G. Ken Holman

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Summary

Mr. Holman is the co-founder and principal softwright of Crane Softwrights Ltd., http://CraneSoftwrights.com, a Canadian federally-incorporated consultancy founded in April 1997 providing Computer Systems Analysis services to clients who are designing and maintaining document engineering systems based on structured text processing. Characteristically, these structured text processing systems employ technologies and international standards based on the Extensible Markup Language (XML - W3C), the Extensible Stylesheet Language (XSL/XSL-FO/XSLT/XPath - W3C), the XML Query Language (XQuery - W3C), the Standard Generalized Markup Language (SGML - ISO 8879:1986), OASIS genericode and CVA files (code lists and XML) and the OASIS Universal Business Language (UBL).

Since 1992 Mr. Holman has developed his expertise in stylesheet and transformation development, document engineering architectures, document analysis processes and document modeling techniques. This experience has touched many industries including aerospace, automotive, defense, government, electronic business, health management, semi-conductors and publishing, servicing customers in North America, Europe, Australia, and Asia. Mr. Holman is well recognized in the XML and SGML communities (http://www.xml.com/pub/a/2003/02/12/xml-at-5.html). Please see http://CraneSoftwrights.com/bio/gkholman.htm for an up-to-date biography used for conference presentations.

Mr. Holman developed and delivered Crane's commercial training courses and videos, some of which were licensed by a number of training organizations around the world in the XML community. These companies used this material in place of developing their own materials for these topics. Please see http://CraneSoftwrights.com/schedule.htm for a list of the courses and links to their syllabi. Both hands-on and lecture-style courses were developed.

An excellent team player with good communication skills, Mr. Holman attempts at all times to effect a technology transfer to customers, team members and end users. He is also adept at assessing from users of legacy systems how existing processes meet user requirements in order to determine how new processes and architectures can be deployed.

See http://CraneSoftwrights.com/training/testimon.htm for testimonials of Mr. Holman's work.

Mr. Holman has also authored and published Crane's books on the OASIS Universal Business Language and on stylesheet technologies - comprehensive tutorial guides to XSL - the XML-based transformation and pagination family of Recommendations. Free previews can be obtained from http://CraneSoftwrights.com/training/. The XSL books have been brought to the paper market by Prentice Hall in the Charles Goldfarb "Definitive XML" series.

Since the mid-1980's Mr. Holman has been active in international and industry standardization communities and continues to be involved in the International Organization for Standardization (ISO) http://www.iso.ch, the World Wide Web Consortium (W3C) http://www.w3.org, and the Organization for the Advancement of Structured Information Standards (OASIS) http://www.oasis-open.org. He was a member of the original W3C working group that developed XML from SGML (see "http://www.w3.org/TR/WD-xml-961114#secC.1" entry 31).

Prior to forming Crane Softwrights Ltd., Mr. Holman was the CTO and held various other senior and board positions during over 13-years of employment with Microstar Software Ltd., working in the NAPLPS and SGML communities.

Representative projects

A sampling of the document engineering-related projects in which Mr. Holman has participated is as follows:

Requirements Analysis

Assessing the possible roles of structured document technologies is an important task when introducing such technologies to established systems architectures. Mr. Holman has worked with many systems-oriented people unfamiliar with structured document engineering in pharmaceutical, airframe document publishing, and defense contractor industries. Brainstorming strategies and effecting a technology knowledge transfer, his style of working with newcomers to markup is well appreciated.

For the New Zealand Parliamentary Counsel Office, Mr. Holman analyzed how XML publishing specifications address the requirements for legislative documents.

System Architecture Design and Implementation

In the airframe document publishing, defense, health management and consulting industries, Mr. Holman has designed system architectures for the flow and manipulation of information to meet publishing and processes based on markup technologies. Some of these systems support the production of millions of pages of paper in a single run. He has been contracted to effect his designs using publicly available tools, though more often he supports his customers in doing this themselves.

XML Vocabulary Design and Analysis

For a number of customers, Mr. Holman has created XML vocabularies and their associated schema validation expressions helping customers author, capture and maintain their information in a structured form for automated downstream processing. As an example of information vocabularies for a health management organization (HMO), two vocabularies represented each of the authored content from business users and the data content from back-end database developers. As an example of action vocabularies for a publisher of sports score information, the vocabulary represented behaviours engaged by the write to aggregate information into a final result.

For a Beijing-based software developer, Mr. Holman provided an analysis of their own XML vocabulary based on their expressed requirements, and how this vocabulary was documented in a standards specification.

Stylesheet Development and Publishing Systems

Over the years, Mr. Holman has developed multiple-target stylesheets and transformation specifications on contract for a major software vendor, a car manufacturer, a religious-works publisher, a web publisher, a newspaper association, a US Defense industry contractor, an education electronic information publisher, a number of database publishers, an HMO, a management company for web-based personal health records, a government parliament and numerous foreign and domestic private companies. The source XML models included colloquial, company-standards, industry-standards (e.g. US Intelligence documents), and publicly-available standards (e.g. DITA and DocBook). This focus on the downstream processing of XML using XSLT, XSL-FO, DSSSL, OmniMark and Python technologies distinguishes him from many of his peers in the industry.

Document Modeling and Semantic Analysis

An excellent facilitator of groups of industry experts, Mr. Holman participates in information analysis and document model design as a catalyst. To ensure the stakeholders maintain ownership of their efforts and results, he leads the teams to a point of self-sufficiency through technology transfer. This strategy prevents him from being a crutch in their continued development and support of their resulting works. In general aviation, defense and a number of private projects Mr. Holman has helped organizations build the initial versions of their own document models for their own subsequent maintenance. For a European government IT office Mr. Holman systematically analyzed a proposed customization of the UBL document models for inconsistencies and compatibility errors. For a California HMO Mr. Holman designed numerous publishing vocabularies for various document types used for custom contract assembly and to meet very-high-volume surface mail requirements.

For an India-based legacy conversion company Mr. Holman assisted in the design of schemas to which the legacy information was converted.

For an Internet foundation for services applying business rules to documents, Mr. Holman facilitated the incorporation of the OASIS UBL document models.

Legacy Conversion

It is often difficult to convert legacy data that follows vendor-specific formats into structured information suitable for document processing tools. For an airframe manufacturer, Mr. Holman worked with employees using active legacy publishing environments to migrate volumes of information from archaic formats to structured form. In addition, comprehensive and intricate analysis tools were provided to these employees to assist their own evaluation and repair of their existing data to effect successful transformation.

Electronic Book Packaging

For a vendor of business analytics software Mr. Holman created a set of turnkey processes for the client to convert a collection of their XHTML documents into the ePub format for the Sony e-Reader.

Private, Conference and Contracted Training Delivery

Mr. Holman has been contracted by vendors in web publishing, portal management, and systems integration to deliver Crane's training courses on a private basis to technical staff and management. An accomplished speaker, Mr. Holman has delivered tutorials and presentations at conferences around the world since 1993, and to world-wide audiences through both web- and CD-based deliveries and virtual-classroom real-time audio lectures. See `http://CraneSoftwrights.com/schedule.htm` for upcoming deliveries and `http://CraneSoftwrights.com/training/pastsch.htm` for past deliveries.

For an XML software vendor, Mr. Holman provided contracted training services to the vendor's clients, delivering product-neutral, hands-on instructor-led classes in W3C specifications in the US, India and other countries.

For a large Manhattan-based magazine publisher, a large Philadelphia-based non-profit, and other companies worldwide large and small, Crane is an approved vendor for in-house hands-on instructor-led training with Crane's off-the-shelf XSLT and XQuery material delivered repeatedly by Mr. Holman.

Mr. Holman has recently been delivering a customized half-day workshop titled "The uses of cryptography and blockchain for e-invoicing and business" for the Exchange Summit conference series.

Publicly-available free development resources

In the act of developing technical solutions to internal requirements, Mr. Holman has released for public download a number of free stylesheet and programming resources. Included are fully-functional environments for customizing UBL document models, printing instances of UBL XML documents, synthesizing XSLT stylesheets from XML, etc. See `http://CraneSoftwrights.com/resources` for more details.

Government business

Mr. Holman has provided his training and consulting to numerous government departments including but not limited to the Canada Revenue Agency (Ottawa), the Parliament of Canada - House of Commons (Ottawa), New Zealand Parliamentary Counsel Office (Wellington), Denmark National IT and Telecom Agency (Copenhagen), U.S. House of Representatives (Washington), U.S. Defense Intelligence Agency/Department of Defense (Virginia), U.S. Goodfellow Air Force Base (Texas), U.S. Army (Alabama) and the U.S. Joint Forces Command/Marines (Virginia).

Research business

Mr. Holman has provided his advice and guidance to a Finnish-based research project examining the role of standardized business documents in business procurement, in the logistics business, and in the ship-building industry.

Selected project details

Database publishing

For a New York City-based publisher of database information regarding charitable organizations and foundations, Mr. Holman designed and built a stylesheet library for the publishing of retail sale catalogues. These catalogues have nuanced presentation requirements that needed to be accommodated for the unattended production and printing process of 1500-page volumes from tens of thousands of database entries. The use of XSLT and XSL-FO replaced an increasingly-fragile proprietary legacy system that was unable to accommodate changes driven by market pressures and was no longer being supported by the vendor. The customer was also finding it increasingly difficult to find resources familiar with the legacy system technology and operation and therefore needed to move to open standards.

Through training, technology transfer and mentoring after delivery, the resulting system was left for customer staff to maintain and enhance for the long term in the preparation and production of new editions and derivative retail products.

High-volume print publishing

For a Long Beach-based airframe manufacturer, Mr. Holman worked with long-time users of a legacy publishing system to determine requirements for new publishing work flows. He then designed and participated directly with the implementation of those work flows into a high-end, high-volume publishing solution based on applicability and effectivity rules.

For a New York City-based publisher of educational study materials for students of standardized tests, Mr. Holman designed and built a number of different XSLT/XSL-FO systems with which both student- and parent-oriented customized materials are produced.

For a southern US State educational board, stylesheets written by Mr. Holman were used to publish 60,000 customized 50-page student study guide materials, each with personalized student information. This total print run of 3 million pages was created using XSLT and XSL-FO in a turnkey fashion using a single print run without operator intervention in the formatting process. He worked closely with the

database designers, the graphics arts staff, and the print production staff in accomplishing robust document and system design and accommodating the easy integration of customer requirements within technology limitations.

For a northeastern US State educational board, Mr. Holman designed and implemented the core of an extensible stylesheet library incorporating multiple XSLT stylesheet fragments. The unique design of this library accommodates the staff augmentation of functionality through the automatic integration of independent components that can be marshaled by master stylesheets. The modular nature of this functionality met design goals for easy modification of established products to existing markets and the quick assembly of custom products to new markets.

For a California HMO, Mr. Holman designed and implemented a general-purpose letter, enclosure and attachment publishing system supporting millions of pages of paper for mass postal mailing objectives. This system fully supports multilingual right-to-left and left-to-right writing systems. The modular design supports the customer development team augmenting the system with new letter designs.

A continuing training, technology transfer and mentoring relationship with the customer and staff from many departments provides long-term support for deploying markup technologies to meet new market demands.

Large-scale deployment of a stylesheet architecture

For a Washington DC-based prime contractor for a US Defense Intelligence project, Mr. Holman designed and built an extensible stylesheet library deployed to dozens of US Intelligence organizations. His role was titled "XML Technology Lead" as the chief resource on the project for all issues related to XML, reporting directly to the project manager. This library supports an authoring environment for the production of US Intelligence documents according to a standardized document model. The stylesheets accommodate the end-user need to continue to produce established legacy report presentations while meeting the new mandates to use the standardized document model for the report content.

This stylesheet library exhibits a unique nature to support the easy augmentation of a set of baseline behaviours with nuanced differences accommodating user needs. With only minor adjustments, the stylesheet library can be quickly deployed to new environments supporting new legacy appearances for the authoring and production environments.

A training component of the project engaged Mr. Holman in the hands-on instruction of the customer's users regarding XSLT and XSL-FO technologies. Users received basic teaching on fundamental principles and practical techniques in using these technologies to make their own augmentations to the stylesheet library.

A continuing training, technology transfer and mentoring relationship with the customer provided long-term support for the use of markup technologies.

A conference paper posted at `http://www.CraneSoftwrights.com/links/ipepaper.htm` describes the work of the project.

Publishing system replacements

For a large software manufacturer Mr. Holman designed and wrote from scratch a publishing environment that replaced a Frame-based publishing environment with a pure XML/XSLT 2.0/XSL-FO 1.1-based suite of stylesheets and files supporting multilingual publishing and indexing of instances of the customer's DITA-based in-house XML vocabulary.

For the New Zealand Parliamentary Counsel Office Mr. Holman designed and wrote from scratch an XSLT 2.0/XSL-FO 1.1 publishing stylesheet for legislative documents (bills, acts, supplementary order papers, etc.) to satisfy extensive and detailed layout specifications.

Data aggregation vocabulary development

For a US-based aggregator of daily sports agate-line information, Mr. Holman designed and wrote from scratch an XML vocabulary used by authors to express the aggregation and presentation suitable for both web and newspaper sports sections. A set of XSLT stylesheets was then delivered to implement this vocabulary for authors. These stylesheets are made publicly available in the SportsMLT package on SourceForge, with the documentation found at `http://sportsmlt.svn.sourceforge.net/viewvc/sportsmlt/2.0/sportsmlt2.html?revision=14&pathrev=14`. Note this documentation is automatically generated using an XSLT embedded documentation methodology named XSLStyle, developed and openly published by Mr. Holman in 2004.

Standards document publishing

For the OASIS consortium http://www.oasis-open.org Mr. Holman adapted the OASIS DocBook vocabulary and stylesheets for the publishing of OASIS standards and committee notes. For Réalta Online Publishing Solutions Limited in Ireland http://RealtaOnline.com Mr. Holman supplies and supports these OASIS stylesheets in addition to stylesheets supporting the publication of JATS, NISO STS, and ISOSTS XML documents to each of the ISO Directives Part 2 layout, the CEN/CENELEC layout, and the UN/CEFACT layout. These many layouts are available as a SaaS for standards organizations and individual editors to publish their XML-authored standards documents using a web-based interface.

Electronic invoicing standards consulting

Mr. Holman was engaged in a consulting contract advising a government department on the standards and technologies incorporated in existing nationwide and region-wide 4-corner-model electronic invoicing deployments used around the world. The responsibilities included the technology transfer and standards-based education to client staff, the review of documents used internally and externally for planning and projections, and the contribution of input towards strategy and future planning.

Academic research participation

Mr. Holman continues to participate supporting academic research by Dr. William McCarthy, Michigan State University, and Jonas Sveistrup Søgaard, Copenhagen Business School, regarding applying the Open-edi Distributed Business Transaction Repository (OeDBTR) ISO standard ISO/IEC 15944-21.

Biomedical research metadata publishing

Mr. Holman created the <PubNote> open-source project. This project highlights a sustainable approach to single-source publishing, while providing the biomedical research community a tool with which one exposes the XML content used for database ingress and egress.

Paid advisory positions

Mr. Holman has held a number of short-term paid advisory positions with projects and organizations worldwide.

DBE Core - DBECore.com

From March 2018 to the present Mr. Holman advises on the use of OASIS UBL - ISO/IEC 19845:2015 for the expression of electronic documents in industry and on blockchain technologies.

Réalta Online Publishing Solutions Limited - RealtaOnline.com

From May 2015 to the present Mr. Holman advises on the publishing of international standards for standards developing organizations (SDOs) including OASIS, ISO STS, NISO STS, and CEFACT.

Xalgorithms - xalgorithms.org

From April to July 2018 Mr. Holman advised on the use of OASIS UBL - ISO/IEC 19845:2015 for the expression of electronic documents in an API for the automated filling of information from an online suite of tools.

Publications

Mr. Holman is an accomplished author in both the electronic and paper-based commercial media:

Definitive XSLT and XPath - paper - Prentice Hall - ISBN 0-13-065196-6
Definitive XSL-FO - paper - Prentice Hall - ISBN 0-13-140374-5
Practical Transformation Using XSLT and XPath - PDF - ISBN 978-1-894049-24-5
Practical Formatting Using XSL-FO - PDF - ISBN 978-1-894049-19-1
Practical Universal Business Language Deployment - PDF - ISBN 978-1-894049-23-8
Practical Code List Implementation - PDF - ISBN 978-1-894049-22-1

Essays

Mr. Holman has written a number of essays published as articles.

See https://www.linkedin.com/today/author/gkholman for those on LinkedIn.

See https://www.xml.com/authors/g-ken-holman/ for those on XML.com.

Videos

Crane Softwrights Ltd. publishes an in-depth interactive training video on XSLT and XPath, titled "Practical Transformation Using XSLT and XPath":

Online streaming access (24 hours; for 5 free hours - click on: Udemy - The Academy of You)
DVD-ROM - ISBN 978-1-894049-20-7 (24 hours; no longer available for purchase)

Awards

2003 ActiveState Active Award Winner - Activators Choice - XSLT
`http://www.activestate.com/press-releases/congratulations-2003-active-award-winners`
2012 OASIS Distinguished Contributor
`http://www.oasis-open.org/member-roster/distinguished-contributors`

Committees

Mr. Holman has been very active in standards communities. In particular, in October 2019 he retired from over 31 years of continuous volunteer work for various ISO shadow committees in Canada. He participates on a volunteer basis in (note any current changes are listed at `http://CraneSoftwrights.com/bio/gkholman.htm`):

OASIS Code List Representation Technical Committee (current chair)
OASIS Universal Business Language (UBL) Technical Committee (current co-chair; past chair; current editor OASIS UBL 2 Standard)
OASIS UBL-AdoptionSC Adoption Subcommittee (current secretary)
OASIS UBL-HISC Human Interface Subcommittee (current chair)
OASIS UBL-SBSC Small Business Subcommittee (current co-chair)

OASIS UBL Code List Task Group (current lead)
OASIS UBL Customization Task Group (current lead)
OASIS Business Document Exchange (BDXR) Technical Committee (current editor of the Exchange Header Envelope)
W3C XML Working Group (past member; http://www.w3.org/TR/WD-xml-961114#secC.1 - Entry 31)
OASIS XML Conformance Committee (past founding chairman; 2 years)
OASIS XSLT/XPath Conformance Committee (past founding chairman; 2 years)
UN/CEFACT Methodology and Technology PDA (Canada; past editor of the Exchange Header Envelope); past member code list management)
SMC/ISO/IEC JTC 1/SC 32 - (Canadian) Data management and interchange (past member WG1 e-Business; 8 years)
SMC/ISO/TC 154 - (Canadian) Documents and Data Elements in Administration, Commerce, and Industry (past member and chair; 14 years)
SMC/ISO/TC 307 - (Canadian) Blockchain and distributed ledger technologies (past member; 3 years)
ISACC - ICT Standards Advisory Council of Canada (past member)
CSA/TCIT - (Canadian) Technical Committee on Information Technology (past member; 22 years)
SMC/ISO/IEC JTC 1/SC 34 - (Canadian) Document Description and Processing (past chair; 10 years)
ISO/IEC JTC 1/SC 34 - (International) Document Description and Processing (former Secretariat Manager; 5 years)
Mr. Holman is the editor of ISO/IEC TR 24754-2, an international technical report edited from an internal Crane document describing a formatting-specification writing approach used by Crane's customers.
Mr. Holman is the editor of ISO/IEC 15944-20, an international standard regarding e-Business and the Open-edi Reference Model.
Mr. Holman is the editor of ISO/IEC 15944-21 (formerly numbered 15944-15), an international standard regarding e-Business and the Open-edi Distributed Business Transaction Repository (OeDBTR) suitable for blockchain implementation.

Education

Mr. Holman graduated from the University of Waterloo http://www.uwaterloo.ca/ (Waterloo, Ontario, Canada) in April 1981 with a Bachelor of Mathematics (Honours Co-op - Computer Science). He began his computer programming on an IBM 1130 in FORTRAN IV on June 30, 1971.

Personal

Mr. Holman is an active member of his local community and does volunteer humanitarian educational aid work in Africa for projecTEMBO.org, an Ottawa-based NGO and registered Canadian charity. He spends a month at a time in a remote village in Tanzania away from the office, work, standards, and clients in order to tutor high-school mathematics and physics to children.

He is an experienced medical tissue courier transporting across international borders stem cells and bone marrow from unrelated donors. He volunteers for the Ottawa Chapter of the Bruce Denniston Bone Marrow Society, a registered Canadian charity.

Also, he and his wife have sponsored Syrian refugees in Canada and regularly contribute performance music to programmes for seniors run by the City of Ottawa. Ken also participates in community music open mic events and sometimes performs background music or performance music at restaurants.

For recreation he has completed a couple of extreme hiking trips (Inca Trail in South America and Mount Kilimanjaro in Africa) and enjoys extensive world travel and ocean cruising.

Recently, he has been nurturing a new hobby designing and creating family-oriented board games as part of Crane's efforts to develop new and innovative approaches to markup technology. The designs for these are freely available in Crane's GitHub `https://github.com/CraneSoftwrights/games` repositories, as are the markup tools that have been developed.