Best Practice: One-Stop Website for Buildings Information

CITY: NEW YORK CITY　　　　**POLICY AREAS: TECHNOLOGY; BUILDINGS ADMINISTRATION**

BEST PRACTICE

Buildings Information System on the Web (BISWEB), created by the Department of Buildings (DOB), is a website located at www.nyc.gov/buildings that provides access to general property information 24 hours a day, 7 days a week for more than 975,000 buildings in New York City.

ISSUE

Before the creation of BISWEB, New York City building developers, architects, contractors and the public had to visit a borough office to access a public database or request the paper files associated with individual buildings. This process was time-consuming and inefficient. Through BISWEB, citizens now have continuous online access to general building information, including permits, violations, complaints, applications and inspection information on property in the city.

GOALS AND OBJECTIVES

BISWEB's goal is to enhance public access to property information and, at the same time, enhance New York City's Department of Buildings' transparency.

IMPLEMENTATION

BISWEB, when it was released in August 2001, transformed an offline database, quite inaccessible to the public, to an online database to which the public has continuous access at no fee. Working together, the Department of Buildings' Information Technology team, the Department of Information Technology and Telecommunications, and software company Software AG consultants developed BISWEB, essentially, an enhanced, online version of the earlier system.

BISWEB provides online access to the following building information:

- Property Profile Information
- Application Processing (application submission, plan review and permitting)
- Accounting of Fees and Penalties
- Inspections (final construction, plumbing, electrical and elevator)
- Certificate of Occupancy issuance
- Complaint Tracking
- Violation Tracking
- Periodic Safety Reports (report submission)
- Equipment Tracking (fire safety, elevators, boilers, façade, marquee and illuminated signs)
- Trade Licensing and Contractor Tracking

BISWEB is based on an Adabas database system with business processes written in Software AG's Natural programming language. The IT team used Software AG's EntireX Communicator integration software to link the Department of Buildings legacy applications with a Web site hosted by New York's Department of Information Technology and Telecommunications. EntireX wraps the data stored in the Adabas mainframe application and passes it to a java application for presentation to the Web. Fortunately, about 70% of the error-free code was able to be reused. By re-using the pre-existing code, the

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Department of Buildings saved valuable time and cost. By keeping the data in Adabas and the majority of the business process in Natural programming language, the Department of Buildings was able to capitalize on the speed of a mainframe database and provide online access to that information with modern Web interfacing technologies.

Since 2001, BISWEB has been significantly enhanced, and several supporting systems have been developed and integrated into BISWEB.

COST

The initial costs for BISWEB software and consulting services were around $250,000 USD. In-house staff then continued to extend the content of information available online. Starting in 2005, with the launch of the first eFiling system, consulting services were retained to supplement the in-house staff under the direction of in-house managers. Contracted roles included Web development, Adabase development and Systems Testing. Total expenditures for eFiling to date, over the 5 year period, are estimated at around $2.5 million USD. The vast majority of these cost has been with the development of eFiling, which is not BISWEB per se, but totally dependent upon the BISWEB foundation. In addition, the other major subsystems, like B-SCAN and B-FIRST, depend upon interfaces to BISWEB. Each of those projects, while not BISWEB itself, but interface with it, cost around $6 million USD capital funds.

RESULTS AND EVALUATION

BISWEB makes available to New York City residents general information on property, including recorded complaints and violations, actions, applications, and inspections. It is now allowing electronic filing and document image viewing – providing to our constituents full transparency into DOB filing information.

BISWEB handled 20,000 hits its first day, and by mid 2003, approximately 5,000 users per day visited BISWEB, resulting in as many as 160,000 page views per day. In mid 2005, approximately 15,000 unique users visited the site each day, resulting in as many as 250,000 page views per day. By January 2010, 6.5 years into the project, the number of page views had risen to a staggering 617,000 page views per day. That number is expected to increase even more with each new system and capability that is brought online under the BISWEB architecture.

TIMELINE

1984	The Buildings Information System (BIS) property database is put into production, available to the public at borough offices.
2001	The Buildings Information System on the Web (BISWEB) is launched, providing public online access to property information.
2003	BISWEB is significantly enhanced to include:
	Expanded Property Profile Overview with information on loft law, special districts and other restrictions.
	Enhanced Search and Navigation Capabilities, such as a licensed trades search, ability to view all filings in a community board, all permits for a property and all addresses on one tax lot.
	Inspections information for Certificate of Occupancy and plumbing inspections, including daily gas service authorizations for Keyspan and Con Edison.

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2004 - 2009   Major supporting systems are developed and integrated into BISWEB, including:

PIPES (Plumbing Inspection Portable Entry System) – Plumbing inspections are scheduled and the dates and times are now viewable online. Inspection results and inspector objections, downloaded from handheld devices, are then readily available through BISWEB on a daily basis.

Electronic Certificate of Occupancy (C of Os) Production System – C of Os began to be issued electronically as opposed to being typed by applicant, and linked directly to BIS, so that the data on the C of O reflects precisely as it is recorded in BIS.

New Work Permit – Rather than waiting in line at a DOB customer service window, the applicant can generate and print their own permit as soon as all requirements for filing and payment have been satisfied.

Electronic Permit Renewal – Customers can renew "no change" permits online and pay via credit card. Customers no longer have to come to the Department and wait in two lines to renew their permits. This was a significant achievement, as it changed BISWEB from a "query only" application, to one that allows electronic filing, including credit card payments and online checks and balances to insure security and integrity.

eFiling of Electrical Applications – Electricians are able to file applications for electrical work and get their permits online. This incorporated credit card payments and digital signature, and currently (as of March 2010), almost 90% of all electrical applications are filed online.

B-SCAN (Buildings Scanning and Capture Network) – Forms and required documents (300,000 per month) for new buildings and alterations (70,000 filings a year) are now scanned and the images are made available online through BISWEB. Applicants and communities again have been provided better accessibility and service through BISWEB.

eFiling of Most Construction Job Application Filings – Enables the applicant to use an online interview-style process to prepare the newly revised Job Application form (PW-1) along with its associated schedules. This generates pre-populated forms, and upon submission, the data is automatically transferred to BIS, thus eliminating data entry and avoiding many data quality issues.

B-FIRST (Buildings Field Inspections Recording and Scheduling Technologies) – Expanding on the success of PIPES for plumbing inspections, B-FIRST will encompass all inspection trades under new state-of-the-art software and wireless hardware, making inspection schedules, results, and objections accessible on BISWEB.

LEGISLATION

Online security requirements from both the State and the City were, and continue to be, major considerations with each new facility that is added to BISWEB. Interpretations of digital signature (ESRA) laws are closely followed and supported by security plans and risk assessments prior to design and implementation of new eFiling capability.

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LESSONS LEARNED

Working with multiple departments and consultants avoided the need to build, from the ground up, a new system. The life-span and usefulness of older legacy technologies, such as Adabas and Natural, can be extended into the online Web world through enabling technologies, thus avoiding the effort, cost, and delays that would be imposed if the core "engine" of a legacy system had to be rebuilt.

TRANSFERABILITY

For cities with large public information needs, initiatives such as BISWEB dramatically reduce inefficiencies and costs associated with off-line access to public information.

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