
<http://www.cs.uiowa.edu/~jones/voting/>

Election Reform In Iowa

**Notes on a talk to the
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**by
Douglas W. Jones**

**Associate Professor of Computer Science, University of Iowa
Chair, Iowa Board of Examiners for Voting Machines and Electronic Voting Systems
Member, Iowa Election Reform Task Force**

Slides

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 - **Background -- Regulatory Environment**
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Election Reform in Iowa

Douglas W. Jones

- Associate Professor of Computer Science
- Chair, Iowa Board of Examiners for Voting Machines and Electronic Voting Systems
 - member since 1994
 - chair since 1999
- Member, Iowa's Election Reform Task Force
- <http://www.cs.uiowa.edu/~jones/voting/>

Background

- **11 Voting Systems Used in Iowa**
 - 2000 General Election, by county
 - 99 counties, 2222 precincts

 - Precinct-count Optical mark-sense (17)
 - Optech (10)
 - Global (6)
 - AIS (1)

 - Central-count Optical mark-sense (60)
 - AIS (55)
 - Global (3)
 - Optech (2)

 - Direct Recording Electronic (14)
 - Microvote (10)
 - EV 2000 (3)
 - AVC (1)

 - Lever machines (7)
 - AVM (7)

 - Hand Counted Paper (1)

- **That Web Address Again**

<http://www.cs.uiowa.edu/~jones/voting/>

Background

- **Regulatory Environment**

- Federal Law
 - Civil rights law
 - Federal election commission voluntary guidelines
- State Law
 - Permits 5 voting methods listed above
 - Sets law and rules for election administration
 - Requires conformance with 1990 FEC guidelines
 - Oversees canvassing in multi-county races
- Board of Examiners for Voting Machines and Electronic Voting Systems
 - Approves 10 vendors listed above
- Counties
 - Pay for and purchase machines
 - Administer elections

- **That Web Address Again**

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Pressure for Reform

- **Shortcomings of the 1990 FEC Standards**
 - Very apparent by mid 1990's
 - No reference to trusted computer system standards
 - Poor regulation of 3rd party components
 - No coverage of key human factors issues

<http://www.cs.uiowa.edu/~jones/voting/congress.html>
- **Proposed new FEC Standards**

<http://www.cs.uiowa.edu/~jones/voting/fec.html>
- **2000 General Election**
 - Florida
 - Iowa margin of 4,144 of 1,315,563 votes (0.3%)
- **Bush vs. Gore in Supreme Court**
 - A serious civil rights issue!
- **Federal Legislation**
 - 54 bills, 15 hearings!
 - HR 1165, Election Voting Systems Act of 2001
 - HR 2275, Voting Technology Standards Act of 2001
 - upcoming Help America Vote Act

Technological Constraints

(nothing is perfect!)

- **Hand Counted Paper Ballots**
 - Unwieldy for general elections
 - Subjective counting was widespread by 1880

- **Lever Machines**
 - Widely used for a century, no longer made
 - No independent record of count
 - Technicians can tinker
 - If it breaks, it'll break at 99 votes

- **Punched Cards**
 - Widely used for decades
 - Major chad problems recognized in 1970's

<http://www.cs.uiowa.edu/~jones/cards/chad.html>

- **Central Count Optical Scan**
 - Widely used for decades
 - Machines cannot interpret nonstandard marks
 - Machines cannot apply a uniform standard
 - Subjective counting problem re-emerges

- **Precinct Count Optical Scan**
 - Available for 2 decades
 - Machines can give voters second chance
 - Subjective hand recounts still a problem

- **Direct Recording Electronic**
 - Available for over a decade
 - No independent record of count
 - We're at the programmer's mercy

<http://www.cs.uiowa.edu/~jones/voting/taubate.html>

Reforms Proposed

- **Mark-Sense Scanner Regulation**
 - Vendors must document "what is a vote"

- **Conduct of Elections**
 - Give voters chance to correct overvotes
 - Hand inspect all overvotes not corrected
 - Routinely hand count 1 race in 1 precinct
 - Canvass includes overvotes and undervote
 - Canvass includes spoiled and challenged ballots

- **Hand Counting Rules**
 - Do not rely on machine model
 - Distinguish between required and acceptable marks
 - Use other marks on same ballot to determine intent

- **Recounts**
 - Allow recount if 1% margin
 - Allow recount if 1% spoiled or challenged ballots
 - Recount on a different machine from first count
 - Hand count all overvotes and undervotes in race
 - Hand count all ballots if 1% spoiled or challenged

- <http://www.cs.uiowa.edu/~jones/cards/optical.html>

