## Goals:

The Ombudsman, the independent officer of the Legislature who investigates complaints from the public about Ontario government service, engaged Seventyeight Digital to re-develop and re-design their website.

The office of the Ombudsman's mandate is to ensure government accountability through effective oversight of the administration of government services. Findings from their investigations are made publicly available through a variety of channels such as press releases, media, meetings, and reports. Because of this, Communications is central to the Office of the Ombudsman – strong communications allows the office to raise public awareness and thus be better able to affect change. By extension, the Office of the Ombudsman's website is an important destination to provide public access to their findings. Furthermore, the Office of the Ombudsman's website takes complaints from people who were unable to resolve their problems with the government organization's complaint procedures.
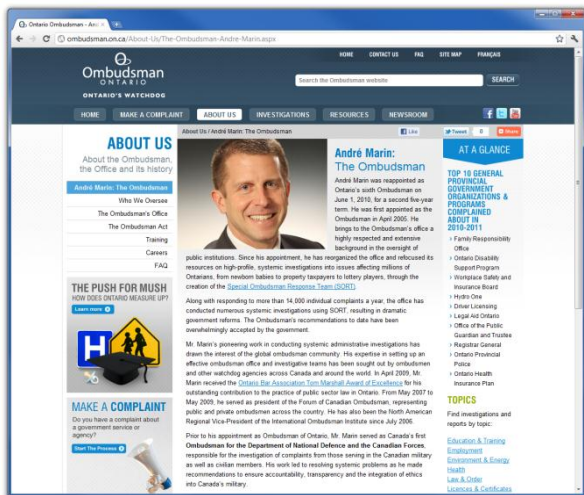
Key outcomes included:

- Import and Integration of thousands of existing documents of a variety of different definitions, uses, and file types into a unified user-friendly website

- Fully bi-lingual – equal importance given to French and English.

- Integration with 3rd party complaint management system.

- Fully accessible following the Web Accessibility Initiative (WAI) guidelines

- Implementation of a technical framework that will accommodate future growth, scalability and multi-device compatibility

- Leveraging of social media elements to augment and amplify key messaging

- Implementation of a mobile specific web app to complement and augment their primary website

- Collaborative model of document publication and workflows

- Development of role-based administration permissions and workflows based on business unit and staff position responsibilities.

- Must Look and function perfectly in tablet devices

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Challenges:

Umbraco to Kentico Data Migration

The greatest challenge we had was migrating the thousands of existing documents from their legacy website CMS (Umbraco) into Kentico. Manual migration of the content was not feasible as it would be too costly. Seventyeight Digital had to devise a way to automate the data transfer and transformation.

Umbraco is an open-source .NET website CMS platform. The office of the Ombudsman's complaints about this platform centered on the following:

1. Difficult to perform content updates - creating different looking pages that broke out of the existing templates was very difficult for the staff.

2. Not user-friendly – Non-technical staff found working with Umbraco intimidating and confusing.

3. Disorganized asset management of Images. After using Umbraco for a few years the management of images became a problem. Staff members could not easily re-use images and because of this many duplicates existed.

Switching to Kentico promised to easily address the above points. Our experience with Kentico is that it provides all the flexibility a designer or developer needs while maintaining a user-friendly interface to content editors who may be non-technical.

Switching platforms, though, introduced the challenge of what to do with all the existing Umbraco documents numbering around five thousand. To further complicate matters some of the data (html) was non-compliant meaning layouts could break in certain circumstances.

To address this challenge Seventyeight Developers created an Umbraco to Kentico Export Engine responsible for the following tasks:

Data Mapping:

1. Map Document tree structure from Umbraco to new Kentico site map structure.

2. Map Umbraco content types to Kentico custom content types.

3. Map the individual fields from Umbraco's custom content types to fields in Kentico custom content types – this usually involved a one to one mapping between custom fields.

4. Recreate dependencies within Umbraco between documents to dependencies in Kentico. An example of this is when a document contains a link to a pdf, or image residing in another part of the CMS (i.e. another part of the tree or in a media library). If the html is just migrated as a whole many links, of this sort, would break. Recreating all dependencies was tricky from a development perspective.

Exporting:
Once all data was mapped between the old and new system the data could be exported. The export process relied heavily on Kentico's very flexible and powerful API. This module was responsible for creating the tree nodes and populating the custom content types with data.

This engine was built at the beginning of the project. It had to be run initially to prove the proof of concept and incrementally during the build out phases to import any newly added data from the then current Umbraco production system. We estimate that approximately 80 hours of manual data transfer time was saved because we could use the Kentico API.

Umbraco to Kentico Data Migration Diagram
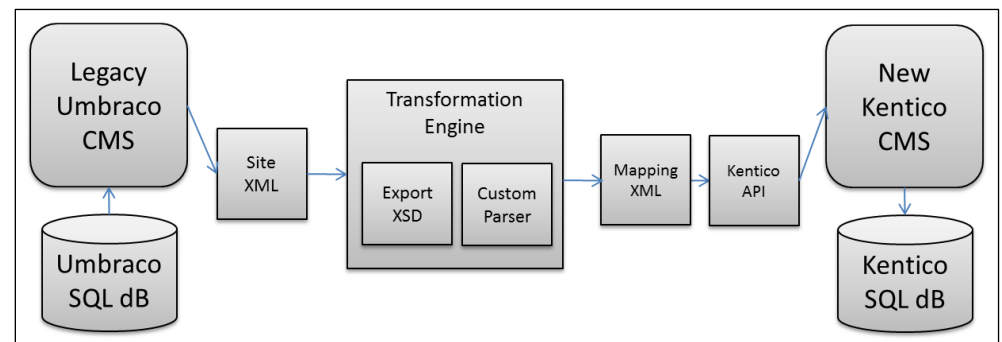
Mobile Website

Producing a modern Mobile Website app targeting new smart phones (iPhone, Android, Blackberry OS6+) was an important requirement for this project. Merely providing a different style sheet for mobile devices was not enough.

Optimization of the weight of pages, the type of content to display and a complete rethinking of the IA were deemed necessary for success. Because of this, a front end jQuery based mobile framework called jQTouch was used for the front end. This provides mobile UI elements and behaviors such as animated page transitions common in high end HTML5 mobile web apps.

At the same time creating a separate website to hold the content was not an option as long term sustainability and ongoing maintenance would be too costly. A compromise was made, through a creative integration strategy, which provides an optimized mobile experience while retaining centralized control of content in Kentico.

Specific elements include:

1. **Navigation structure** - created through Kentico API calls and custom transformations in .NET to produce mobile optimized html.

2. **Mobile Content Proxy** - The mobile website utilizes AJAX patterns to retrieve the content of each page. The content is produced through a custom proxy page that queries the Kentico Database returning only the mobile web part's content. The content received via this database call is cached to optimize performance. The proxy returns only the html for the mobile site – no other content (i.e. view state, Kentico generated client files, various JavaScript and css files, or the PortalTemplate.aspx structure itself) is returned. This results in very fast load times (important on mobile) and provides complete control over the look and behaviour of the html.

Home Page
Image scroller from query to Kentico Node structure via API
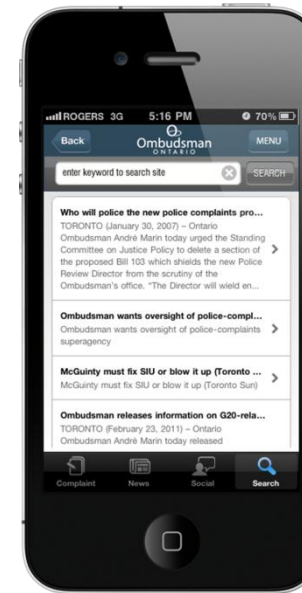
Search Screen
Search Results from Kentico Search engine via API

Navigation
Tree structure from Kentico via API call

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Solution:

Kentico helped us achieve all of the objectives that we set out to accomplish in this project. Key elements of the solution include the following:

Successful Migration from Umbraco to Kentico

One of the major reasons for the client beginning this project was the need to move away from the Umbraco CMS to a new CMS that would allow for easy content formatting and a simple interface that was not too difficult for a non-technical person to understand.

The client found Umbraco was lacking in the following ways:

1. Difficult to perform content updates - creating different looking pages that broke out of the existing templates was very difficult for the staff.

2. Not user-friendly – Non-technical staff found working with Umbraco intimidating and confusing.

3. Disorganized asset management of Images. After using Umbraco for a few years the management of images became a problem. Staff members could not easily re-use images and because of this many duplicates existed.

Operations Integration

The website is fully integrated with the organizations offline operations. Website complaint submission is fed into the organizations CRM providing a single source of data – eliminating data silos and consolidating the tracking of online and offline activities – in particular lead acquisition through to conversion.

Mapping website functionality to the organizations internal activities and workflows provide effective systems to:

- Support business services execution

- Collect actionable intelligence on complainants

- Deliver information and services to clients in their preferred method and format

Mobile Website

Optimized for today's Smartphones, we developed a mobile specific version of the site integrated with the Kentico CMS in order to accommodate mobile constraints such as bandwidth and smaller screen size.

The importance of the mobile component cannot be overstated. To make a website fully accessible and encourage total engagement a mobile website is an absolute necessity.

We leveraged many of Kentico's built in features which significantly reduced development time while ensuring a high quality feature rich product for our client. The core is based off the Portal engine allowing for our non-technical staff to enter content, design templates and affect the Information Architecture with ease. The Kentico API was used extensively and found to be very powerful, well documented and helped accelerate many of the custom development tasks.

In particular, we made extensive use of the following Kentico features:

- Custom Document Types – many custom content types were created. The primary benefits being consistent output on the website and the ease of content creation by non-technical staff through input forms. We found it very easy to create Custom Document types – lots of control and very flexible.

- Repeaters – very flexible and powerful. This in conjunction with ASPX transformations has become the favoured way our developers have of performing the most common tasks quickly and reliably.

- Custom web parts – we created many custom web parts and loved the architecture which provides our developers with a standardized way to integrate custom functionality. One example is the twitter web part.

- Macros – we were pleased to discover that many custom features could be managed with Macros alone. A wonderfully powerful feature.

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Key Criteria For Choosing Kentico CMS:

Prior to selecting Kentico as the foundation for this project we completed a comprehensive comparative evaluation of a number of leading CMS products, both commercial as well as open source. Although each product had its advantages we determined that the product that best met the Office of the Ombudsman's initial and future needs was Kentico CMS for ASP.NET.

Evaluation criteria and key determinants included:

1. Feature set related to the Ombudsman's requirements

2. Ease and flexibility of programmatic customization

3. Ability to integrate third party and custom components

4. Ability to handle enterprise requirements related to collaborative access to large data sources

5. Social media integration capabilities

6. Strength and flexibility of workflow configuration

7. Ability to adapt to and incorporate changing technologies

8. Ease of use for non-technical users

9. Powerful data migration tools

10. Relative cost of license, upgrades and technical support

About Seventyeight Digital:

Seventyeight Digital is a strategic technology development and interactive design firm focused exclusively on the internet space. Our solutions engage and benefit users, generate brand recognition, provide relevant and actionable data, stimulate thought and communication, inspire people to take action, capitalize on business efficiencies, and offer significant ROI.

The Seventyeight team is comprised of highly accomplished and talented folks specializing in digital strategy, data management, technical development, and creative design - providing the competencies, agility and technical bandwidth to manage complex deliverables.

We can offer time to market, competitive rates and a level of responsiveness that traditional firms can't touch. We believe there is an effective solution to meet most budgets and can help you navigate the strategic & technical complexities to achieve your key business objectives.

Seventyeight Digital is a Kentico Gold Certified Partner offering a full range of interactive design, development, hosting and support services. Contact us for a free Kentico CMS consultation at info@78digital.com.