# Programming Trust:

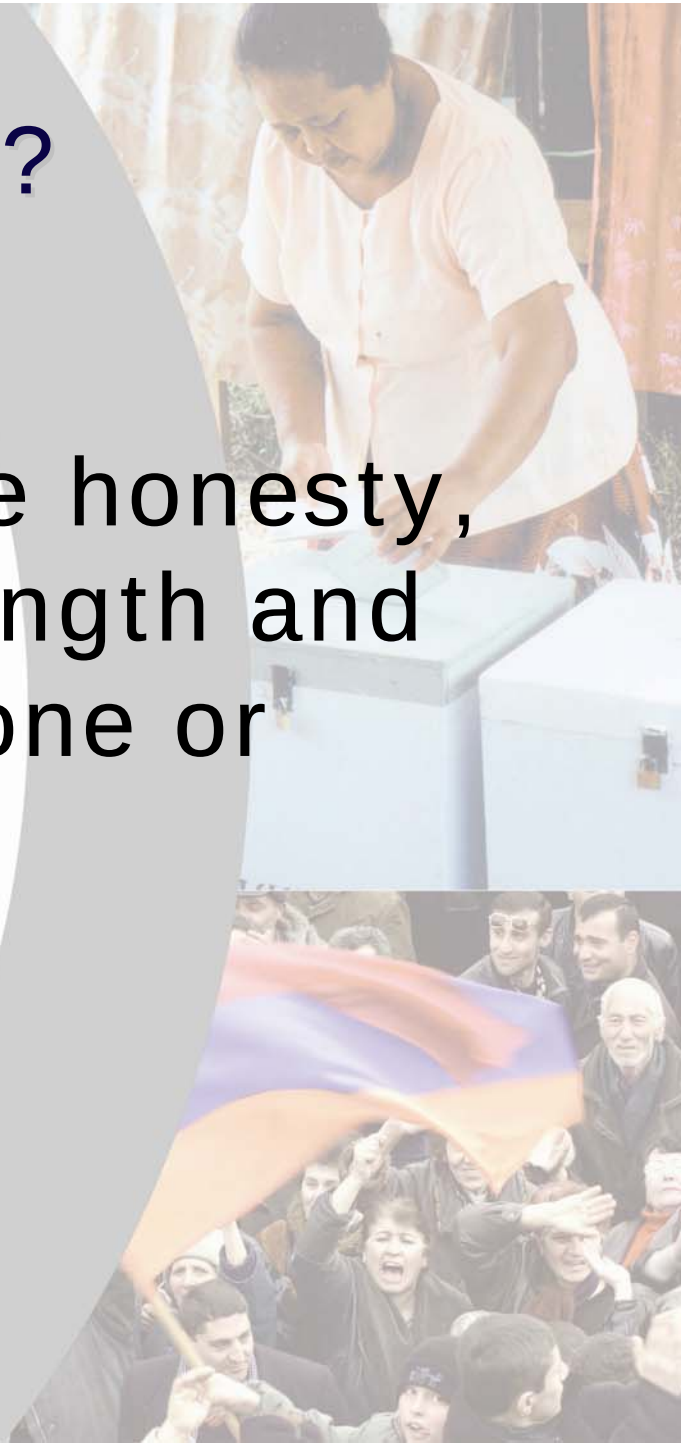
## Election Technology and Voter Confidence

**Presented by: Richard Twigg**

**Date: 28 March 2007**

# What is Trust?

- Firm reliance in the honesty, dependability, strength and character in someone or something.



Trust is culture-dependent and should decrease considerably as cultural diversity and differentiation increases. (Gefen, et.al., 2005)

Trust lets people assume away the possibility of opportunistic behavior by the person or organization they trust. (Lewis & Weigert, 1985)

## Cultural Diversity and Trust in IT Adoption. (Gefen, et.al, 2005)

Compared USA and Republic of South Africa (RSA)

- 11 national languages and distinct cultural characteristics in the RSA
- USA's "melting pot" culture serves to deemphasize ethnic alliances and has generally created a legal environment conducive to minority integration.

Findings

- Trust in the agency administering the e-voting technology process will increase citizens' assessment of the perceived usefulness of the IT supporting it.
- The effect of socio-cultural similarity on trust will be stronger in culturally diverse societies.

# Confidence vs. Trust

- A *reliable* system is one which people can use confidently without worrying about the details.
- A *trustworthy* system is a system where people can assess the risks and still choose to use.

# Confidence vs. Trust

A system acquires confidence if it is *reliable* and it acquires trust if it is *trustworthy.*

When people trust a system, they are conscious of the risks and decide to use it anyway.  Trust is not necessarily broken if something fails.

People put their confidence in a system because they do not see any alternatives and will not accept any failures.

It is harder to acquire trust than to acquire confidence.

*(Pieters, 2006)*

# How to achieve confidence ***and*** trust.

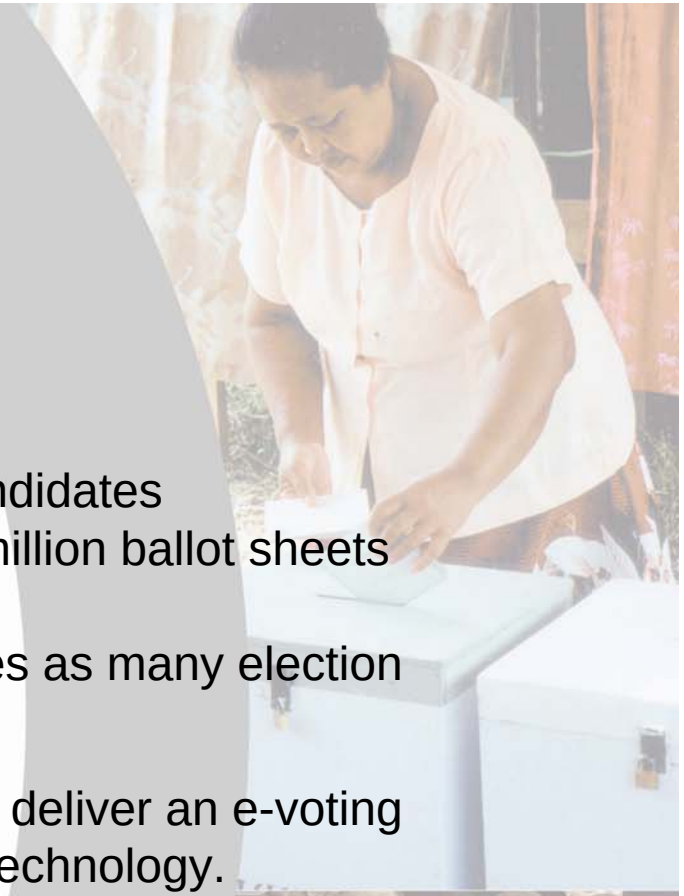
<u>To increase confidence:</u>

•Make the system reliable
•Choose a system your infrastructure will support
•Present e-voting not as an alternative to existing procedures, but automated versions of existing procedures

<u>To increase trust:</u>

•Keep familiarity with existing systems
•Reduce social tension

# Digital Pen Technology



City of Hamburg elections in 2008

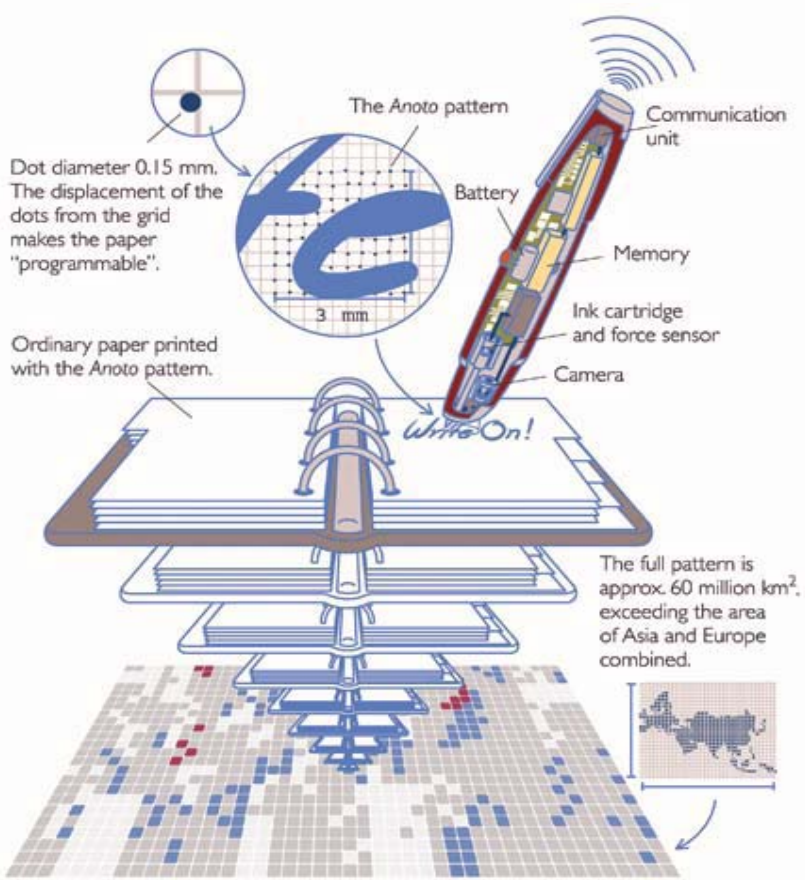
- Voters may choose up to 10 of 1000 candidates
- 25 page ballot books equals about 1.6 million ballot sheets with 8 million votes
- To get results in a day would take 4 times as many election officials costing 6.8 million Euro.

- Anoto won a European Public Tender to deliver an e-voting solution based on digital pen and paper technology.

- Successful pilot in 2005

- 12,000 pens for 2008

# Digital Pen

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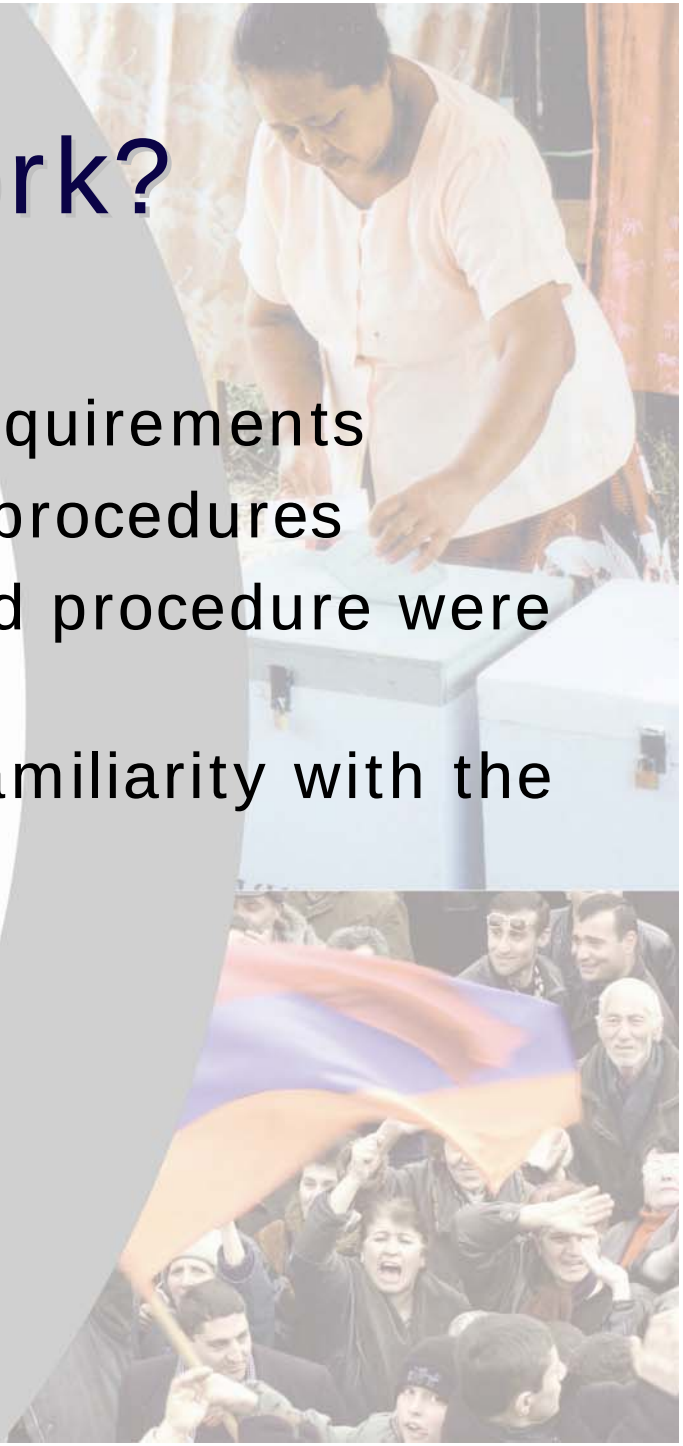
# Why did it work?

- Addressed their specific ballot requirements
- The system automated existing procedures
- Confidence in the technology and procedure were high
- Trust was established through familiarity with the use of a pen



# Netherlands adoption of Electronic Voting Machines

**Concern about secrecy of design was not an issue, Why?**

- Still went to voting station as usual (as opposed to Internet voting)
- Confidence in the government
- Layout similar to paper ballot
- Automation of a known process

*(Pieters, 2006)*

***"Because of their very extensive and positive experience with polling machines, the Dutch are quite used to the application of this technology in the voting process. This makes the jump to Internet voting less fearful for policy-makers." (Kersting, Leenes and Svensson, 2004)**

# Estonia and Internet voting – Why it works for them.

- Tech Savvy - #1 in world of spending on IT compared to GDP
- Just another use of the e-card – healthcare, library card, drivers license, etc.; 5 years experience with card.
- Repeated voting allowed.  Only last vote counts
- Manual re-vote allowed, e-vote revoked

# Estonia Results of 2007 (2005)

- I-voters: 30 275 (9 317)
- I-votes: 31 061(9 681)
- First-time ID-card users: 11 894 (5 774)
- Percentage of i-voters amongst votes collected during absentee voting: 18% (7%)

*Tarvi Martens*

*i-voting project manager*

http://www.vvk.ee/english/tarvi0303.ppt#256,1,Internet Voting in Practice

## E-voting Considerations With Regard To Trust

- **Cultural diversity**
- **Familiarity**
- **Automate existing process**