Profile

Independent consultant - research, analysis and development of lift control algorithms, performance analysis and monitoring in a networked environment. Following 20 years working on the development of software architectures, data modelling and business analysis methods and tools, specialising in e-Business and Financial Services domains, using Internet technologies. Initially qualified in electronic engineering, moved into software design and gained wide range of experience covering code development, documentation, modelling and training course production/presentation. Responsible for defining technical strategy in a variety of companies (start-ups to corporations) and working environments.

Qualifications & Accreditations

BSc (Hons) Electronics;   MSc Digital Electronics
PhD - Lift Management - Analysis and Control of Lift Traffic

MIET; C.Eng; MBCS; CITP

Summary of Publications:

Chapter – "Standard Elevator Information Schema: Its Origins, Features and Example Applications", DOI: 10.5772/intechopen.92552, May 2020

Paper - " Towards A Global Traffic Control (Dispatcher) Algorithm - Requirements Analysis" Transportation Systems in Buildings Journal, 2018

Paper - " Integration of Lift Systems into the Internet of Things and the Need for an Open Standard Information Model" 6TH SYMPOSIUM ON LIFT & ESCALATOR TECHNOLOGIES, 2016

Paper - " The Standard Elevator Information Schema – A Case Study", www.std4lift.info/, 2009

Paper - "An XML-Based Standard For Communicating Elevator Information" IAEE Elevcon Asia 2005

Paper - "Patterns in interactive applications" ICL Engineering Conference 2001

Contributor to papers on " Artificial Neural-network Based Traffic Patterns Recognition", 1995

Paper - "Remote monitoring of lifts" Ed. Elevator Technology 6. IAEE, 1986

Product Experience Summary

Operating Systems	Windows (XP, 2000,NT), UNIX/linux, DOS
Languages/Tools	Java, J2EE, C/C++; VB; WebLogic, Jbuilder, Eclipse; XML, XSLT, HTML, JSP, Javascript; Word (VBA); Sparx Enterprise Architect (extensions), Rational Rose (extensions), Select Component Architect(VBA); Clearcase; eBusiness/B2B protocols: IFX, SOAP; MS Office (extension); Subversion; Apache Web Server
Database Systems	SQL Server, Oracle, object databases; repositories
Networking	Intra/Internet; TCP/IP, IEEE802.3, Novell; NFS;
Awareness/Familiarity	PVCS; MTS/COM, Visual Studio

Major Achievements

- ➢ Delivery of Destination Control algorithm for high performance lift system
- ➢ Research into modelling lift systems leading to publication of Standard Elevator Information Schema
- ➢ Lead on business and information modelling tools and methods and XSD schema development.
- ➢ Analysed/modelled one of UK's largest and most functionally rich multi-channel Internet Banking site.
- ➢ Consultant/mentor on Business Object modelling to major UK bank.
- ➢ Established and maintained position as authority on Object Oriented Technology.
- ➢ Promoted new architecture to customers and colleagues.
- ➢ Established role of Design Authority and proved its value in successful projects.
- ➢ As Technical Director, introduced quality system, working practices and new technology into small high-tech start-up company.
- ➢ Managed own small business.
- ➢ University Lecturer developed and delivered courses and tutorials to classes of between 5 and 90 students.
- ➢ PhD thesis proposed and subsequently implemented computerised (CGC algorithm) control and monitoring technology in commercial passenger lift system.

Recent Assignments

Design and development of Global Dispatcher Interface (2018 - present)

Design and development of an RESTful interface to a group dispatcher, which is independent of the underlying dispatcher which is appropriate for any installation and configuration of lifts.

Design and development of Destination Control algorithm (2007 - present)

Design and development of Destination Control algorithm for group control for major international lift manufacturer. **Integration of Proprietary Elevator Group Control Algorithms into "Elevate" lift simulation program (Nov 2007 - Onging)**

Interfacing existing manufacturer-specific group control ("Dispatcher") algorithms to Elevate™ (tool for Design, Simulation and Analysis of passenger elevator systems) from Peters Research.

Design and Performance Analysis of Elevator Control Algorithms (Nov 2007 - Onging)

Design and development of new cost functions for control of elevators in an environment where passenger destination floors are declared for some or all of the registered calls ("Destination Dispatch"). Evaluation of performance (relative to existing control algorithms) under simulated traffic profiles.

Integration of Requirements Management into Test Management environment – Fujitsu Services (Nov 2009 – May 2010)

Linking of Requirements Modelling environment into a Test Management tool providing monitoring and reporting of Traceability to individual requirements and Test Coverage by tests which confirm that requirements have been delivered accurately. Traceability encompasses management and identification of changes in requirements so that tests may be evolved to accommodate the changes.

Data Modelling of Service Delivery Environments (Jan 2009 – Oct 2010)

Tools to map implementation of requirements into implemented live environment during phased migration of enterprise architecture for global media company. Tooling also models connectivity of migration tasks through interdependencies on data, hardware, software and networks that underpin the operation of live systems which must continue to deliver contracted service levels throughout the entire migration process.

SOA Service Delivery – Fujitsu Services (Nov 2007 – Sep 2008)

Requirements capture modelling and analysis. Tool design and development for management and delivery of chargeable on-line services in a multi-customer Service Oriented Architecture environment. Agile tool development of Software Factory using Domain Specific Modelling language in MS Team Foundation Server environment using SCRUM.

Design and Prototyping Universal Elevator Monitoring for Architectural Services Department of Hong Kong Government (Dec 2005 – Apr 2007)

XML, web services over HTTP, universal monitoring system delivers live operational data on elevator operation, performance and service records to central monitoring site. Uses simple open interface (to be developed by elevator manufacturer) to elevator and escalator control equipment. Using standard internet/web-server technologies the solution is massively scalable and completely location and manufacturer independent.

Previous Assignments & Experience

Web Services Design – Major UK Government Agency (March 2004 – Nov 2007)

Business re-engineering project exposing core business processes to customers and partners. Requirements modelling, analysis and mapping to Service Oriented Architecture. Design and development of Web Services in BEA WebLogic and supporting Information Domains in Java (J2EE). Test design and test data environment development.

Lead Analyst – Multi-Agency Identification, Referral and Tracking for "Trailblazer" Local Authority (Jun 2003 - Nov 2003).

Acting as Lead Analyst on behalf of customer in tri-partheid project to provide effective Identification, Referral and Tracking of children at risk from social exclusion across the many agencies responsible for delivering services to children. Documentation of wide variety of processes and practices of the many disparate agencies involved (inside and outside the Local Authority) and mapping these onto a Single-Assessment Framework. Modelling and documentation of requirements, subsequent analysis and system testing.

Lead Analyst – Electronic Statements, major UK bank (Oct 2002 - Apr 2003).

Project provides a common Business Service to bring advanced querying, copy requests and supporting functions to the three delivery channels of the bank – Branch Intranet, Internet Banking and Telephony call centre.
The project uses Component Based Design methodology to model, develop and test the Business Service. Constructing a Business Model supporting the requirements of the independent user channels using the Select Component Architect modelling tool. Business Service is deployed as a Chordiant Service running on IBM WebSphere (J2EE) with MQ interfaces to the user channels and a variety of supporting host systems and databases.

Technical Design Authority – Contact Management, ICL, UK, (Jan - Jun 2002).

Business analysis, design and development of generic solution for managing customer requests and enquiries, including capture, workflow, assignment and follow-up of customer contacts made through a variety of channels including call-centre, "one-stop-shop" office, mail-room, etc. Use of specialisation of solution components to enable conversational advice sessions using free-text interaction with animated avatar.

Technical Design Authority – CRM Integration Training Course, ICL, (Jul – Oct 2001)

Design and development of three-day Solution Development training course together with slideware and numerous workshop examples to support the delivery of the course. Based on advanced component framework tool-set. Subsequent delivery of the course to five separate sets of delegates.

Technical Design Authority – CRM Integration Tools and Applications, ICL (Jan – Jul 2001).

Design and development of Information Model to support Complaints Management application. Also development and test of business functions using the DeliverySuite CRM Integration solution kit. Documentation of process and methodology for using solution kit. Developing and documenting methods to promote structured and re-usable application development using the DeliverySuite CRM Integration solution kit.

Technical Design Authority – Call Centre Migration, major UK bank, (Sep 2000 – Jan 2001).

Initial phase of project to enhance and migrate call centre support system from green-screen legacy system to support rapidly changing business processes and product range with intelligent assistance to agents with different roles and skill levels in cross and up-selling. This work resulted in the bank gaining a far clearer understanding of its evolving business strategy and the role of its IT organisation in achieving it.

Technical Design Authority – ICL Financial Services, UK (May – Jul 2000).

Analysis and design of meta-model for use in DeliverySuite Business Development Environment. This work now forms the basis of the toolset and is a communication mechanism within the development team.

Technical Design Authority – ICL Financial Service, UK (Sep 1999 – Jan 2000).

Definition, production, review and agreement of Infrastructure Requirements Specifications for development tools and deployment components of the DeliverySuite™ framework.

Technical Design Authority – PC Banking, major UK phone bank (Nov 1996 – Jan 2000).

Project to provide call-centre based bank with channel independent delivery of self-service banking functionality – initially through private dial-up connection now via Internet. System now supports 1 million customers making about 250,000 calls per week.

➢ Analysed and documented requirements for Customer Self-Service PC Banking application.
➢ Introduced analysis methodology, analysis modelling tools and documentation management system.
➢ Managed test team production of system test scripts and data.
➢ Major contributor to design of application system infrastructure.
➢ Designed tools and methods to manage dynamic elements of the system (eg sales campaigns, product information, etc).
➢ Documentation of plan for integration with existing corporate information systems.
➢ Assessment of CTI integration potential with existing provider
➢ Assessment of PKI for security requirements
➢ Subsequent design of extension into SMS delivery channel.

Technical Design Authority – ICL Financial Services, UK (Apr 1991 – Nov 1996).

➢ Design, documentation and presentation of Financial Services Application Architectures.
➢ ICL representative to Object Management Group, Financial Services sub-committee.
➢ Introduction of tooling, methods and processes to support business analysis.
➢ Consultancy and collaboration with working groups in ICL and externally on business analysis, business object modelling, application architectures, development methodologies, open systems integration and systems management.
➢ Development of product strategy including market analysis
➢ Integration and alignment of Branch Banking toolsets across ICL Financial Services operations in Finland, Spain, Norway and France.
➢ Pre-sales TDA support for presentations, proposals, prototype development, etc.
➢ Technical Design Authority for branch banking teller system based on configurable, re-usable components. Including pre-sales support.
➢ Management of a number of small team development projects

Project Manager - Unibit (Holdings) plc., UK, May 1988 to April 1991

➢ Planning and management of small development team
➢ Design authority, Documentation of design, Development of code
➢ Introduction of quality standards in accordance with BS5750

Managing Director - Lift Innovations Ltd, UK, Oct 1985 to May 1988

➢ Designed and developed hardware and software for innovative and revolutionary lift monitoring products demonstrating measurable improvements in lift service.
➢ Project management and technical direction of designers and site support staff.
➢ External consultant/advisor to PhD project.

Lecturer - Control Systems, University of Manchester, Oct 1984 to Oct 1985

➢ Delivered courses on Classical and Digital control theory.
➢ Developed and marked examinations
➢ Designed and supervised laboratory experiments
➢ Personal tutor

Systems Designer LDP (Lift Designers) Ltd, Jan 1980 to Oct 1984

Design, development, production and deployment of world's first operational passenger lift control system using computers to predict lift response times. Installation is still operating in intensively used commercial building 25 years later for a satisfied customer.

Research - April 1977 to date

Apr '77 to Dec '77: MSc Dissertation Project at UMIST

Research sponsored by ICI Central Toxicology Laboratories. Use of microcomputers for automated data collection and analysis in laboratory experiments.

Dec '77 to Jan '80: PhD Thesis at UMIST

Discussion of the application of computers to the management and control of high performance lift systems.

➢ Graphical Analysis of logged and simulated data to establish traffic patterns
➢ Diagnosis of fault conditions and measurement of performance index of lift systems.
➢ Design of hierarchical control system using microprocessor based computers

Jan '80 to date: Post-Doctoral Research

Continuing interest in current work on lift traffic analysis and performance measurement.

➢ Maintained contact with researchers in various locations throughout the world.
➢ Developed and published Standard Elevator Information Schema
➢ Written articles and presented papers
➢ External examiner/consultant for university research projects.
➢ External reviewer on project to apply Neural Network technology to lift traffic pattern recognition and analysis.
➢ Analysis and specification of Global Dispatcher Interface, design and development of prototype.

Publications:

Beebe, JR. Hammoudeh, A.   " Standard Elevator Information Schema: Its Origins, Features and Example Applications" Building Transportation, Traffic and Engineering Systems [*Working Title*] DOI: 10.5772/intechopen.92552, May 2020.

Beebe, JR." Towards A Global Traffic Control (Dispatcher) Algorithm - Requirements Analysis" Transportation Systems in Buildings Vol 2, No 1 (2018) ISSN: 2631-8156, journals.northampton.ac.uk/index.php/tsib, 2018

Beebe, JR. " Integration of Lift Systems into the Internet of Things and the Need for an Open Standard Information Model" 6TH SYMPOSIUM ON LIFT & ESCALATOR TECHNOLOGIES Volume 6 September 2016 ISSN 2052-7225 (Print) ISSN 2052-7233 (Online) www.liftsymposium.org, 2016

Beebe, JR. " The_Standard_Elevator_Information_Schema_-_A_Case_Study", http://www.std4lift.info/The_Standard_Elevator_Information_Schema_-_A_Case_Study.pdf, 2009

Beebe, J.R. "An XML-Based Standard For Communicating Elevator Information" Paper presented to IAEE Elevcon Asia 2005.

Beebe, J.R. "Patterns in interactive applications" Paper presented to ICL Engineering Conference 2001, ICL (Fujitsu Services), UK

Beebe, J.R. "Remote monitoring of lifts" Ed. *Elevator Technology 6.* IAEE, 1986 ISBN 0-7458-0072-6. Ellis Horwood Limited.

So, A.T.P., J.R. Beebe, W.L. Chan and S.K. Liu. "An Artificial Neural-network Based Traffic Patterns Recognition system." International Journal of Elevator Engineering. Vol. 1, 1996, pp. 35-46.

So, A.T.P., J.R. Beebe, W.L. Chan and S.K. Liu, "Elevator Traffic Pattern Recognition by Artificial Neural Network." G.C. Barney, Ed. *Elevator Technology 6.* IAEE, 1995

Education	PhD 1980; MSc 1977; BSc (Hons) 1976
Languages	French - Spoken (basic business)

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