Adapting Election Technology to Be Voter and Election Official Friendly

Dr. Ljupcho Antovski
Innovation d.o.o.

Content

- Background
- Concept of Usability
- Usability with Results Tabulation Systems
- Usable E-Voting
- Issues with M-Voting
- Social Voting and the Future
- Few Recommendations

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Background

- Cofounder and CEO of **Innovation**
  - ✓ **Innovation iVote™** Elections Platform
- Associate professor at the University of Skopje
  - ✓ Requirements Engineering, **Human-Computer** Interaction, M-Technologies, Management in ICT
- President of the Technical Committee for **ICT** at the Macedonian Standardization Institute
- **Regional experience** in Macedonia, Bosnia and Herzegovina, Kosovo, Albania

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Usability

- **Usability** is the ease of use and learnability of a human-made object [Wikipedia]
- The object of use can be a
  - ✓ **software application**,
  - ✓ **website**, book, tool,
  - ✓ **machine**, process, or
  - ✓ anything a **human interacts** with
- Usability is often overlooked when purchasing election ICT technology

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

What is “User Friendly”?

- You need **many** friends to **help you** use it!
- The reason
  - ✓ICT Engineers fail to elicit the **user needs**
  - ✓Too much focus on technology
  - ✓Election management bodies with fuzzy requirements
  - ✓**Lack of time**
  - ✓**Lack of budget**

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Results Tabulation Systems

The case of **Innovation iVote™** Elections Platform

- ✓ 2006-2011
- ✓ Redesigned all the process to be **user - centric**
- ✓ Employed specialists in **human-computer** interaction
- ✓ We constantly monitor the business process from the beginning to the end (**Look and feel**)
- ✓ New generation of users with different needs
- ✓ Main focus is on **Usability**

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

The Result

- State Election Commission of Macedonia – Early Parliamentary Elections 2011 (June 05)
- Election management improvement
  - ✓ 99% of the data for turnout in the 30' window
  - ✓ Only few calls for customer support
  - ✓ Full results in **25 % less time**
- Citizens
  - ✓ **Live results** streaming
  - ✓ **2.2 million** page views on results site
  - ✓ Visits from **80 countries**
  - ✓ Social Networking (referring **25%**)

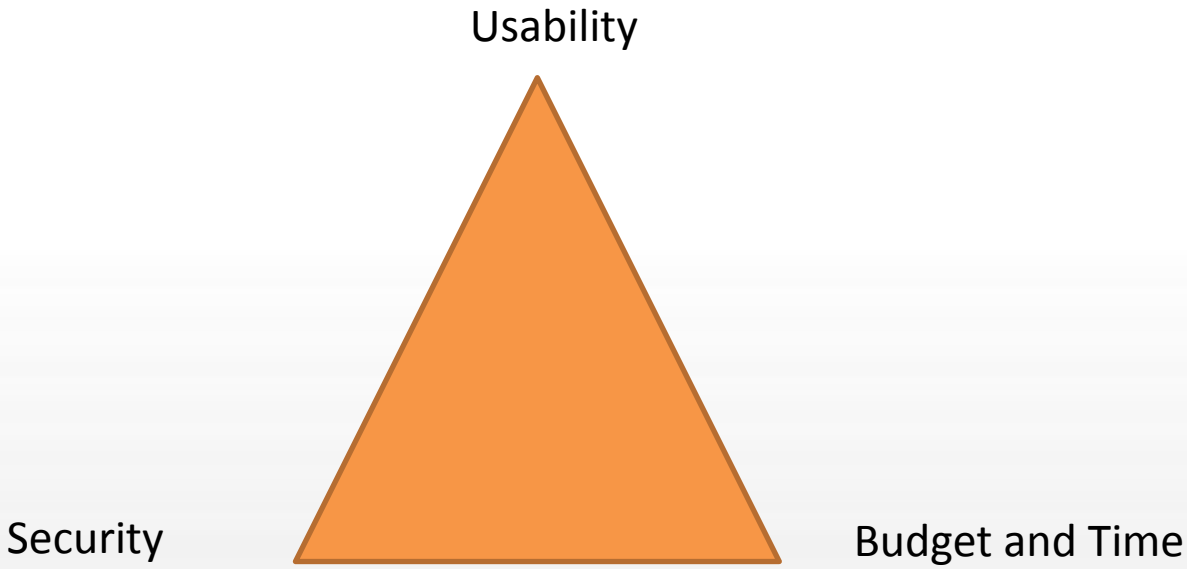
Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Usable E-Voting

- DRE and Internet based e-voting
- Very technical, not user-centered
- Especially confusing for user groups as:
  - ✓ old people
  - ✓ people with low technical experience
  - ✓ people with special needs
- It should be as seamless as the paper based voting process

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

E-Voting Triangle



Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Mobile Voting

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Social Elections

- No paper ballots, no need for complex elections
- Maybe still some e-voting elements
- Seamless, based on Social Networking
- Like Google, Facebook, LinkedIn, Amazon do for advertisements' personalization
  - ✓ Algorithms to evaluate what are your **political preferences**
  - ✓ Select the best candidate based on your profile (includes all the information about you in the **digital** world)

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Ubiquitous Elections

- Non-invasive ubiquitous external sensors reading data from different centers in our brains
- Process the **brain data** for:
  - ✓ political orientation
  - ✓ emotional view on candidates
  - ✓ social requirements and expectations
  - ✓ rational reasoning

- Choose the **closed matching candidate** using fuzzy logic reasoning and neural networks

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Conclusions

- The main concerns of the software developers at the moment are **security issues**
- Designing for **usability**
- Include **human-computer** interaction experts
- **User –centric** process reengineering
- Plan sufficient **time**
- Plan sufficient **budget**
- Build **trust** in the system

Dr. Ljupcho Antovski
ljupco.antovski@innovation.com.mk

Adapting Election Technology to Be Voter and Election Official Friendly

Dr. Ljupcho Antovski
Innovation d.o.o.