



CASE STUDY – ROCK AND ROLL HALL OF FAME

ABOUT THE ROCK AND ROLL HALL OF FAME

The Rock and Roll Hall of Fame and Museum is a hall of fame and museum located on the shore of Lake Erie in downtown Cleveland, Ohio, United States. The Rock Hall engages, teaches and inspires through the power of Rock & Roll, hosting more than 10 million visitors with a cumulative economic impact of more than \$1.8 Billion since inception.

The Rock Hall administers an annual induction ceremony and vote where musicians and artists are honored and inducted into the Hall of Fame.

2016 INDUCTION – BOTS AND HACKING

For the 2016 Inductee Vote, Rock Hall executives were in the crossfire with defamatory headlines from the press calling into question the integrity of the vote, including:

“Has this year's Rock Hall Fan Vote been hijacked by computer hackers?”

The controversy ignited when poll totals jumped astronomically from 371,000 votes after one day to more than 82,000,000 4 days later with the majority of these votes awarded to the band Chicago. While Chicago fans consider themselves die-hard advocates, this was evidently the consequence of a computer voting bot programmed to rig the election in favor of Chicago. **The damage to the credibility and integrity of the vote was deep and far spread from fans to media.**

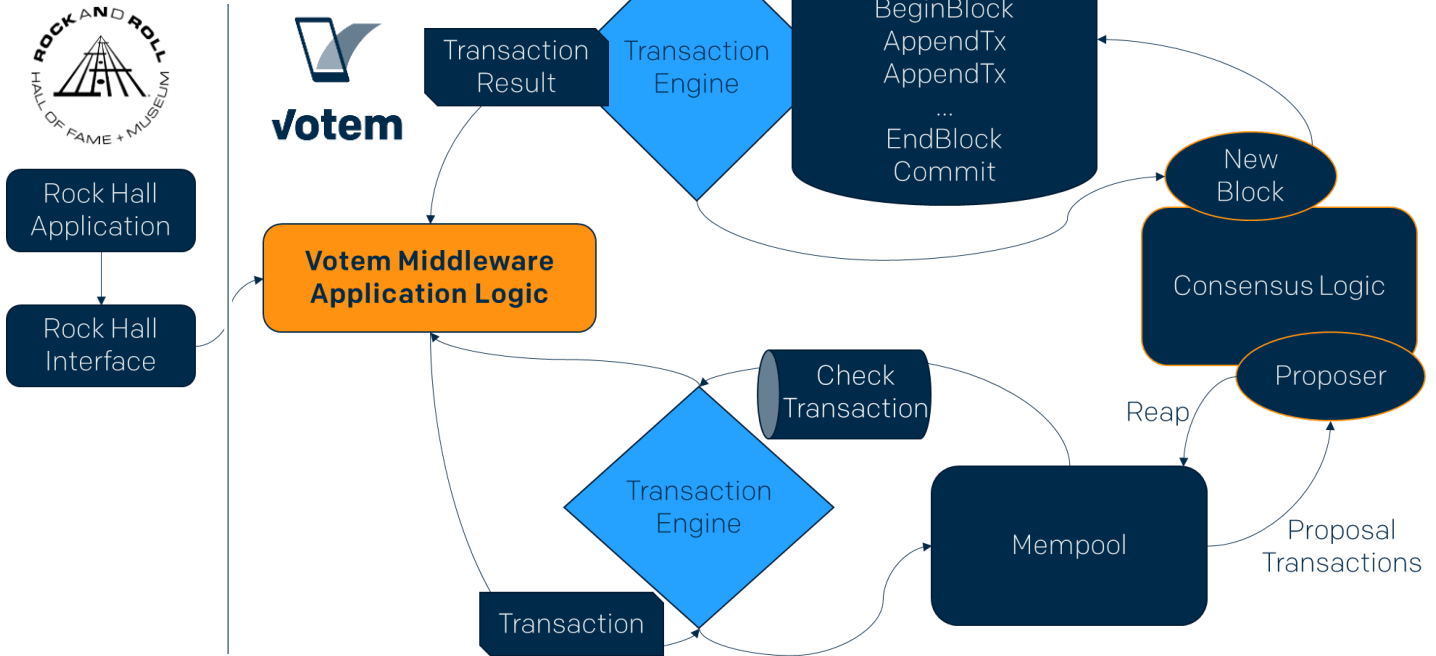
2017 INDUCTION – VOTEM SECURES THE VOTE

For the 2017 Inductee Vote, in an effort to remedy issues of the last vote, the Rock Hall partnered with Votem to guarantee the integrity of the election and ensure their fans the vote was conducted fairly and without compromise.

Votem successfully processed over 1.8 million votes on its Blockchain voting platform, without fraud, compromise, attacks nor hacking of any kind marking the largest use of online voting using Blockchain to date.

Fans voted from all 50 states and over 100 different countries with 60% of votes coming from phones. Through Votem's platform, the Rock Hall had an end-to-end election solution that proved more secure, efficient, reliable, auditable, tamper-proof, accessible and cost effective than before with immediate and immutable election data and results.

BLOCKCHAIN TECHNOLOGY



Blockchain technology is the underlying foundation for Bitcoin and has been used primarily to tackle issues in financial services. Technology firms and academics around the world have only recently explored Blockchain's utility in other contexts with online voting as one of the most promising applications.

To ensure the integrity of the Rock Hall vote, four permission-based nodes on Votem's Blockchain came to consensus on the validity of each vote. This was done to eliminate spam voting and bots tampering with results while creating redundancies to prevent data loss. The protocol used for consensus between the nodes provides the security for the system while scaling to over 10,000 transactions per second. The number of nodes can also scale to hundreds of potential validator nodes. Validator nodes mathematically verify the validity of every vote cast. This would allow for many parties to participate in the validation of votes for any desired election while protecting both the integrity and scalability of the platform.

Validator nodes run a Byzantine Fault-Tolerant algorithm which prevents a loss of service or system failure due to an individual node's failure. This protects the system regardless of the nature of the failure. Nodes communicate over a securely encrypted P2P connection. These are encrypted using a Ed25519 key-pair. Nodes mutually exchange these key-pairs and then create a shared secret key from the initial keys. These shared secret keys are then used in the encryption algorithm.



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Votem® is focused on building a mobile voting platform to enable people around the world to easily and securely vote online and from their mobile devices.