

KONCEPT E-DEMOKRATIJE - OSNOVA I/ILI POBOLJŠANJE DIGITALNOG UREĐENJA DRUŠTVA

E-DEMOCRACY CONCEPT – BASIS AND/OR ENHANCEMENT OF DIGITAL ORGANIZATION OF SOCIETY

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Pregledni članak

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Review paper

REZIME

U ovom preglednom radu će se dati prikaz više elemenata elektronske demokratije (na dalje, e-elementi) i opisati njihovo mesto i uloga u okviru koncepta e-demokratije. Pored e-elementa opisaće se i dva pojma gde se intenzivno koriste svi tipovi mobilnih uređaja.

Ključne riječi: e-demokratija, m-demokratija, e-vlada, m-vlada, e-glasanje, e-participacija.

ABSTRACT

In this review paper we will give presentation of several elements of electronic democracy (onwards e-elements) and describe their place and roles within the concept of e-democracy. In addition to e-elements we will describe two terms wherein are used all types of mobile devices extensively.

Keywords: e-democracy, m-democracy, e-government, m-government, e-voting, e-participation.

UVOD

Savremene IKT (informaciono-komunikacione tehnologije) su toliko prisutne u ljudskom društvu da se opisuju pojmom *ubicomp*, što je prikladna skraćenica od ubiquitous computing (lat. *ubique* – bilo gde, posvuda). Ubikvotno ili sveprisutno računarstvo predstavlja “pristup računarskim resursima bilo gdje i bilo kada”. Pretpostavka sveprisutnosti je minijaturizacija računarskih uređaja koji će se prilagođavati okruženju i biti svesni okolne situacije. Generički računarski uređaji će biti robustni, jeftini i brojni, stacionarnog i mobilnog tipa. Korisnički interfejs će biti usmeren na čoveka, te tako uređaji mogu biti i nosećeg tipa. Sveprisutno računarstvo će fizički prožimati okolinu čoveka, a društvo će prožimati radi bolje interakcije među ljudima i nezavisnim objektima.

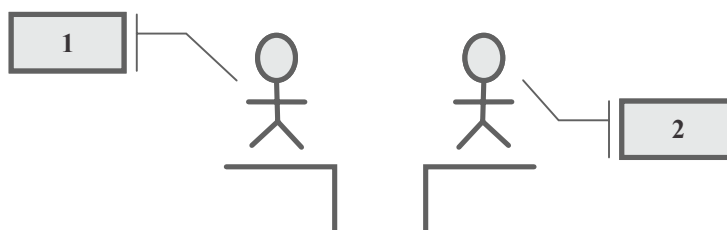
Iako tehničko-tehnološki napredak ide nezadrživo u ovom smeru, stanje nije svugde isto, jer postoji digitalna podeljenost u sve-

INTRODUCTION

Modern ICT (information and communication technologies) are significantly present in human society so they describe with the concept of *ubicomp*, which is a handy abbreviation of ubiquitous computing (latin *ubique* - anywhere, all over the place). Ubiquitous computing represents “access to computing resources anywhere and at anytime”. A prerequisite for the ubiquity is miniaturization of computer devices that will adapt to the environment and will be aware of surrounding situation. Generic computing devices will be robust, cheap and numerous, along with stationary and mobile type. The user interface will be focused on human, and so devices can be wearable. Ubiquitous computing will pervade physical environment of human, thus society will be pervaded for better interaction among humans and independent facilities.

Although technological progress rapidly going in this direction, the situation is not the same everywhere, because there is a digital divide.

tu. Digitalni jaz predstavlja stepen razlike po upotrebi IKT, na ličnom, grupnom, unutardržavnom i međudržavnom nivou. Na slici 1. sa leve strane su oni koji imaju pristup novim digitalnim tehnologijama, sa desne strane su oni bez pristupa a između je grafički predstavljen digitalni jaz.



Shema 1. Digitalni jaz

Digitalni jaz je uslovljen ekonomskim i društvenim stanjem razvoja u IKT oblasti, što je, s druge strane, posledica nastanka i difuzije inovacija u društvu. U dostupnoj literaturi se navodi da pri razmatranju digitalnog jaza treba odgovoriti na četiri pitanja: ko učestvuje (jaz između individua, država itd.), koja vrsta obeležja se prati (socio-demografska obeležja su najčešća, poput starosne dobi, onda su tu u pitanju ekonomska obeležja, poput visine dohotka itd.), način i vrsta konekcije na svetsku mrežu i, na kraju, sa kojim računarskim uređajem se uspostavlja konekcija. Na slici 1. se vidi globalna digitalna podeljenost prema kriterijumu postotka korisnika interneta za 2012. godinu po izveštaju ITU (International Telecommunications Union) organizacije, što treba svakako imati na umu kada se postavljaju zahtevi pred sisteme za e-glasanje u pojedinim zemljama.

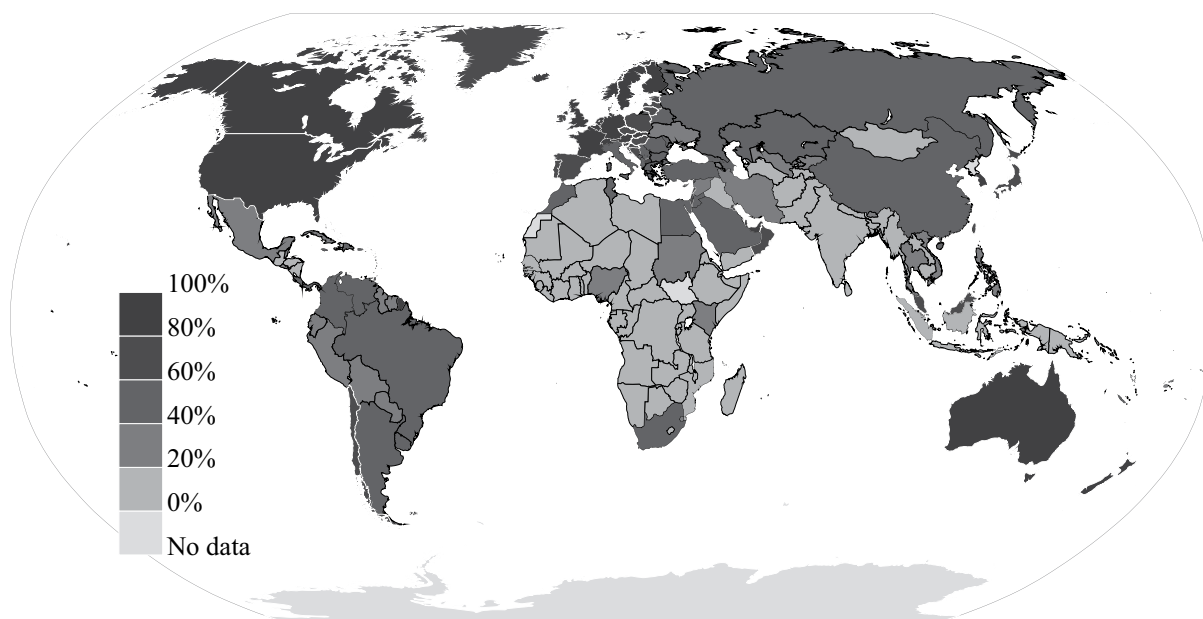
Dominantan način pristupa računarskim i informacionim resursima na svetskoj mreži je opisan kao Web 2.0. On se uvek upoređuje sa (uslovno govoreći) prvom verzijom Web-a, koja se sastojala od statičnih HTML stranica pojedinaca i organizacija (tzv. prezentacija). Web 2.0 donosi dinamički kreirane stranice, po zahtevu korisnika, sa podacima dobavljenim iz baza podataka.

The digital divide reflected in degree of ICT usage in personal, group, intrastate and interstate level. In Figure 1. on the left side are those who have access to new digital technologies, while on right are those without digital access, and between them is graphically represented the digital divide.

Scheme 1. Digital divide

The digital divide is determined by economic and social situation of development in the ICT field, which is, on the other hand, result of the creation and diffusion of innovation in society. When considering the digital divide available literature states that should answer four questions: who participates (the gap between individuals, states, etc.), which attribute types to monitor (socio-demographic characteristics are most common, such as age, then economic characteristics such as income level, etc.), method and type of connection to Internet, and finally, with which computing device is established a connection. Picture 1 shows the global digital divide according by criteria of the percentage of internet users in year 2012, reported by the ITU (International Telecommunications Union) organization, it should certainly keep in mind when setting requirements prior e-voting systems in certain countries.

The dominant way of access to computing and information resources on the global network is described as Web 2.0. It always compares with (conditionally) the first version of the Web, which consisted of static HTML pages of individuals and organizations (i.e. presentation). Web 2.0 will dynamically create pages to customer, with information supplied from the database.



Slika 1. Digitalna podjeljenost prema postotku korisnika Interneta u 2012. godini (Wikipedia, 2013)

Picture 1. Digital divide according to the percentage of Internet users in 2012 (Wikipedia, 2013)

Stranice su personalizovane, mogu se praviti i popunjavati bez mnogo tehničkog umeća koje je ranije bilo neophodno, za šta se koriste CMS (Content Management System) aplikacije. Podaci na stranicama su deljeni svima ili određenim grupama korisnika, što oni koriste za međusobnu interakciju i kolaborativni rad. Web 2.0 ne koristi neku novu, posebnu ili revolucionarnu tehnologiju, već se radi o evolutivnoj (kumulativnoj i kvalitativnoj) promeni načina korišćenja postojećih informacionih tehnologija. Kao krajnje tačke ovakvog distribuiranog računarskog sistema se koriste web server i klijent u vidu web preglednika, ali isto tako je moguće da klijent bude tzv. mashup. Uobičajeni tipovi Web 2.0 aplikacija su blogovi (web dnevnici), vikiji (web enciklopedije), društvene mreže (npr. Facebook), multimedijalna i ostala skladišta (YouTube, Google Drive), kao i razne vrste web aplikacija od kojih bi jedna mogla da bude i aplikacija za e-glasanje.

Ako glasanje posmatramo kao zajednički poduhvat društva i pojedinaca u njemu, onda bismo aplikaciju za e-glasanje stavili u kategoriju grupvera (engl. groupware). Grupver je kombinacija hardvera, softvera i orgvera koja pojedincima omogućava da izvedu kolaboraciju radi

Web pages are personalized, they can be made and filled in without much technical skills that has previously been necessary, CMS (Content Management System) applications is used for. The data on the web site are shared to all or to specific user groups, as they are used for mutual interaction and collaborative work. Web 2.0 does not use a new, special and/or revolution technology, but is an actual evolutionary (cumulative and qualitative) change the ways of using of existing information technology. As the end point of such a distributed computer system are used web server and client in the form of a web browser, but it is also possible that the client is so called mashup. Common types of Web 2.0 applications are blogs (web logs), wikies (web based encyclopaedia), social networks (e.g. Facebook), multimedia and other storage (YouTube, Google Drive), as well as various types of web applications, one could be an applications for e-voting.

If the voting viewed as a joint effort of society and individuals in it, then the application for e-voting belong in a groupware category. The groupware is a combination of hardware, software and orgware that permits individuals to perform collaboration in order to achieve

postizanja određenih ciljeva. Ako je cilj e-glasanja da se donese odluka (referendum), onda bismo e-glasanje mogli da vidimo i kao specifičan sistem za podršku odlučivanju (SPO).

KONCEPT E-DEMOKRATIJE

Elektronska demokratija (skraćeno e-demokratija) je jedna faza u historijskom razvoju demokratije u društvima. Drugi pojmovi koji su se koristili, ili se dalje koriste uporedo, su: teledemokratija, digitalna demokratija, sajber demokratija, virtuelna demokratija, internet demokratija, ponegde i elektronska republika. Pošto je e-demokratija mlada, ne postoji jednoznačna i opšteprihvaćena definicija, pa ćemo ovde navesti nekoliko radnih odrednica.

E-demokratija podrazumeva upotrebu novih IKT u službi demokratije, tj. za jačanje demokratije, demokratskih institucija i demokratskih procesa. U praksi, glavni cilj je elektronska podrška demokratiji. Ona nije povezana s posebnim tipom demokratije i, zasad, ne vodi u potpuno nov, revolucionaran tip demokratije. Pomoću nje se građani uključuju u demokratske procese da bi učestvovali u društvenom procesu donošenja odluka i svoj suverenitet predali svojim predstavnicima (kako se to radi u predstavničkim demokratijama). Starija definicija e-demokratije govori o tome da je to model demokratije koji omogućava građanima da putem elektronskih medija (radio, televizije, interneta) dobiju informacije šta se dešava u zemlji i državnim ustanovama, koje će razmotriti i onda dati predloge putem tih medija da bi uticali na način vladavine i rad državnih organa u zemlji.

Po stavu prema tome da li je e-demokratija novi model neposredne demokratije, kroz koji će građani u bliskoj budućnosti učestvovati, uz zamenu postojećeg predstavničkog političkog sistema, imamo utopište, pesimiste i utilitariste. Slično pogledu na budućnost e-demokratije, postoje tri mišljenja o tome kako će pojava i upotreba interneta izmeniti samu demokratiju. Ako skrajnemo revolucionarno mišljenje da će se sve promeniti iz korena, postoji srednji stav da će se putem

certain goals. If the goal of e-voting is to make a decision (referendum), then the electronic voting could see as a specific decision support system (DSS).

E-DEMOCRACY CONCEPT

Electronic democracy (abbreviated e-democracy) is one stage in the historical development of democracy in societies. Other terms that have been used, or still used in parallel, are teledemocracy, digital democracy, cyber democracy, virtual democracy, internet democracy, and sometimes electronic republic. Since e-democracy is young, there is no unified and universally accepted definition, however we shall mention several working guidelines here.

E-democracy implies the use of new ICTs in the service of democracy i.e. to strengthen democracy, democratic institutions and democratic processes. Practically, the main objective is the electronic support of democracy. It is not associated with a specific type of democracy and so far does not lead to a completely new, revolutionary type of democracy. Using e-democracy citizens involved in the democratic process, to participate in social decision-making process and their sovereignty surrendered to their representatives (as it works in representative democracies). Older definitions of e-democracy says it is a model of democracy that allows citizens through electronic media (radio, television, internet) to obtain information about what was happening in the country and state institutions, which will consider and then give suggestions through the same medium to influenced way the rule and the work of government bodies.

According to viewpoint whether is e-democracy a new model of direct democracy, which citizens use to participate in the immediate future, with the replacement of the existing representative political system, there are utopians, pessimists and utilitarians. Similar to the views on the e-democracy future, there are three opinions on how the Internet phenomenon and use of the internet change the democracy itself. If we draw the revolutionary thinking says everything will change from the root, there is middle position that

tehničkih dostignuća interneta predstavnička demokratija poboljšati, kao i pesimistički stav da će politička elita normalizovati ovaj uticaj i da neće biti značajne promene u sadašnjoj paradigmi.

Na internet se često pogrešno gleda kao na drugi TV, iako je to suštinski drugačiji medijum. Televizija ide po šemi “jedan-ka-više”, jedan centar a više primalaca, dok kod interneta ta šema nije jedina, već ima i “jedan-ka-jedan”, “više-ka-jedan” i “više-ka-više”.

M-demokratija

Pojam mobilne demokratije (nadalje m-demokratija) je usko vezan za pojam e-demokratije; m-demokratija nije suprotstavljena e-demokratiji, već su one isto; s tim što m-demokratija ima za cilj iste demokratske ideale ali sa podrškom u mobilnim tehnologijama i uređajima. M-demokratiju treba gledati kao suplementarni deo e-demokratije, jer tamo gde ona nije prisutna i dovoljno funkcionalna upotrebljava se m-demokratija. Nikako ne posmatrati odvojeno ova dva pojma, ali treba znati specifičnosti i odnos svakog od njih.

Mobilni telefon, kao personifikacija mobilnih tehnologija i uređaja, treba posmatrati kao svojevrsni demokratski i politički alat. Sa njim se uspostavljaju društvene mreže među ljudima, bilo licem u lice (ili glasom), bilo preko softvera za društveno umrežavanje, ili, najčešće, njihovom kombinacijom. Umrežavanje ljudi preko mobilnih telefona ubrzava stvaranje formalnih i neformalnih grupa, koje nose veliki potencijalni socijalni kapital.

Sa političke tačke gledišta, ovakve grupe su odlične za informisanje, mobilizaciju i organizaciju aktivista. Mobilni uređaji koje uvek uz sebe nose ljudi dozvoljavaju stalnu dostupnost na bilo kojoj lokaciji i u bilo koje vreme, te se tako uspostavlja decentralizovana, ad-hoc i asinhrona komunikacija. Jedna sumnja u demokratizaciju putem m-demokratije se javlja zbog potencijalne trivijalizacije e-glasanja preko mobilnih uređaja.

the technical achievements of the internet will improve representative democracy, as well as the pessimistic attitude that says the political elite will normalize the impact and therefore will not be significant changes in the current paradigm.

On the internet is often mistakenly viewed as yet another TV, although Internet is substantially different medium. Television works under “one-to-many” pattern, one center and multiple recipients, while this pattern is not only in case of internet, but also has a “one-to-one”, “many-to-one” and “many-to-many”.

M-Democracy

The term mobile democracy (m-democracy) is closely linked to the e-democracy concept; m-democracy is not opposed to e-democracy, they are the same; with the difference that m-democracy aims same democratic ideals but with support in mobile technologies and devices. M-democracy should be seen as a supplementary part of e-democracy, we need to use m-democracy where e-democracy is not enough present and functional. Do not considered separately the two terms, but it should know the specifics of each and the relationship between them.

Mobile phone, as the personification of mobile technologies and devices, should be seen as a sort of democratic and political tool. With m-phone are established social networks among people, either face-to-face (or voice) or through social networking software, or with combination most often. Networking people through mobile phones accelerates the creation of formal and informal groups, which bear a large potential social capital.

From a political point of view, these groups are great for activists informing, mobilizing and organizing. Always carrying mobile devices allowing permanent availability at any location and at any time, thus establishing a decentralized, ad-hoc and asynchronous communication. One doubt to the democratization through m-democracy occurs due to the potential trivialization of e-voting via mobile devices.

E-ELEMENTI E-DEMOKRATIJE

Ovde će se navesti pojmovi koji su povezani sa e-demokracijom i svaki od njih će se u posebnoj sekciji opisati ukratko. Pošto su svi oni, manje ili više, vezani za primenu IKT, grupno ćemo ih zvati e-elementi (elektronski elementi demokratije).

E-vlada

Elektronska vlada (engl. e-government) predstavlja intenzivnu primenu IKT u radu državne/javne uprave. E-vlada će omogućiti digitalnu razmenu informacija između zainteresovanih strana tako što će im pružiti digitalne servise iz svoje oblasti rada. Zbog toga je drugi naziv digitalna vlada, a, pošto se pretežno koristi internet kao komunikacioni medijum, ponegde se ovaj koncept zove i internet vlada.

E-vladu možemo definisati kao stanje i kao proces. Kao stanje, e-vlada bi bila državna uprava zasnovana na informatičkim osnovama da bi razmenjivala informacije, pružala servise i, uopšte, poslovala sa fizičkim i pravnim licima, integrisala različite vladine baze podataka i informacione sisteme itd. Dodatno bi se unutar same vlade, unutar grana i agencija vlade, sprovela digitalizacija kancelarijskog poslovanja. Kao proces, koncept e-vlade bismo tako posmatrali kao metod za poboljšanje rada državne uprave na svim nivoima. U poslednje dve decenije se o tome puno piše i to se implementira u praksi. Treba omogućiti bolje servise javne uprave, unaprediti organizacioni i tehnički nivo operacija i mehanizama rada, povećati menadžersku efikasnost i efektivnost, a, na kraju krajeva, sve će to dovesti do većeg poverenja u rad državne vlasti.

M-vlada

Mobilna vlada (nadalje m-vlada), slično kao kod odnosa m-demokratije i e-demokratije, ne može se posmatrati odvojeno od e-vlade: uzajamno su suplementarni pojmovi, tj. nema sejunkcije među njima. Tamo gde je pogodnija m-vlada za implementiranje treba je kori-

E-ELEMENTS OF E-DEMOCRACY

Here we will specify the terms that are associated with e-democracy and each of them will be describe briefly in a separate section. Since they are all related more or less to the application of ICT, we call them collectively e-elements (elements of electronic democracy).

E-Government

Electronic government is an intensive application of ICT in the work of state/public administration. E-government enable the digital exchange of information between stakeholders by providing them digital services in their field of operation. Consequently, second term is digital government, and since it mainly uses the internet as a communications medium, the concept is sometimes called internet government.

E-government can be defined as a state and as a process. As a state, a e-gov will be a public administration conceived at informatic ground to exchange information, provide services and in generally operate with individuals and legal entities, integrating various government databases and information systems etc. In addition, within the same government, within the branches and agencies of government, will be conducted digitalization of office operations. In the last two decade there was much writes about that and implement in practice. It should provide a better government services, improve organizational and technical level of operations and mechanisms of work, increase managerial efficiency and effectiveness, and, at the end, it will lead to greater trust in the operation of state authorities.

M-Government

Mobile government, similar to the relationship m-democracy and e-democracy, can not be considered separately from the e-government: concepts are mutually supplementary i.e. no disjunction among them. M-government should be implemented where it is more convenient instead of the

stiti umesto opšteg koncepta e-vlade. Mobilni uređaji i prateće tehnologije imaju veću i praktičniju ulogu nego kod m-demokratije.

Mobilni uređaj se može koristiti nezavisno od vremena i prostora dok god ima pokrivenost mobilnim signalom mreže. Mobilni uređaji i mobilne tehnologije imaju sledeće karakteristike bitne za m-vladu.

1. Ubikvotnost mobilne mreže je potpuna u većini naseljenih područja.
2. Imedijantost je karakteristika koja govori o mogućnosti trenutnog pristupa čoveka servisima m-vlade, ali i obrnuto (naravno dok god je m-uređaj uključen).
3. Penetriranost je velika, veća od svih drugih uobičajenih tehnologija za civilno društvo. Čak statistike govore o tome da ponegde ima više mobilnih pretplatnika nego populacije.
4. Prag inhibicije korisnika m-uređaja je nizak i skoro svi su upoznati sa njegovim funkcijama, čak i više od klasičnih računara i Interneta na računarima.

E-participacija

E-participacija je jedan novi kanal uključivanja građana u demokratske procese (negde se smatra da je to deo koncepta e-vlade, ali ćemo određenje u vezi sa tim pitanjem ostaviti za završni deo rada). Definisaćemo e-participaciju kao tehnološki sprovedenu interakciju između građana i političkog sektora, ali i između građana i administrativnog sektora vlasti. Građani će se putem određenih umreženih softvera, prvenstveno putem interneta, uključiti i angažovati u političkim procesima.

Pojam e-participacije se sastoji od dva uočljiva dela: slova “e” i pojma participacije. Participacija je uključivanje u smislu učestvovanja u diskusiji o nekom društvenom problemu ili igranje određene uloge u procesu donošenja odluke. Slovo “e” je skraćenica od prideva elektronski, slično kao kod opštepoznatog elektronskog poslovanja ili ovde spomenute elektronske demokratije. E-participacija može uključiti građane na različiti

more general concept of e-government. Mobile devices and associated technologies have greater and more practical role than in m-democracy case.

The mobile device can be used independently of time and space as long as there is a coverage of mobile network signal. Mobile devices and mobile technologies have the following characteristics essential for m-government.

1. The ubiquity of the mobile network is complete in most inhabited areas.
2. Immediately is a feature about the possibility of immediate access human to m-government services, and vice versa (of course, as long as m-device is turned on).
3. Penetration is huge, bigger than all other conventional technologies for civil society. Even statistics show there are more mobile subscribers than population sometimes.
4. Inhibition threshold of m-device users is low and almost all users are familiar with its functions, even more than with classical computers and the Internet on it.

E-Participation

E-participation is a new channel of citizens involvement in democratic processes (sometimes, it was considered like part of the e-government concept, but we will determine this at the final part of the work). Let's define e-participation as the technological conducted interaction between citizens and the political sector but also between citizens and administrative sectors of government. Citizens will be involved and engaged in the political process through specific crosslinked software, primarily over the internet.

Neologism e-participation consists of two notable parts: letter “e” and term participation. Participation is inclusion in the sense of involvement in the discussion of a social issue or playing certain roles in the decision-making process. The letter “e” stands for adjective electronic, similar to commonly known e-business or mentioned here e-democracy. E-participation may include citizens at different levels of engagement, and its poten-

tim nivoima angažovanja, a njen potencijal za promenu tekućeg stanja je veliki. Smer učešća može da krene od vrha (top down pristup), što je inicijativa od strane državnih organa, ali i odozdo (bottom-up pristup), gde se građanski sektor angažuje da dopre do administrativnih sektora.

Po OECD-ovoj studiji (OECD, 2003) postoje tri nivoa participacije. Prvi nivo je informisanje, gde se jednosmernim tokom obaveštava građanstvo o postojanju različitih informacija i njihovoj dostupnosti. Sledeći nivo, konsultovanje, predstavlja ograničenu dvosmernu komunikaciju sa pasivnim učešćem u grupnom odlučivanju. Najviši nivo participacije je nazvan aktivna participacija, gde se dvosmerna komunikacija koristi za upliv građanstva na svim stadijumima e-participacije, počinjući od uspostavljanja agende pa na dalje.

E-kongregacija

E-kongregacija je, s jedne strane gledano, specifičan oblik e-glasanja čija je svrha implementacija demokratskih ideala. Sa druge strane gledano, to je demokratski sistem koji koristi spoznaju celog društva dobijenu tehničkom procedurom putem e-glasanja. Kombinuje predstavničku i participativnu demokratiju sa dva osnovna cilja: (1) da prevaziđe neke nedostatke uobičajenih demokratskih sistema, poput učešća građana, transparentnosti i kontrole državnog sistema i (2) da generiše novo znanje i podeli ga celom društvu u vezi s državnim upravljanjem.

Sve ovo je jedan zanimljiv predlog autora reference (Salazar, Piles, Ruíz, i Moreno-Jiménez, 2008). Kao zaključak, može se reći da, pored postojećih sistema za e-glasanje koji se mogu prilagoditi potrebama glasanja u e-kongregaciji, nedostaju drugi sistemi, npr., za pisanje u diskusionim forumima na kontrolisan način bez lažiranja, kao i način da se iz sirovih podataka e-glasanja iz više koraka donesu zaključci o tome koja opcija je pobedila i kako je do pobeđe došlo (kako i zašto su se promenile preference glasača).

tial to change the current situation is large. Direction of participation can start from the top (top-down approach), which is an initiative by the state authorities, but also from the bottom (bottom-up approach), where the civil sector is engaged to reach out to the administrative sector.

According to OECD study (OECD, 2003) there are three levels of participation. The first level is informing, where oneway flow informs citizens about the existence of different information and their availability. The next level, consultation, is a limited two-way communication with passive participation in group decision making. Highest level of participation is called active participation, where two-way communication used to influence citizens at all stages of e-participation, starting with agenda establishment and forward on.

E-Congregation

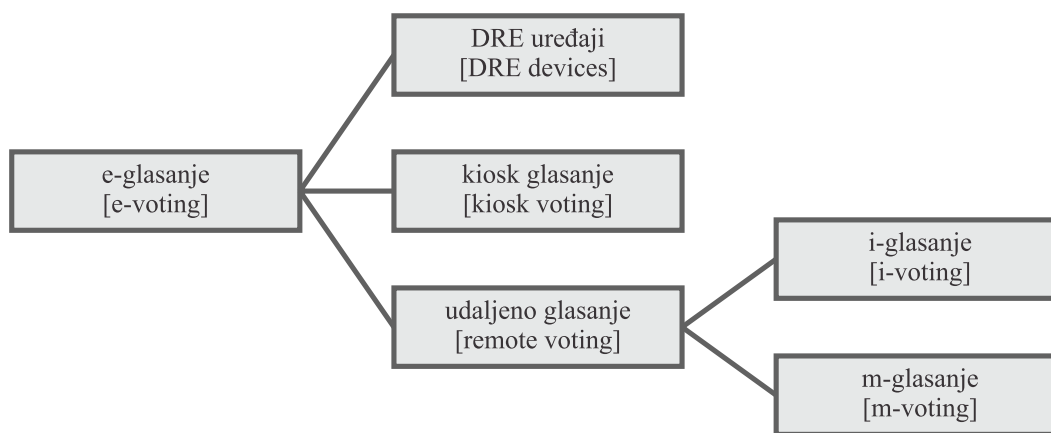
E-congregation is, on one hand, a specific form of e-voting with the purpose of implementation of democratic ideals. On the other hand, it a democratic system that uses knowledge of the entire society, that is obtained by a technical procedure through e-voting. It combines representative and participative democracy with two basic goals: (1) to overcome some disadvantages of conventional democratic systems, such as citizen participation, transparency and control the government system, and (2) to generate new knowledge and share it to whole society regarding governance.

This is all an interesting proposal authors of reference (Salazar, Piles, Ruiz, & Moreno-Jiménez, 2008). As a conclusion, we can say that in addition to the existing system for e-voting, which can be adapted to the needs of e-congregation, there are missing other systems, e.g.. for posting in the discussion forums in a controlled manner without tampering, as well as a way to get out of raw data from multisteps e-voting and make conclusions about which option is won and how to win came (how and why changed the preferences of voters).

E-glasanje

Sam naziv pojma elektronsko glasanje (e-glasanje) ukazuje na korišćenje nekih elektronskih uređaja i obrade podataka tokom glasanja. Najšira definicija e-glasanja bi uključivala ona glasanja koja upotrebljavaju minimalno jedan elektronski postupak ili uređaj. Ako posmatramo proces e-glasanja kao crnu kutiju, onda je to sistem koji kao ulaz ima preference pojedinaca nekog društva, a kao izlaz daje sumarne preference tog društva. Uže posmatrano, e-glasanje je ono glasanje kod koga za uspostavljanje procesa, njegovo sprovođenje i objavljivanje rezultata se koriste računarski uređaji u manjem ili većem obimu (Pilipović, 2014a).

E-glasanje se može podeliti po kriterijumu mesta sa koga se može glasati na izborima. U zavisnosti od mesta, postoji manji ili veći stepen kontrole koju imaju organizatori izbora, odnosno stepen slobode kojeg imaju glasači. Postoje tri vrste e-glasanja (shema 2):



Shema 2. Vrste e-glasanja (Pilipović, 2014b)

1. Kontrolisano e-glasanje: je omogućeno samo na posebnim mestima (glasačko mesto) gde postoji fizička prisutnost i glasača i organizatora izbora. Ovi drugi imaju kontrolu nad uslovima glasanja. Dosta je slično klasičnom, papirnom načinu glasanja. Po sledu događaja prvo se glasač identifikuje, pa posle provere da li ima pravo glasa, dobija vreme i prostor za glasanje na elektronskom uređaju za glasanje. Ti uređaji su poznati kao DRE uređaji.

E-voting

The name itself of electronic voting indicates the use of certain electronic devices and data processing during the vote process. The broadest definition of e-voting would include those voting who are using at least one electronic device or procedure. If we consider e-voting process as a black box then it is a system that as input has preferences of individuals in some society and as output has a summary preferences of the society. The narrow definition of e-voting is that voting are used computer devices to a greater or lesser extent to establish the process, to its implementation and to publication of voting results (Pilipović, 2014a).

E-voting can be divided by criteria of places from which voter can vote. Depending on the location there is a smaller or larger degree of control that organizers have and respectively there is a degree of freedom which voters have. Thus there are three e-voting (Scheme 2):

Scheme 2. E-voting types (Pilipović, 2014b)

1. Controlled e-voting: is allowed only in special places (polling place) with physical presence voters and election organizers. The latter have control over the conditions of voting. This is similar to the classical paper voting enough. By order of events voter is identified first, and after checking voters' right to vote, he/she gets time and space for a act of voting on an electronic voting device. These devices are known as DRE devices.

2. Polukontrolisano e-glasanje: ili kiosk glasanje je prelazni tip e-glasanja između prve i treće vrste u kome organizatori delimično kontrolišu postavljene uslove, jer se ta mesta za glasanje (kiosci) nalaze na raznim mestima poput pošti, škola, tržnih centara, ambasada i sl. Ipak, pored kioska za glasanje može biti neko od organizatora i izbornog osoblja ili oni mogu doći po potrebi/povremeno.
3. Slabo kontrolisano e-glasanje: omogućava glasaču da izabere bilo koje mesto koje mu odgovara za čin glasanja. Usled nepostojanja fizičkog prisustva izbornog osoblja ili organizatora teško je kontrolisati situaciju na toj lokaciji zbog velikog broja potencijalno nepovoljnih okolnosti. Udaljeno e-glasanje mora da koristi neku vrstu komunikacione mreže da bi glasač dostavio sopstveni glas (glasački listić) na mesto za prebrojavanje.
2. Semi-controlled e-voting: or kiosk voting is a transitional e-voting type between the first and a third type; here organizers partially controlled conditions set because voting places (kiosks) are found in various places such as post offices, schools, shopping malls, embassies, etc. Yet next to the voting kiosk can be located some of the organizers and the electoral staff or they may come if needed/occasionally.
3. Weakly controlled e-voting: allows the voter to choose any place that suits him for the act of voting. Due to the absence of physical presence election staff or organizers it is difficult to control the situation at this location because of the large number of potentially adverse circumstances. Remote e-voting must use some kind of communication networks to enable the voter to delivery his own vote (ballot) to the place for counting.

Šema za e-glasanje je osnova za rad nekog sistema za e-glasanje i ona predstavlja niz koraka (algoritam, protokol) za sprovođenje e-glasanja, kao i skup postavki i pravila kako će ono biti obavljeno. Najčešće je šema zasnovana na nekom postojećem, novom ili kombinovanom kriptografskom pristupu.

Grupisanje šema je obavljeno po kriterijumu metoda kojima se kreiraju, prenose, snimaju i obrađuju e-glasovi, kao i po tome na koji način se identifikuju i autorizuju glasači. Tako imamo grupe šema: (1) mix-net šeme, (2) šeme sa homomorfnom enkripcijom, (3) šeme zasnovane na potpisu na slepo, (4) šeme zasnovane na biometriji, (5) šeme zasnovane na vizuelnoj kriptografiji, (6) šeme zasnovane na PKI i smart karticama, (7) šeme sa glasanjem vektorima i (8) ostale šeme (Pilipović i Starčević, 2014).

MJESTO I ULOGA E-ELEMENATA

E-demokratija se može gledati kroz dve prizme. Prva prizma je sadržajne prirode, to je e-participacija. Ona se bavi pripremno-završnom fazom demokratskog procesa i u njoj su veliki potencijali za višedemokratski razvoj društva. Druga prizma je e-glasanje i ono što

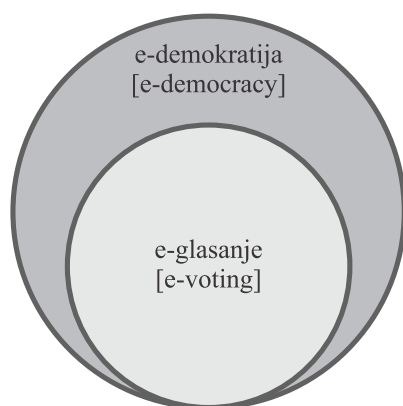
E-voting scheme is the basis for the operation of a e-voting system, and it represents sequence of steps (algorithm, protocol) for the implementation of e-voting, as well as a collection of settings and rules to what will be done. Frequently scheme is based on an existing, new or mixed cryptographic approach.

Grouping of e-voting scheme is performed according to the criteria of methods how e-voices are created, transmitted, recorded and processed, as well as the manner how to identify and authorize voters. Thus we have the following groups of schemes: (1) mix-net scheme, (2) scheme with homomorphic encryption, (3) blind signature scheme, (4) biometrics scheme, (5) visual cryptography scheme, (6) PKI and smart cards based scheme, (7) scheme with voting vectors and (8) other scheme. (Pilipović & Starčević 2014)

PLACE AND ROLE OF E-ELEMENTS

E-democracy can be viewed through two prisms. The first prism is a substantial nature, it is e-participation. It is engaged in preliminary-final stage of the democratic process and there are great potentials for the development of a more democratic society. The second prism is

se gleda je njena tehničko-tehnološka suština. Ako e-glasanje posmatramo u užem smislu, ono je samo modernizacija postojećeg načina glasanja. E-participacija se ne može do kraja ostvariti ako nema dobro i sigurno implementiran postupak e-glasanja, jer ona u tom slučaju ostaje samo na stanju neobaveznog konsultovanja. S druge strane, loše implementirano e-glasanje će srozati svrhu e-participacije a, posledično, i e-demokratije.

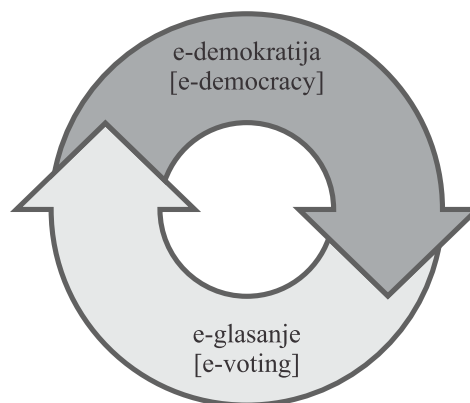


Shema 3. (1) Statički odnos između e-demokratije i e-glasanja; (2) Dinamički odnos između e-demokratije i e-glasanja

Odnos između e-demokratije i e-glasanja, bez uzimanja u obzir drugih pojmova, se može predstaviti kao na shemi 3 podslika (1) reprezentuje statički odnos, gde e-demokratija okružuje e-glasanje, jer ono nema svrhu samo za sebe (govoreći u kontekstu društvenog vladanja). Na podslici (2) je prikazan međusobni uticaj ova dva pojma, jer e-glasanje nije samo pasivno i podređeno, već može da menja samu e-demokratsku vlast.

Još jedan pojam zaslužuje da se pozabavimo njime i ukažemo na njegovo mesto a to je e-vlada. Ona, po našem viđenju, predstavlja operativni, izvršni, menadžerski element; kreira i isporučuje digitalne servise, između ostalog, za potrebe e-participacije i e-glasanja. E-vlada posmatra građanina kao svog korisnika, slično kao što banke imaju e-bankarstvo i svoje korisnike. S druge strane, e-participacija je predmet istraživanja u područjima e-demokratije ali i e-vlade. E-glasanje ima teh-

e-voting and what is seen is a technical-technological essence. If we look at the electronic voting in the strict sense, it is just a modernization of the existing method of voting. E-participation can not be fully realized if there is no correctly and securely implemented e-voting procedure, because it then remains only on optional consultation state. On the other hand, poorly implemented e-voting will degrade purpose of e-participation and e-democracy consequently.



Scheme 3. (1) The static relationship between e-democracy and e-voting; (2) The dynamic relationship between e-democracy and e-voting

The relationship between e-democracy and e-voting, without taking into account other concepts, can be represented as in Scheme 3. Subfigures (1) represents a static relationship, where e-democracy surrounds e-voting, since last has no purpose just for itself (speaking in the context of state governance). Subfigure (2) shows the mutual influence of these two terms, as e-voting is not only a passive and subordinate but can alter e-democratic government.

Another term, that deserves to deal with him and point out its place, is e-government. In our opinion it is an operational, executive, managerial element; it creates and delivers digital services, among others, for the purposes of e-participation and e-voting. E-government considers the citizen as its user, much like a banks have e-banking and its users. On the other hand, e-participation is the subject of research in the areas of e-democracy, but also e-government. E-voting has the technical

ničko-proceduralnu ulogu među svim ovim konceptima ali od kvaliteta, efektivnosti i efikasnosti realizacije egzistencijalno zavisi smisao svih njih.

ZAKLJUČAK

Iz svega navedenog vidimo značaj e-elemenata kao sastavnih i/ili dodirujućih subjekata za sprovođenje e-demokratskog društvenog uređenja. Zasad nije jasno da li će dovesti do revolucionarne promene ili do poboljšanja postojećeg demokratskog ustrojstva. Ipak, mislimo da je samo pitanje vremena kada će se pokrenuti novi procesi.

Za dublju analizu potrebno je ispitati područje na intersekciji ovih e-elemenata, a to su e-izbori. Tako bi se opisala organizacija e-izbora, apstraktni i detaljni pogledi na organizaciju, odabir vrste i sistema za e-izbore (framework), procedura uvođenja i implementacije e-izbora, onda kako nadgledati sprovođenje e-izbora da bi se zadobilo određeno poverenje (e-trust) i sl.

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and procedural role among all the concepts but meaning of all of them existential depends on the quality, effectiveness and efficiency of e-voting implementation.

CONCLUSION

From all the above we see the importance of e-elements as constituents and/or contiguous entities for the implementation of e-democratic social system. So far it is not clear whether it will lead to revolutionary changes or improvements of existing democratic organization. Nevertheless we think it is only a matter time when they will start new processes.

For a deeper analysis it is necessary to examine the area at the intersection of these e-elements, such as e-elections. Thus it should describe the organization of e-elections, abstract and detailed views of the organization, selection of the type and system for e-elections (framework), the procedure of introducing and implementing e-elections, then how to monitor the e-elections implementation to obtain a trust (e-trust) etc.

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