





The PunchScan

Voting System

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# Related Notions

- Voter Confidence
- Voter-Verifiable Integrity
- No trusted software
- Scalable/Realistic (=inexpensive)

# **PunchScan Features**

## **all that are required in US**

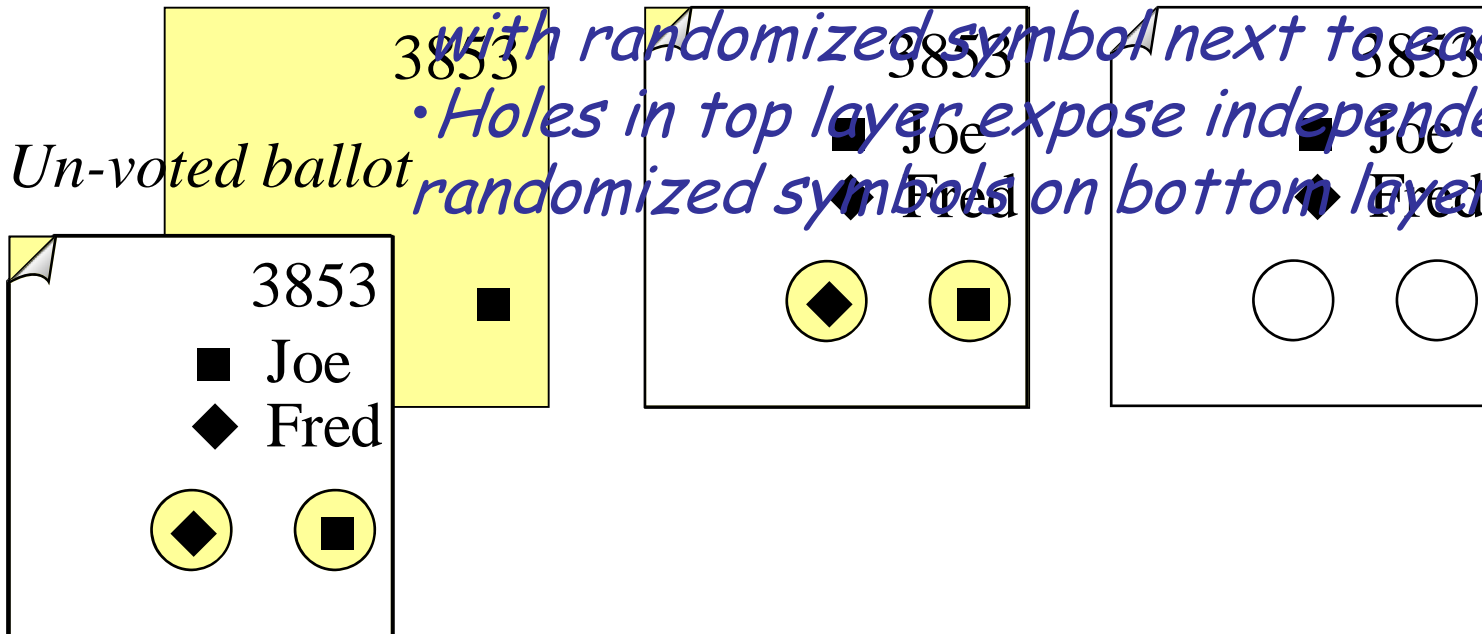
- Polling place
  - Automated (rental computers)
  - Manual (ballot box or after automation fails)
- Absentee (mail-in ballot)
- Provisional ballots / any polling place
- Disabilities
  - {Read or hear} and {mark or nudge a friend}
  - Indistinguishable ballots

# First Election Running Now

1. Specs published
  1. All XML, JAVA, and SQL
2. Commits posted
3. Challenges from NASDAQ select half the commits to open
4. Audit the opened commits (separate software)
5. Polling places Romania, **Crypto**, Ottawa, Washington DC, Stanford
6. Final phase
  1. Posting tally (and more) in clear
  2. Challenges from NASDAQ
  3. Final audit

# A simple ballot form

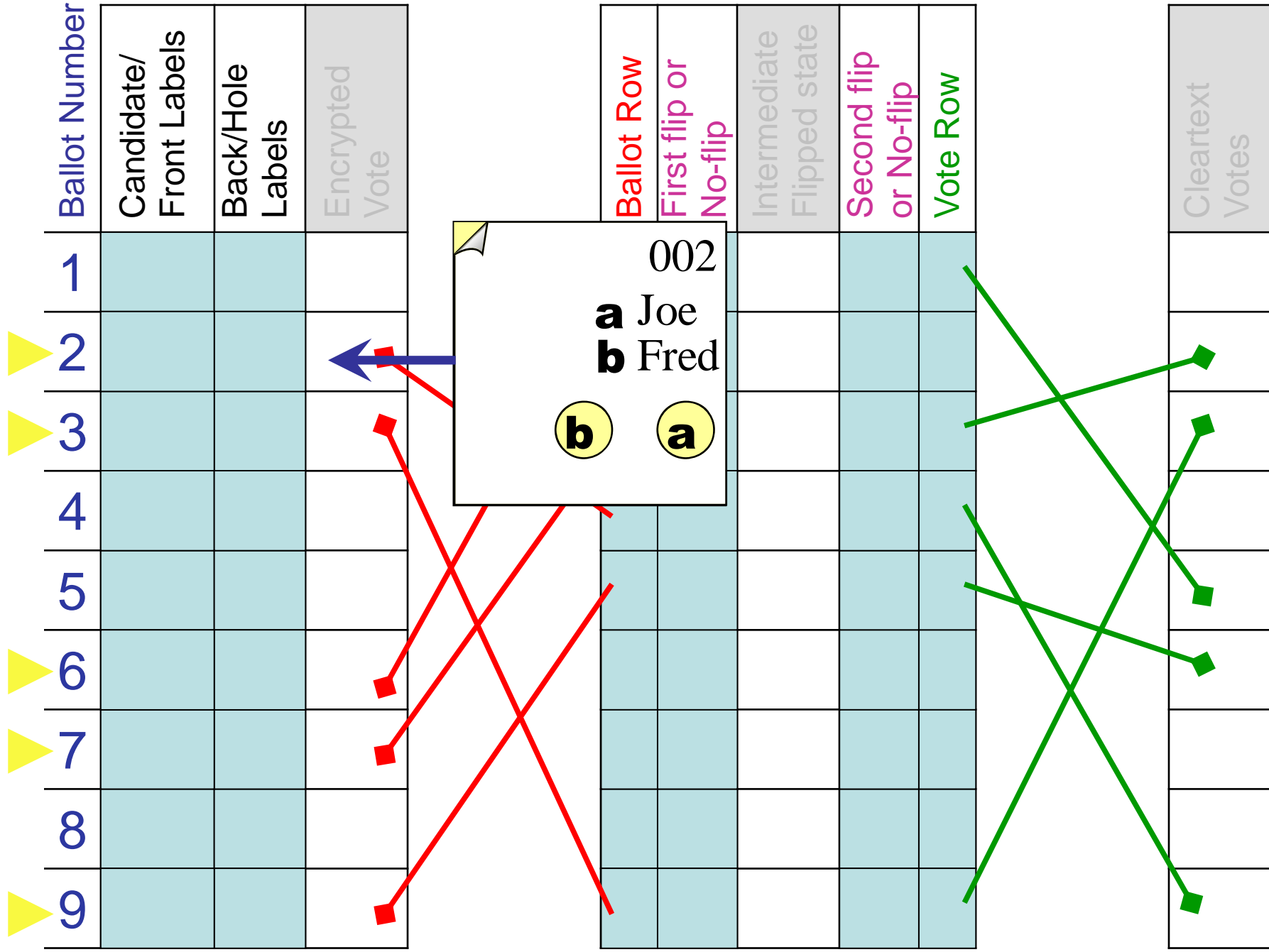
- Top layer shown white, bottom layer yellow;
- Single sheet folded to form two layers;
- Unique serial number per ballot: 3853;
- Candidates Joe and Fred, in a fixed order, with randomized symbol next to each;
- Holes in top layer expose independently randomized symbols on bottom layer.

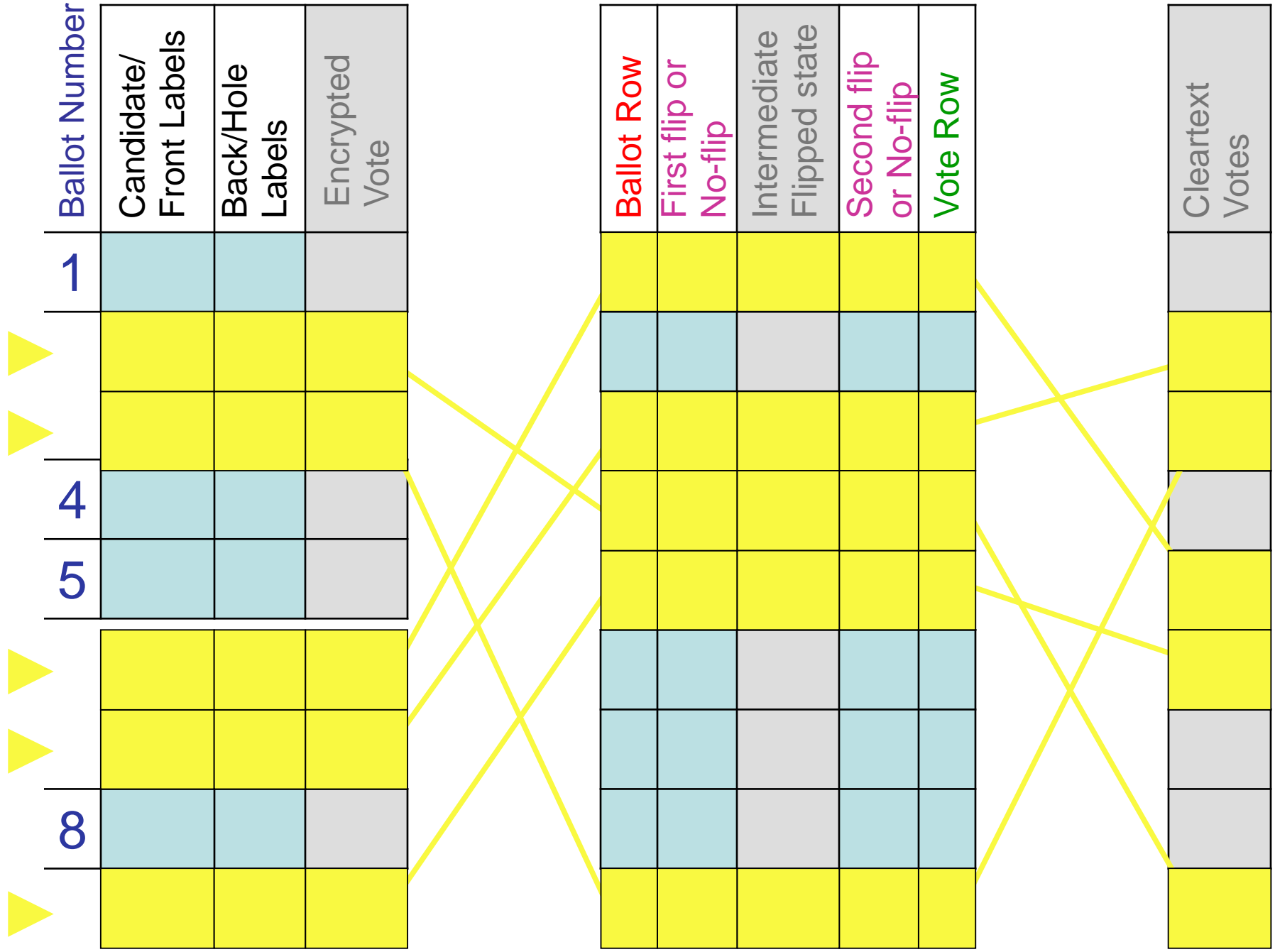


*Ink daub marks both layers (voted for Fred)*

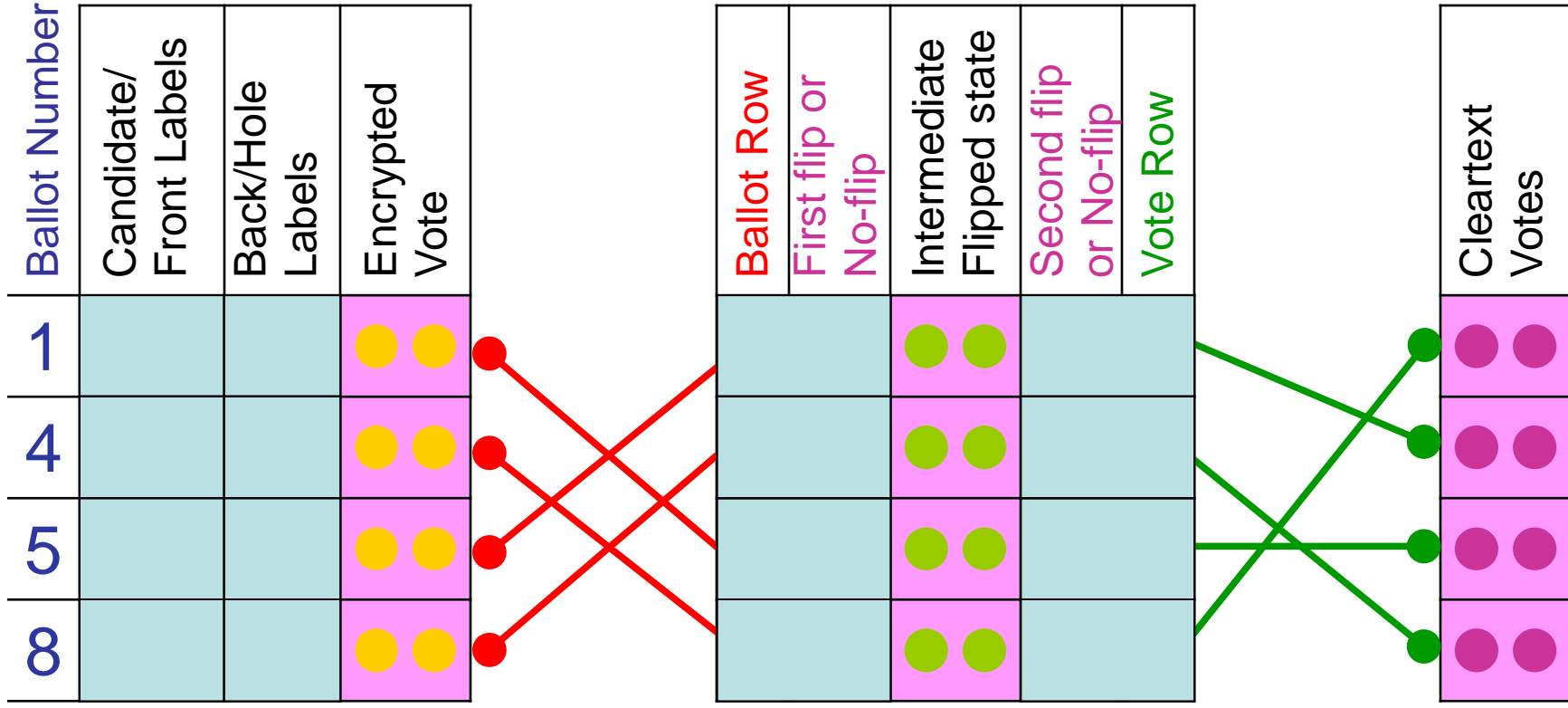
*Voted top layer*

*Voted bottom layer*











See

[punchscan.org](http://punchscan.org)

Collegiate

Voting

Systems

Competition

VocComp.org

# Introduction

“University student elections offer a uniquely focused setting for engaging students in nationally important, state-of-the-art security and privacy research/projects and course work.”

# Competition Timeline

- i. Judges announced, applications accepted, rules detailed (September-October)
- ii. Advance payment to teams with posted designs judged to be qualified (January)
- iii. Second payment to teams in the running, on completion of election (by May)
- iv. Teams completing second phase awarded travel-reimbursed opportunity to compete at finals event for prizes for election demonstrated, presentations, and optional attacks on other submissions (June)



Thank You

[vocomp.org](http://vocomp.org)

