

# Justin Proulx

Software Developer • English/French

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## Work Experience

### **Royal Apps** – Independent Developer – *Full Time January 2024 to Present*

- Designed, developed, released and marketed at least **14 apps** for iOS, Android, Windows, macOS and Linux, using Unity (C#, .NET) and UIKit (Objective-C, Swift)
- Analyzed class headers to develop **7 system extensions** in Objective-C which add features to iOS at runtime
- Created numerous web pages using HTML5, CSS and JavaScript
- Over **1.3 million product downloads** and over **\$150,000 in sales**

### **Mitel Networks Corp.** – Product Development Intern – *May 2022 to August 2022*

- Developed a Jasmine unit testing suite in TypeScript for an Angular app, **improving code coverage by 60%**
- Discovered several bugs in the app, which were reported to the development team
- Presented my findings and unit test designs to the engineering team

### **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
- Collaborated with Android and web developers to ensure feature parity across versions
- Identified and resolved several bugs in the iOS client, and implemented backlog items

### **Macadamian Technologies** – Software Developer (Intern) – *September 2020 to December 2020*

- Designed and implemented a new admin dashboard in React for HealthQ, including reusable widgets with chart rendering support and data processing to ensure chart legibility
- Implemented a “Near Me” screen for the HealthQ React app which uses user location to identify and suggest nearby branches of their organization
- Improved global time zone support in HealthQ by ensuring that local times were correctly displayed in emails and on the web, and correcting the order of the drop-down menu
- Fixed bugs from the backlog and bugs that I discovered, particularly UI bugs and rendering errors

### **Mitel Networks Corp.** – Product Development Intern – *January 2020 to April 2020*

- Researched the possibility of using HTML Custom Elements to allow Mitel’s Angular components to work on non-Angular webpages, produced a report and presented my results
- Built several small Angular apps to test Custom Elements in various configurations such as different Angular versions, build tools and build scripts
- Implemented a resizable GIF browser in Angular, which uses Giphy’s public API

### **Mitel Networks Corp.** – Product Development Intern – *May 2019 to August 2019*

- Developed 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 panel for developers to test different settings configurations in CloudLink Chat
- Developed an Angular app for testing the CloudLink Chat component, featuring a preference panel, mobile support and a sidebar for managing conversations (with streaming support via Angular Observables)

## Education

### **University of Ottawa** – B.A.Sc. Software Engineering (Co-op) – *September 2018 to December 2023*

- Capstone: React client and a Node.js/Express server, both built in JavaScript. Server hosted on Azure, with GitHub Actions for deployment and Cosmos DB for the database
- 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

## Skills

### **Programming Languages & Frameworks**

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

### **Tools**

Git • VS Code • Xcode • Unity • Slack • Notion • Kanban • MS Office • Adobe CC (PS, AE) • Logic Pro

## 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* (released 2018)
- Unity project implemented in C#
- **4.5-star average rating** on the App Store (both U.S. and global) as of May 2025
- 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
- Allows sharing user generated content via a steganographic image, which is resistant to social media platform JPEG compression
- Multiplatform release via the App Store, Google Play and Steam
- Conducted a beta testing program during development through Apple TestFlight

### **ProKeys** – iOS – *Initial Release April 2021*

- Successor to my popular iOS system extension, *RealKeys* (released 2020)
- 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 who were running into the same issues

### **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
- 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

### **Mind Dash** – iOS, macOS – *Initial Release March 2025*

- Successor to my previous math game *Speed Math* (released 2017)
- Implemented in Swift, using UIKit
- Math-based puzzle game with procedurally generated daily puzzles
- Daily puzzles are generated offline, yet still synchronized for all players worldwide
- Custom math expression generation logic ensures that all expressions are valid and that all puzzles are solvable
- Includes online leaderboards via Game Center, and a score card sharing system that allows players to challenge their friends using just an image or a URL

### **Industry** – iOS, macOS – *Upcoming Release 2025*

- Implemented in Swift, using UIKit and SpriteKit
- Multiplayer resource management game with tower defense elements, presented from an isometric perspective
- World is presented on a custom isometric tile map which has features like isometric camera rotation, instant toggling for 3D terrain elevation, and color overlays
- Supply and demand economics dictate the value of in-game resources
- Procedurally generated worlds which can have a variety of planetary compositions, which affects the availability of different resources and technologies (and thus, the market value for those resources)
- Heuristics-based AI system controls computer players
- Logistics system allows players to build transportation networks across all types of terrain