

Adam Kusmirek

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Experience

University of Wisconsin **01/2023 - present**

REDCap Innovations Engineer/Senior Software Developer at School of Medicine and Public Health; software development and support of web applications; supporting SMPH REDCap instance; azure development

Independent Contractor **09/2021 - 12/2022**

Working on multiple project; development and support of websites; writing software for communication with devices using REST, SOAP, OPC, TCP/IP

University of Wisconsin **04/2019 - 08/2021**

Senior Software Developer at Wisconsin Center for Educational Research; Development and support of web applications using .Net, SQLServer, Angular, React

Virginia Commonwealth University Hospital System **06/2015 - 04/2019**

Software Developer at Molecular Diagnostic Lab, Pathology Department
Working on applications for clinical tests using NGS (Next Generation Sequencing); storage and annotation of DNA variants; writing interface for data access; integration with Cerner, Torrent, Illumina systems; development of API

Douglass Stewart Company **04/2012 to 06/2015**

Senior E-commerce Developer
Development and support of company B2B, e-commerce websites; SharePoint intranet, MySQL database management, data replication, reporting, task scheduling.

Flownamics, Inc. **06/2010 to 04/2012**

System Developer
Development of web-enabled software for Automated Sampling System; Responsible for all aspect of programming, including interfacing with third party devices (chemistry analyzers, scales, OPC Server); MySQL database administration; Linux administration; Development and maintenance of company websites.

Independent Contractor **10/2009 to 06/2010**

Working as contractor for Attevo, Inc. and Greenleaf Media
Datacenter migration, troubleshooting, databases and website code migration and upgrade, support for Attevo's clients. Working on multiple database backed websites.

Attevo, Inc. / OhioOnline, Inc. **08/1998 to 10/2009**

Senior Systems Analyst
Development of client/server and web-based applications; Involved in all stages of programming/development.

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Designed, developed and supported numerous web application, intranets, e-commerce, on-line searches, portals, on-line meeting registration, document management systems, B2B and B2C solutions

Database administration for Oracle, MS SQLServer, MySQL, and PostgreSQL: installation, management, data loads and exports, tuning SQL queries, file management, etc.

Technology Skills

Programming Languages: C#, PHP, JavaScript, jQuery, AngularJS, SQL, HTML/DHTML, NET, ASP, JSP, XML, Perl, PL/SQL,

Databases: Oracle, SQLServer, MySQL, PostgreSQL, DB2

Other: Microsoft Azure, AI development, Windows administration, Linux administration, Unix administration, Apache, IIS, SharePoint, Git, TOAD, REST, SOAP, OPC

Education

Masters of Computer Science, Warsaw University, 1997

Special Accomplishments

NGS Interface Molecular Diagnostic Lab, VCU Medical Center 2015-2016

Web based application used for annotating DNA variants for Next Generation Sequencing for clinical oncology assays

The NGS application (Next Generation Sequencing Interface) is a clinical support application for managing patient DNA data and annotation created by lab directors and fellows. The application imports patient data from hospital database, then helps lab staff to manage samples through wet lab. Once vcf files are generated by Torrent sequencer, they are loaded into the application database. Variants are filtered based on QC parameters, then annotated against COSMIC, NHLBI, ClinVar and population databases (1000 Genomes, ExAC, gnomAD, ESP) and an internal knowledge base.

The application uses external website search for drugs and clinical trials. The information is reviewed by genetic analysts and/or fellows - they assign pathogenicity and tier classification, as well as add custom annotations and link literature. The data is saved into internal knowledge base for future annotations and research. A custom system of approval is used by directors to either approve the information, or request changes. The system utilizes a user role based permissions with roles such as technologist, analyst, fellow, director, researcher. Each role is assigned specific level of access to the NGS application. For example technologist has rights to view orders, create worklists, assign samples, generate manifest files, and filter variants. Admin role allows for user management, assigning roles and applying permissions to roles, etc.

The Application was developed to be HIPPA compliant. It is one of the first application to utilize ACMG Tier System guidelines for variant annotations. Based on the application, a number of other programs have been developed, such as InheriSEQ NGS for inherited cancer panel, NIPT NGS for processing non-invasive prenatal testing, Onco Heme NGS for Hematologic Malignancy panel.

Technologies used: Linux, Apache, MySQL, PHP, Ajax, Ion Torrent Software Suite
The demo of the application is available upon request.

Team uniform, plaque and banner designer The Neff Company 2004 - 2005

The application allowed graphic modification of predefined templates such as text (and text attributes such as color, font, size, shading, borders, etc.), logo (color, color schemes, size, placements), material texture, color grading and simulate the design for school team uniforms, award plaques, patches, banners and other products.

In a typical scenario a salesman would meet with school sport coach and they would work together on creating design for team t-shirts, plaques or banner. Instead of making notes sending back to company to create sketch, sending back to school, verifying, making changes and so on, the application run on a laptop, it allowed on spot design by choosing template, importing team mascot, entering school and/or team name, applying team colors, so there was immediate result. The change of process increased lead conversion, shorten process considerably, decreased error rate, and generated new leads due to recommendations.

While this application may not seem like a big deal in today word, it was very innovative and impressive 15 years ago.

Technologies used: Adobe Illustrator scripting engine for graphic modifications, Lotus Notes as database, interface and for data replication.

Document Search Baker & Hostetler 2002-2003

The application allowed for interactive search of 6 million documents (Microsoft Word, PDF, Text). The document were stored on 6 file servers located in different locations across US. Each document could have different permissions allowing for access for each employee. The search was using web interface hosted on company intranet. It allowed for searching by keywords, law practice, authors, date of creation, location, etc. According to Microsoft it was the largest utilization of their search/indexing at that time.

Technologies used: IIS Server, ASP, JavaScript (for front end search interface manipulation), Microsoft Search for document indexing and searching.