resume@simontuffs.com **P. Simon Tuffs** http://www.simontuffs.com

PROFILE Experienced software architect for projects ranging from real-time embedded systems to enterprise application servers. Proven track record of taking difficult projects from conception to deployment, while beating schedules and satisfying customer needs.

CAREER HIGHLIGHTS

- Inventor of Generalized Predictive Control widely recognized and used world-wide.
- Architect of the Integrated Systems Multi-Model Simulator, used in development of the International Space-Station.
- Creator of highly successful One-Jar, Jar-Plug and other open-source projects.

EXPERTISE

- Grails, Groovy, Amazon EC2 computing
- Gstreamer, MPF, Speech Recognition, Video Activity Detection
- Web-services technologies (SOAP/WSDL/XML/XSLT/XMLSchema, etc.)
- Open-Source (Ant, Axis, Eclipse, Freemarker, JBoss, Jetty, Struts, XMLBeans etc.)
- Spring framework and Security infrastructure
- RDF data modeling and query technologies
- J2EE application server technology (EJB, JMS, JCA, JNDI, Struts/JSP, etc.)
- Grid programming
- Object-Oriented analysis, architecture, design, implementation and test
- TCP/UDP/IP networking and sockets programming
- Java, C, C++, Ada, assembler programming
- Real-time Operating Systems (RTOS)
- Real-time and non real-time multi-threaded programming
- Recursive descent and other parsing technologies
- *Agile Programming* methods (rapid-prototyping, iterative development, TDD)
- Control systems design, systems identification and audio signal processing
- Simulations: continuous-time, discrete-time, discrete-event

CONSULTING EXPERIENCE

2003-present **simontuffs.com, Pacific Grove, CA**
Independent Consultant

- Consultant to DBA InfoPower (now Enteros Inc). Details are still under NDA, reference available.

  Result: Immediate and significant impact on product quality and capability over a fourteen month period.

- Open Source Software project creation and delivery. Created and published four open-source projects in under six weeks in the areas of Java installers, network benchmarking, XML based services and an Eclipse plugin.

  Result: one-jar.sourceforge.net, soap-stone.sourceforge.net, xml-xig.sourceforge.net, and jar-plug.sourceforge.net released as open-source.

- Web-Services Consultant for PushToTest (www.pushtotest.com). Designed, implemented and verified server-side software used for XML scalability studies on BEA/Weblogic and Sun Java System Application Server. Customers included General Motors and Sun Microsystems.

Result: Performed multiple contracts on-time and on-budget with satisfied customers. Initial contract taken from RFQ to sign-off in only fourteen days.

- Collaborated with Stidolph Software Engineering in a contract with Siperian Corporation to produce a discrete event simulation of their J2EE based system to help them analyze its architecture.

  Result: Simulator met customer requirements and exceeded expectations.

PROFESSIONAL EXPERIENCE

2008-2010 **Appscio Inc, Freedom, CA**
Senior Engineer

- Lead Engineer for Appscio Media Processing Framework (MPF). Developed new pipeline architecture and components for video processing and motion detection from UAV feeds. Delivered fast-turn contracts to the Naval Research Labs (NRL) based on MPF and extensions.

  Also created an Amazon/EC2 cloud provisioning and management system console using Grails, capable of scheduling EC2 nodes as part of a time-driven workflow.

  Result: Drove new contracts and cash-flow into the company. Established reputation for delivering useful results ahead of schedule.

2006-2008 **Altera Corporation, San Jose, CA**
Senior MTS

- Lead engineer for the Nios II Integrated Development Environment. Nios II is an embedded soft-core processor for Altera FPGA's. As a general-purpose CPU it requires a full-featured C/C++ development environment. The Nios II IDE is a specialization of Eclipse/CDT targeting the Nios II processor. Responsibilities included specification, development and release engineering for the product.

  Result: Upgraded the IDE to latest Eclipse releases and enhanced functionality and features. Increased customer satisfaction and drastically reduced defects.

2004-2006 **Siderean Software Inc., El Segundo, CA.**
Senior Software Engineer

- Worked as a member of technical staff in the engineering department, on a number of critical technologies for the flagship Seamark Navigator product. Developed the Seamark 3.6 UI based on XML/XSLT, and incorporated new features. From requirements to full prototype in one week.

  Result: Immediate impact on the product.

- Architect for a Spring-based component and security model for the next generation Seamark 4.0. Design included the ability to run without Spring for testing purposes. Security model was orthogonal to component model, allowing it to be transparently added to the product without disturbing existing code.

  Result: Fully functional component and security models.

- Rapid response to customer need for logging. Customer made data-logging a requirement for closing a deal, I designed and implemented this feature in three weeks from first notice to ship.

  Result: deal closed, revenue generated.

- Implemented new mashup technology for visualization of RDF relationships based on Freemarker and JFreeChart.

Result: new graphical display capabilities for otherwise tabular data.

2000-2003 **Lutris Technologies Inc (Gridion) Santa Cruz, CA**
Senior Staff Engineer

- Member of engineering team that created the J2EE Lutris Enhydra Application Server. Major areas of development included the deployment subsystem and classloaders. First to deploy and debug the J2EE Pet Store application on this platform.
- Conceived the idea for a 'restart' product based on Grid technologies.
  - Developed the basic Grid-based computing platform concept and 'sold' it to the team.
  - Created rapid-prototype of system, and handed off to the engineering team for implementation.
  - Created rapid-prototype of Job Submission Language (JSL) by heavily leveraging the open-source Ant project. JSL allows for programmatic-control of jobs as they are executing on the Gridion platform and has become the pivotal API in the product.

  Result: Lutris was able to re-start as Gridion Inc., after laying off all but a core team of 5 engineers and 2 executives, instead of filing for bankruptcy.
- Created fully-working prototype of Grid-based XML accelerator (based on XSLT).
  - As part of due-diligence proceedings, a Venture Capitalist (VC) required proof of concept for an XML/XSLT accelerator based on our Gridion platform.
  - Under extreme time pressure I designed and produced a fully working prototype, and performed tests and analysis of data to demonstrate potential ROI for customers of this system, with actual linear speedup up to 16 processors.

  Result: successfully convinced lead VC to continue with Gridion.

1997-2000 **Octant Technologies Inc, Sunnyvale, CA**
Co-Founder and Systems Architect

- Systems-Architect and lead developer of the Tiburon simulation environment.
  - Integrated Systems was realigning its business, and our team and customers did not fit their new direction. I was instrumental in the spin-off in the role of Systems Architect.
  - Tiburon is a software/hardware platform that can perform real-time or data-driven simulations on a range of topologies from networked Unix workstations to multi-processor VME based systems.
  - It is the simulation engine in use on the Space Station program for flight-readiness testing of hardware before launch, and was also recently used as flight hardware for the AFRL XSS-10 mission.

  Result: Octant Technologies is basing its new contract proposals around the Tiburon (renamed Orion) platform, and continues to grow.

1990-1997 **Integrated Systems Inc, Sunnyvale, CA**
Research Scientist

- Lead scientist on development of Multi-Model Simulator for Honeywell MATE program for the Space Station.
  - Honeywell/Boeing had committed to using a simulator from Integrated Systems Inc, but it would not scale up to the size of simulations that they needed. My

team of four engineers created a first release of a product to solve the basic problem and stabilize the business relationship between ISI and Boeing, and then went on over a period of 12 months to completely solve the problem.

- On at least two occasions our work was on the critical-path for the entire Space Station project. This simulator is currently in use in various facilities around NASA, including the Johnson Space Center, essential in pre-flight testing of modules for the Space Station.

Result: $600K new contracts for Integrated Systems with follow on product sales, and Honeywell was able to deliver $60M of products to Boeing/NASA.

- Led subcontract software development projects within the Advanced Systems Group for large aerospace corporations such as Lockheed, Motorola (Iridium), Boeing, Honeywell and Harris.
- Led many projects including software design and development for the AutoCode C and Ada products automatic software generators.

1995 Borland Interactive, Scotts Valley, CA
ATLAS Team Manager

- Management of a team of four engineers on the Atlas project, part of a rich-content email delivery system

1989-1990 Ready Systems, Inc, Sunnyvale, CA
Senior Ada Engineer

- Integration of the Telesoft Ada environment with the Ready Systems VRTX real-time embedded operating system.

1985-1989 Alcoa Technical Center, Pittsburgh, PA
Staff Control Engineer

- Control systems design and implementation, software development, real-time systems development, signal processing.

EDUCATION

D.Phil (Ph.D), Control Systems (1984) University of Oxford, UK.
Studied under Prof. D.W. Clarke. Research thesis: "Self-Tuning Control Systems: Algorithms and Applications".

Originator and co-developer of "Generalized Predictive Control" widely recognized as a breakthrough in practical applicability of adaptive/predictive control. Search for "tuffs+generalized+predictive+control" in any search engine.

B.Eng, Electrical and Electronic Engineering (1981) University of Liverpool, UK.
Graduated with highest honors in class.

REFERENCES

Professional references (with email and phone number contact information) available on request.

OTHER SKILLS

Past member of Toastmasters International, now an experienced public speaker.