

# Michael J. McMahon Jr.

## Software Architect & Developer

- ➔ **End-to-end Software & Database Development** ➔ **Complex, High-impact, Large-scale Solutions**
- ➔ **Employs Cutting-edge, Multi-platform Technologies** ➔ **Collaborative, Self-directed, & Inventive**

Designed and implemented a new, extensible “Research-as-a-Service” system for Nevada to transform and advance the fields of observational sciences using modern technologies and techniques. Demonstrated ability and propensity to quickly assimilate and utilize new technologies, techniques, and information while professionally interacting with diverse groups of project stakeholders to determine their best application.

*Strengths include:*

- ➔ Managing complex, innovative projects
- ➔ Proficiency with cutting-edge technologies
- ➔ Interfacing with diverse stakeholders
- ➔ Designing and implementing solutions
- ➔ Fast assimilation and application of knowledge
- ➔ Excellent coding, documentation, & writing skills
- ➔ Creative applications of modern technologies
- ➔ Expert .NET, web, and database developer

## Recent Career Highlights

- ➔ Architected, designed, and implemented the SENSOR system (<http://sensor.nevada.edu>) in Nevada, transforming observational research fields with the application of modern data policies and technologies, including: multi-tier systems, complex geospatial databases, cloud services, and a highly-dynamic web site.
- ➔ Envisioned and implemented the SENSOR system as a prominent output of a National Science Foundation grant, vastly exceeding the original scope and expectations of the grant.
- ➔ Coordinated disparate efforts to collect, store, and manage over 750 million (and growing) high-resolution climate observations, providing researchers immediate access to those values.
- ➔ Simultaneously served as the sole system administrator (12 servers using Hyper-V), only database developer, primary software implementer, and single web developer for the SENSOR system.

## Recent Professional Experience

**A Place for Mom, Inc.** – Seattle, WA

2012 - Present

### Senior Software Development Engineer

Collaborated with numerous developers and project managers to analyze, improve, and refactor aged and intricate business-critical systems spanning various technologies to support new customer resource management (CRM) features, revenue-increasing business partner system integration, and scalable web services that support work-/data-flows designed to facilitate 10x company growth.

- ➔ Architected, designed, and implemented a new HTML5 CRM “lead screening” workflow to improve call screening capacity, reduce training time, and streamline customer interaction.
- ➔ Architected, designed, and implemented scalable web service integration components to automate sales lead distribution to business partners, creating reusable, distributable client libraries in the process.

**University of Nevada, Reno** – Reno, NV

2009 – 2012 (Full-time), 2013 – Present (25%)

**Database Administrator & Software Developer**  
**Bylaws & Code Committee Member**

*Personally approached by previous collaborators to apply for this position, which involved many other applicants and several rounds of interviews over the course of 1.5 years. My overarching responsibility was to create the cyberinfrastructure for a recently-awarded National Science Foundation climate research grant, involving many different components and larger organizations.*

Reimagined the role and scope of cyberinfrastructure within the observational research community, implementing a new model and systems (collectively known as SENSOR) as a demonstration to the National Science Foundation for future scientific endeavors. This new system addresses many fundamental, long-standing flaws in observational research related to data acquisition, management, and access, providing substantial gains to current and future researchers and their funding agencies.

- Served as the single architect, designer, implementer, and system administrator of cyberinfrastructure for the project, eliciting requirements, evaluating technical requirements, and analyzing existing systems and efforts.
- Created a multi-discipline *n*-tier system encompassing vendor-specific software, data loggers (Campbell Scientific), a high-performance Microsoft SQL Server 2008 R2 database, multiple Windows services and servers, multiple SOAP and JSON web services, live web camera feeds, and a highly-dynamic website using ASP.NET, HTML 5, CSS 3, SVG, and JavaScript technologies.
- Interacted heavily with project stakeholders that encompassed researchers, students, faculty, state agencies, and project administrators to elicit requirements and ensure the SENSOR system can meet their needs.
- Managed various project collaboration, contribution, and development efforts involving students, faculty, and collaborators that utilized the new infrastructure.
- Maintained a very fast development schedule, frequently reporting progress directly to the project leadership members and, ultimately, evaluation groups – all resulting in high accolades.

**Perceptive Systems, Inc. – Reno, NV**

2011 - Present

### Consultant

Providing top-tier consulting services spanning the software development gamut, including database development and administration, software development, troubleshooting, and legacy system support.

- Successfully sustained a global mobile phone backup service provider during critical software and system upgrades, developing new web interfaces and overhauling PostgreSQL databases to support new capacity.
- Created a pilot web application for The Sustainability Consortium to manage sustainability and recyclability information for global corporations.
- Developing an *n*-tier website and systems to support a new generation of information management in K-12 schools. This system utilizes a single-page application architecture using .NET, HTML 5, CSS3, and jQuery.

## Certifications

**Microsoft Certified Professional Developer (MCPD):** Web Developer 4, Enterprise Application Developer 3.5

**Microsoft .NET Framework 4:** ADO.NET, ASP.NET, WCF, WPF (*all C#-preferred*)

**Microsoft .NET Framework 3.5:** ADO.NET, ASP.NET, WCF, WPF, Windows Forms (*all C#-preferred*)

**SQL Server 2008 (MCITP):** Database Developer, Database Administrator

**Additional technologies include:** X/HTML 4&5, CSS 2&3, SVG, T-SQL, Java, WiX, Windows Phone, JavaScript

## Education

**Master of Science in Computer Science:** University of Nevada, Reno (2007)

**Bachelor of Science in Computer Science:** University of Nevada, Reno (2004)

*A complete listing of all my publications, professional community involvement, technological proficiencies, and certification transcripts is available at <http://www.mikerosoft.org>.*