



Daniel Harvey

Conservation Biology Institute
136 SW Washington Ave., Suite 202
Corvallis, OR 97333
Ph. 541-757-0687
daniel.harvey@consbio.org

Daniel Harvey has over fifteen years' experience in positions involving enterprise development, software architecture, database design, quality assurance, and team leadership. He is known for strong attention to detail, initiative in creating and maintaining documentation, expertise in development process and agile methodologies, and effectiveness in team collaboration and leadership.

Daniel excels at understanding a system or a problem space before implementing a solution, while maintaining an awareness of the overall context in which it operates, so as to realize solutions that address immediate needs while preserving the overall integrity of the system. He also keeps the business context of a system in mind, working to align development goals with those of the organization, and measures success by the satisfaction of the end-user.

Daniel also demonstrates outstanding initiative by leading efforts to improve organization-level systems and processes that are critical to CBI's business operations. He helps identify areas in need of improvement, listens to the people involved, and seeks to present well-reasoned strategies to overcome issues in communication, or to pioneer new processes that reduce friction.

EDUCATION

M.S. Computer Science & Mathematics, Southern Oregon University, Ashland, OR. 2006.

Graduate Project: Implementation of geospatial database and web portal, including migration of a Terabyte of BLM raster and vector data.

EMPLOYMENT HISTORY

2013-present Senior Software Engineer, Conservation Biology Institute, Corvallis, OR

2012-2014 Software Engineer, So Delicious Dairy Free, Springfield, OR

2011-2012 R&D Software Engineer, Eduworks, Corvallis, OR

2010-2011 Financial Data Conversion Programmer, Fiserv, Corvallis, OR
2008-2010 Lead Developer, Summit Projects, Hood River, OR
2007-2008 Java Software Engineer, Formos, Vancouver, WA
2006-2007 .Net Software Engineer, Fire Mountain Gems and Beads, Grants Pass, OR
2004-2005 Quality Assurance Technician, Plexis Health Care, Ashland, OR

PROFESSIONAL SKILLS

Enterprise software development, business process software development, full stack application design and development, database design and development, software development strategy and planning, quality assurance, team leadership, and applying agile methodologies to the software development life cycle (SDLC).

Operating Systems: Windows, Mac and Linux (SUSE, Redhat, Ubuntu)

Business Process Software: Appian, QuickBase, SharePoint

GIS Software: ESRI ArcSDE, GDAL, OGR, Postgis

Programming Languages: C, Java, .Net, Python (advanced)

Database Programming: MSSQL Server, MySQL, Oracle, PostgreSQL (advanced)

Web Design: HTML, CSS, JavaScript

SELECT PROJECT EXPERIENCE

Data Basin (ongoing) – Project and support lead, including development and maintenance of the application, issue response, improvements to code architecture and system performance, collaboration in the design and delivery of new features, and participation in the ongoing adaptation of development process. Recent contributions include:

- **Major Software Upgrade:** (2019-2020) – Upgraded Data Basin to the latest available version of Python 3. This included intensive planning as well as the implementation of the upgrade, replacing deprecated software libraries with the latest long-term support (LTS) versions, resolving all breaking changes, and upgrading the build, staging and production servers while keeping the system up and running.

- **Database Migration:** (2018-2019) – Mapped out the process for migrating all database data from MySQL to PostgreSQL in order to leverage the latest features of a leading industry technology. This included planning out the process, creating development tasks, extensive pre-migration data cleanup, oversight of the migration process, and then post-migration data cleanup and server upgrades.
- **[GIS Metadata Parser:](#)** (2016) – Authored a Python library to parse dataset metadata from the three leading standards: FGDC, ISO-19139, and ArcGIS. The library reads in XML data from any of the above, detects the standard, provides an API for easily updating values, and then validates and writes out the data to any of the other standards. It is also designed to be customizable by those who use it, and is covered 100% by tests to ensure its reliability.
- **Re-implemented Localization:** (2015) – Replaced deprecated localization infrastructure with the latest technology, which involved pervasive changes to the code base. Created scripts to automate the process of capturing new text as it is added to the code base, machine translate any missing entries, and apply any human translated text received from translation vendors. Also created and documented the development process around the new scripts in order to streamline the ongoing maintenance of the marked text across the development team.
- **Rebuilt Search Engine:** (2014) – Replaced deprecated search infrastructure with a new technology to provide advanced text and spatial data searches. Created and documented a new search algorithm to optimize the sorting of geospatial search results, both independent of and in combination with any text search results, and added new support for advanced search syntax. Also implemented real-time index updates for all searchable data.

CBI Projects (2018-2020) – Worked in collaboration with the software development team to deliver the following:

- **[PostgreSQL Database Library:](#)** (2020) – Authored a Python library that provides an API to make both common and advanced PostgreSQL operations (advanced text search, spatial indexing, and JSON support) both easy and efficient. It is designed to be configurable by those who use it, compatible with other similar technologies, and is covered 100% by tests to ensure its reliability.
- **USDA Conservation Reserve Program (CRP):** (2020) – A data import script to automate the process of populating the system with new or updated spatial data as it becomes available from the client.

- **CDT California Environmental Quality Act (CEQA):** (2019-2020) – A data import script to automate the process of populating the system with new or updated spatial data as it becomes available from the client, and enhanced database search capability so that users can search millions of addresses in under a second.
- **Environmental Risk Screening Tool (ERST):** (2018) – Localization infrastructure for both static and dynamic data, including a script to apply human and machine translations for static and dynamic text in Chinese and Portuguese. This also included a user interface for the client to add and improve translations of dynamic data as more data is added to the system, while preserving previous translations in versions.

CBI Project Management System (2014) – Worked with the Executive and Management teams to customize an application on the Quick Base platform to meet the unique project management needs of CBI. Included creating and maintaining evolving system documentation, contributing technical expertise, and offering business process development perspective. Collaborating with another developer, delivered a system that is still in use, and meeting the needs of the organization.

Data Warehouse Implementation, So Delicious Dairy Free (2013) – Architected, designed and developed a Data Warehouse to store production Enterprise Resource Planning (ERP) system data for company-wide reporting. Created a series of Data Marts to serve as a single source of truth (SST) for employees with complex data transformation business logic stored as SQL Views. Populated the schema with production data, and scheduled regular updates.

UCASTER Research Tool, Eduworks (2012) – Redesigned the user interface, and enhanced the functionality of a cloud-based semantics processing research tool. Included improving queries that match content on a webpage in a browser to content from a series of STEM digital libraries, and quickly return links relevant to the page being viewed. Also added social networking capability, including the ability to connect with colleagues and share research, and to create groups associated with areas of research and then share links among all group members.

Nike Golf Websites, Summit Projects (2009-2010) – Served as development lead for two Nike Brand websites in 2010, providing architectural direction, back-end support, technical foresight, and communication between project management, contractors, and other involved parties:

- **2010 Nike Golf Website:** (2009-2010) – Set up a development environment like Nike’s production environment to meet requirements and development

conventions, collaborated with contractors to build a content management system (CMS) for the website, and managed the deployment process (code, data, and content) throughout the project life cycle. Also fully documented the Nike OS platform development process, including environment setup, usage and support, and advanced trouble-shooting techniques, and finally delivered the completed documentation back to the Nike Brand IT department.

- **2010 Nike Vision Website:** (2010) – Designed and implemented a highly customized Nike Vision website on an independent platform, designed to provide a behavioral look and feel similar to the websites built on the Nike OS platform, such as Golf, Basketball, Etc.

SPARC Email Engine, Summit Projects (2008-2009) – Redesign, development and support of the Email Engine providing customizable email campaigns for millions of recipients from Summit Project’s clients, including Nike and Xerox.

Stream Bank Restoration Project, Formos (2008) – Contributed several new use cases to the project, which streamlines and expedites the private land owner (PLO) grant application and funding process for stream restoration projects.

Catalog Planning System, Fire Mountain Gems (2007) – Complete redesign of the existing system to provide flexible, Excel-like access to accurate data. Included business analysis, database redesign, application architecture and user interface design, data migration, documentation, and user training. Finally delivered the new system and assisted in training and support during the transition.