

VINCENT COETZEE

Team Lead / Senior Apple Developer

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Career Highlights

July 2018 to Present

Senior Apple Developer Snapit.com

- My initial work at Snapit was the development of a framework which involved reading and writing video and audio at the frame level, blending different video resolutions, flat images, animated images, differing input frame rates, rotoscoping and differing output frame rates. The blended video and audio stream allowed control of frame rates, cropping, rotation, animation of cropped portions of a video stream, and the merging of sound streams. This was developed on macOS targeting macOS and iPadOS
- This was quite a challenge since I had never developed for video and audio before and the Apple documentation was particularly poor. Nonetheless, the framework was successfully completed albeit about 3 weeks late.
- I subsequently worked on the primary SnapIt iPad application integrating my video framework and further enhancing the application.
- The company is in the process of going insolvent so I want to leave before the company closes down.
- **SKILLS:** Swift, Objective C, C, C++, macOS Development, iOS Development, AVFoundation, AVKit, Video Toolbox, Core Video, Core Media, Xcode, Agile, MVC

July 2017 to June 2018

Mobile Architect DVT

- I worked for DVT in the mobile architecture and development area. I did work for a number of clients including ABSA, Tracker, Pivotal Data and Momentum. This was all iOS work.
- For ABSA I defined and documented portions of the mobile architecture and standards for their online banking application since this had not been done. I also developed two frameworks for them to ease their development process.
- I worked with Tracker and Momentum to debug and optimise their telematics framework as well as define the end to end architecture for Momentum's mobile offerings. I assisted Pivotal Data in refining and deploying their VOIP application. I was unhappy at DVT due to the lack of interest in software architecture and software quality.
- I was unhappy with the advice DVT gave to clients regarding mobile development and strategy. I also disagreed with the way mobile architecture was practised because it was expedient and tailored purely for DVT's benefit rather than that of the client. This led to a huge disagreement between my superior and myself hence I decided to leave DVT.
- **SKILLS:** Swift, Objective C, iOS Development, Design Patterns, Software Architecture, Mentoring, Xcode, Agile, MVC, MVVM, VIPER

July 2016 to June 2017

Mobile Architect and Mobile Team Lead Hello Group

- Hello Group owns and runs both South Africa's largest SIM card distribution network and South Africa's largest remittance company. The group developed the HelloPaisa system (consisting of various mobile apps used by the customer and the web services that support those apps) for sending money to 39 different countries across the world. The suite of products is used primarily by marginalized foreign communities in SA to send money home to their families in their countries of origin.
- I led the iOS development team, and a few of the Android developers. I spent time assisting consulting on the backend architecture and mentoring developers.
- I worked actively with the UX designers to ensure a consistent, simple yet user friendly experience for their customers. Good UX design is hard, but this is more difficult than usual because many of our customers are not literate in English.
- My duties also included mentoring and coaching the developers in good software engineering practice, the use of design patterns, proper testing and a structured approach to creating and managing source code. I performed many code reviews since I was determined to improve code quality.
- I enjoyed working at the Hello Group, I found my colleagues particularly nice, however Hello was not exploiting me and my talents properly since they changed their mind about their mobile strategy after they employed me. I much prefer to be overworked than underworked thus as they were giving me very little work to do I decided to move on so that I work for a company that knew how to make use of me.
- **SKILLS:** Swift, Objective C, iOS Development, Design Patterns, Software Architecture, Mentoring, Xcode, Agile, MVVM

July 2015 to June 2016

Lead Apple Developer Seecrypt

- Seecrypt developed secure messaging, voice and video communication solutions for mobile and desktop. I was headhunted by Seecrypt in June 2015 to head up their Mac OS X Development Team. They were specifically looking for someone who had both mobile design and development experience and who could assist them in the development of the desktop version of their encrypted communication application for Mac OS X.
- I designed and developed two Swift based Mac OS X applications for the company during this time, and worked on the development of a large iOS application, developed in Objective C. I was responsible for all the Apple based development at Seecrypt and I managed the iOS and Mac OS X developers and testers. I enjoyed working at Seecrypt, but unfortunately the company was liquidated. Consequently I had to find another position rather rapidly.
- I absolutely loved working at Seecrypt, the work was phenomenal and the people working there even more so. I would have loved to spend the rest of my career working at Seecrypt, but unfortunately the primary investor stopped directly

funding the venture as well as attempting illegal restructuring of the company. I came in to work one day to find the doors chained shut and that I did not have a job. I was terribly upset.

- **SKILLS:** Swift, Objective C, C, C++, iOS Development, macOS Development, AVFoundation, AVFAudio, Audio Toolbox, Core Media, Core Audio, Software Architecture, Mentoring, Xcode, Agile, MVC, MVVM

November 2014 to June 2015

Lead Architect and Team Lead

Olamide Transaction Technologies

- I was recruited by Olamide Transaction Technologies to head up their development team as architect and team lead. I designed, developed and enhanced a suite of collection systems that made use of Java EE back ends and USSD, Web, and iOS front end applications to incentivise low income loan holders to pay their loans back in a timely fashion.
- I supported a rewards system that was cloud based and managed the rewards scheme of a large bank that works in the low end of the South African banking market.
- I designed and coded the backend Java applications, the integration into several partner systems such as Vodacom, Autopage, WiGroup and PayM8 (via SOAP and REST based interfaces) as well as the USSD and mobile applications that provided functionality for loan holders to make payments and schedule debit orders, and to earn, manage and spend rewards by purchasing airtime, vouchers, food and cash.
- I led a team of seventeen developers, some based in Cape Town and some based in Mauritius.
- I left Olamide to return to Johannesburg.
- **SKILLS:** Objective C, Java, J2EE, MySQL, Eclipse, Agile, MVC

June 2014 to October 2014

Lead Game and Mobile Architect and Developer

Fireworkx Internet (Pty) Ltd

- While I was happy at Nedbank, I decided for personal reasons to move to Cape Town, I was also keen to rejoin the developer community, as development is my passion.
- I joined Fireworkx Internet, based in Rondebosch to head up their Lua gaming and mobile development area. We delivered two games in the Lua language for Gamesys (a billion pound a year gaming company in the UK) specifically Real Wild West (a slot based game) and Single Hand Blackjack (a casino type card game).
- During my tenure here I also developed two iOS applications, one for Sanlam that was deployed on iPads for their brokers and another for a Tax Consultancy that assisted with the calculation of personal and corporate tax for their clients, this was deployed on both iPads and iPhones.
- I consulted to various clients of Fireworkx regarding their mobile strategy, on the use and/or development of MEAPs and on how to use their mobile offerings to

enhance existing technical and product strategies. These companies included Liberty Life and Sanlam.

- I also consulted in my private capacity to a rewards programme aggregator on how to mesh their strategy with mobile technology and on how to make innovative use of mobile technologies (such as location based rewards). I developed a proof of concept iOS application for them during this period to demonstrate some of the novel concepts I had assisted them in developing.
- When I joined Fireworkx I was promised a large game development team and a number of interesting and challenging games to develop. Very little of this materialised and Fireworkx was struggling financially so my package was not great either, I therefore elected to move on.
- **SKILLS:** C, Objective C, Lua, C++, iOS Development, Xcode, Eclipse, MVC

July 2013 to May 2014

Lead Infrastructure Enterprise Architect Nedbank (Pty) Ltd

- I was headhunted by Nedbank to head up their Infrastructure Architecture practice in their Enterprise Architecture department. My duties included advising, guiding and mentoring the Infrastructure Designers, setting Infrastructure Architecture policy, designing and enforcing Standards and Policies, liaising and guiding the Infrastructure and Operations area. I reported to Paul van der Merwe, the Chief Domain Architect.
- During this period I was involved in the design of Nedbank's Unified Communications and Collaboration Architecture, their Cloud Architecture, their Virtualisation Architecture, their End User Computing Architecture. I also researched and assisted in the design of their Platform Strategy.
- I was also responsible for the development of the EA practice within Nedbank and authoring white-papers related to the Infrastructure practice.
- I continued to keep my hand in at coding and mobile application architecture and design by continuing to code for both Mac OS X, iOS. I also pursued my Open Group Open CA certification since I am already TOGAF 9.1 certified.
- I left Nedbank because I wanted to relocate to Cape Town.
- **SKILLS:** Enterprise Architecture, TOGAF 9.1, Design Patterns

2011 - June 2013

Mobile Architect BBD (Pty) Ltd

- BBD (Pty) Ltd is the largest independent software company in SA, it develops software for the financial services industry and many governmental organisations. It founded the Mobile development division in 2010, for which I was headhunted as architect and technical lead.
- While employed here I architected and designed more than twelve different mobile applications and their backend services as well as architecting their integration into the core business systems of the client. These applications and

their back end systems were commissioned by some of the largest insurance companies, consultancies and government departments in SA.

- I designed and architected the following applications (as well as writing code for the projects in Objective C)
 1. Discovery Life - Broker Application available on iTunes Store
 2. Discovery Insure - Broker Application available on iTunes Store
 3. Discovery Invest - Enterprise Application
 4. Liberty Risk Explorer - Public Application available on iTunes Store
 5. Momentum - Broker Application available on iTunes Store
 6. Vodacom Accounts - Public Application available on iTunes Store
 7. ESKOM Work Planner - Enterprise Application for McKinsey
 8. SARS Work Flow - Enterprise Application
 9. SARS Queue Management - Enterprise Application
 10. Psych Profile - Enterprise Application
 11. InnoSys ARQ - Enterprise Application for Insurance Firm in SA and UK
 12. Moss Brothers - Enterprise Application for Moss Brothers bespoke Tailors in UK
- My responsibilities included the design and architecture of all software related to mobile, the performance of code reviews, presentations and interactions with clients as well as mentoring all the members of my various mobile teams. I was told by management at BBD that I was the most superb mentor of young talent they had ever had.
- Most of the development has been on iOS as well as the odd Blackberry project. I consider myself an iOS expert having programmed it for 5 years and having programmed in Objective-C for over 10 years (I programmed the NeXT operating system which is where the Cocoa and iOS frameworks originated). I have been programming Java for over 12 years.
- I designed and coded a WADL (Web Application Description Language - a W3C standard) compiler that simplified the integration of front end applications on the iPad and iPhone with back-end systems that were accessed via SOAP or REST calls. This enabled the auto-generation of Objective-C stubs from WADL or SOAP definitions.
- While at BBD I enrolled in the TOGAF 9.1 certification programme and achieved my TOGAF 9.1 certification in April of 2013.
- I left BBD since Nedbank offered me an Enterprise Architecture position and I was keen to learn the skills of an EA.
- **SKILLS:** C, C++, Objective C, iOS Development, Xcode, Agile, MVC

2007 - 2011

Owner Developer iSightings (Pty) Ltd

- I formed a company with friends of mine to develop eco software for the iPhone, iPad and Apple Macintosh computers.

- I designed and developed all the iSightings products myself and in the process learnt iPhone and iPad development languages and techniques.
- I developed several applications that made use of the GPS functionality of the iPhone and iPad and interfaced with Google Maps to provide mapping and identification functionality for wildlife tracking.
- Worked on several conservation projects while living in Nelspruit, Mpumulanga
- I had been promised various pieces of data associated with game and bird sightings by a leading authority on SA wildlife and birds, however he reneged on the deal which essentially made it impossible for us to complete our software without spending R 1,750,000 to purchase similar data. We did not have that sort of funding so this ended the venture.
- **SKILLS:** Objective C, C, C++, macOS Development, iOS Development, Xcode

2004 - 2007

Innovation Centre First National Bank

- Researched and designed a mobile banking strategy for First National Bank that resulted in the formation of a Mobile Banking Division within the Bank that embraced the strategy specified by myself
- Assisted in the creation of a Technological Strategy for the Banks new Africa Division.
- Designed and implemented a web tool that uses a Service Oriented Architecture for encouraging collaboration across the Executive Areas of the Bank.
- Architectural consultant on Object Relational Database Systems to Gemstone System, Beaverton Oregon. Gemstone Systems Inc, is one of the leading ODBMS vendors worldwide.
- The innovation centre at FNB was closed down and I elected to take package so I could go do my own thing.
- **SKILLS:** Enterprise Architecture, Design Patterns

2000 - 2004

Chief Technical Officer eBucks.com

- Appointed as Chief Technical Officer at eBucks.com (a division of FirstRand, the 2nd largest financial group in South Africa with a market capitalization of around 10 billion US dollars) managing a staff of 32 developers, analysts and system and database administrators. Acted as CTO and Chief Architect.
- Specified, designed and built in 100 days a complete Loyalty and Financial Services Portal that integrated the products offerings of FirstRand Bank and FirstRand Insurance. The portal was built using a J2EE compliant Application Server using

CORBA and EJB as the distribution mechanism and an ODBMS (GemStone/J) as the primary persistent object repository. I personally coded the entire back end portion of the system.

- The eBucks.com Portal is a full service Internet Banking and Insurance Site. This is to my knowledge, the first Retail Internet Banking portal that makes use of an ODBMS in a high volume transactional environment in the world.
- This was the first online Loyalty Portal in South Africa, and gained 600,000 customers in 3 years, and was the 2nd most well known loyalty scheme in South Africa within 2 years.
- The system was completed at a total cost of ZAR 33 million. This is an order of magnitude lower than the costs of our competitors. This is due to the cutting edge technology used to do the development as well as the use of an Agile Methodology and Extreme Programming.
- Integrated over 25 different partner systems within 2 years.
- I pioneered four new concepts in Online Banking in South Africa, these being :-
 - a) the presentation of the entire known financial status of the customer on a single web page, this has subsequently become the norm in South African Internet Banking.
 - b) a new means of registering for Internet Banking that obviated the need for the customer to involve Bank staff when registering.
 - c) the ability to dynamically create, update and remove payment definitions without involving the bank branch staff.
 - d) using events on accounts to drive customer notifications, resulting in the 321 InContact product (notification of customers via SMS (mobile phone short message service) of movements against their account)
- Worked with Alistair Cockburn (well known author and Agile Methodologist) to develop an Agile Methodology appropriate for our organization. This resulted in Alistair documenting the resulting Agile Methodology as "Crystal Orange Web" in his book Agile Software Development. Mr. Cockburn makes mention of myself and eBucks in this book.
- I was transferred to FNB Innovation Centre
- **SKILLS:** C, C++, Objective C, Java, CORBA, Xcode, CMake, MVC, Agile

1996 – 2000

Chief Systems Architect Rand Merchant Bank

- Designed and developed a Treasury Trading and Real Time Data Analysis Interface in Java based on Self Morphic concepts. This allowed traders to directly manipulate and modify portfolios and instruments through onscreen graphic representations of Business Objects. It also demonstrated the performance possibilities of Java to the business. Rejected by business as too radical.

- Tasked with developing an eCommerce Strategy for FirstRand Bank. (FirstRand Bank is the 3rd largest Financial Institution in South Africa, and resulted from the takeover of First National Bank by Rand Merchant Bank).
- **SKILLS:** Design Patterns, Software Architecture

1995 – 1996

General Manager Rand Merchant Bank

- Appointed as Chief Systems Architect for the entire Merchant Bank
- Tasked with designing an Enterprise Architecture for Rand Merchant Bank
- Designed the OBOE (Open Business Objects Everywhere) architecture that leveraged CORBA, Java, a Smalltalk ODBMS and COM/DCOM. This architecture allowed us to use existing code and yet bootstrap ourselves into the Java world. The use of the COM/CORBA bridge enabled end users to use the power of distributed CORBA objects in an EXCEL spreadsheet.
- Recognized as a Global Innovator by ComputerWorld Global Innovators October 1997
- **SKILLS:** DCOM, COM, CORBA, C, C++, Smalltalk, OpenStep, MVC

1993 – 1995

Assistant General Manager Rand Merchant Bank

- Promoted to Assistant General Manager at RMB
- Developed Pluggable Pricing Models for the SMART System to allow dynamic modification of pricing. This enabled the bank to add new instruments to the system in days giving the traders a competitive advantage.
- **SKILLS:** DCOM, COM, CORBA, C, C++, Smalltalk, OpenStep, MVC

1992 – 1993

Technology Strategist Rand Merchant Bank

- Promoted to Senior Manager at RMB
- Appointed as Technology Strategist for Technology Department
- **SKILLS:** Software Architecture

1991 – 1992

Developer

Rand Merchant Bank

- Appointed as Manager at Rand Merchant Bank (RMB) Technology Department
- Designed Object Oriented Pricing Models for Treasury in an OO fashion. Created Pricing Wrappers which allowed rapid composition of derivative derivatives (i.e. complex nested derivatives). Designed the entire macro architecture of the new RMB Trading and Portfolio Management System
- Mentored other Smalltalk Developers at RMB
- Discovered uses and power of an ODBMS
- Introduced first Smalltalk based Treasury System to a Trading Room in South Africa
- **SKILLS:** Smalltalk, C, C++, OS/2 Development

1987 – 1991

Software Developer

FedLife Assurance

- Appointed as software developer while studying for and writing my Faculty of Actuaries (Actuarial) exams.
- Discovered Smalltalk-80 and taught myself OO programming with Smalltalk/V on DOS.
- Introduced Smalltalk/VPM to the FedLife Assurance Actuarial Department, allowing much more rapid development of complex actuarial models.
- **SKILLS:** C, Smalltalk, OS/2 Development, WANG BASIC, DOS Development, IBM PC Assembler

General

While I have a good knowledge of Distributed Systems Architecture, I have a passion for Architecture in general. I have published on the subject of ODBMS, Architecture and Java, both locally and internationally. I am TOGAF 9.1 certified and currently working on my Open CA certification through the Open Group.

I have an extensive knowledge of design patterns and actively use them in my design and architecture work. I am extremely interested in such patterns as a mechanism for architecture documentation, description and communication. I have used agile methodologies repeatedly during my projects and consider myself as having a good knowledge of the agile approach as well as it's strengths and pitfalls. I am an expert in the creation and management of high performance software development teams, and pride myself on bringing projects in under budget and ahead of schedule. During my tenure at BBD we developed over twelve major iPad and iPhone applications and of those only one was behind schedule.

I am a superb mentor, and continue to mentor many of my ex staff members. I gain a great deal of satisfaction from my mentoring activities.

Other areas that I have some skills in are Garbage Collection, and OO language compilation and optimisation. These two areas fascinate me and I have spent much time reading about them and developing small OO languages. I write compilers in my spare time.

I am an Apple bigot of note and have used Macs continuously for almost 30 years. I used NeXTStep and OpenStep for a number of years. I used the Mac OS X development environment Project Builder to develop a large portion of the eBucks system. While Mac development is not that common I find the frameworks used on Mac OS X to be some of the best I have ever used and therefore enjoy programming for the Mac as much as for iOS.

Skills Matrix

Skill	Experience Level
Swift	7 years
Swift PM	3 years
Java	16 years
C	23 years
C++	4 years
Smalltalk	22 years
Objective C	23 years (NeXT and Mac)
Lisp	2 years
HTML	9 years
CSS	3 years
XML	8 years
MQ Message Series	4 years
CORBA	12 years
MySQL	4 years
JBoss Development	3 years
Mac OS X Development	23 years
Solaris	5 years
Linux	5 years
Software Architecture	18 years
iOS Development	12 years
TOGAF 9.1	Certified
Lua	6 months
NoSQL	1 year
UIKit	11 years
AppKit	18 years

Skill	Experience Level
CoreMedia, CoreVideo, CoreAudio, AVFoundation, VideoToolbox, AudioToolbox	3 years
CoreImage	6 years
CoreBluetooth, Bluetooth LE	2 years
Network Framework	2 years

References

Please feel free to contact any of the references below, however if you wish to speak to them telephonically, please make arrangements by email in advance.

Erna Solomon	Chief Architect - Nedbank Nedbank esolomon@icon.co.za
Paul van der Merwe	Head of Enterprise Architecture - Standard Bank 082 454 7965
Martin Meerholtz	CEO Turnbuckle martin.meerholtz@turnbuckle.co.za 082 577 7796
Wendy Lucas Bull	Director ABSA Bank Number and details available on request.
Paul Harris	Chairman emeritus of the Board of FirstRand (Pty) Ltd Number and details available on request.
Alistair Cockburn	World renowned Object Oriented and Agile Expert Author of many OO books. acockburn@aol.com