**MARK TENNENHOUSE**

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# Summary

* Seasoned professional full stack software developer with over twenty-five years of coding expertise in Cloud API and enterprise application development for government, and multiple commercial industries.
* Holder of *Active Government Public Trust Clearance*.
* Proven expertise developing for multiple database vendors including (Azure, SQL Server, Redis, DB2, Oracle), and all aspects of application development including Agile methodologies, several Front-End coding frameworks (Angular, Vue, React, jQuery, JavaScript) and a wide variety of back end API development.
* Strong software architecture, engineering and design skills. Experienced Scrum master and Technical Lead on government projects.

# Technical Skills

**Languages:** C#, NET Core, Angular1-14, SQL, TypeScript, ASP.NET, VB.NET, Vue.js, React 2, JavaScript, SQL, Node, C, Knockout.js, jQuery, Bootstrap, CSS, HTML5.

**Source Control**: DevOps, GitHub, TFS, Tortoise SVN, Mercurial.
**Development Tools**: .NET Platform: VSCode, Visual Studio 2022, Unity3D, MonoDevelop, UIPath Development, Unreal Engine.
**Testing**: Server side testing with MOQ, MSTest, NUnit, Angular Unit testing with Jasmine, Karma.

**Architecture**- Agile Scrum training, UML Class Activity, Modeling, Use Case Diagramming, Clean Architecture for .NET Core.

 **Hackathons:**

**AT&T Mobile Hackathon: Carl DeSantis Building** Nova Southeastern University

April 17-18. Created a Unity based first person shooter game.

**Bitcoin Hackathon**: Created an anonymous payment system for mobile devices.

**Speaker at: Feb 2020** Code Camp -Nova Southeastern Univ

**Topic: Azure Data Factory, Logic Apps, Service Bus, Blob Storage**

**Speaker at: Feb 2016** Code Camp -Nova Southeastern Univ.

* **Topic: The art of Debugging anything**

# Professional Experience

**Technical Lead/Cloud API Developer,** *Executive Office Immigration Reform at DOJ*

*Contractor*

01/2022 – Present

Falls Church, Virginia

At the EOIR- DOJ, I am the Technical Lead on four to six projects depending on priorities

My day is split into:

30% debugging code to solve technical problems for developers on my teams.

30% writing C# API and Angular code for two of my projects.

30% managing daily scrum activities and working on proposals and design documents.

* The first project I am leading is a new public facing application written in C# and Angular 14.
* The second project is a C# API project. Through a series of proposals I introduced the organization to GraphQL. With official approval from top management, we now use GraphQL providing greater flexibility for querying and shortening development time.
* The third project is a series of API/libraries which provide several common critical functions including Data Access and JWT token security for over twenty other applications.

Our current application handles over fifteen thousand requests per minute all day long and is used by every federal courthouse, lawyer and federal judge in the USA.

**Accomplishments:**

* I analyzed, load tested and fixed the code which was causing our primary system to lock threads and go offline for over thirty minutes on multiple occasions.
* I conceptualized, researched, coded and deployed a new way to allow users to play the audio of hearings in the browser with no download, instead of downloading and installing an application.
* I researched and tested audio file manipulation functions using FFMPEG (Audio Library) for merging and streaming the audio files for playback in browser.
* I created, tested, and deployed a new Rate Limiting library to fix our vulnerability to hackers.
* I am leading and prototyping the redesign of several of our main API projects which serve as the core for multiple applications.

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| **Cloud API/Microservices Full Stack Developer,** *Hilton Hotels & Resorts Contractor*05/2020 – 12/2021Orlando, FloridaI worked on two separate teams, one for front end in Angular and the other for Azure API/Microservices development.**Work:*** Involved a mix of C# to create Azure Microservices and Angular front-end code, which called out to multiple APIʼs running on Azure.
* These services then executed large, stored procedures across several databases returning the results. Used Devops for the deployment pipeline and for handling tickets, Repos, and Code reviews.

**Accomplishments:*** I modified and redesigned one of Hiltonʼs main applications for adding new country locations for the sale of time share properties. The new countries included Mexico, and Japan which required completely different tax calculations. The new functionality is expected to increase overall sales by over twenty percent.
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| **Senior Cloud API/Microservices Developer,** *Ryder System, Inc Contractor* *10/2019 – 05/2020* *Miami/Fort Lauderdale, Florida** As a Cloud API Microservices Developer, I worked on a large team of sixty developers, redesigning all the company's main applications for handling accounting, time tracking, HR and client communication.
* Applications followed a common pattern starting with a message in Azure Service Bus, triggering a Logic App that starts a Data Factory Pipeline task to process the data.
* I started with discussions from the business, created business and technical design documents, then coded, tested, and deployed the application. Several projects involved cloud based ETL processes.
* All applications were done using Azure Cloud Services and tested using Postman as the front end. I interacted every day with multiple departments and managers at various levels within the organization. We used Github on DevOps with a CI/CD pipeline for source control and Deployment.
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| **API Developer with Angular experience,** *20th Century Fox Productions Contractor**02/2019 – 10/2019* *Los Angeles, California*At 20th Century Fox, the Screeners app I worked on is almost a duplicate of Netflix, with a massive client base of over 100,000+ users in multiple countries on multiple devices including Web, IOS, Android and TVOS. It was acquired by Disney, and with a few front-end changes was relabeled as **Disney Plus**. I worked in multiple languages depending on the area the JIRA ticket required. * For the front- end, I used AngularJS (depending on the section), Knockout.js and Kendo tools.
* On the middle tier, I used C# to write WebAPI services on a multi-tier service-oriented architecture with a single sign on architecture to handle multiple authentication providers (OKTA).
* The backend is all SQL Server stored procedures and Redis (for caching data).
* All database modifications are handled using entity framework code first deployment using scripts. I wrote a series of Powershell scripts to automate SSRS reporting functions. For build/test/deployment and pull requests, we used the continuous integration (CI/CD) DevOPS pipeline service on Azure and we deployed every day to QA and test environments.
* All code was reviewed using Githubʼs pull requests and the CI/CD pipeline prior to acceptance and merging to allow for comments and improvements.
* I worked with a team of over fifteen including two other senior developers, business, and QA analysts.

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| **Senior API Developer with Angular Skills,** *Office Depot**Contractor**May 2018- February 2019*Miami/Fort Lauderdale, Florida* Using Angular 6 and Web API, I designed new Angular components, coded C# API methods, wrote automated unit tests, and wrote multiple stored procedures for SQL Server.
* All code was checked in daily to GitHub.
* Using Atlassian/Jira tickets, I worked as part of a team responsible for creating a new application for managing contracts for Office Depot in their Headquarters in Boca Raton Florida.
* I was the lead on several sections including the search pages, Hierarchy Management component, Payment Installment component and several others all written in Angular 6 with the backend coded in C# on Web API.
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| **Senior Application Architect,** *ArkiTechs Inc.**Contractor* *May 2016 – May 2018**Fort Lauderdale, Florida** At this software startup for the Case Management industry, I was the Technical Lead and Architect responsible for architecting, coding, and maintaining the company’s primary applications.
* I started the application from a series of templates and built a suite of Case Management applications and tools for several of our customers including the governments of Trinidad, Tobago and several other Caribbean Countries.
* I proto typed, coded and deployed most of the major sections using Angular and MVC in C#. Later, I added support for mobile devices with WebAPI in C# on ASP.NET.
* Some interesting challenges that we overcame included coding for Digital

Certificate signing on Azure, Document Storage and retrieval using Blob Service (Azure), Microservices on Azure and AWS, and setting up deployment processes.* I ran daily SCRUM meetings, code reviews and task assignments for a team of 9 developers using Devops on Azure. We deployed to IOS and Android.
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## Senior Application Developer*, G4S*

## Contractor

## May 2015 – May 2016

## Jupiter, Florida

## Tasked with finding a way to speed up queries against very large tables (over 50 million records) mixed with XML data.

## Researched and coded partitioned views which split up the tables into smaller, simpler summary tables.

## Created a series of sql jobs, tables and procedures to migrate the data daily. Reports ran much faster. Query time dropped from two minutes down to five seconds.

## Senior Application Developer, *Mckesson*

## *Contractor*

## July 2014 – May 2015

West Palm Beach, Florida

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## I designed, coded and deployed features to allow users to drag and drop entire sections and templated form elements, eliminating the need to manually create html documents*.*

## I designed, wrote, tested and deployed a Print Preview function to display a printed version including patient information from a newly created form.

## I researched and coded a unique way of providing an Undo/Redo function to allow users to go back in history and return to how the form looked previously.

## This allowed an unlimited number of "go backs" making form creation easy and more intuitive.

**Team Lead- Senior Developer***, InAClickMedical.com*

Contractor

08/2012 – 03/2014

Fort Lauderdale, Florida

* At this Medical appointment startup, I was the lead Architect responsible for coding of

the front end (Knockout.js), middle tier (MVC in C#) and back end( Entity Framework).

* I lead a team of developers and graphic artists in the design of an Online Medical

Appointment system for various medical providers.

* Redesigned the system using Bootstrap to be compatible with Mobile devices.
* Coded a Systray application using SignalR to popup real time appointment requests.
* Designed a few clever geographic functions in SQL Server, to handle queries for finding doctors within a range of 5 to 500 miles.
* Coded multiple pages and sections of the backend API.
* Converted entire MVC application to use Knockout.js and AJAX to improve response times and user experience.

**Application Developer IV**, *ADP Dealer Services*

## *Contractor/Perm*

## 09/2010 – 07/2012

## Fort Lauderdale, Florida

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* I redesigned and architected the core of MenuVantage, the company's main income

producing application, which provided warranty products to over 65% of auto dealerships in the US.

* Converted the entire system from using 100 separate Dlls to a simplified single API. This eliminated the work previously done by five developers and saved over $500,000 a year in maintenance costs.
* Took the system from design, to coding, thru extensive testing and deployment.
* Over a 6-month period new products and partners increased sales by 20%.

## SENIOR Application Developer, *Liberty Power, Corp*

## *Contractor*

## 06/2009 – 09/2010

## Fort Lauderdale, Florida

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* Liberty Power is one of the top 5 Electricity resellers in the USA.
* Working from a one-hundred-page requirements document, I coded an application to collect electrical information including usage files for submission to a pricing engine.
* Added automated testing procedures, coordinated with the business department and passed the application to QA for testing and deployment.

**Application Developer,** CandidClub**s,** Inc

Contractor

01/2008 – 01/2009

Fort Lauderdale, Florida

At this startup, my job was to build a Web streaming application for Nightclubs with social networking

 functionality.

* Starting from paper prototypes and discussions with the business owner, created prototypes for streaming audio and video without the need for an installation program. After research and testing, coded a flash-based broadcasting application using a third-party site to supply streaming bandwidth.
* I designed and coded pages with help from the graphics department.
* Built front end to handle customer signups and social functions including components for sharing of nightclubs, uploaded images of nightclubs, generating ratings and other common social networking features.

**Senior Developer - Lead Architect,** *Saveology*

Contractor Fort Lauderdale, Fl

July 2006 - July 2008

* Clients Included: Comcast, Time-Warner, Cox and Charter
* As the lead Architect responsible for 5 developers at this Cable reseller, I built most of the applications which together became their primary source of income.
* Within a single year, sales went from zero to grossing over $200,000 per day and 8000 unique hits daily.
* Worked from Cable company specs to create ASP.NET Web service-based application that consumed SOAP responses containing Cable company Product and Prices in XML Format.
* Expanded the system to 5 websites to handle customers for Comcast, Timer Warner, Charter and Cox Communications.
* Coded Shopping cart, customer service pages, and telephony integration used by 300 personnel.
* Conducted technical interviews to expand team. Also responsible for production deployment and support in emergencies.

**Senior Developer***, Lexis Nexus*

Contractor

March 2005 - June 2006

Boca Raton, Florida

* Built a competitive analysis application for collecting and comparing the data products available from competing firms for determining market opportunities.
* Worked with business analysts to create specification and prototype pages.
* Created pages and database tables to allow business users to load in competitor information.

**Application Architect,** *Media Thrill*

Contractor

March 2004 –2005

Doral, Fl

* Description: E-commerce company selling DVD and CD-ROM using Amazon Web Services.
* As the primary software developer in charge of all code and databases, I took the system from VB6 to VB.NET and added many improvements to the code such as logging, error handling, testing, and added database tables to support these functions.
* Rewrote the code for screen scraping and placing orders into the partner websites using VB.NET and ASP.NET which was previously written in VB6.

**Application Developer**, Assurant

Perm

03/2002 – 02/2004

Homestead, Florida

Large Scale Specialty Insurance Provider:

* As part of the architecture team, I worked on a team of ten developers in the design and coding of an enterprise scale application for appliance warranties.
* I coded a series of business components for managing extended service warranty insurance products for several countries.
* I designed and coded a reusable Translation component to translate system messages and the text within any page or control.
* I designed and coded a Security component to manage and apply security on every object within the system. I coded methods to use reflection and inheritance to translate all pages behind the scenes, written in VB.N.

**Web/Application Developer**, Rexall Sundown

Contractor

04/2001 – 02/2002

Boca Raton, Florida

* At this vitamin supplement manufacturer, I was the technical lead/developer for all

web development projects within a team of 8 developers.

* All development was done in ASP.NET.
* Coded all databases driven websites and various sweepstakes shown on TV during

 Metrx Strongest Man Contest.

* Designed and coded a web-based security system that used ADSI and Active Directory to validate users and membership in ASP.NET.
* Created a Chat application that combines FLASH and .NET socket functions to allow users to chat with each other in real time.

**Application Developer**, Mortgage.com

Contractor

02/2000 – 03/2001

Fort Lauderdale, Florida/San Francisco, California

* At this large mortgage processor, coded and deployed ASP and VB/COM applications used by 200+ customer service reps to lookup loan application information.
* Wrote several ASP components to pass data to VB Business objects after Javascript validation.
* To synch several databases, I designed and coded a data warehousing application for a large bank (ABN\_AMRO) using Data Transfer Services (DTS) in SQL Server.
* Wrote several customer service lookup applications for ABN\_AMR using stored procedures, ASP pages and COM components.

**Jr Developer***, First Data Merchant Services*

Contractor

02/1998 – 02/2000

Sunrise, Florida

* At this Visa processor for credit and debit cards, designed, coded, and deployed an

application to allow the business unit to setup and test a new merchant in an hour instead of 2 weeks

* The business was able to add many more companies with far less effort nearly tripling

the number of companies they could bring on in a single year.

* Wrote several VB based windows applications to generate and test credit card functions for batches of several thousand cards, which replaced the manual process saving weeks of effort.

**Education:** Associate of Arts (A.A Computer Programming, General Sciences,

 01/1996 – 01/2000 Miami Dade College Miami, FL, USA