

**Velton Vee Harwell**  
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**Summary**

A principal software engineer with thirty plus years of professional experience in the design, development, delivery, and support of Windows and UNIX based software and database products. Proven team player and leader during the software development life cycle of applications for many various industries. Extensively experienced in the administrative tasks required by the product development process, such as resource control systems, build systems, and database administration.

**Education**

Master's Degree in Software Engineering, 2010  
DePaul University  
GPA 3.84

Bachelor's Degree in Computer Science, 1992  
Southern College of Technology  
Technical Analysis Option with a Minor in Mathematics

**Languages:**

C#, Java, Python, Kotlin, PowerShell, C/C++, Visual Basic / VB.Net, SQL, JavaScript, HTML, CSS

**Frameworks:**

Microsoft .NET, AWS, Windows Azure, Android SDK, STL, ATL, MFC, Boost, Windows SDK, JSON, XML/XSD/XSLT/VXML

**Technologies:**

Server - Rest API, Web / Microservices, Messaging, ESB, Service Bus, Caching  
Client – Web(React, JavaScript, Node); Desktop – WPF/XAML

**Methodologies:**

Agile Development, Iterative Development, SDLC, UML

**Software:**

SQL Server, PostgreSQL, Visual Studio, Android Studio, Eclipse, Git/GitHub/GitLab, NuGet, Jenkins, TFS, xUnit frameworks, UNIX shells, PowerShell

**Experience****Redbox, Principal Engineer, Kiosk****04/2019-Current**

Environment: Visual Studio 2017-2022, Windows 7/10 (client side kiosk), XAML/WPF, AWS (EC2, Lambda, IoT, other) Micro services, SQL Server, PostgreSQL, MySQL, DynamoDB, Redis

Serving as one of the principle engineers for the Redbox Kiosk development team, with my primary focus being back end platform support and the ongoing port of the current Kiosk back end web services and databases into AWS. This involves restructuring the current functionality from the major Kiosk web service into multiple, more specific microservices and lambda implementations. Also working to gradually transition the Kiosk systems off of the on premise SQL Server databases onto more specific cloud database instances (RDS, Aurora, Redshift). Some of the specific areas that I was responsible for:

- Implemented multiple web pages for the internal Kiosk Operations and CMS support websites using React.
- Implemented Kiosk CMS infrastructure services and client support for targeted marketing on the kiosk.
- Created new implementations for the Kiosk business backend processes inside of the AWS environment, leveraging various AWS Services such as Cloudfront, EC2, Lambda, S3, Kinesis/Firehose, Simple Queue Service, and Secrets Manager.

- Recreated the existing production API's for Kiosk return, marketing, loyalty, data feed, and promotions systems into AWS EC2 microservices. Created middleware libraries used by all of the newer AWS code to provide common integration into base level services, .Net Core middleware, serialization, analytics and Grafana metrics reporting.
- Updated the Redbox Kiosk Software to be able to communicate with both the current on premise API's as well as the newly created AWS API's. Created mechanisms to support a phased transition to the newer AWS API's and guided Operations on the gradual roll off from the on premise API set and onto the new AWS based API set.
- Updated the Kiosk Store Installer to work with the newer Window 10 Kiosk machine image, using various low levels system apis thru P\Invoke to tailor the various software installations, registry setting, and system hooks. Worked closely with Operations and QA to test and verify the Windows 10 image through PCI verification.

### **Redbox, Principal Engineer, Mobile**

**10/2014-04/2019**

Environment: Kotlin, Android Studio, Java, Eclipse with Android ADT, Git/GitLab, Gradle, Ant, Jenkins

Served as the principal Android software development lead for the Android Mobile team of the Redbox Online group, with my primary focus on the Redbox Android Mobile application. During my time in this position I have been responsible for multiple customer facing features and improvements, such as

- Complete rewrite and rebranding of the Redbox Android application and backend services.
- Numerous customer focused feature releases for the Redbox Android application.
- Play Pass Customer Reward initiative.
- PCI Customer data upgrade and improvement for mobile.
- Multiple updates and improvements between the Redbox Web API layer and the consuming mobile applications.

### **Redbox, Senior Software Engineer, Web**

**11/2013-10/2014**

Environment: C#, ASP.Net, SQL Server, PowerShell, Team Foundation Server

During my time as a Senior Software Engineer for the Redbox Online Web group, I performed many of the tasks commonly associated with Web development using Microsoft technologies. I served as a member of the Redbox web site development team, as well as serving as the primary shared services developer for the Coinstar web site when it was brought into Redbox Shared Services. Along with my web development duties, I also took over the role of SME for the migration of the continuous integration and package creation into Team Foundation Server. Examples of my accomplishments during my time in this position are:

- Migrated all of the TFS build templates for the Redbox website and associated services from TFS 2010/2012 to the newer TFS2013 build templates. Provided developer support and training for TFS 2013 build system to other team members.
- Migrated the Coinstar web site repository and build system from TFS 2010 to TFS2013.
- Implemented Redbox Play Pass customer incentive campaign for the Redbox web site (UI/Controller/Web Services/Database).
- Improved and optimized the Redbox Web API layer, which is consumed by the Redbox mobile applications.
- Added functionality to the Coinstar web site to also support Coinstar Exchange kiosks
- Audited the existing Coinstar website, and made many stability and speed improvements to fix existing production issues.
- Help to rewrite the responsive implementation for the Redbox website to allow for a much improved user experience on mobile/tablet/desktop browsers and various devices.
- Served as the mentor for new Associate Developers hired onto the Redbox Online team. Educated these new hires on Redbox best practices and software architecture.
- Also implemented various features and improvements to the Redbox website over multiple sprints based on direction from the Redbox Product team.

**Redbox, Senior Software Engineer****05/2008-11/2013**

Environment: C#, SQL Server, Windows Azure, Java, PowerShell, Vault, Build Systems, Java, Subversion

During my time as a Senior Software Engineer for the Redbox Canada group, I was responsible for the Rental Server and Merchant components for Redbox kiosks in Canada. The responsibilities for this area included the following:

- Took snapshots of the entire US Redbox systems code base and moved these systems into the Canada environment. Made changes necessary to allow these systems to be run under the Windows Azure environment.
- Created new CruiseControl.Net build server instances to build the Canada systems code base.
- Created Integration Test Suites for the Kiosk backend services and built the mechanisms that allow these test to be run in the Azure development after each development build was completed.
- Created Power Shell scripts to perform automated deployments of the Canada systems from the build server into the Development, QA and Production Azure environments.
- Used my previous knowledge of the Redbox systems to serve as a SME for the Redbox Canada group, assisting in bringing the Canada environment online, and to solve production issues in the daily operations of the production environment.
- Conducted preliminary phone screens and tests for potential candidates to be added to the Redbox Canada team.

For the four years previous to my Canada assignment, I served as a Senior Software Engineer in both the Redbox Rental and Client teams. Responsibilities included in these roles are:

- Served as the Rental Server team lead for the Redbox Kiosk Service. This is the main web service used by Redbox kiosks for transaction processing and uptime/maintenance reporting.
- Helped to maintain and support the Redbox Merchant Service and Paymentech Service. These services are the billing/invoicing systems and credit card payment gateway services for Redbox.
- Served as the Rental Server team lead for the Redbox Corporate Service, which served as the bridge between the main Redbox transactional database and the Customer Support applications.
- Served as a liaison between the Rental teams and other teams inside Redbox to implement and rollout functionality needed to support the business.
- Performed feature and defect work on the Redbox kiosk applications, including rollout of the newer Kiosk Engine implementation from the older static thick client application.
- Conducted preliminary phone screens and tests for potential candidates to be added to the Redbox Server and QA teams.

**West Notifications Group, Software Engineer****08/2007-05/2008**

Environment: Windows XP, 2003 Server, C#, XML, VXML, JavaScript, Java, Subversion

Served as a software engineer in the Engineering team at West Notifications Group, with my primary focus on the design and development of custom call campaigns for various West customers. This development involves analysis of customer specifications, planning and definition of input data formats from the customer, and development of call campaign code for processing the customer data using C#, VXML, SQL, and JavaScript. Also worked on the extension and maintenance of the RapidApp campaign libraries and VCSR campaign service. Served as the single engineering resource for one of West's major clients. Also performed maintenance as needed for the West call delivery platform web service.

**Applied Systems, Senior Developer****2003-08/2007**

Environment: Windows 9X, NT, 2000, XP, VB.NET, C# Visual C++, Visual Basic 6, Borland / Microsoft 16 bit compilers, COM/ATL, STL, SQL Server, PostgreSQL, NUnit, SourceSafe

Served in the role of lead programmer in the Systems Development group for Applied, with my ending focus being utilities for the management and maintenance of the Applied Online environment. My previous assignments included working on new development for the Applied Systems flagship insurance

product, specializing in the data access and data type layers for multiple database providers using .NET technologies. Also served as a leading member of the System Development team for the Activity Manager Software suite (TAM) and Vision products, spanning the spectrum of Windows platforms and development environments from 16 bit DOS programming to the integration of newer .NET modules into the legacy product. Specific responsibilities in this arena include:

- Designed and developed many of the Visual Basic business objects and UI components for the TAM 7.11 forms integration, as well as the maintenance of the existing form component DLLs.
- Developed and maintained several new product components for the Vision 3.0 product line using Visual Studio .Net against a SQL Server back end. Provided guidance to the Vision development staff on .Net development issues.
- Responsible for the installer and maintenance components of the TAM product suite, with special focus on installing and configuring the legacy software product to function in the terminal server environment.
- Headed up the maintenance and coding for TAM 16 bit component libraries, as well as many of the TAM 16 bit components. Took charge personally of moving this legacy code to automatic builds and source control, as well as creating automated builds for the TAM product code base.

### **PricewaterhouseCoopers, Consultant**

**1999 - 2002**

Environment: Windows 9X, NT, 2000, Visual C++, Visual Basic, OLE, COM/ATL, MFC, STL, SQL Server, Oracle, Visual SourceSafe, Test Director, WinRunner

Responsible for the design, implementation, and support of the ReservePro insurance product line. Served in a team lead role, guiding the software development process and overseeing the technical implementation for the various software products.

- Researched, designed, and implemented Microsoft Management Console snap in components to serve as the front end for the ReservePro Enterprise product, saving a great deal of development time by using an existing mechanism for the user interface.
- Designed and implemented the Query Parser module for the ReservePro Enterprise product, allowing the software to enumerate through the data permutations from the database based on user defined queries.
- Designed and implemented the Scripting Engine module for the ReservePro Enterprise product, giving the user a point and click interface for creating scripts to drive the functionality of the base ReservePro product.
- Implemented test harnesses for many of the ReservePro Enterprise COM components, especially tailored for stress and volume testing of the components.
- Performed almost all support activities for the development team, such as SourceSafe administrator and database backups, removing these non-programming tasks from the other development team members.

### **Coggins Systems, Senior Software Engineer**

**1997-1999**

Environment: Windows 9X, NT, 2000, Visual C++, OLE, COM/ATL, MFC, STL, Microsoft Access, Visual SourceSafe

Responsible for the design, development, and support of the FuelsManager Aviation software product. Served as the automation and database subject matter expert for the development team.

- Researched, derived and developed the OLE client / server architecture for the product, producing the standard template classes used by each of the application servers for the product.
- Generated the data import / export component for the product, giving users a configurable means for moving data in or out of the database for the product.
- Helped to produce several COM components that allowed standard units of functionality to be shared between the FuelsManager Aviation and the other FuelsManager products.

### **Greenway Corporation, Senior Software Engineer**

**1995-1997**

Environment: Windows 3.1, 9X, NT, Visual C++ 16/32 bit, Win32 API, MFC, MS SQL Server, Microsoft Access, Visual SourceSafe

Served as the subject matter expert for the host interface system for the PrimeImage check imaging system. This allowed the software to interact with many of the host banking software packages on the market and to produce printed bank statements from the information from these systems.

- Gather the requirements and design the host interface system for the PrimeImage check imaging system.
- Developed a common class library for and produced DLL's for each host banking system supported by the imaging system to convert the data from these host systems to the PrimeImage import file format.
- Supported all of the host interfaces by training customer support personnel as well as providing onsite support of new host system installations.

### **Brock Control Systems, Development Specialist 1994 - 1995**

Environment: DOS, Windows 3.1, Unix (multiple platforms), Microsoft C, Visual C++ 16 bit, various Unix C compilers, Win32 API, MFC, Oracle, Informix, Sybase, QuadBase

Implemented user interface improvements and other upgrades to the Brock Activity Manager software.

- Created DLL's to wrap the functionality of the Windows common controls and export that functionality in a common interface to the forms subsystems of the Activity Manager software.
- Made changes to the specification and interpreter for the SAGE programming language to make use of the new controls in the Activity Manager.
- Performed significant upgrades to the interactive debugger for the SAGE programming language.
- Performed administrative tasks for the development databases, managing the SCO / Unix server running Oracle and Informix databases.
- Performed cross platform development and bug fixing in the shared Brock Activity Manager code base.

### **Structured Solutions, Programmer / Analyst 1993 - 1994**

Environment: Windows 3.1, Microsoft C, Win32 API, RBase, InstallShield

Served as the main developer for the MAP Administrator and Viewer products.

- Developed much of the MAP Administrator and Viewer products, utilizing various functionality provided by the Windows SDK.
- Developed the install programs for the products using InstallShield.

### **Zsoft Corporation, Junior Programmer 1991 - 1993**

Environment: DOS, Windows 2.11 - 3.1, Microsoft C, Win32 API

Served on several of the application development teams for ZSoft's raster paint products.

- Implemented design upgrades and new graphic filters to the filter subsystem of the Photofinish product.
- Implemented improvements to the graphic cutout and selection tools for the Photofinish product.
- Implemented upgrades to the PC Paintbrush 4+ software product, taking it to the 5+ versions by porting existing code from other ZSoft product into the 4+ code base.