4. Exercise sheet
Hand in solutions until Sunday, 13 January 2007.

Exercise 4.1 (Become an expert). (3 points)

Adopt an electronic election scheme and become an expert for it!

The following choice from Sampigethaya & Poovendran (2006) may serve as a starting point. Everybody should take care of

- a single article
- presenting a complete election scheme.

We will use your expertise in the course and try to shed more light on the various issues that we only touched so far.

Pick your three favorites. As there is so much literature, we shouldn’t have a collision. Send me unique identifiers for your top three.

We will decide on the experts in the following tutorial.

My suggestion would be that there should be one expert for the Estonian system and one for either the Australian, the Swiss, the Austrian or the American test system. Have a look at the conferences for pointers. Further, at least two or three as different as possible schemes should be covered.
The following articles are evaluated in Sampigethaya & Poovendran (2006):

- Chaum (1981) [http://doi.acm.org/10.1145/358549.358563]
- Chaum (1988a) [http://www.springerlink.com/content/qvlct2w6ludhpq3/]
- Boyd (1990) [http://www.springerlink.com/content/q5bqvlwjdj426lff/]
- Sako and Killian (1995) [http://www.springerlink.com/content/jhf7ccxn2fj2gfu]
- Cohen Benaloh and Yung (1986) [http://doi.acm.org/10.1145/10590.10595]
- Iverson (1992) [http://www.springerlink.com/content/gpb9fflwg3152g/]
- Sako and Killian (1994) [http://www.springerlink.com/content/894fuqn5pma8d4f]
- Cramer et al. (1996) [http://www.springerlink.com/content/879h7g6lere6hhe/]
- Schoenmakers (1999) [http://www.springerlink.com/content/64h702nw7fuy030, http://citeseer.ist.psu.edu/schoenmakers1999simple.html]
- Hirt and Sako (2000) [http://www.springerlink.com/content/vrwq2k6qvbd3341x, http://citeseer.ist.psu.edu/418947.html]
- Baudron et al. (2001) [http://doi.acm.org/10.1145/383962.384044]
- Kiayias and Yung (2002) [http://www.springerlink.com/content/yrbpfvk23bq2et]
- Damgård and Jurik (2001) [http://www.springerlink.com/content/n4xfj9ecyy7et, http://citeseer.ist.psu.edu/383099.html]
- Fujioka et al. (1993) [http://dx.doi.org/10.1007/3-540-57220-1_66]
- Baraani-Dastjerdi et al. (1995) [http://citeseer.ist.psu.edu/baraani-dastjerdi]
Some talks of the conferences Vote-ID 2007, Electronic Voting 2006, Electronic Voting in Europe 2004 also describe election schemes. But have a look yourself:

  [http://www.sirrix.de/content/pages/voteid.program.htm](http://www.sirrix.de/content/pages/voteid.program.htm)

  - E-voting in Estonia 2005. The first practice of country-wide binding Internet voting in the world (Ülle Madise, Tarvi Martens)
  - Swiss E-Voting Pilot Projects: Evaluation, Situation Analysis and How to Proceed (Nadja Braun, Daniel Brändli)
  - Contributions to traditional electronic voting systems in order to reinforce citizen confidence (Ana Gómez, Sergio Sánchez, Emilia Pérez Belleboni)
  - A preliminary question: Is e-voting actually useful for our democratic institutions? What do we need it for? (Jordi Barrat Esteve)
  - How e- voting technology challenges traditional concepts of citizenship: an analysis of French voting rituals (Laurence Monnoyer-Smith)
  - The electoral legislation of the Basque autonomous community regarding electronic vote (Rosa M. Fernández, Esther González, José Manuel Vera)
- E-Voting in Brazil - The Risks to Democracy (José Rodrigues-Filho, Cynthia J. Alexander, Luciano C. Batista)

- Multiple Casts in Online Voting: Analyzing Chances (Melanie Volkamer, Rüdiger Grimm)

- How to create trust in electronic voting over an untrusted platform (Gerhard Skagestein, Are Vegard Haug, Einar Nødtræd, Judith Rossebo)

- A generic re-engineering methodology for the organized redesign of the electoral process to an e-electoral process (Alexandros Xenakis, Ann Macintosh)

- Election Workflow Automation - Canadian Experiences (Goran Obradovic, James Hoover, Nick Ikonomakis John Poulos)

- A Methodology for Auditing e-Voting Processes and Systems used at the Elections for the Portuguese Parliament (Joao Falcao e Cunha, Mario Jorge Leitao, Joao Pascoal Faria, Miguel Pimenta Monteiro, Maria Antonia Caravilla)

- Voting in Uncontrolled Environment and the Secrecy of the Vote (Kare Vollan)

- Coercion-Resistant Electronic Elections with Observer (Jorn Schweisgut)

- Maintaining Democratic Values in e-Voting with eVACS (Carol Boughton)

- Transition to electronic voting and citizen participation (Letizia Caporusso, Carlo Buzzi, Giolo Fele, Pierangelo Peri, Francesca Sartori)

- Security Requirements for Non-political Internet Voting (Rudiger Grimm, Robert Krimmer, Nils Meisner, Kai Reinhard, Melanie Volkamer, Marcel Weinand)

- Online Voting Project . New Developments in the Voting System and Consequently Implemented Improvement in the Representation of Legal Principles (Klaus Diehl, Sonja Weddeling)

- The Voting Challenges in e-Cognocracy (Joan Josep Piles, Jose Luis Salazar, Jose Ruiz, Jose Maria Moreno-Jimenez)

- E-Voting in Slovenia: The view of parliamentary deputies (Tina Juki, Mirko Vintar)

- Towards European Standards on Electronic Voting (Michael Remmert)
- E-Democracy in E-Austria (Christian Rupp)
- The Dimensions of Electronic Voting (Alexander Prosser, Robert Krimmer)
- E-Voting: International Developments and Lessons Learnt (Thomas M. Buchsbaum)
- E-Voting: Switzerland’s Projects and their Legal Framework (Nadja Braun)
- Remote e-Voting and Coercion: a Risk-Assessment Model and Solutions (Bernard van Acker)
- E-Voting and Biometric Systems (Sonja Hof)
- Security as Belief User’s Perceptions on the Security of E-Voting Systems (Anne-Marie Oostveen, Peter van den Besselar)
- Towards Remote E-Voting: Estonian case (Epp Maaten)
- Verifiability and Other Technical Requirements for Online Voting Systems (Niels Meißner, Volker Hartmann, Dieter Richter)
- From Legal Principles to an Internet Voting System (Melanie Volkamer, Dieter Hutter)
- How Security Problems can Compromise Remote Internet Voting Systems (Guido Schryen)
- E-Voting and the Architecture of Virtual Space (Anthoula Maidou, Hariton M. Polatoglou)
- The UK Deployment of the E-Electoral Register (Alexander Xenakis, Ann Macintosh)
- E-Voting in Austria Legal requirements and First Steps (Patricia Heindl)
- Security Assets in E-Voting (Alexander Prosser, Robert Kofler, Robert Krimmer, Martin Karl Unger)

Further sources:

Estonian National Electoral Committee.

http://www.vvk.ee/engindex.html

This list is by far not complete.

References


For slides and videos(!) of the presentations and proceedings PDFs see http://www.e-voting.cc/topics/conference2006

