



## A New Electronic Voting Machine Enters the Race

### *Precise Voting Able to Deliver their New Voting Machine Prototype on Time*

Precise Voting is one of the lead contenders for supplying accurate, auditable, and secure electronic voting machines for the State of New York. New York State is currently accepting entrants, such as Precise Voting, as long as they meet their specifications—and their phased deadlines. A deadline was fast approaching when Precise Voting’s lead developer in India suddenly “disappeared,” leaving mid-project. Bright Software stepped in and was able to salvage the source code—and not only helped Precise Voting meet their deadline, but helped them build a better voting machine that more accurately reflected their expert knowledge of the voting process.

#### Solution-At-A-Glance

**Company:** Precise Voting

**Industry:** Electronic Voting Machines

**Problem:** Lead developer in India “disappeared” mid-project as approval deadlines were fast approaching.

**Solution:** Salvage previous developer’s source code and augment software to meet and exceed NY State requirements.

**Products and Technologies:**

- MS Visual Studio 2005 C#
- My SQL Database

**Timeframe:** 2 weeks then 2 months for enhancements

**Business venture saved:** Precise Voting, by meeting a deadline, is still an entrant to win the contract to supply NY State with electronic voting machines.

#### The Challenge: Rebuild the Software Source Code in Time

With their lead programmer gone, Precise Voting “Googled” the Web for a new developer, and found Ray D’Andrade, owner, Bright Software Development. Even before meeting face to face, it was clear while talking on the phone that the future of the project depended on the ability to obtain the existing software source code. “I agreed to help, if I could, but I really wouldn’t know how to help until I got my hands

on the software. The previous developer didn’t leave the original source code, only a compiled version, which doesn’t allow you to change the functionality,” says D’Andrade.

Jim Kapsis, General Partner of Precise Voting, gave whatever files he had over to D’Andrade and hoped for the best. Kapsis faced a New York State deadline in which they required source code—something he didn’t have. As it turns out, D’Andrade was able to decompile the

executable (.exe) file given to him and, much like a detective, piece together the missing software logic so Precise Voting could meet their deadline in two weeks' time.

"Business people often call on me to help them rescue a project after a lead programmer has left. Sometimes the program is so poorly written it's cost-prohibitive for a client to have me (or anyone else) spend time trying to fix all the flaws—but in this case I was able to help," says D'Andrade. He adds, "Be careful who you hire to do your software development and always ensure that you have the software rights and a copy of the original source code."

### **More Software Enhancements—So Even the Blind and Deaf Can Vote Anonymously**

Meeting the deadline meant Precise Voting was still in the race to supply voting machines for New York State. Kapsis was happy, but the voting machine software was far from complete. "Ray helped us in a jam and I knew I could then trust him to take us to the next level," says Kapsis.

**“ Ray helped us in a jam and I knew I could trust him to take us to the next level. ”**

Developing an electronic voting system is a difficult technical challenge. The system must be secure, private, reliable, auditable, portable and publicly accessible—all while maintaining a voters' anonymity.

Precise Voting relied on D'Andrade to interpret their on-going requirements and make them a reality. A voting machine was sent to D'Andrade, so he could access the machine prototype first-hand and he was able to help the hardware team resolve a problem they struggled with for months.

The voting machine uses touch screens, but also provides other voting options for the hearing, sight, and otherwise physically impaired.

In four weeks, Precise Voting had many of the new features they needed:

- The ability to choose and have the machine speak via a headset in 4 languages.
- Voice recognition when a voter speaks.
- A working "sip and puff" plastic mouthpiece tube by which to cast votes and a "head mouse" by which someone can use their head to move the screen cursor without use of their hands.
- An auditable printed paper trail to supplement each electronic vote which is verified visually by the voter.
- Encryption and hashing to secure all voting results for transportation to Board of Elections Offices where votes are counted.
- A management console that enables districts to create new ballots and provide a means of updating each voting machine.
- Finally, as you'd expect from a voting machine, but it was missing: a central vote counting system to tally all votes, verify their accuracy, and report on the results.

"It was a wonderful experience for me to put so much in place for one product. I've worked with helping the blind before, but this product had to try to accommodate the whole voting public—some with very specific needs," says D'Andrade.

Kapsis knows he can rely on D'Andrade to help him move his voting machine software ahead as requirements are added and more deadlines approach. He adds, "I only wish I had found Ray sooner."

Visit [www.brightsoftware.com/experience](http://www.brightsoftware.com/experience) to read more about Bright Software's accomplishments.