

## Citizens' Oversight Projects (COPs)

CitizensOversight.org

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### PRESS RELEASE & MEDIA ADVISORY

## **Citizens' Oversight Announces New Election Auditing Service AuditEngine.org**

### **Cloud Service Scales Instantly to Analyze Up to Millions of Secured Ballot Images in Parallel to Provide Timely Results**

San Diego, CA (2019-10-06) – Citizens' Oversight today announced that Founder and Executive Director Ray Lutz will demonstrate an early version of the auditing tool "AuditEngine.org" at the 3<sup>rd</sup> National Election Integrity Conference October 5 & 6, 2019, in Berkeley, CA.

"The operation of the audit is easy to understand," said Lutz. "Election officials or the public can upload archives of ballot images, the official cast-vote-record file, and any adjudications to the secure cloud-based service. For a small fee, the service will unleash the nearly unlimited compute power of AWS Lambda to analyze the ballot images in parallel to complete an exhaustive review of elections even with millions of ballots in short order. Unlike other auditing techniques that rely on self-audits, this independent review is far more trustworthy and provides an exhaustive review of the election results."

Lutz explained further that unlike other election processing systems, the system will discover the layout of contests on any given ballot to determine the various ballot "styles" used in the election. Due to the way various districts overlap, there may be hundreds or thousands of distinct ballot styles, where each style includes a different set of contests. AuditEngine.org does not rely on the ballot style information normally used by election systems, such as those from ES&S, Dominion, Hart, and Clear Ballot, as those may not be accurate. Instead, the system determines the ballot styles and location of ballot "bubbles" where marks are to be placed by voters by analyzing the ballots using advanced computer vision, OCR and machine-learning technology.

The system can also audit any barcodes used by some "ballot marking devices," by totaling up the result from the human-readable result rather than using only the barcodes, and checking the validity of the barcodes as well.

"Unlike every other election system, we read the human readable contest options and selections and do not rely on barcodes or x,y coordinates of bubbles," Lutz said. "This type of audit defeats almost all possible hacks of the election, such as direct modification of the computer result, swapped columns in the

result table, unreadable bar codes, and cannot be defeated by last minute changes to paper ballots."

AuditEngine.org recommends that officials hand-tally at least one batch from each central count scanner, and one randomly sampled batch from precinct-scanners to reduce the remote possibility that the image scanner has been hacked to modify the ballot images prior to evaluation to extract the vote.

"The only hack that remains is extremely difficult to deploy and thus is extremely unlikely, and a limited inspection of paper ballots will provide a reasonable likelihood that such a hack would be detected. Thus a limited review of the paper to validate the ballot images is prudent."

The independent ballot image audit provided by AuditEngine.org can be used in conjunction with any other auditing method, such as a risk-limiting audit, and can fill in where those techniques fail, such as when margins are tight and in small contests that are too small for such statistical sampling regimens to be viable. Since it is independent, it reduces the risk that election officials will innocently "fix-up" the audit which will defeat the whole purpose of audits, but remains the largest single risk as those officials are self-auditing their own work. "That's like asking people on the freeway to flag down a police officer and ask for a ticket. Self-audits are not a smart idea," Lutz said.

The election auditing community needed another option to conduct ballot image audits. With this type of audit, officials and oversight groups can reduce the risk of missing hacks or errors to a minimum compared with 'risk-limiting' audits, that actually may unfortunately allow hacked elections to be confirmed, and have trouble with close margins and small contests. AuditEngine.org will provide a consistency check of the election down to the single ballot, and allow easy review of discrepancies, overvotes, write-ins, and the like.

"This is actually a type of 'risk limiting audit' as it actually reduces the comprehensive risk to much lower levels that conventional RLA methods," Lutz asserted.

The demo at the National Election Integrity Conference in Berkeley will show how the ballots are reviewed and an idea of the preliminary report that will be generated. Citizens' Oversight intends to be able to provide the service for use in the upcoming presidential primary elections for any district that uses modern election equipment that creates ballot images.

Election officials interested in using the service should contact Lutz directly.

[GRAPHIC DIAGRAM ATTACHED]

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### **MEDIA ADVISORY:**

The National Election Integrity Conference is Oct 5 & 6, 2019, at the South Berkeley Senior Center, at 2939 Ellis St, Berkeley, CA. The event is scheduled from 10 am to 6pm, and Mr. Lutz is scheduled to speak at approximately 1pm on Sunday, Oct 6, and will be demonstrating the system also during breaks.

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