

# 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 genericcode 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 develops and delivers Crane's commercial training courses and videos, some of which are licensed by a number of training organizations around the world in the XML community. These companies use this material in place of developing their own materials for these topics. Please see <http://CraneSoftwrights.com/schedule.htm> for a list of the available courses and links to their syllabi, as well as current licensees. Both hands-on and lecture-style courses have been 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>." 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.

Ken travels the world with his wife and Crane's president, Kathryn J. Holman, delivering training and consulting services on site when not working from their home in a small village near Ottawa Canada.

## **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**

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, 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**

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.

## **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.

## **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 Canadian Parliament - 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).

## **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 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. Mr. Holman 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 replacement**

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.

### **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.

## **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

## Videos

Crane Softwrights Ltd. has published an in-depth interactive training video on XSLT and XPath:

Practical Transformation Using XSLT and XPath Video - Audio/Visual - ISBN 978-1-894049-20-7 (24 hours; see YouTube segments for a sample lesson and an overview, by searching for "XSLT tutorial")

## Committees

Mr. Holman is and has been very active in the standards communities and participates on a volunteer basis in (note any current changes are listed at <http://CraneSoftwrights.com/bio/gkholman.htm>):

CAC/ISO/TC 154 - (Canadian) Documents and Data Elements in Administration, Commerce, and Industry (current chair)

OASIS Code List Representation Technical Committee (current chair)

OASIS Universal Business Language (UBL) Technical Committee (current member; co-editor OASIS UBL 2.0 Standard)

OASIS UBL-AdoptionSC Adoption Subcommittee (current chair)

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 co-lead)

W3C XML Working Group (past member; <http://www.w3.org/TR/WD-xml-961114#secC>. - Entry 31)

OASIS XML Conformance Committee (past founding chairman; 2 years)

OASIS XSLT/XPath Conformance Committee (past founding chairman; 2 years)

CSA/TCIT - (Canadian) Technical Committee on Information Technology (past member; 22 years)

CAC/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.

## 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).