Edmund M. Sullivan

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Skills

**Programming Languages**: Swift, Python, Objective C, JavaScript, C/C++, Java, C#/.NET, PHP, Scheme, Tcl/Expect, Visual Basic, assembly

**Platforms and Frameworks**: iOS, MacOS, Django, React Native, Android, UNIX/Linux, Windows

**Other Technologies**: HTML5, CSS, SQL, NoSQL

Consulting Experience

I founded Seashore, my software consulting company, in September 2006.
Below are some representative projects. Full portfolio available at
http://chickenwing.software

DivX January, 2019 - May, 2019

Cutting Edge Streaming Video App: https://divx.com

* Developed code in React Native, Objective C, and Swift for an iOS app.
* Developed code in React Native and Java for an Android app.
* Wrote iOS and Android code for advanced video recording and streaming capabilities.
* Implemented support for WebRTC.

Hashletes August, 2018 - January, 2019

Innovative Fantasy-Football/Collectibles App: https://hashletes.com

* Developed code in React Native, Objective C, and Swift for an iOS app.
* Used GraphQL to synchronize a large, dynamically changing, database of player data and statistics.
* Collaborated as part of a fully distributed team across multiple timezones.
* Worked on an elegant, beautifully animated user interface using React Native.

Evolve Health

iOS fitness app: https://www.evolvehealth.io/

* Bootstrapped the iOS development environment using the Swift language, The Parse platform, and modern mobile technologies.
* Created a natural language processing library for voice recognition.
* Implemented a beautiful and dynamic user interface design.
* Wrote a large percentage of the shipping code, available now on the App Store.

Acadia Shutters August, 2016 -

Custom MacOS sales app

* Developed code in Objective C for an app for sales reps to use on customer premises.
* Implemented complex multithreaded routines to enable background network synchronization.
* Implemented custom-designed user interface components.

Loop Lingo

Social network incentive framework

* Worked with multiple online merchants to allow them to incentivize and track sharing of purchases and links on social networks.
* Designed and developed software in Python and Django, with Bootstrap, JavaScript, and AngularJS on the front end.
* Integrated with Facebook, Twitter, and Google Plus.
* Set up a high-availability and scalable site using Amazon Web Services.

NexTalk

Desktop video conferencing software

* Designed, developed, and maintained desktop software in C++ for the Windows platform, using COM and DirectX.
* Created a reliable SIP client supporting modern audio and video codecs, including VP8 and G.711 and H.264.

NIST / Usability Works

Usability testing software

* Designed and developed desktop software in C# and .NET for A/B testing of prototypes.
* Provided for data collation and export to Excel.

Guitarator Toolbox http://guitarator.com

Suite of guitar reference apps for iOS, Android, MacOS, and Windows

* Allows looking up chords and scales for guitar or any stringed instrument, in any tuning. Reverse Chorderator provides for “reverse” chord lookup.
* Windows app in C# and .NET.
* Android apps in Java using the Android SDK.
* iOS and MacOS apps in Swift and Objective C.
* Web-apps developed in Python and JavaScript
* Allows looking up chord charts and scale charts for guitar or any stringed instrument, in any tuning, provides for “reverse” chord lookup.
* Available for purchase and download. I also developed the online store in Python/Django with PayPal integration.

Digital Cove Interactive

C++ Systems software

* Created a high-performance SMTP client and server to run in a high-load Linux environment, for an email processing system.
* Implemented subscribe and unsubscribe functionality.
* Implemented DKIM authentication to verify the email sender is not a spammer.

Employment Experience

Gemstar / TV Guide Onscreen June, 2004 - September, 2006

Senior Firmware Engineer

* Designed and wrote embedded real-time software in C for an electronic program guide (EPG) for televisions, DVD-recorders, DVRs, etc.
* Developed graphical debugging tools in C# .NET using advanced features such as remoting and multithreading.
* Worked directly with multinational customers to integrate the TV Guide Onscreen EPG into their products. As Lead Engineer for several integration projects, participated in on-site meetings and weekly international conference calls.
* Designed and developed an automated test suite in Python and C#.

Juniper Networks (formerly Unisphere) September, 2001 - January, 2004

Senior Software Engineer

* Designed and developed embedded software in C and C++, using the VxWorks RTOS.
* Worked on control processor software for the following network protocols: Sonet, Ds3, Ds1, HDLC, and Ethernet.
* Designed and implemented low-level device drivers, worked to bring up and debug new hardware, including PCI controllers, network interface controllers, and custom FPGAs and ASICs.
* Worked on system-level software for redundancy, hardware monitoring, CLI interaction, and software download.

Starent Networks January, 2001 - June, 2001

Software Engineer

* Developed software in C, C++, and Perl for a Linux platform as part of a startup company creating the next generation of high-speed mobile wireless infrastructure (3G wireless).
* Designed and implemented the system startup sequence and dynamic task creation sequence for a large-scale, carrier-class networking product.
* Designed and implemented a software simulation environment on the Linux operating system, to simulate the entire software system on a desktop PC.

Arris Interactive (formerly part of Nortel Networks) June, 1999 - December, 2000

Software Engineer Level Two

* Developed embedded software in C, C++, and assembly (MIPS and PowerPC) for DOCSIS 1.1 broadband cable devices (data and voice over cable television lines). Worked as part of a multi-site team developing large-scale carrier-grade equipment.
* Ported a large base of software from the Nucleus Plus embedded operating system to VxWorks 5.4.
* Designed and developed low-level device drivers for Broadcom and Texas Instruments controller chips.
* Developed a suite of automated test scripts written in Tcl on a Linux server, utilizing Netcom Smartbits network testing devices.

Harvard University Extension School September, 1998 - February, 1999

Teaching Assistant

* Advanced-level C++ programming class.
* Taught 30 students for one hour per week, graded projects and tests, and held office hours to assist students with assignments.

MERL – A Mitsubishi Electric Research Laboratory June, 1998 - June, 1999

Intern

* Research and development of electronic devices: Self-describing Building Blocks. Project was presented at Siggraph 2000.
* Created a graphical application in OpenGL and Visual C++. Developed embedded software in PIC Assembly Language.
* Named as co-inventor for two patents.

Education

Tufts University May 1999

B.S., Computer Engineering

* GPA 3.59 out of 4.0.
* Pertinent course work: Communications Systems, Advanced Microprocessor Architecture, Data Structures in C++, GUI design, CMOS VLSI Design, Digital Logic Systems.