

Justin Proulx

Software Developer

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Work Experience

Self-Employed / Royal Apps – Owner & Lead Developer

October 2014 to Present

- Designed, developed and released at least **13 apps** for iOS, Android, Windows, macOS & Linux, using technologies such as Unity, .NET and UIKit and languages such as C#, Objective-C and Swift
- Developed cross-platform apps with user interfaces designed for both mobile and desktop operating systems using .NET via Unity and UIKit
- Released 8 apps on the Apple App Store, 1 app on Google Play, 2 apps on Steam and 2 apps (with source code) on GitHub
- Designed, developed and released **7 system extensions** which add new features to iOS at runtime, based on analysis of iOS class headers
- Created original visual art for use in app icons, sprites and UI elements, and original audio used for sound effects and soundtracks
- Collected and analysed user data to improve app design and increase revenue
- Developed a DRM system to mitigate in-app purchase piracy
- Created numerous web pages using HTML, CSS and JavaScript to showcase Royal Apps' projects
- Developed a Node.js app in TypeScript which runs a large language model with llama.cpp to generate promotional articles for other projects
- Directly managed social media presence, customer support, SEO, ASO and marketing
- Advertised on Meta Ads, X/Twitter Ads, Reddit, Snapchat, YouTube, Apple Search Ads, Google Ads and TikTok Ads
- Released products in **English** and **French** (I am **bilingual**)
- Over **1.2 million product downloads** and over **\$130,000 in sales**

Mitel Networks Corp. – Product Development Intern

May 2022 to August 2022

- Led the development of a comprehensive Jasmine unit testing suite using TypeScript for a new Angular project within MiVoice Business
- Discovered several bugs which were reported to the development team
- Presented my findings and unit test designs to the engineering department, including VP Engineering
- Adhered to agile principles and participated in daily scrum meetings
- Worked in a hybrid model, collaborating with junior and senior developers both virtually and in person using MiTeam Meetings, Mitel Chat and GitHub

ITManager.net – Software Developer, iOS

May 2021 to August 2021

- Designed and implemented a new dashboard UI using UIKit and Swift, allowing users to monitor their remote device information and metrics (such as uptime)
- Collaborated virtually with the team's Android and web developers to ensure feature parity across versions
- Identified and resolved several bugs in the iOS client
- Implemented numerous smaller features and fixes from the development backlog
- Participated in regular scrum meetings to promote agile development

Macadamian Technologies – Software Developer (Intern)

September 2020 to December 2020

- Collaborated with another intern to redesign the administrator dashboard in React for HealthQ and implement the new design, including reusable widgets with chart rendering support and data processing to ensure chart legibility
- Implemented a "Near Me" screen for the HealthQ app which uses the user's current location to identify and suggest nearby branches of their organization and help them successfully select the correct location
- Improved global time zone support in HealthQ by ensuring that local times were correctly displayed in emails and on the web, and correcting an issue causing time zone drop down lists to be ordered alphabetically rather than by UTC offset
- Fixed numerous bugs from the backlog and bugs that I discovered, particularly user interface bugs and rendering errors
- Participated in daily scrum meetings and adhered to agile principles

Mitel Networks Corp. – Product Development Intern

January 2020 to April 2020

- Researched the benefits and drawbacks of using HTML Custom Elements to allow Mitel's Angular components to work on non-Angular webpages, produced a report and presented my results to the development team
- Built several small applications in Angular to test Custom Elements in various configurations such as different Angular versions, build tools and build scripts
- Implemented a resizable GIF browser for CloudLink Chat using Angular which pulls content from the Giphy public API
- Worked independently in both in-person and virtual environments with supervision by a senior developer

Mitel Networks Corp. – Product Development Intern

May 2019 to August 2019

- Developed and several end-to-end test suites for CloudLink Chat in TypeScript using the Protractor framework, reducing the duration of a full test run by **50%**
- Implemented a preference panel for developers to test different settings configurations in CloudLink Chat

- Developed a container app using Angular for testing the CloudLink Chat component, featuring a preference panel, mobile support and a sidebar for selecting and managing conversations. The sidebar also included support for streaming new conversations live, using Angular Observables

Education

University of Ottawa – B.A.Sc. Software Engineering (Co-op)

September 2018 to December 2023

- Completed **5 internships** at 3 different companies
- Elected Software Engineering Commissioner for the IEEE student branch
- Appointed webmaster for Chance to EdVance club
- Member of the Google Developer Student Club uOttawa Chapter
- Part of the winning team for the programming category at the uOttawa Engineering Competition in 2021
- Completed projects for various courses using React, Angular and Node.js
- Obtained a **grade of A+** for each part of my capstone project and a **grade of A** in Advanced Programming Concepts with C++
- Capstone project was a carbon emissions tracking tool composed of a React client and a Node.js/Express server, both built in JavaScript. The server was hosted on Azure, used GitHub Actions for deployment and Cosmos DB for the database
- Awarded a **\$3000 Admissions Scholarship** and a **\$1000 Merit Scholarship**

Skills

Programming Languages & Frameworks

C# • Swift • Objective-C • TypeScript • JavaScript • HTML5 • CSS • Python
React • Angular • Node.js

Tools

Git • Visual Studio Code • Xcode • Unity • Slack • Notion • Kanban Boards
Microsoft Office • Microsoft Teams • Zoom • Photoshop • After Effects • Logic Pro

Operating Systems

macOS, Windows, Linux (Debian-based), iOS, Android

Highlighted Projects

Impeached 2 – iOS, Android, Windows, macOS, Linux

Initial Release July 2023

- Sequel to my most downloaded App Store app, *Impeached: Be The President*
- Unity project implemented in C#, using either Mono Runtime or IL2CPP ahead-of-time compilation depending on platform

- **4.5-star rating** on the U.S. App Store (and 4.4 stars globally) as of January 2024
- Includes original text content, pixel art and music
- Features a Deck Editor for creating and sharing custom content, and supports adding new endings and graphical overlays to the game
- Released via the App Store, Google Play and Steam
- Conducted a beta testing program during development through Apple TestFlight

Defying Fate – Windows, macOS, Linux, iOS

Early Access Release June 2022

- A retro-styled space shooter game built as a passion project
- Unity project implemented in C#, using either Mono Runtime or IL2CPP ahead-of-time compilation depending on platform
- Uses object pooling to optimize resource usage
- Supports keyboard & mouse, gamepad and touch controls
- Includes original pixel art and each level has an original soundtrack
- Released in Early Access on Steam, and to beta testing via TestFlight

ProKeys – iOS

Initial Release April 2021

- Successor to my popular iOS system extension, *RealKeys*
- Implemented mainly in Objective-C, with some Objective-C++
- Added a multitude of customization features to the stock iOS keyboard, including expanded haptic feedback options, custom colors and keystroke animations
- Noted at time of release by the store maintainers as having “some of the best marketing style on the platform”
- Required independent research into the undocumented classes that power the iOS default keyboard, and I have since been able to provide support to other keyboard extension developers running into the same issues that I did
- Released on the Chariz repository

Jellyfish – iOS

Initial Release February 2019

- Implemented mainly in Objective-C, with some Objective-C++
- Redesigned the iOS lock screen, particularly the date & time element, and added many customization options otherwise not available to iOS users. Also added a weather widget, a feature not available at the time of Jellyfish’s release
- Required research into undocumented classes that make up the iOS lock screen and those responsible for acquiring weather data
- Currently available on the Chariz repository
- Ran a successful marketing campaign on Twitter, where I collaborated with larger accounts to run giveaways of Jellyfish. This campaign was responsible for a **4x increase** in my account’s follower count