

## Designer & Programmer

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MS Access VBA demo apps and code available at <http://www.didjiman.com/business/cv-swareVBA.htm>.

JavaScript demo apps available at <http://www.didjiman.com/business/cv-swareJS.htm> or

<https://github.com/MatthewHarris01>.

**Matthew S. Harris**

MS Access, Excel, MS Office VBA, JavaScript, Node JS

Visual Studio .NET

### Database and Application Design Skills

- Design & program systems to manage & report on critical tasks – CRM, sales, inventory, shipping/receiving, project/process management, calculators/estimators.
- Study end-user needs to determine required application features and other design criteria
- Model business data into appropriate database formats
- Model workflow for project and process management applications
- Create turn-key applications in MS Access and MS Office
- User-friendly interfaces optimized for speed, accuracy, & ease of use entering data, searching, or reporting
- Design and build complex summary reports and charts for financial data, performance, and other data

### Programming Skills

- Lead project development teams of 3-4 persons.
- Extensive experience programming in Visual Basic for Applications (VBA), Visual Studio .NET
- Experience developing large-scale applications (100k+ lines of code)
- Modify, maintain, update, and debug programs written by others
- Multi-user database applications for local and remote databases with MS Access and VBA
- Seamlessly integrate MS Access, MS Excel, MS Word, and MS Outlook to create charts, mail lists, mail-merges, e-mails, and other tasks
- Structured Query Language (SQL)
- Microsoft SQL Server 2014 and ODBC
- Read/write XML data structures
- JavaScript
- HTML5 and CSS
- Data import/export and data format conversion involving large data sets (100k+ to millions of rows)
- **Write how-to and instructional documentation for HTML or print formats**
- **Create technical documentation for existing or new programs (data dictionaries, program requirements, etc.)**

**Current Status: enrolled in a full stack web developer course through UCB Extension Services (Nov 2019 to present. Graduation expected in May 2020) current course grade average is A-.** This course covers:

- HTML5 and CSS
- JavaScript, JQuery, NODE JS
- FireBase database
- mySQL database

## **NAPCA-SCSEP – City of Oakland Human Resources Dept. (May 2018 to May 2019) – MS Excel, MS Access, MS Word.**

NAPCA-SCSEP is an employment program which places people at various "Host Agencies". My host agency was the **City of Oakland (CA) Human Resources Department**. My duties in this position were diverse:

- ❖ **Write Excel VBA code to automate the aggregation of data about participants in various City of Oakland Senior programs from multiple worksheets into a single worksheet for subsequent statistical analysis.**
- ❖ Assist members of the public using public-access computers at City of Oakland offices for job search, housing search, e-mail, and other tasks.
- ❖ Assist City of Oakland staff members with issues using MS Office products, in particular MS Excel, and MS Word.
- ❖ **Design MS Access databases to record and summarize client satisfaction survey results from surveys of clients using various City of Oakland Senior Services.**
  - Data-entry forms in the completed database enabled entering survey results with approximately 5 keystrokes (excluding typing respondent's name and transcribing any notes/comments made by respondents).
- ❖ Perform data-entry of survey forms
- ❖ **Generate statistical reports on survey results**

## **Notable Experience – Design & Programming Contract Work**

*These are selected significant projects using VBA in MS Access, MS Excel, MS Word, and other MS Office applications. Complete case-histories for these and other projects may be found at <http://www.didjiman.com/business/pf-projects.htm>.*

### **Self – Portfolio Project (Spring/Summer 2017) – MS Word**

This project resulted from my own desire to have a Word Add-In that would create an HTML5 document from a Word document that would render in a browser the same as it renders in Word, and to avoid the overhead produced when saving a Word document as HTML. This turned out to be a very challenging project requiring:

- ❖ An extensive knowledge of HTML5
- ❖ An extremely detailed knowledge of objects and methods in MS Word
- ❖ A detailed knowledge of the MS Word document file format.

### **Gove Allen – Professor at Brigham Young University. Design & Write Textbook for Beginning through Advanced MS Excel VBA Programming – MS Excel (Oct. 2015 – Oct. 2016)**

Prof. Allen found me through Internet searches for an author of Excel VBA books with excellent reader reviews. He engaged me to write a textbook tailored to his curriculum for business-school courses on Excel VBA programming. The book is for a 3-semester series of courses that take students from beginner VBA skills through advanced topics; it is published as an e-book by MyEducator.com.

- ❖ All three sections of the book have been published, and have received excellent student reviews.
- ❖ The book has 41 chapters (approximately 600k words total), and several thousand lines of example code.
- ❖ The book begins by teaching basic VBA programming; each chapter builds on previously acquired knowledge into advanced topics such as: user-defined data types, creating custom object classes, custom ribbons, creating Excel add-ins, automating Pivot Tables, automating Solver, using VBA in Excel to control Internet Explorer, MS Word, MS Outlook, & MS PowerPoint, and shows how to import/link to data from a variety of database formats, and how to use ADODB to query SQL Server databases, and how to use Windows API functions.

### **Stanford University/US Department of Energy. Design & Program Multiple Projects - MS Access (Dec. 2012 – Jan. 2013; April 2014 – May 2015)**

This pair of MS Access apps made it possible for one researcher to conduct two different studies. They automated data import and validation over the course of the studies, and automated communication with study participants (one study required sending e-mails 3 to 4 times per week to all participants).

- ❖ Saved hundreds of hours of labor by importing CSV files with thousands of rows, aggregating time-based data, validating data, removing duplicate records.
- ❖ Saved days of labor by automating participant feedback via e-mails to a single mouse-click.
- ❖ Helped ensure the validity of the study by ensuring all data is validated and the import process is auditable.
- ❖ **Application runs entirely in MS Access, controlling MS Excel and MS Outlook as needed.**

## **New Haven Schools Foundation (NHSF), Union City CA. *Design & Program – MS Access, MS Word***

*(Feb. 2009 – March 2010; follow-up contracts in July 2010, Aug. 2010, April 2011, July 2011, and Jan. 2014)*

A non-profit organization supporting its school district by raising funds to purchase school equipment, fund teachers' special projects, and administer scholarships. An MS Access application solved NHSF'S difficulties with a variety of record-keeping and reporting tasks.

- ❖ Tracks donor contact information and donation amounts, making it possible to identify high-level donors and to contact all donors. Also tracks fund-raising campaigns, class-room grants and scholarship awards to more easily determine cash in- and out-flow, and to identify which fund-raising campaigns are most effective.
- ❖ Creates financial summary, demographic, and other reports.
- ❖ Enables users to select a variety of search criteria to identify donor groups, and to save the search criteria.
- ❖ Calculates donors' tax-deductible value of contributions where a gift is received in return for the donation.
- ❖ Substantially reduces time required to produce Federally-mandated tax-receipt letters: user enters a year value and selects an MS Word mail-merge template; the application automatically generates the tax letters.
- ❖ Creates mail lists or mass-mailings to selected donors for fund-raising outreach & notice of upcoming events.

### **Notable Experience – Design & Programming Contract Work (continued)**

## **VISA USA, Foster City CA. *Design & Program – MS Access, MS Excel (Oct. 2006 – April 2007)***

- ❖ This project solved a variety of timeliness issues, increased the reliability of compliance tracking, and significantly automated several time-consuming tasks (for one task, time to completion reduced by ~36 hours).
- ❖ Eliminated a 2-3 day turnaround in inter-departmental data sharing by providing real-time shared data access.
- ❖ Instant summary reports for top managers; some summary reports required as many as 14 days to prepare.
- ❖ Built a secured multi-user database in MS Access for in-house use (30-40 simultaneous users).
- ❖ Served seven different task groups within VISA's Risk Management department.
- ❖ Tracked other companies' compliance with, and certification for, VISA's anti-fraud security practices.
- ❖ Over 80,000 lines of code, contains approximately 70 special-purpose forms.

## **Tri-CED Community Recycling, Union City CA. *Design & Program Multiple Projects – MS Access & Excel***

*(Multiple contracts from June 2005 through January 2014)*

Tri-CED is a non-profit providing curb-side pickup of recyclable & organic waste, and operates a CA container-redemption center.

### **• Upgrade Customer Service System and Point-of-Sale Applications**

- ❖ Upgrade from MS Access 2003 to MS Access 2010 to utilize new features in MS Access.
- ❖ Saved several hours of labor per month by adding a feature to automatically create summary charts in MS Excel.

### **• Customer Service (CRM) System (*in use 6 days a week for 9+ years, serving approx. 60,000 households*)**

This MS Access VBA application replaced an antiquated and poorly implemented MS-DOS database system.

- ❖ Eliminates 40-50 hours of labor per month by automatically generating complex summary reports required by city, state, and labor union contracts; user needs only to select a report's time-period with a few mouse clicks.
- ❖ Tracks customer complaints and requests; generates Service Orders and tracks their completion.
- ❖ Tracks truck driver notices issued to customers and driver reports related to curb-side pickups.
- ❖ Tracks tonnage of various recyclable materials collected.
- ❖ Summary reports for service order performance statistics, tonnage collected, special collections (oil, batteries).
- ❖ Multi-user database (15-20 simultaneous users) manages all Customer Service tasks.
- ❖ 60,000+ customer records imported from old system to new system.
- ❖ Deliverables included installer, technical documentation, and a user-manual in print and HTML formats.

### **• Point-of-Sale System (*has served approximately 200 customers per day, 6 days a week, for 10+ years*)**

This MS Access application is a disbursement cashier, something typical POS systems are not well-suited for.

- ❖ Significantly reduced time required to serve each customer, close-out register, & create reports to state of CA.
- ❖ Computes disbursements for recyclables by weight or count, prints receipts on a standard receipt printer.
- ❖ Back-office application manages price-list, performs cashier close-out functions, and provides accounting reports.
- ❖ Satisfies California state law for a redemption-container recycling business's receipts and reports.