What Are the Future Possibilities of eDemocracy? A Discussion Paper

Ovid Pacific Boyd

Electronic Government Master's Program, Örebro University, Sweden
ovid@metamorphica.net

Abstract. This paper presents some future possibilities for eDemocracy tools and considers how these new technologies might conflict with our basic assumptions about what democracy should be. I hope this paper will contribute to discussion of under what situations different forms of eDemocracy are appropriate. The possibilities and repercussions of user profiling, voting outside of polling booths, longer decision-making periods, changeable election results and weighted voted are considered. Although none are necessarily advisable, this paper suggests they might be interesting to consider.

Keywords: eDemocracy, e-participation, voting systems, user profiling.

1 Introduction — Definitions of Democracy and eDemocracy

Within this paper I use eDemocracy to refer to the use of information and communication technology tools to support democracy.

For this paper, I use Amartya Sen's definition of democracy when he says democracy is not only the need for "voting and respect for election results, but it also requires the protection of liberties and freedoms, respect for legal entitlements, and the guaranteeing of free discussion and uncensored distribution of news and fair comment" [1]. It is ideal that everyone has equal ability to access information, plan actions and be heard because democracy "can be deeply defective if [it occurs] without the different sides getting an adequate opportunity to present their respective cases, or without … the freedom to obtain news and consider the views of competing protagonists" [1].

While this ideal is difficult or impossible to achieve, information and communication technologies may enable more democratic systems today than possible in the past. "More than 70% of the people in the world now live under conditions which are to a greater or lesser extent 'democratic.' This significant progress has created the foundation for the next major step: the democratization of democracy" [2]. Majorities of people in many democratic countries are positive to more citizen participation in politics [3]. Thus, this paper encourages you to creatively consider how technologies might be useful, or not useful, for deeper democracy.

It is important to note that the definition of democracy used in this paper is not limited governments. All sorts of organizations may find participatory and democratic

M.A. Wimmer, H.J. Scholl, and A. Grönlund (Eds.): EGOV 2007, LNCS 4656, pp. 401–411, 2007.

systems for decision-making useful in some circumstances. Please keep in mind that none of the ideas in this paper are necessarily suggestions for government elections, but just ideas for potentially democratic decision-making systems.

1.1 New eDemocracy Possibilities

The possibilities of eDemocracy are highly hindered by the lack of secure information technology. This problem is insurmountable for the near future and prevents any sort of internet system from being reliable and safe enough for voting [4].

Even without security issues, there is another important hindrance to eDemocracy—current constitutional and legal requirements. This means "an electronic voting … system should respect and ensure … General, Free, Equal, Secret, Direct and Democratic" standards in governmental elections [5].

However, in this paper I will imagine that neither legal nor technical hindrances apply to eDemocracy. In particular, I will consider if under some circumstances making democracy less free (from interference), less equal, less secret, less directly immediate and timely could also be democratic by improving "public discussion and exchange of information, views, and analyses" [1].

What is the use of considering a clearly hypothetical situation that ignores real technical and legal issues? For one, technical security problems may be solved (eventually) and in certain situations may be less important or more manageable[1]. Legal voting requirements are potentially changeable, but more importantly they only apply to government elections. If we consider eDemocracy systems as systems not just used by governments during elections, but potentially used by other organizations[2] as well, then we have reason even today to consider different forms and under what circumstances and organizations different ones may be appropriate.

Table 1. Should we change our requirements for democracy?

E-voting requirements [5]	**Possible alternatives**
free (from interference) → deliberated and informed	
equal → weighted	
secret → recorded	
direct and immediate → delayed	
direct and timely → changeable	

2 Secret or Recorded? – Too Many Decisions

Ideally, in a democratic society everyone should be able to participate in all decision-making. Unfortunately, it is obviously impossible for everyone to participate in all things. We will never have time in our lives to be involved in everything, but we should have the ability to participate in everything that matters to us. If something

[1] For instance, PCs in a corporate intranet that are only allowed to install certain software.

[2] For instance, as participation or decision-making systems potentially used by businesses, NGOs or even internally within government.

matters to us, we have important perspectives on what decisions should be made. But how can we manage all the things we might like to participate in?

It might be possible for anyone to participate in anything that concerns them with user profiling. User profiling can help you focus on what you care about, are involved in and are an expert at. This opens up a whole new level of democracy. It would not matter if there were a million decisions to be made every day, as long as the one you care about has your attention. This could enable a substantially different society than democratic ones today where citizens often only participate in decisions once every few years and generally only to decide who will be making the real decisions.

2.1 Definition of User Profiling

"A user profile is a (structured) data record, containing user-related information including identifiers, characteristics, abilities, needs and interests, preferences, traits and previous behavior in contexts that are relevant to predicting and influencing future behavior" [6]. In other words, a user profile is some information about you. It could be rather basic, like your name and age, or incredibly detailed, like a list of every item you've ever bought at the supermarket.

User profiles are used in many ways. A mundane use would be a small file stored on your computer that remembers your email login name and password. However, they can also be used in much more advanced ways. In "a retail organization, for example, user profiling would be a means to improve customer relationships, consequently sell more products and ultimately make more profit. For public organizations whose task is to enforce the law, user profiling is a means to increase citizens' compliance to the law. Differences in the nature of organizations determine largely how user profiling might be used in various kinds of organizations" 6. Information about what people have done, tells you much about what they will do. Businesses mostly use this information to sell you things while governments use this information to control dangerous citizens. "It gives those organizations offering electronic services the possibility to gain insight into the behavior of individual users and influence them at the same time" [6].

Being monitored, analyzed and influenced makes people uncomfortable. A study in Australia found 91% want to be asked permission before companies use data for marketing, 89% want to know which persons and organizations have access to their data and 92% want to know how their data is used [6]. People are uncomfortable with the use of user profiling—this is why we have privacy laws to try to limit the scope of user profiling. "Like the private sector, the public sector makes more and more use of user profiling to personalize the electronic services that are being offered to citizens. User profiling offers great opportunities to make communication more effective and efficient, to infer and predict citizens' behavior and to even influence behavior" [6]. As government use of user profiling grows, people will also grow more wary of government use.

2.2 Democratic Potential of User Profiling

Given the points made above, you may be wondering why I am claiming that user profiling has great potential for democracy. The ability of large (and powerful)

organizations to predict and influence the behavior of citizens is potentially very dangerous for democracy because of reductions in privacy and secrecy. However, might there be any democratic potential in user profiling?

Technology is only the enabler; we, as members of society, determine the way the technology is used. User profiling can be used to democratize society. In fact, it would be key to living in a radically democratized society where citizens make many decisions. Firstly, democratic user profiling would put the citizen in control of it. They would use it to "influence" themselves. In a radically democratic society, with many decisions to make, user profiling could allow you to find what you care about. Whether it is as simple as saving the fact that you are interested in "coal power;" or a much more advanced system where the computer helps match you to everything you might be interested in by comparing your voting, online and offline behaviors with others and then highlighting current proposals which are likely to be of interest to you, user profiling could make a deep democracy much more efficient and possible by bringing issues of concern to your attention so that you can participate in them.

In a democratic system, you would need to be in charge of your user profile to maintain an acceptable level of privacy. One study finds that "users expressed their strong desire to have full and explicit control of personal data and interaction. They want to be able to view and edit (update and maintain) their personal information at any time" [6]. People want to be and should be in control of access to, use of and management of their user profiles if it is to be used democratically. However, even if citizens are able to use and control user profiles for increased participation opportunities, there will still be reductions in secrecy and privacy.

Unfortunately, police and business user profiling usage is growing rapidly today—democratic uses are not. The danger is it will be used to entrench the power of the powerful. For instance, "after September 11, 2001, the American government was able to adopt the Patriot Act in only a few months. This led to highly advanced uses of data mining and user profiling of potential suspects of terrorism" [6]. This isn't only an American phenomenon, "at present, all kinds of official citizen and business registrations are being standardized and linked in networks" [6]. When information about people is gathered and used by a few, democracy may become more problematic—but the key is how we decide to use it.

3 Free from Interference or Deliberated and Discussed?

Even if we retain the basic representative form of democracy, if voting starts to go on the internet elections will become less free from interference. Today, most people go, one by one, into private polling booths to make their electoral decisions. The intention is that, no one will be able to interfere with their political decisions if they make them personally and alone.

This has been of great importance to democracy, because people may threaten others into selecting certain leaders or parties. Especially if the elections are not secret, powerful people could punish those who did not vote for him or the way he wanted (or, more unusually, she wanted). Thus, it is vitally important that electoral decisions be personal, free from interference and secret if we are to prevent powerful people from limiting other's political power.

But, is this necessarily ideal? The more politics is private and personal the more discussion and deliberation are limited. Many people argue that deliberation is of central importance to an effective democracy [7]. However, in much of the world the danger of political corruption is acute, and even in places where citizens have their rights and freedoms protected, as long as there are powerful individuals, the risk of repercussions are real—so the value of freedom from interference may outweigh the value of mutual deliberation.

Still, I want to suggest that depending on the kind of institution, and the social conditions surrounding the institution, deliberation and consensus may be more important than secrecy, personal decision-making and freedom from interference. In places outside government, like a workplace where you need to be held accountable for your decisions, secrecy may not be desirable.[3] When making particularly volatile decisions (shall we promote religious law?), that are likely to invoke strong emotions, secrecy may be more important. For less volatile things, (should we build a new park?), deliberation may be more useful. In areas where democracy and human rights are still tentative, secrecy may be key.

3.1 Example from All Postal Elections

Many have voiced concern that both internet and postal elections face the same problem of keeping elections personal and free from interference [8]. In both cases, people do not vote in private booths, but instead vote in more public areas like homes, at work, or in community areas. Therefore, postal voting is "allowed only in some countries and also there only in exceptional cases" [8]. There is currently only one polity that requires all elections be done by mail—Oregon[4].

Because voting is done over a period of several weeks, both electronic and postal voting increase the time one has to decide how to vote. People may use that time to discuss their ballots because they have time to consider them and may seek advice or share their opinions. In Oregon, everyone has information to base their discussions on in the voter pamphlet[5] with contributed pro and against arguments that is sent to everyone. This allows voters to determine who is supporting or against a measure and why. Good information may lead to more discussion and better decision-making. In Oregon, some people and political groups have voting meetings where people discuss and decide how to vote on the measures.[6] Because campaigns have changed into something that must keep active and maintain momentum during the entire voting

[3] Even within governments decisions are not secret when people are to be held accountable for their decisions—for example, in most parliamentary votes.

[4] Some Australian states do all-postal voting only for local elections and a number of places have done all-postal elections as experiments[9]. Oregon's northern neighbor, Washington, is converting to all-postal voting on a county-by-county basis.

[5] It is usually more of a book than a pamphlet. It contains each measure's title, full text, a summary, an explanatory statement, estimation of financial impact, as well as arguments in favor and opposition that can be provided by any citizen or group.

[6] There is a lack of study of how the introduction of all postal voting affects the kind of deliberation people do before an election. This is probably due to the difficulty in measuring something as qualitative as deliberation, but would be very interesting to investigate for those curious how internet voting might affect deliberation.

period [9], people may encourage each other to vote and become politically involved.[7] Because of the active use of the initiative process in Oregon, there are more decisions to make [10]. More decisions require more time to consider. "Think about what it would have been like in a polling place if you had to wait in line while every voter had to work through 26 measures" (in addition to local city and county measures as well as voting for representatives) [11].

"Opponents have charged that the system is susceptible to fraud and that some voters may be coerced to vote a certain way. Despite allegations, no widespread voter fraud has been proven" [9]. The system in Oregon has been designed to be secure (primarily by requiring that the signature on every ballot be verified) and has functioned very safely [12]. So, there is nothing inherently insecure about postal voting, though jurisdictions that fail to design a secure system will face serious problems, an example being Great Britain [13].

More unsolvable, is the potential for coercion. Any election not held within the controlled environment of a polling place, such as postal, internet or ATM-style voting could mean someone is coerced to vote in a certain way. For example, one can imagine a family patriarch dictating how the household will vote. This potential for coercion is the negative side to more public politics—each institution and society will have to weigh this risk against the benefit of increased discussion. At least in Oregon, this danger has not become a major issue. In fact, a study of support for postal voting finds the greatest approval of the practice among groups presumably most likely to be at risk for coercion, such as women, homemakers, the disabled, retirees, the less educated, the youngest and the oldest citizens [14].

4 Direct and Immediate or Delayed?

If we imagine how democracy might work with e-tools, we might also wonder if elections need to be immediate and final. Today, with traditional paper ballot technology, a result must be announced and determined all at once. I have thus far suggested that there may be deliberative benefits to extending a voting period, such as with postal elections, but technology could make the voting process less immediate in another way.

In some circumstances, it might be useful to continually update voting results as they come in. Traditionally, this has caused problems. For example in the U.S., polling immediately after voting, and the fact that the western states are three hours earlier than the eastern states due to time zones, has lead some to worry that people may be voting in response to information about how the election is going. They may only go out and vote if they worry their candidate or measure is going to lose. This is an issue because it favors certain geographic areas that can get this information.

However, if everyone has this information, it is not so unfair. It can also help increase the efficiency and ease of the democratic process. For instance, if a measure is winning by 90% to 10%, there may be little reason to spend time voting on it. Also, this could allow a more active and responsive democracy, by encouraging citizens to

[7] In fact, the information on who has and has not voted yet is updated each day and publicly available. Political groups use the information to contact and encourage people who have not yet voted to send in their ballots.

alert and communicate their political thoughts to each other on issues that may fail unless public support is attained. So, there might be some benefits to allow elections to last over a period such as weeks.

5 Direct and Timely or Changeable?

Have you ever made a mistake in an election, or voted for someone or something that you later learn more about and no longer approve of? In today's system, election results must be finalized. A re-vote is a huge (and expensive) undertaking, and requires everyone to vote again because votes are anonymous. It is only acceptable under extreme situations. But, if you have learned more and are better informed about an issue after voting on it, wouldn't it be ideal if the decision could reflect this new knowledge?

Electronic voting systems won't always need to make decisions as final as the current paper system. It might be possible to later change your mind about an issue, policy or representative and thus change your vote on it. This is another possibility technology could open up for democracy. While possibly inappropriate for democracy in certain organizations, those that need to respond and change rapidly (like businesses) might find a more responsive and flexible decision-making system useful.

6 Equal or Weighted Voting?

The claim: One citizen, one vote may not always be the most democratic system.

6.1 Current Exceptions to Equal Voting

While one citizen/one vote is likely the dominant paradigm of democracy, there are already many areas where we do not use it. An example might be, during shareholder meetings where voting weight is determined by the number of shares you own. The idea is that those who are more affected by the decision should be given more decision-making weight.

You also sometimes see this in government as well. Some governments require certain percentages or numbers of minority groups in their legislatures. For example, New Zealand reserves some legislative seats for the native Māori people and about 100 countries have or are considering some form of quotas for female legislators [15]. The intent is to protect the rights disempowered people.

There is a danger that a government will only respond to the needs of a dominant group. This danger has been a continuous problem throughout history. It is worth noting that authoritarian governments have a long history of repression of minorities, and representative democracies do as well. However, governments that are democratic are much better than more authoritarian ones at respecting their minorities [16], but this will continue to be a danger in future democracies as well.

6.2 Unequal Voting May Be 'Fair'

There may be ways of lessening this danger with technology. Consider these three statements:

1. Decision-making authority should be based on a relative level of involvement in the decision.
2. Decision-making should be based on a relative level of effect from the decision.
3. Decision-making should take into account a relative amount of experience with and expertise on the topic.

If you view democracy as more than just the ability to determine what a majority wants, but as something that should respond to everyone's needs and respect everyone's rights equally, then these statements may be compatible with democracy in at least some situations.

Today, when democratic decision-making does not follow the one person/one vote paradigm it is often in informal contexts that do not involve a vote. It is less common for votes to be formally weighted differently. Part of the reason for this is, historically, there would have been no fair way to do this. A stockholder's meeting is an interesting exception; at the meeting, it is exactly clear how heavily each investor is (financially) involved in the organization. So this information is used to ensure that those who are more heavily involved have a stronger vote. This might work for a business whose sole purpose is to earn its shareholders money, but how can we determine a fair way to weight votes for other decisions?

6.3 User Profiling and Unequal Voting

Earlier, I argued that user profiling has great potential to make democracy possible on a deeper level by ensuring that the decisions and issues we care about are easily accessible to us. User profiling has another interesting potential use for democracy—we could use it to make sure that democracy fairly accounts for your involvement in the issue, effects from it, and expertise with it.

User profiling could be used to determine individuals' voting power on an issue. This is a bit odd, scary and probably ill advised—but the purpose of this paper is to discuss some alternative eDemocracy possibilities so let's consider how it might work.

A user profiling system might analyze which things you vote on and see who else also votes on them. If it sees many of this same group voting again on another issue, it would assume that you were part of a group that was involved, affected and experienced with it and then more heavily weight your vote on that issue. It might also take into consideration other participation such as writing, commenting, reading, etc. It would have to marginally decrease your vote weight on all other issues to remain fair. Presumably, there would be limits to how much your vote weighting you could gain or lose—your vote would have to still matter even when voting on something you are less experienced with or passionate about.

6.4 Hypothetical Example of Unequal Voting

For example, let's say I live on Blue Street. The other Blue Street residents and I often vote on things that affect Blue Street, such as repaving the sidewalks or building a school on it. So the system's algorithms have tagged us as a group. When the system sees most of this group participating on something, it assumes it is a proposal

which strongly affects this group (it's probably something happening on Blue Street) and so gives this group, the Blue Street residents, a little more authority on the issue.

Let's say a planning proposal comes up. Some people want to build a nuclear dump, and there is a proposal to build it on Blue Street. Everyone who lives on Blue Street votes no on the proposal because it will affect them so strongly. The system sees that this must be an issue affecting, involving or using the expertise of these Blue Street people, and so it gives them higher voting weight. Let's say two votes a person. Unfortunately, some of the people who live on Yellow, Purple, Green, Brown and Red streets vote yes on this proposal because it sounds harmless to them. It didn't result in a large number of any group of these people voting on the issue because no group of them was highly motivated by it, so the system assumes they are relatively disinterested voters, and maybe they only get .5 votes each. Imagine 25% of the votes were Blue Street people voting no, and 75% were random other people voting yes. In a typical democracy, all the Blue Street people would then die of nuclear radiation. However, given this weighted voting system, the Blue Street voters would have won with 50% to 37.5% weighted voting points.

7 Concluding Discussion

> *"Our future society will to a great extent be based on functions of IT. This society is not 'coming'. We are building it. Democracy is not 'happening'. If we want democratic procedures to be an integrated part of our society, we must design them"[17].*

These proposals are intended to stimulate discussion. It would be highly inappropriate and generally illegal for a government system to implement any eDemocracy that weights votes differently, removes anonymity from votes so that they could be later changed by the voter, extends voting periods, does away with private polling booths or creates user profiles to connect citizens with policy decisions they are interested in—at least until these ideas were experimented with and the repercussions and appropriateness of different systems were agreed upon.

However, these or other forms of democratic decision-making may be of interest to other types of organizations today. For example, weighted voting systems might be able to ensure that those with experience or expertise with a given issue had a stronger voice in the decision. For example, in a business, you would want your advertising department to be mostly in charge of the publicity campaigns for your products. The decision-making system would put together that these advertisers are participating in many decisions related to advertising, so would weight highly their input when they are participating as a group on an issue. While some other people might also have some input on various decisions, they would be relatively lightly weighted—unless it was an issue that motivated another section of the business to also participate in mass. They would then also have higher weights on that business decision. The organization could ensure various specialists were key decision-makers in their fields of expertise while allowing anyone with useful feedback to participate in the decision, so there would be wider use of the organization's knowledge at the same time. This could be both an appealing and democratic way of managing institutions.

I hope this paper has encouraged you to consider some possible democratic uses of technology and imagine even more yourself. Some of these possibilities may be inappropriate for democracy in certain situations, but we can't even begin to determine what forms of eDemocracy are appropriate until we consider what things technology makes possible. Especially if we open ourselves to the possibility for democracy within a variety of institutions, such as governments, businesses or non-governmental organizations, we may open ourselves to even more creative ways to deepen participation within our societies.

References[8]

1. Sen, A.K.: Democracy as a Universal Value. Journal of Democracy 10(3), 3–17 (1999)
2. Guidebook to Direct Democracy. In: Kaufmann, B., et al. Switzerland and Beyond. 2005 edn. Bern: The Initiative and Referendum Institute Europe (2005)
3. Todd, D., Karp, J.A.: Popular Support for Direct Democracy. Party Politics 12(5), 671–688 (2006)
4. Federal Voting Assistance Program's Security Peer Review Group. U.S. Department of Defense. A Security Analysis of the Secure Electronic Registration and Voting Experiment (SERVE). By D. Jefferson, D., Rubin, A.D., et al. (eds.) SERVE Security Report. January 20, 2004 (May 30, 2007), http://servesecurityreport.org/
5. Kosmopoulos, A.: Aspects of Regulatory and Legal Implications on e-Voting. Conceptual Modeling for Advanced Application Domains. In: Atzeni, P., Chu, W., Lu, H., Zhou, S., Ling, T.-W. (eds.) ER 2004. LNCS, vol. 3288, pp. 589–600. Springer, Heidelberg (2004)
6. Pieterson, W., et al.: The Opportunities and Barriers of User Profiling in the Public Sector. In: Wimmer, M.A., Traunmüller, R., Grönlund, Å., Andersen, K.V. (eds.) EGOV 2005. LNCS, vol. 3591, pp. 269–280. Springer, Heidelberg (2005)
7. Laird, F.N: Participatory Analysis, Democracy, and Technological Decision Making. Science, Technology, and Human Values 18(3), 341–361 (1993)
8. Heindl, P., et al.: Constitutional and Technical Requirements for Democracy over the Internet: E-Democracy. In: Traunmüller, R. (ed.) EGOV 2003. LNCS, vol. 2739, pp. 417–420. Springer, Heidelberg (2003)
9. Qvortrup, M.: First past the Postman: Voting by Mail in Comparative Perspective. The Political Quarterly 76(3), 414–419 (2005)
10. Tolbert, C., et al.: The Effects of Ballot Initiatives on Voter Turnout in the American States. American Politics Research 29(6), 625–648 (2001)
11. United States: Stamp of approval? Postal balloting. The Economist [London] 378(8469), 46 (2006)
12. United States: Commission on Federal Election Reform. Ballot Integrity and Voting by Mail: The Oregon Experience. By Paul Gronke. Comp. Robert Pastor. June 15, 2005 Oregon Secretary of State Executive Division (February 14, 2007), http://www.sos.state.or.us/executive/CarterBaker.pdf
13. Randall (ed.): Careless with Our Democracy: Group Think and Voting Reform. The Political Quarterly 76(3), 410 (2005)
14. Southwell, P.L.: Five Years Later: A Re-Assessment of Oregon's Vote by Mail Electoral Process. PS: Political Science and Politics 37(1), 89–93 (2004)

[8] Minor spelling and grammar corrections were made to some quotes.

15. Global Database of Quotas for Women: May 14, 2007 International Institute for Democracy and Electoral Assistance and Stockholm University (May 27, 2007), http://www.quotaproject.org
16. Harff, B.: No Lessons Learned from the Holocaust? Assessing Risks of Genocide and Political Mass Murder since 1955. American Political Science Review 97(1), 57–73 (2003)
17. Olsson, A.: Electronic Democracy and Power. In: Traunmüller, R. (ed.) EGOV 2004. LNCS, vol. 3183, pp. 7–14. Springer, Heidelberg (2004)