# MARK W KORVER

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**Resume Addendum: SELECT PROJECT SUMMARIES**

**Numerous Autodesk MapGuide Projects**

Mark founded Alchemedia in 1996 and started his WebGIS career as a consultant to Autodesk Japan as an expert on Autodesk's newly acquired MapGuide product line. MapGuide was the first vector based WebGIS product to come to market and is now part of OSGeo. Though at the time a completely new, untested and expensive technology, Mark was the first to deliver MapGuide based WebGIS applications to some of the largest companies in Japan including the first sale to Kajima Corporation, one of the largest construction companies in the world. Soon after the Kajima sale, he architected and built, with the help of only one other programmer, a multiserver system for Infoseek Japan, then the third largest portal in Japan. This included license negotiations with Autodesk USA for the first ever use of MapGuide or any vector based system at a major Internet portal site. This system, though pre-XML, was built using what are now called AJAX techniques, well before AJAX was a term. Mark brought many of the first MapGuide-based applications to the Japanese WebGIS market. Clients included Hitachi, Shimizu Construction, Japan Space Imaging, and NTT-DATA.

**Award-winning Residential Home Builder Survey Data Collection and Reporting System**

This first of its kind system was developed for Misawa Homes, a home builder with sales in the billions of U.S. dollars. The application, targeted at Misawa's national dealer network, provided for the digital collection and automated reporting of geotechnical data required to specify building foundations, and was designed to increase the speed and accuracy at which Misawa sales personnel system could arrive at building cost estimates by creating a national scale database of detailed geotechnical data.

The base map used was Zenrin's Zmap Town II product, a 1/1500 scale national database that featured building level polygon's, including householder names for most of Japan. Because nobody had ever acquired all of the Zmap data before, it arrived in the form of 600 CDs in a proprietary format. Much of the work involved extracting and cleaning the data, primarily meant for print use, and converting it into a form useable as a seamless national WebGIS dataset and combining this information with scanned government raster data of

soil information. The resulting WebGIS application allowed any one of Misawa Home's 700 regional dealerships to plot job locations and upload soil survey data that would then be processed on servers to produce detailed reports. Up to this time data was kept at regional offices in paper form. This system, called e-MGIS, went on to win an award in the enterprise class from Nikkei Business Publications in 2002.

**Top Retailers E-Commerce Mapping Subsystem**

Mark architected and delivered a system for Shobunsha Publications, Japan's Rand McNally. The client was Seven Eleven Japan, the country's largest retailer, and the project was part of their strategy to turn their 10,000 plus stores into payment and pick-up points for online shoppers. Under a tight deadline and very demanding uptime requirements, the system was built in 3 months, including the preparation of a new integrated national GIS dataset generated from multiple scale products coming from Shobunsha. This system came online with 13 servers, and featured daily unattended updates to store data pulled from a separate IDC and replicated to multiple back-end databases that fed data to a cluster of map servers running software from MapInfo Corporation. In addition, Mark developed an administrative application that would allow real-time editing of the 10,000 plus store locations with a failover system that was deployed at yet another IDC.

**Map Publishing Company's LBS**

Due to the success of the Seven Eleven system, Shobunsha Publication's Digital Mapping Division commissioned Mark to conceptualize, architect and provide maintenance services for their own LBS product. This system came online in 1998 and allowed webmasters (HTML only) without any WebGIS skills to integrate a locator application into their own websites via a web-based administrative application. Mark provided Shobunsha's Digital Mapping Division with a web-based administrative application that would control client user access and provide detailed usage reports for billing purposes. This system was used by several banks as ATM locators and by other convenience store chains and companies such as Japan Airlines to show office locations. A customized version was also used by @Nifty Corporation (Japan's largest ISP).

**SVG Platform for Real Estate Portal**

More recently Mark has also architected an OSS influenced system for At Home Corporation, with over 56,000 member companies, the largest publisher of real-estate information in Japan. This system, which relies heavily on XML/XSLT technology and

AJAX style application development, provides WebGIS infrastructure to At Home's (B to B) member services. SVG was used in conjunction with Adobe's viewer because the business specification demanded very high resolution maps, including background aerial imagery and complex real-time interactivity, including the ability to edit the maps in the browser. One of the characteristics of this system is that XSL transforms are used to style the maps on the client rather than the server by converting incoming compressed XML into SVG, then augmenting the map data with data coming from other web services.

Mark also architected a proprietary map authoring system that leverages MS Excel's XML capabilities and its WebDAV support to remotely manage the hundreds of map layer definitions that are part of the Shobunsha Mapple/NTT-ME Geospace dataset. Alchemedia, under Mark's direction, was also heavily involved in the productization of the NTT-ME Geospace database, a 1/2500 scale national data set that previously was used only within the NTT (Japan's AT&T) group for facilities management purposes. It maps every building in Japan that has a telephone.

**Vendor Free 2D Platform Support**

Because of the nature of Mark's client needs, which has tended towards large scale systems, and the need for stable platform technology without unnecessary license restrictions, Mark developed expertise in open standards such as SVG, WMS, WFS and technology such as GDAL and PROJ4, PostGIS and UMN Mapserver, not only for WebGIS, but also for general SOA style application development and data processing needs.

Leveraging his experience in proprietary vendor-based products such as those provided by ESRI and Autodesk, in combination with his more recent work with custom built systems using open source technology, such as speed enhanced (tiled) versions of UMN Mapserver, Mark has been able to deploy portal class clustered mapping systems for about the last 4 years that are not restricted by vendor licenses allowing clients free rein on their business models.

**3D WebGIS Platform**

Mark's most recent technical endeavor as a system architect and new business developer is JetStream-3D, a group of technologies and web services that support the streaming of 3D data including building data and high resolution imagery much like Google Earth. Core to this system is the first cross platform (Java) based viewer that can read Jpeg2000 image

data developed over the last 2 and half years at Alchemedia by a small team of specialists.

Technologies that drive this platform include, but are not limited to, Java, OpenGL, Jpeg2000, OGIS WFS and WMS, Web Services based Grid Computing, Jasper, SOA, and Python, etc.

Mark is currently in communication with several of Japan's largest LBS providers in connection with this technology.

**Project nominated to be included in Multinational Financial Institution Portal Site**

Apart from WebGIS projects, Mark has consulted on and architected other n-tier projects, including a non-recourse loan pipeline system for Lehman Brothers Japan that automates loan applications for building construction. In 2004 this particular application processed USD 800 million in loans and because of it's success was nominated to be included the Lehman Brother real estate group's portal but is now currently being versioned up to support their Asia strategy.

As part of this suite of tools for loan assessment, Mark's group also provided a web-based data mining tool that processed the largest collection of historical rental payment information in Japan. Japan is the second largest real estate market after the U.S. In addition to providing application maintenance services for both of these mission critical applications, Mark's group was responsible for the quarterly updates to the rental contract/building maintenance database, a complex process that required handling proprietary data from four of the largest construction companies in Japan. Because the end product for Lehman was real estate securitization, accuracy was essential. This product provided spatial analysis of cash flow for comparable rental properties and was strategic in our client's ability to produce loans in volume.