Voatz

Standardization of Remote Ballot Marking & Return Through A Rigorous National Study & Examination

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Introduction

The 2020 election cycle is creating a challenge impacting all who are interested in, concerned about, and enabled by our electoral system. Citizens, republican and democratic state election officials, states themselves, candidates, federal agencies like the Election Assistance Commission (EAC) and Federal Voter Assistance Program (FVAP), and lawmakers in Washington without exception have a stake in a successful 2020 election.

The principle of one person, one vote in a private, secure system, is among the highest values enshrined in our nation's democracy. Our entire voting system is being challenged by myriad factors, which include the persistence of the novel coronavirus and the national and personal economic fallout. These existential challenges are profoundly affecting state budgets, creating difficulty for converting polling-place voting systems to mail, and concern about our elections system's overall fairness and effectiveness.

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2.3 million more votes
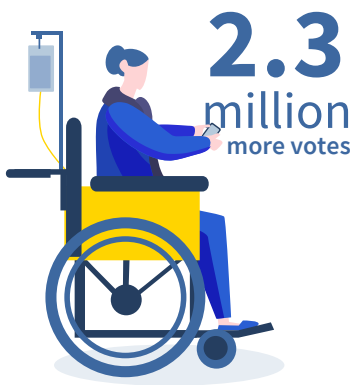
These challenges are not new. The 2000 election brought into focus inherent flaws in our electoral infrastructure and processes. The 2016 election cycle thrust a fear of technology into our collective psyche by bringing election interference and misinformation campaigns to the mainstream. Today's persistent pandemic highlights the need to develop the ability to vote remotely and securely as most states consider mail-in ballots to most of the voting population.

States struggle to support the cost of Vote by Mail, and this demands the development of more effective and resilient technological alternatives to how we vote. For example, we need a set of solutions capable of supporting our deployed military and fellow citizens overseas who, while defending our freedom, struggle to participate regularly in elections. The vote must be protected for disabled voters who cannot see or, unaided, physically mark a paper ballot. We need a solution capable of being used anywhere while ensuring the privacy and security of the voter.
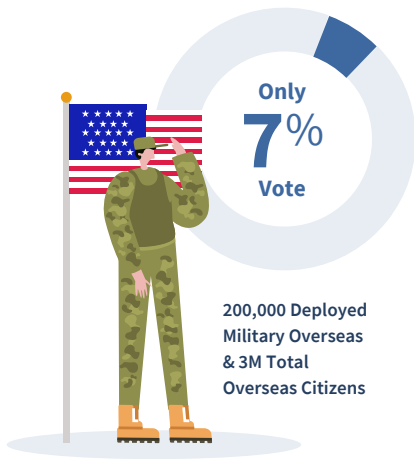
We need to think forward and make sure we have access to solutions that can withstand emergencies and unforeseen circumstances. In summary, these systems must address crucial questions around security, accessibility, and our health, as they uphold the integrity of election results.

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Only
7%
Vote

200,000 Deployed Military Overseas & 3M Total Overseas Citizens

The challenge in this environment is to create a secure and safe voting option. The most successful company will bring together recent advancements in technologies to deliver the vote to UOCAVA and disabled voters who are highly likely to be left out during these challenging times. Despite efforts, there are still significant barriers to using a system of remote ballot marking and return in this country.

Our company, like other companies in the remote ballot marking space, is operating without a regulatory roadmap to help guide our decision-making and build trust among democratic and republican election officials, or a set of standards that help citizens and investors know that our ballot marking systems have been vetted and tested. We advocate for a thorough review and report of the current state of remote ballot marking, the landscape, companies in the sector, best practices on security, and a system of standards that can be adopted industry-wide.

The need for this new study and standards is made evident by a few realities: technological change that now permeates every part of our daily lives; the need to bring these innovations into the voting sector; and the demand for change that is coming from republican and democratic election officials and citizens.

Evolution of Technology

If we think back to the beginning of this millennium, we understood flip phones and laptop computers. We did not know of tablets and smartphones capable of allowing us to browse the web from anywhere. We did not know how organizations could develop mobile apps designed with compelling user experiences. We slowly got comfortable with the idea that our credit card had a computer inside. We could not imagine apps like Apple Pay and Google Pay would allow us to tap our phone to pay.

When Palm and Blackberry introduced the first smartphones, they enabled us to write emails, produce documents, and otherwise interface much more efficiently. As technology advanced, our mobile phones acquired new skills. Cameras, specialized security chips, accelerometers, music & video players, more memory than we knew what to do with and faster processors than many of us had in our desktop computers.

We watched as Apple created the iPhone, bringing these devices to the general public. Simultaneously Samsung, HTC, LG, and an assortment of other technology providers embraced the Android operating system to create a robust personal assistant inside our mobile phone.
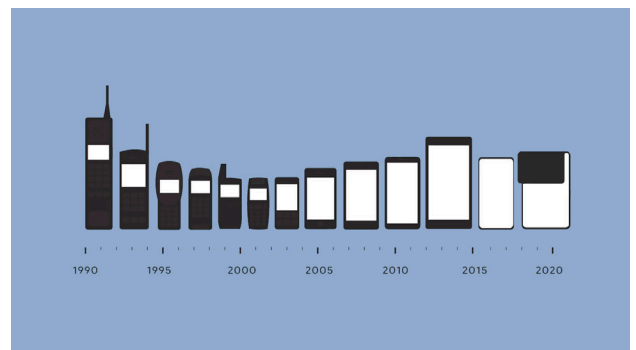
We listen to music & podcasts. We watch our favorite videos and even talk to our devices. Biometric sensors, accelerometers, and GPS chips allowed developers to enhance the user experience and expand the security of our mobile phones. Industry working groups came together to develop standards and certification processes with a focus on the security of these consumer-oriented devices.

Simultaneously, the companies responsible for the design of these devices began to incorporate specially-developed security hardware and enable what is known as a restricted operating environment. An environment where private keys and secrets can be stored and cryptographic functions can be securely executed. They introduced a hardware-based Root of Trust.

When we reflect upon the work commissioned over the years to assess the efficacy of online voting, or as the EAC defines it, Remote Ballot Marking, our expectations have to be reset taking into account recent technological advancements. We can move beyond the limitations of the web browser toward the security inherent in a smartphone through an application (app). This is especially true now that most devices include this hardware-based Root of Trust.

Internet browsers do not have complete and unrestricted access to all of the capabilities of a mobile phone or PC, nor all the security abilities offered by hardware and the operating system.

On the other hand, apps are specifically written for the user devices. Cloud servers utilize security features built into the platform underpinning the devices and the networks internet-based solutions are built upon. By developing the user experience with an app, the app has the ability to:

- Understand the environment it is operating in and check to make sure there is no malicious software in that environment.

- Ask the operating system to perform particular functions and take advantage of the security characteristics of the Restricted Operating Environment and the hardware-based Root of Trust.

- Access the sensors and ask those sensors to deliver and act upon particular functions. For example, read a fingerprint and compare it to the fingerprint stored by the owner in their device.

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All of these capabilities only existed on a limited scale a decade ago. Today, more than 80% of smartphones have these capabilities, and all of the cloud service providers are continually working to enhance the security of their environments. By using the security features integrated into these platforms and embracing a concept of continuous improvement, it is now possible to create secure app-based Remote Ballot Marking solutions. Can we claim it is 100% secure? No. Yet, what system can? There are adjacent severe issues with paper ballots produced at the polling place or marked ballots returned through the mail. The question should be: Can we create a solution that is better than what we now employ?

Recommendation

Problem: Today, there are no defined requirements or certification processes to enable election officials to deploy Remote Ballot Marking and Return systems capable of supporting voters who are unable to vote independently in polling stations or by mail. Without clarity, election officials are unable to properly serve voters, primarily our military serving overseas or those with disabilities. Investors feel discouraged without a clear roadmap, leaving them doubtful if newer methods will be supported and permitted in the long run. Entrepreneurs are operating in an uncertain and sometimes hostile environment. Citizens are being denied the benefits of these solutions and opportunities for increased civic engagement. Finally, advocates have no consistent regulatory or legal framework to facilitate collaboration with stakeholders to make meaningful progress.

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We propose a comprehensive study focused on defining the security and functional requirements for apps designed to receive the appropriate blank ballot, enable marking of the ballot, and assure the return of a ballot using a commercial off-the-shelf computer. This study should consider if these apps can take full advantage of the security features of the platform, while being able to verify the voter, secure their markings of the ballot, encrypt & guarantee the return of the marked ballot all while assuring the anonymity of the voter.

We recommend including experts from a cross-section of organizations, federal agencies, representatives from disenfranchised communities, and technologists to determine a process to establish, test, and deploy systems that will support our democracy. The most inclusive effort will allow significant participation from the private sector and outreach to voters.

A well-executed and transparent study of remote ballot marking will provide comfort and confidence to citizens and other stakeholders that the systems that states are choosing to deploy meet rigorous federal government guidelines and widely accepted standards.