A Practical Web-Voting System

Andrea Pasquinucci
UCCI.IT

A Web Voting System

- Threat Scenario:
  - Analysis
  - Requirements
  - Goals
- Usability
- Protocol
- Cryptography
- Implementation
- Demo online at http://eballot.ucci.it/

What Does It Implies?

- Voters can express their vote from anywhere:
  - PC at home
  - PC at work
  - PC at kiosk
  - Smartphone
  - ...

=> DELOCALIZATION

- Easier to participate
- More difficult to control

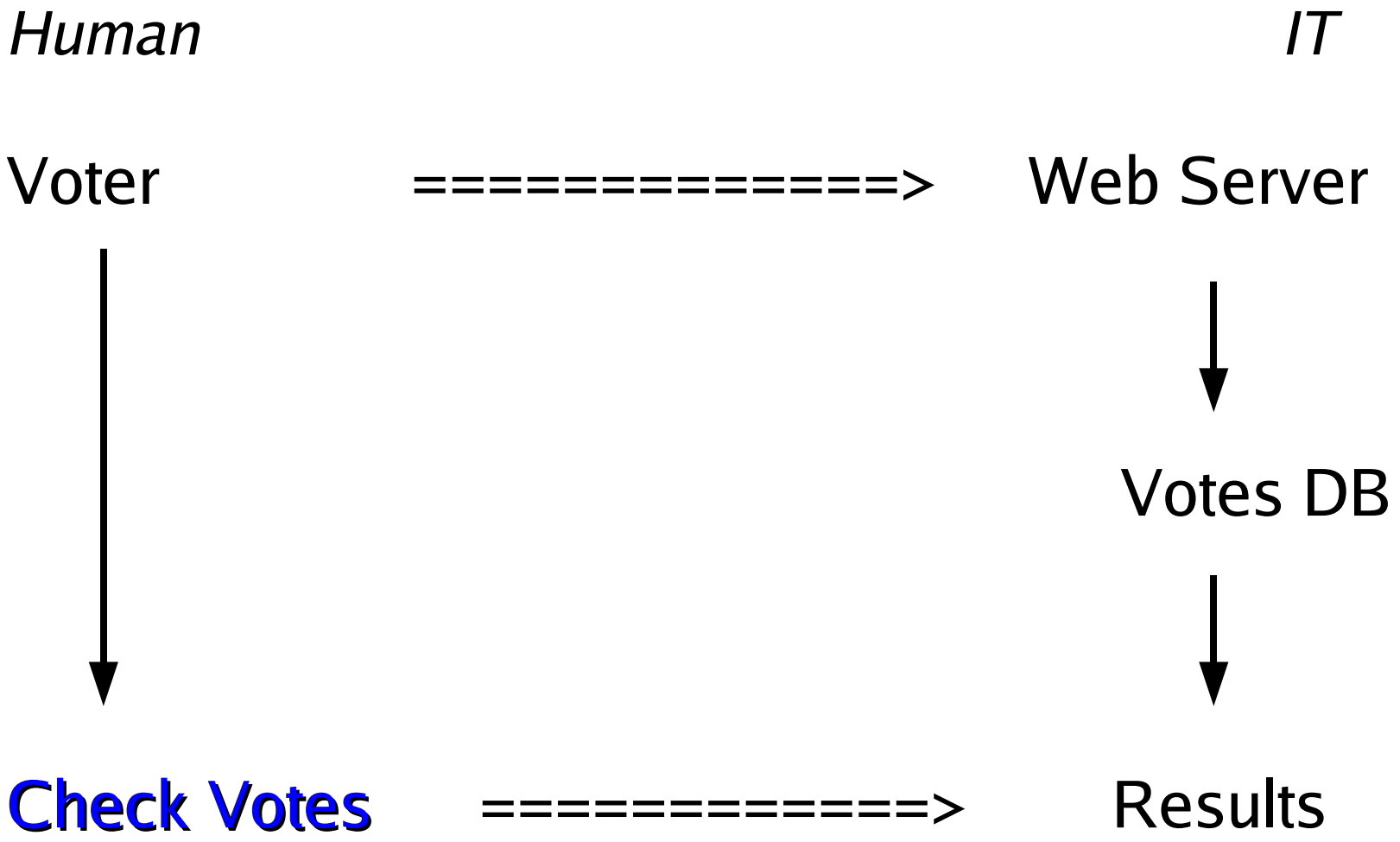
Delocalization Problems

- Common to ALL delocalized voting systems
  - Mail
  - Phone
  - Fax
  - Web
    - **Coercion**
    - **Vote-Selling**
- No valid countermeasures

Trust Problems

- Traditional voting systems have intrinsic human control features
- Web-Voting (and E-Voting) requires Trust in IT by
  - Voters
  - Electoral committee
  - Representatives of the competing parties
- *Nobody really Trusts a computer!*
- Alternative control measures must be in place
- NB: Votes must be *anonymous* and *correctly* counted

Independent Control



Simplest Solution

- Give Voter an Anonymous Vote Receipt
- Publish match Receipt <=> Votes
- Voter can:
  - Check if her own vote is counted correctly
  - Check if sum of votes is correct

- Receipt can make it easier to sell votes, but this is possible and easy anyway !

Thank You

Scientific Articles and Demo on-line at:

http://eballot.ucci.it/

Andrea Pasquinucci

pasquinucci-At-ucci.it www.ucci.it

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