

APIs IN THE WORLD OF *Digital Democracy*

BY MIKE MOSER

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What's an API?

Though you may not realize it, application programming interfaces — otherwise known as APIs — are in virtually every aspect of digital life. If you've ever signed into a social media account with your Google credentials, checked the weather on your phone, or searched for flights using a travel website, you've used an API. So what do they do exactly?

APIs enable secure and seamless communication and data sharing between various systems, allowing different types of software to communicate with each other. In other words, APIs are a set of rules and protocols that define how systems can request and receive information. The use of APIs allows organizations to extend or interact with core services, limiting access to only the data that's necessary, without significant investment of time and money.

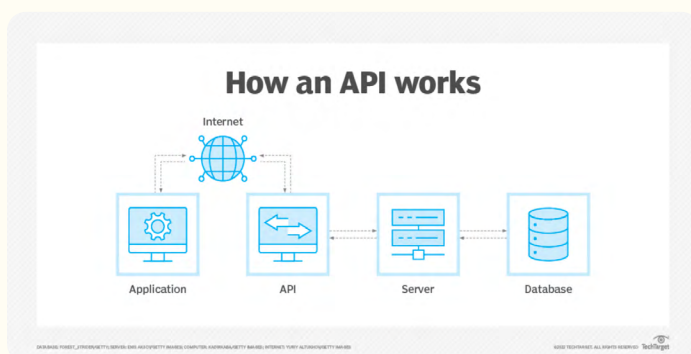


Figure 1: Image from TechTarget - How an API Works

Additionally, APIs enhance security by providing an essential layer of protection – they only share specific information, keeping sensitive internal data hidden. Access is carefully controlled through security measures like API keys and access rules. All transmitted and stored data is encrypted to ensure safety. Furthermore, APIs log all activity and monitor for anything unusual to ensure rules are followed and to quickly detect suspicious behavior.

A good example of this process in practice is using an e-commerce site that offers the option to “Pay with PayPal”. When a user elects to pay with PayPal, the e-commerce site sends a request containing the user’s information and transaction details to the PayPal API. The API then processes this request and sends a confirmation back to the site if the payment is successful. This process enables users to make purchases from online stores without directly sharing their financial details, providing flexibility and a more secure, seamless experience.

The applications of APIs are virtually endless and can support a wide range of operations; as such, they are becoming an increasingly vital tool in today’s digital age.

Strengthening the Backbone of **DIGITAL DEMOCRACY**

Over the last two decades, state governments have increasingly adopted the use of digital democracy, utilizing technology to enhance civic engagement and services. In fact, roughly 75% of U.S. states and territories offer traditional online voter registration (OVR).

Two states have expanded traditional OVR opportunities by implementing APIs for voter registration. Implementing APIs in OVR can maximize the efficiency and cost savings of the registration interface, thereby reducing printing costs and staff processing time for paper registration forms. The uptick in efficiency is especially applicable during peak federal election periods.

The use of APIs in OVR systems can also facilitate and streamline third-party registration drives more effectively. An API for voter registration allows organizers to track registrations and gather contact information — including name, phone number, and email — for follow-up. This not only reduces the burden of information requests on election officials but also enhances data accuracy, resulting in more robust voter registration record management.

Are there Voter Registration APIs?

The two states that adopted comprehensive APIs for voter registration purposes are Pennsylvania (2016) and Michigan (2020). Pennsylvania also expanded its API implementation to multiple state agencies through Keystone Login, a universal login service across commonwealth agencies. Since its creation, Pennsylvania's API has been adopted by at least one county and two educational institutions, benefitting both local and state governments by reducing printing costs and staff time.

PA KEYSTONE LOGIN

Alert: 05/05/2025 is the last day to register for the election before the election date 05/20/2025. If you are not a U.S. citizen and a resident of Pennsylvania at least 30 days before the next election, you **CANNOT** register to vote. If you have any questions, please call 1.877.VOTESPA (1.877.868.3772).

1 Welcome - General Info 2 Name 3 Eligibility 4 Reason 5 About You 6 Address 7 Mailing Address 8 Identification 9 Political Party 10 Assistance 11 Info 12 Declaration 13 Help 14 Poll Worker 15 Summary 16

If you have any questions, please call: 1.877.VOTESPA (1.877.868.3772).

You may use this list to:

- Register to vote in Pennsylvania
- Keep your address up-to-date
- Keep your party choice up-to-date
- Update your name on your voter registration

Please remember your registration is NOT COMPLETE until processed and accepted by your county voter registration office. If you prefer to mail your application to your county voter registration office, please follow this link to download a blank registration form: https://www.pavoterservices.pa.gov/documents/VoterApplication_English.pdf.

If you are on active duty in the military, or you are a hospitalized or bedridden veteran, you can register at any time. See www.hhs.gov for more information.

If you have one, please have your PA driver's license or PennDOT ID available to reference as you complete the application.

All fields marked with a red asterisk (*) are required.

Figure 2: Image of Voter Registration Through the Keystone Login service, Accessed 5/14/25

Third-party voter registration organizations were also quick to adopt the state APIs in Pennsylvania and Michigan. For example, Rock the Vote integrated APIs to complete online registration submissions from third parties — eliminating the previous disjointed process of directing users to individual state applications, which often hindered registration. Furthermore, Rock the Vote developed accessible mobile tools for other trusted organizations to use in their registration efforts. This created a beneficial ripple effect, where an initial investment by one entity yielded advantages for numerous others, ultimately decreasing costs and enhancing state-level performance.

DONATE SHOP ABOUT US **REGISTER TO VOTE** f t i

HOW TO VOTE GET INVOLVED PROGRAMS & RESOURCES ACTION FUND

Register to Vote

Your Basic Info

We need to let the state know who you are and to check your eligibility.

Name *

Title * First Name * Middle Last Name * Suffix *

☐ I have changed my name. *

Date of Birth *

MM DD YYYY

Figure 3: Image of Registering to Vote in Pennsylvania from RockTheVote.org, Accessed 5/14/25

What Does an API **COST?**

Developing an API for online voter registration is incredibly cost-effective. By leveraging existing online voter registration infrastructure, an API significantly reduces development time and expenses. This approach further diminishes the need for paper forms and their associated costs, accelerating local processing times and freeing up staff resources.

In Pennsylvania, the initial implementation of the API cost approximately \$250,000. According to former officials in the Pennsylvania secretary of state's office, this figure included time dedicated to researching API and educating staff regarding best practices before development began. In other states, if a secretary of state's office already has API experience, implementation would be cheaper, given other states can shortcut the need for much of the initial research phase thanks to Pennsylvania's and Michigan's pioneering efforts.

By contrast, processing paper forms is incredibly expensive for local election officials, costing roughly \$4.72 in labor per form. Costs from traditional registration methods add up quickly: If a state receives 60,000 paper registration forms, that's already \$283,200 in labor costs, and consequently more than the higher-end implementation cost of an API system.

API enhancements in Pennsylvania and Michigan enabled each state to leverage the existing OVR technical infrastructure, especially existing applications, system workflows, and underlying databases. They offered significant benefits for only a small initial investment, offering cost savings and increased staff efficiency over time.

For states seeking similar benefits, the Institute for Responsive Government is here to help. We can provide nuanced technical and strategic guidance, as well as insights from former Pennsylvania state elections officials and real-world experiences from partners like Rock the Vote. We can also help states identify and engage in-state voter registration organizations to inform them about the upcoming API and its benefits — expanding the network of participating entities and further boosting online voter registration uptake.



Mike Moser

Mike Moser is a Senior Advisor to the Institute for Responsive Government and the founder of Moser Solutions LLC, where he works with election stakeholders, government officials, and educational institutions at the intersection of election administration, technology, and security.

Formerly an IT Cybersecurity Specialist for the Cybersecurity and Infrastructure Security Agency (CISA), Mike provided the Election Security & Resilience (ESR) team with crucial expertise in election administration and security. Additionally, Mike served as the Director of Election Security and Technology at the Pennsylvania Department of State and was the Community Relations Coordinator of Driver and Vehicle Services at the Pennsylvania Department of Transportation.