Scytl Election Training

Product Description

www.scytl.com

Version History

Date	Updated by	Description
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Index

1 Training – Scytl Election Training

1.1 Solution Description

Scytl Election Training is a customizable online training solution that provides engaging and effective interactive learning. With staff located across broad geographical areas, electoral authorities always face a major challenge when planning and undertaking training. This typically includes managing a short schedule, providing training materials to personnel, and the elevated costs for printing and delivering.

All of these are just a few of the obstacles that elections authorities have to overcome. Scytl Election Training can help ease these burdens by delivering online poll worker training material that is engaging, comprehensive, and available from nearly any Internet-connected device

The main benefits of Scytl Election Training are:
- Engaging Interactive Online Learning
- Accessible and Standardized Online Training
- Cost-effective Election Training
- Monitoring Trainees at Each Stage

The main features that the product offers are:
- Familiarizing Staff with Processes
- Multiple Training Curriculum Paths
- Tailored Content and Reports
- Custom Branding

The main security characteristics are:
- Data Privacy
- Web Security and Systems Hardening

1.1.1 Content creation

One of the most important aspects of an eLearning course is the content. Scytl has extensive experience in providing electoral training and designing electoral content to train poll workers. Scytl has improved the content using eLearning systems that provide the design of interactive courses with media.

Scytl designs training courses based on the diversity of the poll workers; poll workers have different professional backgrounds, varied knowledge about elections, are usually selected at random and are from across the age spectrum. This means that the content is varied to appeal to all learning types and is tailored specifically for adult learners.

Training courses are created by a Scytl team with a proven background in election training design. These designers apply modern learning techniques using mediums such as animation, media and interactivity that facilitate the comprehension and the learning for poll workers. When developing the content, the Scytl design team can tailor the amount of interactive content that is acceptable to the customer while maintaining sound training techniques.

- **The main characteristic of the training courses are:**
  - Designed by electoral specialists.
  - Electoral content designed especially for the electoral commission or the election.
  - Learning sessions with Interactive content that requires the interaction of the student.
  - Learning sessions contains media that facilitates the learning.
  - Content can be translated into many languages and in this case will be translated into Russian and Romanian as identified by the customer.
  - Content designed to support any device (PC, Laptop, Tablet).
  - Content supported by the most common browsers (Internet Explorer, Firefox, Chrome, and Safari).
  - Ability to import existing poll worker databases to effectively save administrator time.
  - Engaging interactive adult learning.
  - Offline training content can be delivered to poll workers that do not have access to the internet such as on CD ROM.
  - Includes other standard features such as module itineraries, chat forums, and document repositories.

1.1.1.1 Content access by target groups

Scytl's Election Training platform provides the ability to create content for each poll worker role and position. Moreover, individual credentials are provided to the poll worker so that a) poll workers can work at their own speed, reviewing topics at their discretion, b) that test results from each module can be attributed to a specific poll worker allowing the administrators to assign workers based on the strengths. Also, poll workers can be assigned an individual curriculum tailored their specific function or role on Election Day.

Scytl's Election Training platform offers the ability to assign and schedule training courses using several methods:
- An administrator can manually assign training by individual user, group, or role as well as import the assignments for rapid associations.
- Options for auto enrolment also exist by using Enrol Rules to regulate user subscriptions to courses.
- As well, the training platform allows for time options to be set for a course. This includes the start and end, date and time.
- All participation and scores are associated to the user and details can be viewed as an administrator in the user statistics section by individual user, or by the expert/instructor at the course level.

1.1.1.2 Module tests

It is important for the administrators to be certain that the poll worker has grasped the concept of each module. Module tests are designed in a way to confirm the poll workers knowledge while making sure that they aren't intimidated by the process.

The tests are extremely dynamic on the platform. They can be created with any mix of question types like:

- multiple choice
- single choice
- short answer
- long answer
- text entry (open questions)
- other methods
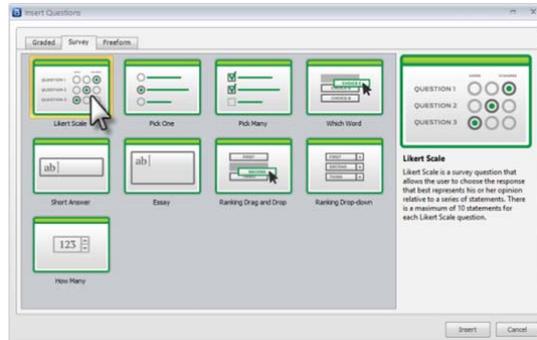
The platform also has the capabilities of loading files into assessments. For example, scenarios can be created where the poll worker watches a short video, and then chooses the next steps to take. The difficulty of the assessments is completely at the discretion of the client but our learning professionals will guide the client through best practices gained from our previous work in this area, as is described later in this Section.

Questions can be ranked by difficulty, with more points being awarded for answering more difficult questions. This can be extremely useful as the users with higher scores can be appointed to open positions that are more complex ion nature.
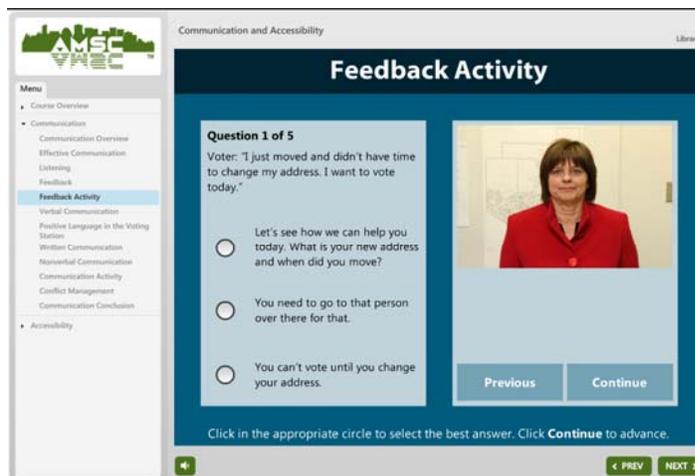
1.1.1.3 Content creation requirements

Scytl has extensive experience developing content either from existing customer content or from interviewing and working with the subject matter experts to develop personalized content for their stakeholders. Any content that is available expedites the content creation phase which translates into

shortened schedules. Even with limited access to content, we can draw upon our experience delivering Election Training solutions to election agencies that has a positive effect on the customers' schedule.

1.1.2 Scytl Election Training LMS platform

Scytl Election Training is a Web based LMS platform where poll workers connect to complete the eLearning trainings. This platform allows the administrator to manage the different election training courses, and assign training courses to each poll worker that should be completed.

The platform design allows for increased tracking and reporting functionality and is more easily configurable than other solutions such as Moodle. These features translate into benefits for the customer as the LMS then conforms much more easily to their needs.

Scytl Election Training is based on the last open source version of FormaLMS, a popular opensource Learning Management System. This allows Scytl to start with a powerful open source LMS base platform, benefit from its powerful out-of-the-box features, standards support, and flexibility. Scytl has added its unique layer of electoral training expertise on top of it to turn it into the most complete Election Training platform on the market.

Scytl Election Training platform also allows poll workers to train themselves using any device with an internet connection or a computer with a CD-ROM reader. The eLearning platform does not require installing and downloading any specific plug-in. The system uses both multimedia and Web based contents, providing a very flexible solution.

A feature that election officials find very useful is the ability to review the student progress of the different courses with the pass/fail tests providing real time information about the electoral training. The system can generate a diploma for the poll workers that pass all the tests, providing to the poll workers a proven item that the poll worker has passed the tests for specific courses and he/she is trained. This information is kept with the poll worker in a personal data file for all future elections for ease of reference.

Some of the main benefits of Scytl's Election Training platform are:

- **Engaging Interactive Online Learning**

Most adults fall into one of three styles of learners: visual, auditory, or interactive. Scytl's online Election Training platform is designed with all learning styles in mind, ensuring each student receives consistent and tailored instruction. Scytl Election Training captures and retains the attention of every election trainee through the use of multimedia assets including video, voiceover, and interactive exercises.

- **Accessible and Standardized Online Training**

By providing standardized training contents, Scytl's platform allows election authorities to maximize their efficiency by ensuring that poll workers receive consistent and vetted training courses. In addition, it is accessible at any time and from any location with an Internet connection.

- **Cost-effective Election Training**

By adding an online component to the training process and making manuals and election forms available online, election offices can avoid printing and distributing instructional material. Scytl Election Training supplements in-person training with web-based learning programs that reduces travel costs and instructional hours.

- **Monitoring Trainees at Each Stage**

Monitor the progress of all trainees at each stage. Built-in reporting tools provide a clear view of each trainee's utilization of the platform. Assessments provide measurements of information comprehension and the opportunity for improvement.

Scytl Election Training platform has been successfully deployed worldwide. It has been proven globally as follows:

- 1500+ installations of poll worker training.
- 1.5 million+ poll workers trained overall.
- 150,000+ poll workers trained annually.
- *Professional Team:* 40+ programmers, designers, multimedia content developers and elections subject matter experts from the world leader in Election Modernization.

1.1.2.1 Authoring

Scytl Election Training comes with a custom WYSIWYG that allows administrators to create and modify content, as well as uploading or linking to any additional assets thee require.

Scytl's team primary authoring tool for this project will be Articulate Storyline. This tool allows Scytl to create highly interactive and engaging content, that is also SCORM compliant and can be viewed both online and offline on a CD-ROM. Optional license for Articulate is not included in the proposal price. Its usage is not mandatory at all as the LMS has its own authoring modules.

1.1.2.2 Technical description overview

Scytl Election Training is web-based, PHP, based on the popular open source product FormaLMS.

1.1.2.2.1 Technical requirements

The following details are related to the infrastructure needed in order to install and deploy Scytl Election Training platform on a client's local server.

The platform is three-tiered software, composed of:
- User interface
- Business logic (PHP)
- Databases (MySQL)

If the client wishes to install the platform in its pre-existing hardware infrastructure, in order to properly calculate the size of the server on which to install the platform, there are a number of related factors primarily depending on the number of users that will be registered (enrolled), as well as some other factors that can modify the average workload of the system infrastructure/application.

Such other factors are:
- Bandwidth and peak bandwidth management: this factor is influenced by the type of content being used (weight of the content) and by the number of users that are utilizing such content (students, versus administrators) simultaneously. Multimedia assets will likely generate more traffic than standard legacy content such as PDF, PPTs etc.
- Workload on memory and CPU: This factor is influenced by the number of simultaneous users and the type of features in use.
- The disk space used by the entire platform can be calculated according to the following criteria:
  - Platform installation files: 50 Mb maximum.
  - E-Learning Content: The disk space is related to the number and duration of active courses, but also to the type of media (audio, video, text, etc.).
  - User Generated Content: This scenario occurs in collaborative mode usage, when students need to create, upload and share documents among each other.

Registered users	CPU	RAM	Disk space*	Bandwidth*
Up to 500	1 Core	1 Gb	30 Gb	1.5 Mbit
Up to 3500	1 CPU	4 Gb	30 Gb	10 Mbit
Up to 7000	2 CPU	8 Gb	60 Gb	20 Mbit
Up to 10.000	3 CPU	12 Gb	60 Gb	30 Mbit
Up to 14.000	4 CPU	16 Gb	100 Gb	40 Mbit
Up to 28.000	Cloud/Cluster	-	-	-
Up to 50.000	Cloud/Cluster	-	-	-

Up to 100.000	Cloud/Cluster	-	-	-

* Estimated value related to objects weight, average simultaneity and statistics
Green: target architecture for peak usage based on 2.000 users / day
Red: limits where platform migration to cloud or cluster would be advisable

In terms of platform capacity planning, the relevant figures are the "Concurrent page requests" (users with an open session in the system that are doing requests to the platform at the same time). This number can be estimated from the simultaneous users provided. Scytl normally uses the criteria where 80% of the Daily Visitors are concentrated in 4h during the day.

$$Concurrent\ page\ requests\ =\ (Daily\ Visitors\ \times\ 80\%\ \times\ Pages\ per\ Visitor)/4hours$$

Result for the maximum of expected users is the following:

$$\frac{(2000\ \times\ 0.8\ \times 20)}{\frac{4}{3600}} = 2.2\ pages\ per\ second$$

Practical Tips

To prevent an excessive oversizing of the hardware infrastructure is good to avoid the schedule of self-training events in which many users are required to log-in at the same time or day.

To avoid too many concurrent users, do not allow users to complete the course immediately before the deadline. Use video-assets only when needed, especially in the case of shared bandwidth.

1.1.2.2.2   Target infrastructure

Content is accessed by poll workers through the internet. Requests are directed through the load balancer to redundant servers where the content is stored.

This hosted solution has been proven in many elections, handling many thousands of users every day.

Bandwidth consumption

We calculate the bandwidth consumption for 20 minutes of use as follows:

HTML object (text + pictures) - Between 8 and 14 MB

Flash audio object (no video) - Between 20 and 30 MB

Flash object (audio + video) - Between 100 and 200 MB

As you can see, bandwidth consumption is sustainable by optimizing the use of the content. This can be accomplished through policy standards, such as not requiring all users to access the content at the same date and time, or by staggering official deadlines in order to avoid a "last minute rush" that risks overloading the system.

Here's an example of the architectures that Scytl usually recommends for its Election Platform in order to guarantee availability and scalability.
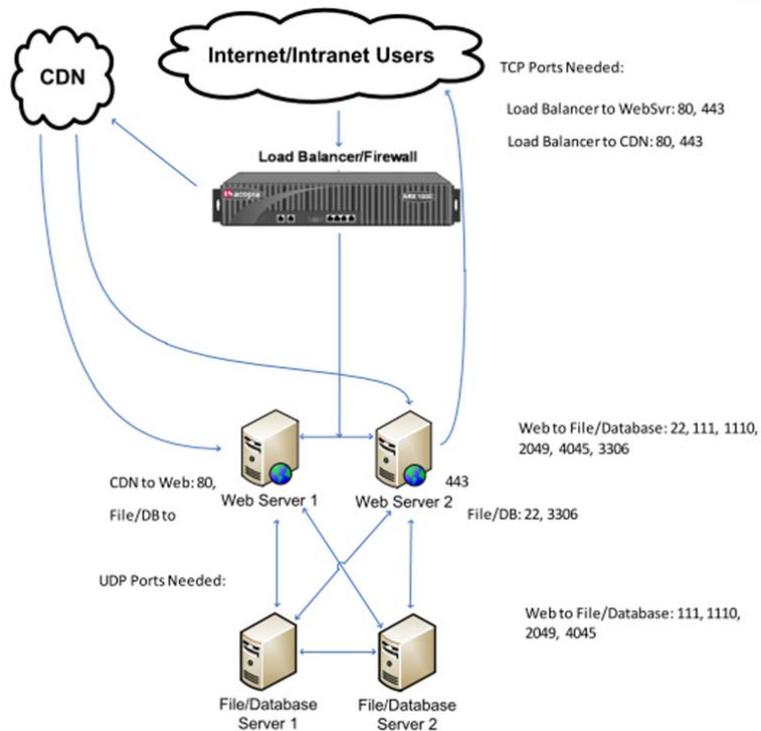
1.1.2.3 *Security*

1.1.2.3.1 Data Privacy

The security architecture and security controls implemented inside the training platform ensure the privacy of the data managed by Scytl's Election Training, ensuring that personal data, participation results, and training results are only accessible by those people authorized to access the data.

1.1.2.3.2 Web Security

All Scytl's web applications have been securely developed in all phases of production, and then deployed on a infrastructure. In this case, the hardening of the target platform needs to be done by the infrastructure provider and maintainer. This process creates secure software that is free of vulnerabilities and cannot be exploited by external attackers or hackers. Security from the platform perspective is enforced by Scytl's team and methodologies, and through the security monitoring that the FormaLMS maintainers usually perform.

1.1.3 CD-ROM course

Scytl understands that not all poll workers will have access to the internet to complete course requirements. The eLearning platform allows for the content to be either hosted online or loaded onto a CD-ROM for consumption by the poll worker. CD-ROMs will be produced by role. This will ensure that poll workers only have access to content specific to their job function.

Should the poll worker need to access the content from the CD-ROM, the experience will be the same as the online experience. All modules that the individual poll worker would have access to online will be available to him/her on the CD-ROM. As well, the poll workers' progress through the modules will be saved as it would be in online version.

The differences between taking the courses online versus using the CD-ROM are when the user needs to complete a test. Scytl can work with the client to determine the best fit for this activity. The testing solution can either be incorporated into the CD-ROM or a process can be applied where the worker completes the courses using the CD-ROM but will log-in to an online account to complete the testing requirements. Again, these are platform options that can be tailored specifically to the client.

1.1.3.1   CD-ROM course requirements

In order to access the course content, the poll worker must have access to one of the following:
1) A computer with an internet connection, or,
2) A computer with a CD ROM reader.

1.1.4   Additional details of the solution

There are several additional features included with the Scytl eLearning platform, some of which are as follows:

Technical features – World Class Learning Management Framework

- ✓ Certification Management Engine and Delivery Tool.
- ✓ Customized Business Intelligence Reports.
- ✓ Competencies Management.
- ✓ Up to 25 Languages
- ✓ Skills Management.
- ✓ Test & Quiz engine.
- ✓ Social & Web 2.0.
- ✓ Real-time tracking metrics.
- ✓ HTML5.

Technology Best Practices – Scalable to the Needs of Your Election

- SCORM 1.2 & 2004 compliant.
- Open API SCORM framework (TIN CAN).

1.2   Methodology

1.2.1   Project Management approach

Scytl is used to work on electoral projects with tight schedules and unmovable deadlines. Previous experiences validate this point. Therefore, to achieve the project goals, Scytl will implement its electoral management approach successfully employed in the past and briefly described below. Notice that depending on the project requirements, some of the tasks/actions/deliverables explained below may not be required and will be defined with the client during the kick off meeting.

1.2.2 Content development approach

This process is an iterative activity performed between the Scytl team and the administrators. Once the kick-off meeting has been completed and requirements understood, the Scytl team will review all available content from the customer. Working iteratively with that subject matter experts, a Content Outline will be created followed by the creation of the Stylesheet. These are critical steps where the various modules are scripted including identifying the different learning methods and where the testing components developed, as some examples.

Once the customer has approved the Content and the Stylesheet (and any edits included) the team will continue with the Design Document (Storyboard). The Design Document displays the exact content, along with any corresponding audio, images and animations, interactive or other form. Outlines are a skeleton of the content describing what is going to be covered and in what order. With the customer providing approvals at each step of the process, it will be assured that the final product is consistent with the expectations.

The diagram on the right represents Scytl's iterative process in creating an eLearning solution.

Training Implementation Flowchart
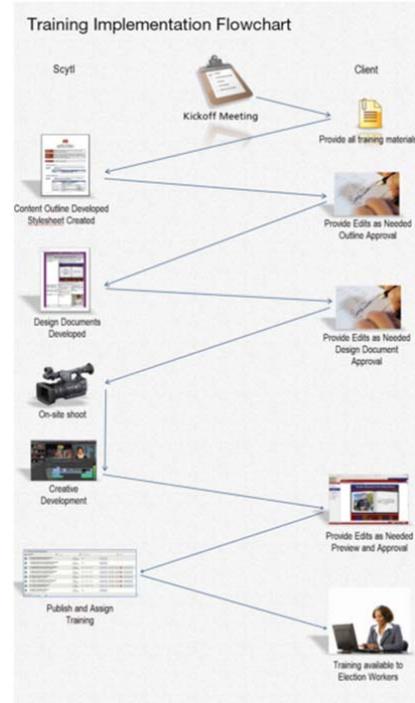
1.3   Some References

#	Name of Project	Client	Contract Value	Period of activity	Types of activities undertaken	Status / Date Completed	References Contact Details
1	Online Training platform to Electoral Comission	OSCE/CEC of Ukraine – Ukrainian Electoral Commission	190,000€	2012-2013	Scytl´s Election Training provides a permanent online training platform to the Ukrainian Electoral Commission. This project, is part of the Organization for Security and Co-operation in Europe Project Co-coordinator in Ukraine (OSCE PCU)project titled "Developing Election Training Capacity and Enhancing Voter Awareness". Scytl will provide an Election Commissioner Recruitment and Training System (ECRTS) to the Central Electoral Commission (CEC) of Ukraine. This online platform, based on Scytl's Election Training will combine all relevant training information for election commissioners and tailored to be used by different users, from CEC members to polling station workers. The platform will be built leveraging existing experience and will enable the sharing of knowledge and educational resources created by all of the existing training programs carried out to date in the country.	Complete	Yevgen Poberezhny Senior Elections and Governance Adviser yevgen.poberezhny@osce.org Strilets'ka St, 16 Kyiv, Kyivs'ka oblast, Ukraine +38 050 3103979
2	County-wide Implementation of a Training Platform for the DuPage County	DuPage County Election Commission	$142,000	October 2006 to Current	Bob Saar, the Executive Director of the DuPage County Election Commission, is a leader in the US election community. Bob has served as president of the International Association of Clerks, Recorders, Election Officials and Treasurers, is a member of the Board of Advisors of the U.S. Election Assistance Commission	Completed	Bob Saar rsaar@dupageco.org 421 N. County Farm Rd. Wheaton, IL 60187 (630) 407-5625

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#	Name of Project	Client	Contract Value	Period of activity	Types of activities undertaken	Status / Date Completed	References Contact Details
					(EAC, as well as numerous other committees throughout the years. In early 2006 Bob wanted to employ technology to help make his office more efficient and chose Scytl Election Training and Scytl Election Planning to provide more oversight into the effectiveness of his operations and training efforts. Bob continues to be an advocate of Scytl's solutions in the US.		
3	County-wide Implementation of a Training Platform for the Los Angeles County	Los Angeles County Registrar of Voters Registered Voters: 4,480,000	$780,000	February 2008 to Current	Los Angeles County is the largest elections jurisdiction in the United States and when they conducted a nationwide competitive RFP process for a web-based poll worker management/training solution, Scytl was selected as being the industry's best solution for election management and poll worker training. With nearly 30,000 poll workers and nearly five thousand precincts, reliability and scale was critical to the selection of Scytl's solutions.	Completed	Dean Logan dlogan@rrcc.lacounty.gov 12400 Imperial Hwy Norwalk, CA 90650 (562) 462-2716
4	County-wide Implementation of a Training Platform for the San Diego County	San Diego County Registrar of Voters	$260,000	November 2007 to Current	San Diego had been looking for technologies to enhance their training efforts and needed a solution in place for their 2008 Primary election which would be held in February. San Diego County sole sourced Scytl Election Training based on our success in other California counties across the state, delivering on a time tight timeline to rave reviews. They have been using the product successfully for 4 years.	Completed	Michael Vu michael.vu@sdcounty.ca.gov 5201 Ruffin Road, Suite I San Diego, CA 92123 (858) 694-3402
5	Dallas County Elections	Dallas County Elections	$240,000	March 2006 to Current	Dallas County Elections selected Scytl Election Training and other Scytl solutions in early 2006 because of Scytl's unique understanding of online learning and the elections process. The State of Texas was providing a FREE online training platform to all 255 counties in Texas. Dallas County (one of the largest counties in the State and in the US) chose to forego the free solution and contract with Scytl to get the job of online poll worker training done right and has been one of our prime clients ever since.	Completed	Toni Pippins-Poole tpippins@dallascounty.org 2377 N. Stemmons Frwy. Suite 820 Dallas, TX 75207 (214) 819-6335
6	Tarrant County Elections	Tarrant County	$180,000	May 2007 to Current	Tarrant County is the neighboring county to Dallas and as such struggled with some of the same challenges with regard to training election workers. Like Dallas, they were dissatisfied with the FREE online training the state was	Completed	Stephen Vickers SVickers@TarrantCounty.com Stephen Vickers SVickers@TarrantCounty.com

#	Name of Project	Client	Contract Value	Period of activity	Types of activities undertaken	Status / Date Completed	References Contact Details
					providing, but saw the potential of an online platform if done properly. Tarrant County contracted with Scytl in May of 2007 to provide Election Training and in 2012 reinvested in that partnership by adding Scytl Election Planning (Project Management), Election Helpdesk, Election Night Results and Scytl Election Logistics (Inventory and Warehouse Management).		
7	County-wide Implementation of a Training Platform for the Gwinnett County	Gwinnett County, GA Elections	$70,000	November 2011 to Current	Gwinnett County, Georgia conducted a nationwide search for an online poll worker training platform in 2008 with Scytl as its intended choice. The procurement required Lynn to select the less expensive provider and she had a very difficult time with getting the basic concepts of the platform accomplished by this online training software vendor. The duration of the contract lasted three years and as soon as Lynn was out of that contract, she was granted authority to select Scytl as her chosen provider to deliver successful and effective online training for her poll workers. Lynn is a great example of the need to select the right vendor the first time.	Completed	Lynn Ledford lynn.ledford@gwinnettcounty.com 455 Grayson Hwy, Ste 200 Lawrenceville, GA 30045 (678) 226-7231
8	Online Training platform	The City of Edmonton, Alberta, CA Office of the Clerk	$80,000	November 2012 to Current	The City of Edmonton was the first municipality in Canada to leverage Online Training as a strategic resource for use in training election officials. One of the key drivers for the City of Edmonton was the climate. Edmonton regularly reaches temperatures of 20 degrees below zero during election season, which makes it difficult for trainers and election workers to travel and often makes training facilities difficult learning environments. Laura Kennedy wanted to provide a resource that allowed her election workers to take the majority of their unique process training through the online platform. Since its roll out in 2012 the training platform has been a critical part of their training curriculum.	Completed	Laura Kennedy laura.kennedy@edmonton.ca 16304 - 114 Avenue Edmonton, AB T5M 3R830045 (780) 496-8153
9	Online Training platform	The City of Calgary, Alberta, CA Office of the Clerk	$80,000	December 2012 to Current	The City of Calgary shares a similar climate and some of the same challenges as Edmonton, but City Clerk Barb Clifford had a different driver for putting Online Training in place in Calgary. Barb wanted to leverage 700 iPads that the city had purchased for the 2012 census that would not	Completed	Barb Clifford Barbara.Clifford@calgary.ca 1103 - 55 Avenue N.E. Calgary, Alta. T2E 6W1 (403) 476-4100

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					be used again until the next census. Barb requested that all content created for Calgary be created in HTML5, which is an iPad friendly software language, that allowed Calgary to provide iPads on loan to their election workers so they could access Scytl Election Training. By leveraging their existing technology investments Calgary was able to quantify the cost of the program more easily and significantly improve their training capacity.		
10	New York State Online Training	New York State Board of Elections	600,000€	2007	State-wide implementation of a Training platform and interactive content. Created and implemented a state-wide voter education portal containing text and video content in several languages.	Completed	Robert Brehm, Co Exec. Director (518) 474-8100 rbrehm@elections.state.ny.us
11	City of Chicago Online Training	City of Chicago	500,000€ (in a 5-year contract)	August 2008	Implementation of a Training Platform and training content for the City of Chicago	Completed	Lance Gough 69 W. Washington Suites 600 and 800 Chicago, IL 60602 (312) 269-7970 lgough@earthlink.net