.

08/03

### **the mg2 user system**

Ann Arbor, MI

the mg2 organization - Sole Author and Maintainer

- The mg2 user system is currently in it's third revision. Because mg2.org is an open system with several unknown users having shells on a single unix machine some sort of framework was needed to provide structure, accountability, and consequence for foul play. The mg2 user system is a solution to this problem. The mg2 user system implements a tree based hierarchy with all users sponsoring a certain number of subordinates. The number of users you can sponsor directly is derived from the position you hold in the tree. Enhancements in v3 of the user system include a port from the data in MySQL to OpenLDAP, the introduction of Political Tokens which enable the lesser ranks to remove their superiors from power, and an advanced session management module.

12/02

### **Dadmin ]]**

Detroit, MI

Wayne State University - Sole Author and Maintainer

- Dadmin is the Wayne State University C&IT Help Desk's directory administration utility. The toolset includes tools for creating and removing accounts from our directory, as well as configuring access to E-Mail, Administrative Systems, and UNIX machines. Tools also include quota management, temporary password swaps, and group account creation. Through intuitive interface design Dadmin ]] has reduced time to resolution from an average of 10 minutes per call to less than 3 minutes per call. dadmin ]] is currently a proprietary application in production at Wayne State University.

09/02

### **wayneAuth**

Detroit, MI

Wayne State University - Sole Author and Maintainer

- wayneAuth is an implementation of web single sign on at Wayne State University. It currently allows authentication at one point (Our Implementation of Campus Pipeline), and seamless pass through to Mirapoint WebMail, Blackboard E-Learning System, our Remedy-based ticket management software CallTracker, and other custom applications campus wide. wayneAuth is currently a proprietary framework in production at Wayne State University.

## **Volunteer Activities**

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01/98 - Present

### **Crossroads of Michigan**

Detroit, MI

Volunteer

- Contribute system and network maintenance skills as often as needed. Currently managing all of the organization's public internet and e-mail needs. Assisted in the creation of their web presence, and am fully responsible for their web hosting.

- Cabled the Crossroads East office with CAT-5e and configured a switch as well as a shared internet connection. Working to bring broadband to the neglected urban area that Crossroads East is located in.
- Recently donated equipment and time for an upgrade of the Crossroads Main Offices Internet gateway. File serving was shifted from a Win32 based solution to a more reliable Linux/Samba solution. Crossroads is a non-profit organization dedicated to assisting those less fortunate in Detroit.

03/00 - Present

## **the mg2 organization**

Dearborn, MI

Owner and Founder

- Founded, develop, own, and maintain mg2.org, an internet community which harbors and promotes the many forms of internet talent. All equipment and time is donated, and many users have come up with some great content and applications. With plans to offer new free services to Internet talent, mg2 is positioned to grow as an Internet community.
- Created and implemented a custom built installation of Apache that allows for site owners to configure their own web servers, as well as administer their own files.
- Designed and implemented a revolutionary, Internet community architecture using political and social structure as the basis for system administration and user screening. Created a suite of tools, which limit user privileges based on their position in the system's main tree hierarchy.

## **Training**

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09/99

### **Hands On Apache**

Washington, DC

Learning Tree Intl

- Outlined the basic installation and compilation of the Apache Web server, and all of the core Apache modules. Was also taught how to configure popular third party modules like mod\_php, and how to configure popular third party companion applications like Jakarta Tomcat.

11/01

### **Mirapoint Certified Engineer Training**

Sunnyvale, CA

Mirapoint Inc.

- Provided an advanced understanding of the various Mirapoint administration and programming interfaces. Outlined troubleshooting procedures and diagnostics techniques.

## **Education**

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- BA in Liberal Arts, Wayne State University - Completing coursework - [wayne.edu](http://wayne.edu)