EAGER: Protecting Election Integrity Via Automated Ballot Usability Evaluation



Challenge:

 Protect election integrity by reducing voger errors induced by bad ballot design

Solution:

- Construct ACT-R based computational models of voters completing ballots
- Run Monte Carlo simulations of models to identify bad ballots



Scientific Impact:

- User error is a key component of many security and privacy problems
- Traditional usability testing does not scale well
- Automated usability evaluation may assist in many other error-sensitive contexts, such as medical records

Broader Impact:

- Election integrity is an enormous issue (cf. 2016 election "rigging" claims and recounts)
- Ultimate goal is to build a tool available to all election administrators
- Project is interesting to students; technical approach to social problem

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