

# Andrew Pietsch

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## Employment History

### Summary

IECA	Consultant (2007 – 2008)
RAD International	Senior Software Developer (Toronto, Canada / 2005 – 2006)
Sensis	Senior Software Developer (2005)
Forge Research	Business Analyst/Senior Software Developer (2000 – 2005)
Steele Systems Solutions	Business Analyst/Software Developer (2000)
Telstra	Engineer (1995 – 1999)

### IECA (2007-2008)

#### Homestay Profiler

*Architect & Developer*

The Homestay Profiler product is an online survey tool for the homestay host industry providing training and coaching feedback for homestay hosts. The tool leads the homestay host through a list of questions then on submission is process the results and generates a report for both the host and the homestay company. The product was developed in conjunction with experts in the field of international student well being and accommodation. The product was developed using GWT and uses the Google Guice based Java servlet back end. The development included porting a Swing binding framework over to GWT.

*Skills – GWT, Guice, XSLT-FO, PDF Generation, HTML/CSS, Java*

### RAD International (2005 – 2006)

#### Next Generation Teller

*Senior Swing Architect, Senior Developer*

The Next Generation Teller project was a complete re-development of the teller software used throughout a large US bank. The client facing portion of the application was developed in Swing and used SOAP to communicate with the back end systems.

My main responsibilities included the working with the team to develop the overall client architecture and the design and development of an internal framework to standardise and simplify the usage of Swing within the project.

The internal framework was designed to support the rapid and reliable development of UIs that complied with the User Interface Architecture specification (UIA). It consisted of a comprehensive binding framework, command infrastructure, specialised layout builders, glass pane management and threading patterns and utilities.

The binding infrastructure was an extension of the Presentation Model/Value Model approach tailored to meet the bank's complex business requirements with minimal effort from developers. This combined with the custom layout builders allowed the rapid construction of forms that complied with the complex requirements of the UIA. The combination of the Command and Value Model infrastructure ensured a very clean model-view separation and facilitated comprehensive unit testing of the UI.

I was also responsible for training and supporting developers in the use of the framework.

*Skills – Large scale Swing application architecture, Swing, binding frameworks, threading, developer training.*

## **RAD Media Distribution System**

*Team Lead, Senior Software Developer*

The media distribution network was created to support the development of products that play media in remote locations. I was the team lead and architect for the client aspects of the project.

The client was built using the Knopflerfish OSGi implementation. The use of OSGi facilitated the development of a highly decoupled architecture allowing the final product offering to be customized for each individual client. The design also utilised JMX to wrap the OSGi configuration infrastructure simplifying remote management. Considerable effort was given to ensuring thread safety within the client given the remote management hooks and the use of Swing for the customer facing UI.

A robust build environment based on ANT was created to simplify the development of OSGi bundles. It covered all aspects including downloading and installing Knopflerfish, compilation and packaging of bundles as well as deployment to the Knopflerfish runtime. The tool set included custom tasks and data types and allowed new bundles to be created and deployed with very little developer effort. The project also made heavy use of CruiseControl, JUnit and Clover.

*Skills – Team Lead, System Architecture, OSGi, JMX, Swing, Quicktime, threading, networking, unit testing, ANT.*

## **JumpTV Asset Management System**

*Business Analyst, System Architect*

This project involved working with the interaction designer to develop the Statement Of Requirements (SOR) and high level system architecture for a Digital Asset Management System. The system required tight integration with the streaming servers, scheduling system and the customer facing website. It was required to support the ingress of video assets from multiple sources and provided version tracked editing of video content and metadata. It also required a robust leasing mechanism to manage the movement of assets to and from the streaming network as required. Careful design was required to ensure business knowledge was not dispersed amongst the various systems without compromising the usability of the various user interface subsystems.

*Skills – Business requirements analysis, object oriented software architecture and design, asset management, media streaming.*

## **JumpTV Systems Design and Development**

*Business Analyst, Senior Developer*

I undertook a number of roles in the design and delivery of the JumpTV website. These included writing the requirements and design documents for the electronic program guide, the development of Drupal modules and infrastructure and the creation of internationalisation and localisation tools and procedures.

*Skills – Internationalisation, Drupal, PHP, television program scheduling, programming metadata.*

## **Sensis (2005) – Contractor**

### **C3 Content Author Project (2005)**

*Senior Swing Developer*

Content Author is a large scale complex Swing application providing Sensis sales staff with a unified interface to various back-end systems. My role was to support the roll out of the existing phase one product and to provide Swing expertise during the development of phase two.

*Skills – Java, Swing, MVC.*

## **Forge Research (2000 – 2005)**

### **Map Intelligence (2005)**

*Senior Developer*

The Map Intelligence product is a business intelligence tool that allows spatial analysis of various types of business data. My main role on the project was to plan and manage the internationalization of the product. This involved developing the tools and infrastructure for both the developers and translators. The developer tools needed to be both easy to use and hard to misuse while the translation tools ensured all changes made by developers were tracked and that the task of translation was made as painless as possible.

*Skills – Internationalization, Requirements analysis.*

### **Map Intelligence Client API (2005)**

*Senior Developer*

The Map Intelligence Client API provides a Java wrapper for the Map Intelligence product for use by third party software vendors. The API was designed to ensure UI developers could quickly generate user friendly interfaces based on the standard MVC architecture. Some of the features included user input validation and fully decoupled protocol generation. The API was also developed to ensure it could be migrated to the .NET environment using the open source KVM library and tools.

*Skills – Java, KVM, .NET, Object orientated design*

### **Contact Chronicle (2004 – 2005)**

*UI Design, Senior Developer*

Contact Chronicle is a web based email tracking system. My roles have included the design and implementation of a customizable look and feel framework and the design and development of the applications authorization component. I have also been responsible for the investigation and initial migration strategy from the current JSP framework to Tapestry (<http://jakarta.apache.org/tapestry/>).

*Skills – Tapestry, JSP, HTML, CSS, JSP, Object oriented design*

### **Node Manager Project (2002 – 2005)**

*Business Analyst, Senior Developer*

The Node Manager project is an internal Forge initiative that is focused on providing a fault tolerant distributed deployment environment for systems developed by Forge. It is designed to provide self-healing and intelligent code deployment capability and is based strongly on RM-ODP.

I am currently the project lead and have been responsible for development of the SOR and SRS. Considerable time has been spent in research of the current state of distributed systems and technologies as well as various monitoring and management approaches including JMX. The project is heavily focused on providing a solid deployment framework for future Forge projects.

*Skills – Business requirements analysis, Software architecture design, Distributed software architectures, JMX, RM-ODP.*

### **Authorize Graphical User Interface (2003 – 2004)**

*UI Design, Software Architect, Senior Developer*

The Forge Authorize product provides a distributed authorization infrastructure. This project covered the development of a cross platform Swing based user interface to manage and configure the Authorize database.

I was responsible for both the design and development of the user interface. The interface caters for users who require quick visual access to small quantities of data as well as scaling to extremely large datasets. One of the more notable features of the design was the text based rule editor with syntax highlighting and smart completion.

*Skills – Business requirements analysis, User interface design, Software architecture design, Java software development, Swing.*

### **RAMOSS (2000 – 2005)**

*Business Analyst, Senior Developer*

The Rural Access Multiplexer Operational Support System (RAMOSS) provides activation and support infrastructure for Telstra services deployed on the Rural Access Multiplexer infrastructure developed by ExTel. RAMOSS provides full lifecycle management, alarm handling, OS maintenance and many other capabilities for the device.

I was responsible for the development of the System Requirements Specification and user interface design. I was heavily involved in the development of the user interface that was implemented using an in house Model 2 JSP framework very similar to Struts.

I was also responsible for the development of the alarm handling component. The alarms are processed in a highly distributed environment and as such can arrive completely out of order. The business requirements specify different actions to be undertaken depending on both the type of alarm as well as the current state of the device.

During the maintenance phase I have been responsible for the development and implementation of a number of change requests as well as general system monitoring and maintenance. I was also heavily involved in the change management process and the development of document exchange procedures between the various stakeholders.

*Skills – Business requirements analysis, ISDN signaling, Software architecture design, Java software development.*

### **Software Engineering Process Group (2002 – 2005)**

I was actively involved in the review and development of internal engineering practices. These range from standards of documentation to the structures and processes that guide our development environment. Standard development requires the ability to be both systematic and pragmatic to meet the needs of both the company and the developers within it.

## **Steele Systems Solutions (2000)**

### **Telstra Access Management System**

*Business Analyst, Software Developer*

The Telstra Access Management System was a new initiative by Telstra to replace the manual paper driven system of access authorization and allocation. The system was required to manage the various electronic key cards and mechanical keys used throughout Telstra.

I was contracted to Telstra to develop the System Requirements Specification. This involved the analysis of the existing practices and working with the client to develop an online solution to meet the needs of each of the various user groups. The project deliverables included a full user interface specification, business rules specification and complete business process flows.

*Skills – Business requirements analysis, User interface design.*

### **Complaints Management Database**

*Software Developer*

I worked on the general maintenance of a system used to track complaints made by customers involving Telstra's cable installation contractors. The system consisted of a MS SQL Server back end with a Microsoft Access client.

*Skills – SQL, MS Access/Visual Basic.*

### **Business Reporting Tools**

*Business Analyst, Software Developer*

I also developed a Visual Basic/Excel based tool for tracking and reporting on orders stored in a terminal based mainframe system. The tool tracked work orders over time and provided a quick overview highlighting problems to management.

*Skills – MS Excel/Visual Basic.*

### **Nerve Centre**

*Software Developer*

The Nerve Centre was a prototype framework that allowed managers and support staff to monitor the status of systems for which they were responsible. The monitoring functionality was provided by pluggable modules on the server, which were then dynamically downloaded to the various client machines. The system was written in Java and made extensive use of RMI and dynamic class downloading.

*Skills – Java, Swing, RMI, dynamic class downloading.*

## **Telstra (1995 – 1999)**

### **ANTOSS (1997 – 1999)**

*Engineer – ANTOSS Technical Lead*

The Analogue NT Operational Support System (ANTOSS) provides activation and support infrastructure for products deployed on the Analogue NT device. The Analogue NT is an ISDN device that provides two conventional telephone services. It was deployed specifically in areas where there was a shortage of existing cable infrastructure. ANTOSS was a critical system in that it was an integral part of both the service activation and service assurance processes.

I was the Telstra technical lead for the development of ANTOSS. This role involved writing the System Requirements Specification and managing the development process through to launch. My responsibilities covered various aspects including user interface and business process design to integration with other core Telstra systems including the ISDN network.

During this time I also prepared a security design ensuring internal networks were not at risk due to the connection to external public networks. I was also heavily involved in user acceptance testing of both ANTOSS and the systems to which it interfaced as well as the development of training courses for the various user groups.

My role required interaction with a large number of people in many areas. These included the various user groups, business owners, technical experts, operation support and the legal department.

*Skills – Business requirements analysis, ISDN signaling, Systems integration and testing, Project management, ISDN, MQ, CORBA, TCP/IP.*

## **Conditional Access Gateway (1996)**

*Engineer*

The Conditional Access Gateway is the key component that secures Telstra's Pay-TV network. It includes the various systems that encrypt the video streams and control subscriber access. The CAG included a custom nationwide network for transmitting security information to the various distribution centers.

I was involved in the planning of various operational workflows and procedures as well as equipment and software upgrades.

I also developed a number of monitoring tools including a C application to monitor the status of the CAG network UDP broadcast configuration. I also developed a parser written in Perl to monitor the input and output of a critical mediation device in the network. This allowed us to verify its behavior and also validate the input of upstream systems.

I was also responsible for investigating the suitability of deploying digital Pay-TV over ADSL. This involved thorough investigation of the various DVB and ADSL standards.

*Skills – TCP/IP Networks and Routing, DVB, MPEG, Cryptography, UNIX, C.*

## **Swing Development (2002 – Present)**

### **GUI Commands (2002 – Present)**

GUI Commands is an Open Source Java library for the management of menus and buttons in large-scale Swing applications.

This project started during the development of Infoset (described below) and has also been successfully used in the Authorize product developed by Forge. I am the sole developer of this project and only work on it in my spare time.

The library has been used as the basis for the Command framework in the Spring Rich Client project.

*Skills – Software architecture design, User interface design, Java software development, Swing, XML, XPath.*

### **Explicit Table Builder (2004 – 2006)**

Explicit Table Builder is an Open Source Java library for generating table layouts in Swing based user interfaces. The application provides an easy to use interface for the creation of grid based layouts using the ExplicitLayout layout manager.

The following quote by well known Swing and UI designer Karsten Lentzsch was posted on <http://javalobby.org/>.

*"I always loved the ExplicitLayout but in the past I felt it lacked a layer on top of it, that retains its power but makes it easier to do simple things. I'll update the Forms documentation to point developers to this interesting project. After a quick review I'd say the Explicit Table Builder provides an excellent feature set and balances power and simplicity well. I'll try to assist in adding a good tutorial to this builder."*

You can find additional information and download the source at:

<https://explicit-tablelayout.dev.java.net/>

### **Wizard Framework (2004)**

The Wizard Framework is a popular Open Source Java library for the simple creation of Wizards.

You can find additional information and download the source at:

<https://wizard-framework.dev.java.net/>

### **Mr Schedule (2004 – Present)**

Mr Schedule is a Swing based application for simplifying the task of estimating software development schedules. It is a cross between a simple todo list and a scheduling tool such as MS Project.

### **Infoset (2002 – 2003)**

The Infoset product provides small businesses with an affordable mechanism for obtaining direct customer feedback. The product consists of a data collection device and software to download and interpret the results.

I have been responsible for the design and development of the software component of the product. It consists of an embedded database and Swing user interface and uses Apache Object Relational Bridge as the object relational layer.

## **Education**

Royal Melbourne Institute of Technology (RMIT) 1991 – 1994

Bachelor of Engineering in Electronic Engineering (1st class Honors)

## **Personal Interests**

I have been learning and playing bass guitar for the last 12 years. I also play drums to a limited extent. I love to cook and have a level one certificate in food handling. My favorite sports include tennis and cycling. I'm also a keen photographer and particularly enjoy candid portraiture. I enjoy my growing my own vegetables and keeping the family tradition of creating salted beans alive.

## **Referees**

**Stephen Spenceley**

Principal Interaction Designer, RAD International (Toronto, Canada)

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“In the last sixteen years, I have had the opportunity to work on many leading edge software projects, but only meet a handful of very special software engineers. Andrew is one of these special engineers. He has the special ability to listen to complex requirements and convert these into software solutions that meet end user requirements, without fuss or personal ego. When you work with Andrew you very quickly learn that he listens to suggestions and has a passion to architect software that is easy to maintain in the future. Andrew thinks deeply before he codes, and then works quickly and effectively; which is what the software industry needs if you want to ship quality products. It was a true pleasure and honor working with Andrew.”

*(available from <http://www.linkedin.com/in/andrewpietsch>)*

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