

Mauro Dutra <> Principal SDE

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MAJOR ACCOMPLISHMENTS

- In 2005 I created OptiviewWeb, the world's first single page web application. In the same year I successfully replicated the web application creating OptispoolWeb. I introduced the concept of user interactive HTML Help to OptiviewWeb for users to try the widgets while reading the help instructions.
- In 2012 I created custom UI widgets for the Voyager web application, Expedia's internal Customer Service Center, a tool designed and engineered to replace over twenty other order management applications.
- In 2013 I created the first single page HTML5 website with a fully integrated Admin system, the website administrator could add/edit content on the website itself real-time.
- In 2018 I integrated several 3rd Party APIs to OpenCart Admin custom system to assist administrators and sales reps with real-time data editing decisions. The Administrative Integrated Assistant Tools concept is currently implemented and deployed in Cuda Zoo's production environment.
- In 2021 I was the lead developer of the FDA Data Dashboards REST API in Node.js Express framework. I also laid the groundwork for the team to build the DDAPI Documentation page, adding an API Client for users to try their JSON requests to the DDAPI service. I also created the ddapi.json file to add support for OpenAPI Specifications 3.0. +
- In 2022 as the lead developer on the USPTO ETIS web application, I took ownership of the codebase, refactoring, debugging, and implementing new features, getting the application stable for Production deployment within short notice. In the past nine months I created the SessionTimeout, CommonDialog, and System-wide AlertBanner UI widgets, re-useable and easy to configure. I created the Smart Agreement PDF using .NET MVC to render the agreement HTML template and the iText 7 pdfHTML add-on to convert to a PDF document. I normalized the ETIS Agreement data models throughout the entire Employee Application and Supervisor Approval processes, the core functionality to stabilize the application. I refactored the codebase eliminating obsolete business logic and spaghetti code in the process, adding proper error handling and logging, graceful exit with proper alerts to users, and restoring the .NET MVC pattern to the project. Collaborated directly on a daily basis with client's stakeholders, assisting with product design, sprint planning, and more.
- Currently attending the MIT xPRO Professional Certificate in Coding: Fullstack Development with MERN (MongoDB Express Angular Node.)

TECHNICAL EXPERTISE

- Languages: VB and C#, Java, PHP, JavaScript, and ColdFusion.
- Platforms: Windows, Linux and Android.
- Protocols/Standards: AJAX, SOA, MVC, OOP, SOAP, CSS 3, HTML 5, XHTML, XML, JSON and DHTML
- Development Tools: Photoshop CC, NetBeans, Visual Studio, JIRA, Confluence, Git and more.
- Frameworks: ASP.NET Frameworks, LAMP Stack, Java Spring Framework, Bootstrap, jQuery UI, OpenCart MVC, Node.js Express, and more.
- Database Tech: SQL Server, MySQL, ODBC and DB2.
- Web Services: FDA Data Dashboards API, Qlik Sense API, UPS Online Shipping Calculator API, Authorize.Net API, LiquidOffice Workflow, Google Maps API, Quickbooks SOAP API, IBM Daeja ViewONE Java Applet/Servlet and more.

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WORK EXPERIENCE

GovCIO (previously Salient CRGT, Inc.) – Fairfax, VA (remote)

May 2020 – Present

Principal SDE, full-stack SME

- Assist the FDA Data Dashboards team with Mashups modification and Qlik Sense APIs integrations.
- Develop and maintain Java Selenium systems test automation scripts.
- Act as a core member of the team, assisting on the development of several select code challenges.
- Developed the FDA Data Dashboards RESTful API in Node.js Express framework. The API supports JSON request/response, data queries and dynamic structure.
- Guided the team to create the API Documentation page as part of the Data Dashboards Web application. Integrated an API Client to the Documentation page for users to try the DDAPI service.
- Created the ddapi.json file with the OpenAPI Specification 3.0 to support RESTful APIs third-party tools like Swagger and Postman.
- Worked on the FDA Data Dashboards Notification application developing client and server ColdFusion components.
- Assist all team members with software development, documentation, and QA testing.
- In August 2021 started on the USPTO ETIS web application project as the lead full-stack developer, creating new features and debugging both front and back-end code.
- Implemented the Session Timeout UI Widgets to monitor user's session inactivity in the Browser (the USPTO ETIS application uses SSO therefore does not maintain a true server side session,) after the configured timeout the widget displays a dialog with additional time count-down for user to select either to continue or end session.
- Implemented the configurable Common Dialog Widget in accordance with USPTO UI/UX guidelines. This widget enables the team to rapidly replace the JS alert and confirm dialogs used throughout the ETIS application. Reusing as base the jQuery UI dialog, the configurable CommonDialogWidget allows our team to configure the dialog with one or two buttons, set buttons' labels, and attach custom event handlers to button's click.
- Implemented the configurable Alert Banner Widget in accordance with USPTO UI/UX guidelines. This widget is used for displaying proper Application Error Handlers error/warning messages, and the new feature the System-wide Notifications scheduled by System Administrators. The Alert Banner Widget supports multiple banners being set by both Error Handlers and System-wide Notifications processes.
- Implemented AJAX server side method to calculate the distance of applicant's address to the nearest USPTO office (there 5 offices throughout the US.) The method loops through the 5 offices' addresses making calls to Google Maps API to calculate the distance to the applicant's address.
- Implemented the method called during the supervisor's approval process to generate the Employee Telework Program Participation Agreement PDF document. Using a ASP.NET MVC function to render the HTML template, the resulting HTML string is passed to the iText 7 pdfHTML add-on which converts and outputs the PDF document, then it is encrypted and stored in the Agreement record for later use.
- Refactored and re-engineered the codebase to enhance readability and maintainability, fixing issues, normalizing view and data models, and enhancing performance of the USPTO ETIS application.
- Collaborated with client's stakeholders on the product design, sprint planning, and support team.
- Collaborated with the successful deployment of ETIS 2.0.0 codenamed OSPREY release to Production. After 2 years without any updates, the ETIS Production version was too far behind,

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making the OSPREY 2.0.0 release deployment a substantially complex and difficult task, with several new dependencies, and careful upgrade of the Production Database schema and data version to bring it forward compatible, while preserving all current USPTO employees Telework Agreements.

- Successfully completed the code refactoring of ETIS Agreement Application page. Among the achievements: combined two separate pages/forms into a single page/form with enhanced UI/UX and performance, reduced the number of lines of code by 48%, removed code with obsolete business logic clutter, completely eliminated the massive amount of nested conditions (A.K.A. spaghetti code) making the code readable, completely eliminated the dependency on unreliable .NET server session variables to store ETIS posted data, completely cleaned-up client-side code (HTML, CSS, and JavaScript) using best practices, added proper Error handlers and email notifications for ETIS application failure to save, restored proper MVC pattern, and a lot more code and application enhancements.
- Successfully optimized SQL Views and Stored Procedures increasing performance of critical ETIS reports, reducing the number of slow queries and index locking contentions. Leading the team on the investigations of ETIS Database critical performance issues and security enforcement.

MD Information Systems, LLC. – Springfield, VA (remote)
Principal SDE, full-stack

August 2016 – May 2020

- I am developing the Package/Freight Bundler Shipping Cost Estimate Calculator Web API microservice. It is being implemented using the AWS Lambda Project in the AWS Toolkit for Visual Studio 2019.
- I am developing a new e-Commerce Storefront with modern Bootstrap v4 using ASP.NET Core MVC Razor pages. This web application shall consume products data from the ProductsWiki Web API microservices, which is fed by MongoDB database on AWS.
- Developed for Cuda Zoo, LLC. a custom Admin Sales Order Management UI Form fully integrated with several third party APIs, enabling Sales Team to service customers over the phone. Integrated Authorize.net API to process new payments and refunds.
- Automated daily download of Authorize.net processed transactions reports, matching them to orders and generating the data upload for QuickBooks accounting orders, received payments and refunds.
- Reports were created to show all matching and error order transactions.
- Integrated PayPal API to the Admin system.
- Integrated UPS Rating API to recalculate shipping cost immediately as Sales Order got updated by service rep.
- Added a shopping cart to the Order Management form so service reps can add/modify/remove items to the order and have the entire order totals recalculated during customer service calls.
- Integrated Signifyd API providing real time Fraud Detection to the Order Management tool.
- All these features were implemented using JavaScript Ajax calls to PHP RESTful APIs, enabling the Order Management form to submit partial updates without the need to refresh the page during a phone service session.
- I have developed a second custom version of the Responsive Web Design OpenCart maintaining forward and backward compatibility between the original and new versions, enabling uninterrupted sharing of the Production database during the transition.
- Designed and developed several new HTML5/CSS/JavaScript UI widgets to enhance UX, providing new sales tools to the marketing dept. in the process.
- I created the presentation and branding of ShopperOne shopping cart and all the storefront websites.

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- Among some of the best engineering achievements is the creation of pre-compiled data cached on the client-side as JSON and HTML snippets cached on the server-side, it accelerates pages download times and substantially reduces the SQL queries workload.

MD Information Systems, Inc. – Bellevue, WA
Principal SDE, full-stack

December 2012 – July 2016

- Worked as an SDE contractor on projects of various clients.
- I assisted the Cequent UI team on the Caller Name ID app backlog, debugging JavaScript code, adding new HTML5/CSS/JavaScript functionalities in their hybrid mobile app.
- I worked with Blue Nile UI team on www.bluenile.com developing new features, creating widgets and backlog issues. Also debugged server-side issues on their Java Spring Framework including JDBC and Oracle SQL in stored procedures. At Blue Nile I worked directly with sales team stakeholders and Graphics Designer to expedite the development of new UI features in time for the sales season.
- I've worked on several other six months contracts doing UI/UX development and support. During this period I continued developing and serving Cuda Zoo, LLC. and other direct clients as a Full Stack Dev.

Expedia, Inc. – Bellevue, WA
Staff SDE, UI Web Developer

March – September 2012

- Worked on a six months contract with Expedia, Inc. to develop the Voyager Web Application.
- The Voyager application aim was to create a single tool that provides cross-brand telesales and customer service functionality for agents in all Expedia's call centers around the world.
- As UI Dev I was responsible for the development of new features and debugging of existing features in several areas of the application including localization.
- I developed the new Reason Codes and Cost Breakdown custom widgets. Using the new UX/UI design I implemented the new, more user friendly widgets using jQuery, replacing old widgets.
- Spearheaded initiative to reduce 3rd party dependency and simplify Voyager's code base.
- Moved business logic out of client side JS code into C# server side code; minimizing network traffic and better organizing the placement of business logic in the code base.
- Worked on C# .NET MVC3 Controllers, Models and Views. Voyager models consumed SOAP Services.
- I was part of the team that implemented new features like Customer Service Hard Change and EAN support (Expedia Affiliate Network).
- Helped team members to improve client side JavaScript code.
- Introduced some new jQuery plugin functions like Dynamic Form and ScrollIntoView.

MD Information Systems, Inc. – Miami/Fort Lauderdale Area, FL
Staff SDE, full-stack

September 2008 – March 2012

- I customized the OpenCart e-commerce opensource application to create several storefront websites for my B2B client Cuda Zoo, LLC.
- I completely redesigned and re-engineered the shopping cart checkout process.
- Implemented the state-of-art cross-domain ShopperOne shopping cart for a single-point checkout of multiple websites.
- Cuda Zoo, LLC is an online retailer mostly operating on a drop-shipping business model with 150 distributors. Our online customers may be adding products to their carts shipped by various

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distributors, from many locations throughout the United States and Canada. In order to provide real-time accurate shipping costs to customers, I created a ShoppingCart Shipping Package + Freight Bundling Algorithm REST API service. My algorithm sorts all shopping cart products and proceeds to bundle packages and freights, submitting the bundles to UPS Rating API, minimizing the number of web services calls for optimum efficiency and accuracy. After the algorithm concludes the bundling and calls to UPS Rating API web service, it proceeds to consolidate the various bundles shipping costs into a single shipping cost for Cuda Zoo's customers. This functionality is in place for over 9 years producing accurate shipping costs estimates for our online customers.

- Transformed legacy PHP/HTML e-commerce web pages into modernized AJAX web pages, greatly improving presentation and performance.
- Integrated OpenCart Admin Order Processing with Authorize.net AIM and Transaction Detail APIs, also integrated the Quickbooks Server v.11 Accounting System.
- I developed a powerful User Session Management (USM) using RESTful architecture, providing several layers of encryption and security. The USM goes beyond regular Web Session Management; it controls User's Login and Logout integrated with Shopping Cart data of multiple cross-domains storefront websites. Every USM record is saved to track user login and shopping experience history.
- Audit reports of user's login and shopping cart events enabling the detection of fraud and server attacks.
- I've also created several corporate websites with advanced features such as dynamic content generated from JSON data in pre-compiled .js files for enhanced performance.
- Created the Admin System functionality completely integrated into the website.
- Created several advanced JavaScript functionalities such as Animation Event Subscriber (all animations throughout the page run off a single timer for most efficiency.)

Advanced Processing & Imaging, Inc. – Deerfield Beach, FL
Senior SDE, full-stack

October 2005 – January 2009

- I was responsible for the end-to-end design, engineering, and implementation of OptiView ECM and OptiSpool Web applications. These two applications are API's flagship Document Management products. These two web applications were possibly the world's first single-page web applications.
- OptiView Web features integrated Java Applets and Servlets for image viewing and annotations editing.
- Created custom UI query builders and filters to provide users easy search functionality.
- Created custom UI for IBM Daeja ViewONE Java Applet image viewer navigation and annotations toolbar.
- Added the ability to send out emails with documents attached and/or secured links for guest viewing of the specified documents on the web applications. This new feature enabled several South Florida Counties School Board to expedite the sharing of students' documents with parents with additional security measures. The email document feature was so much appreciated, it prompted the Monroe County School Board to send a letter thanking API for OptiView Web's feature that saved them hundreds of dollars every month in USPS postage costs.
- I created the innovating concept for York County Natural Gas Authority to send/receive service orders to laptops on the field running OptiView Web; eliminating the need for servicemen to double commute to the main office. Upon completion of an order, the serviceman would use OptiView's Java Servlet tool to stamp applicable service items, type notes and save the document back on OptiView Server through an integrated Java Servlet. Following the saving of annotations, the serviceman used

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OptiView Web to send an email to the dispatcher warning of the completion of the service. The dispatchers back in the main office could then access the completed work orders, review the servicemen's annotations and input all application actions to their admin system, closing the service cycle within the same working day.

- Other important custom features were added for multiple customers, especially for several school boards in South Florida that require tide security measures.
- I was responsible for the branding of the LiquidOffice Workflow OEM product and integration with OptiView ECM through .NET connect agent and Java API custom task.

History prior to 2009 is available upon request

Education and Qualifications

1984 F.E.R.P. University – Volta Redonda, RJ – Brazil
Incomplete B.S. Mathematics and Computer Science

Languages: Fluent in English and Portuguese.

References: Available upon request

Current Location: Fairfax, Virginia (open to relocate to Melbourne, FL)