

Curriculum Vitae

Summary

Experienced and innovative Software developer, currently working in the field of AR and iOS mobile development.

I have experience of software development at every level, from bleeding edge to maintaining back end corporate systems



Experience

Jan. 2024 - Aug. 2025 **Tech Lead (PIX4Dcatch)**

Pix4D (Photogrammetry Software)

As tech lead, I led projects to refactor the app to make it more scalable and adaptable as company needs grew. The app had grown rapidly but now needed a proper strategy to take on new roles. This involved modularising the code and breaking it apart into smaller more manageable packages. I also adapted PIX4D's c++ package manager, Conan, to build required binaries such that we could expand the use of our internal c++ libraries. Using our internal CI system, Concourse, and JFrogs Artifactory, the internal libraries could then be vended privately as swift packages using a swift package registry. I also led efforts to improve and expand the automatic testing.

Apr. 2020 - Dec. 2023 **Senior Software Engineer (PIX4Dcatch)**

Pix4D (Photogrammetry Software)

Developed an AR app from scratch using Swift that PIX4D later adopted. Started as a personal project from soon after joining the company, I started work in earnest in 2019, before it became a full time position in 2020. It was the company's first foray into Swift and I designed the architecture and wrote most of the initial released product. With the embrace of Swift over objective-c I could advance the project rapidly. Using frameworks and protocols such as Codeable, Combine, ARKit, SceneKit and metal. Working with designers to create the UI initially with Storyboards and UIKit but moving to SwiftUI. As the app grew in scope we would interface with external SDKs for third party hardware. Library management was handled with Swift Package Manager, also including internal c++ libraries with appropriate interop packages. I worked in cross product teams to enable a unified vision across the company.

Jan. 2018 - Apr. 2020 **Senior Software Engineer (PIX4DCapture)**

Pix4D (Photogrammetry Software)

Working in Objective-c on the Pix4Dcapture mobile drone flight planning application. The app employed internal and external libraries and multiple drone Vendor SDKs managed with cocoapods. We had extensive unit and integration testing expected of an responsible for controlling drones. Testing and debugging the app also required field work with the drones to ensure correct behaviour. The app also communicated with Pix4D's cloud service using REST APIs and AWS interaction.

Jul. 2013 - Present **Developer (Visual Merchandising software for the retail industry)**

seriouscyrus.com (iOS and MacOS Software Development)

Sole developer of "The Reality Augmenter", a video projection mapping application for macOS and iOS with a variety of applications including retail and visual merchandising. Programmed using Objective-C and utilising Apple frameworks such as Cocoa and Cocoa touch, Core data, AVFoundation, OpenGL and OpenGL ES. Incorporating third party frameworks and SDKs such as AFNetworking and the Google Cast SDK using cocoapods. Adding interfaces to online services such as Dropbox using OAuth and JSON. Designed user interfaces with Interface builder and Storyboards. Implemented full testing environment with unit and UI Tests using XCode's testing framework and Server for Mac OS. The project features over 55,000 lines of code. iOS version is published in the Apple Store, and receives regular updates.

Built websites in Wordpress, including PHP and CSS customisations to templates.

Nov. 2006 – Jul. 2013 **Software Engineer**

NIS AG, Switzerland (Utilities and Telecommunications GIS software development)

Software and database development, bug diagnosis and fixes, design and implementation of unit tests, design and delivery of database upgrades, customisation of version management for complex merge operations, creating customisations to customer requirements, providing scripts and patches for data fixes and migrations.

Working in a team with Scrum and agile development techniques, using JIRA for task management and planning.

Nov. 2000 – Nov. 2006 **Consultant****Realworld Systems, UK (Utilities and Telecommunications consultancy and GIS software development)**

Front line customer support, on-site implementation of GE Network Solutions suite of telecommunications resource management software packages. Establishment of client requirements, configuration and customisation of packages to interface with clients existing systems, transfer of clients existing data to GE Network Solutions applications. Design and delivery of training courses to ensure proficient user knowledge. Development, implementation and demonstrations of Realworld components and modules. Project proposals and presentations to existing clients and prospective clients, establishment of pilot projects.

Oct. 1998 – Nov. 2000 **GIS Records Administrator****Energis, UK (Telecommunications)**

The capture of design and built fibre optic network, design and production of presentation quality plots for major contracts, administration of Smallworld GIS database. Integration between contractors and own systems for efficient and quick capture of network. Manipulation of data through various systems as and when required, to make available data in GIS to all users in and out of the company, including power point presentations, web images, spreadsheets and AutoCAD documents.

Oct. 1995 – Dec. 1997 **Assistant Team Leader/QA****DCC, UK (Utilities)**

Data capture and Quality Assurance for the EMEB Smallworld GIS Project.

Oct. 1994 – Oct. 1995 **Lab Assistant****Mars Electronics, UK (Electronics)**

Lab assistant in an electronics testing lab.

Aug. 1993 – Aug. 1994 **Temporary Worker**

Temporary warehouse, factory, kitchen and administrative work.

Certifications and Skills**Certificates****GE Network Solutions Certificates**

Core Smallworld : GE Energy : Oct. 2008
Smallworld PNI : GE Energy : Jun. 2009

German Certificates

Start Deutsch 1 : TELC : April 2015

Courses**GE Network Solutions Courses**

Foundation Course
System Administration
Configuration
Magik Programming
Application Development

Software Experience

Xcode, Swift, Objective-C, Cocoa, ARKit, Combine, OpenGL, OpenGL ES and OpenGL Shading Language, Magik, GE Smallworld relational and version managed databases, SQL, Object Orientated Software, Springsource, JIRA, Rational Rose, Safe FME, MSOffice, MS-DOS, Windows, Unix, HTML, CSS, PHP, ad-hoc implementation of various languages as required

EducationSep. 1986 – Aug. 1993 **Forest School Winnersh, Berkshire**

'A'Levels; Maths, Physics
GCSEs; 9, including Maths and English

Projects

Pix4D

PIX4Dcatch

From prototype to delivery, data capture software delivering ultra precise data for use with Pix4D's set of Photogrammetry software, using the latest Apple tooling for AR and LiDAR. Using Swift 5+ I was able to rapidly build a prototype and evolve it to a working, bug free product within an extremely short time frame, leveraging the latest technologies available in Apple products. PIX4Dcatch has since grown to be one of the key products of the company.

PIX4Dcapture

A flight planning app for various drones, Including Parrot and DJI models. A lot of work harmonizing the various SDKs involved so user could have a consistent experience with any drone we supported. I was mostly working on the iOS version, but we started to look at a cross platform solution using QT before I started work on catch.

SeriousCyrus

The Reality Augmenter

The Reality Augmenter started as a hobby project with projection mapping, using projectors to create engaging virtual environments. It was my first project in objective-c and OpenGL. It started as Mac OS project, but then diversified into iOS as a cross platform project. I eventually became more mobile focused intrigued by the power of newer mobile devices.

NIS

NIS Strom (Utilities GIS Software)

As part of NIS AG, much of my work was with NIS Strom, a GIS and asset management system, including development of new features, streamlining, design and implementation of unit tests, design of database upgrades, customisations to client requirements and dealing with client upgrades.

Swisscom PTA (Telecommunications GIS Software)

A major project for PNI, GE's telecommunications GIS and asset management system, as a member of NIS AG, I was involved in software development and customisations to client requirements, and responsible for the maintenance and ongoing development of a data quality analysis tool. Ongoing support was provided by NIS for the data quality tool, and the Geobasis product, a tool for reading and writing to Smallworld across multiple formats. Rational Rose used for task tracking and management.

Realworld Systems

LTN PNI, Lichtenstein (Telecommunications)

Working in partnership with NIS AG, installation and customisation of a PNI system at LTN. Including data migration from existing legacy systems.

Gamtel, The Gambia (Telecommunications)

Implementing the PNI Product suite and customisations to enable it to be used in conjunction with a new billing system being implemented by Cerillion. Design of training course and training users in data capture to move from current paper based records.

Syria Telecom Establishment, Syria (Telecommunications)

Installing a pilot project of the PNI Product suite and various Realworld products and customisations. Training users in data capture to enable STE to move from a paper based system to a fully integrated GIS System.

Global Crossing, UK (Telecommunications)

Recovery and upgrade of abandoned Smallworld database to PNI 3.1, followed by migration of FRAMME database to PNI Systems using Safe FME. Installation and configuration of Network Inventory Gateway on secure servers. Migration of Smallworld databases to secured intranet LAN. Configuration of software to work in Citrix environment. First line support.

HNS (Formerly 186k), UK (Telecommunications)

Implementation of complete Smallworld GIS Solution for the company. Work involved requirements gathering, acceptance test design, managing change requests, provision of customisations and database upgrades as required. Installation of database replicas for remote offices. First line support.

Interests

Music, photography, snowboarding, digital media, reactive animation and video manipulation, djing, hobby application development.