

## Use Case Library

### West Virginia's Mobile Voting Application

Executive Summary written by GBBC

---

As trust in governments has declined in recent years, so has trust in voting systems. An [NPR/Marist poll](#) in 2018 found that 47 percent of respondents believed it was either likely or very likely that not all votes would be counted in the 2018 U.S. midterm elections. Adding to this, overseas voters face a burdensome process to cast their ballots. Lack of faith in and lack of access to the most basic practice of democracy portends serious problems for the American democratic system (and democratic systems around the world). Blockchain platforms may offer a way forward by improving the security of voting while simultaneously increasing access to ballots.

The state of West Virginia collaborated with Voatz, a blockchain-enabled mobile voting application, to introduce mobile voting as an option for voters to cast ballots anywhere in the world. Individuals interested in using this technology must: (1) submit a Federal Post Card Application; (2) once approved by the county clerk, receive voting instructions; (3) download the Voatz app; (4) receive identity verification from the app; and (5) cast a ballot using the app. Currently, only voters from six counties or eligible uniformed service members and overseas voters from twenty four counties in West Virginia can use the app to vote in primary elections.

The mobile voting relies on blockchain technology to ensure the votes have not been tampered with after an individual has cast their vote. After a voter submits their electronic vote on the app, the vote is immediately submitted to a blockchain platform. Election officials open and retrieve the votes from the blockchain on election night. Prior to entering the platform, the ballots are anonymized. Participants in this pilot program and the Office of the Secretary of State also receive copies of the vote to determine the success or failure of the blockchain technology. The Office of the Secretary of State ran several audits on different components of the app prior to implementing the pilot program and discovered no problems. The app was tested in the November 2018 primary election, in which ~144 people used it to vote. After the vote, the Office of the Secretary of State performed a full audit of all mobile votes. The Secretary of State deemed the technology “widely successful” in the days following the election.

Voatz was created in 2015 after the cofounders won a hackathon by proposing a system that would use biometrics and blockchain technology to enable voting with a smartphone. Since its successful West Virginia program, Voatz announced a pilot program with Denver, in which 4,000 international voters will be able to cast their ballots digitally. Many remain skeptical about blockchain-based voting; only with time and numerous successful pilots will Voatz and other stakeholders be able to see if it is feasible and secure.