

# **Bringing social and technological innovation to the work of national, regional and local elected representatives: The eRepresentative Project**

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*Members of elected assemblies have a number of overlapping roles. eRepresentative is a project of the European Commission's IST programme, and has investigated the potential for ICT support for the committee-based legislative role in a secure, mobile context among members of five elected assemblies at national, regional and local levels. This paper describes the processes used for identifying user requirements and the web-based application that was developed to address them. It then describes the scenario-based evaluation process that was designed to cover not only technical functionality and usefulness/usability aspects but also the organisational factors contributing to the success or failure of such initiatives; initial findings suggest a positive response from potential users, elected representatives (and their staff) in particular. In a postscript, the potential for direct inclusion of citizens in the legislative process is considered.*

## **1 Introduction**

### **1.1 The European Context**

eRepresentative<sup>1</sup> is a project co-financed under the 6th Framework Programme of the European Union. The primary research focus of the project is to explore the potential impact of a virtual elected representative's desktop - the "eRepresentative" - to support the work of elected representatives at national, regional and local level by making legislative and local assembly services more effective and tailored to meet their individual requirements. The project has aimed to develop a mobile secure, personalised working environment for elected representatives, to enable intra-parliamentary communication and with the potential to support inter-parliamentary search. Currently the eRepresentative prototype is being piloted in five participating elected assemblies; Dutch Parliament, Lithuanian Parliament, Catalanian Parliament, Hungarian National Assembly and Westmeath County Council (Ireland). The research partners also include: Napier University (UK), Hewlett Packard Nederland B.V., Scytl Secure Electronic Voting S.A. (Spain), and Gov2u (Greece).

The EU considers the development of ICT (information & communication technologies) a top priority, recognizing their potential as powerful drivers of growth and employment, contributing to improving the quality of everyday life and the social participation of Europeans. It is widely recognized that openness, transparency, accountability and citizens' participation in democratic processes are related to the quality of information available to MPs and on citizens' access to parliamentary proceedings. It is accepted that parliamentarians need to develop and promote means and tools that provide them with an interface with their constituency. The necessity of

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<sup>1</sup> <http://www.erepresentative.org>

mobile working solutions is increasing in light of increased technical feasibility and growing expectations of parliamentarians.

A recent literature review by the European Parliaments Research Initiative (EPRI, 2005) proposed as key challenges for Parliaments: “to support their members to become truly mobile workers [...] and explore the wider training requirements of parliamentarians needing to evolve in, rather than adapt to, an ICT-enabled environment.”

## 1.2 ICTs Role in Support of Representatives

Current uses of ICT by elected representatives can be seen as supporting a number of overlapping roles, for instance, following Coleman and Nathanson (2005):

1. Legislator: a tool to improve performance, i.e. efficiency
2. Party actor: a tool for communication and marketing, i.e. publicity
3. Representative: a tool to establish democratic connections, i.e. democracy

The legislative role is where ICT is seen as having the greatest impact (Whyte *et al.*, 2007, EPRI, 2005). The online publication of legislation, and access to databases of pre-legislative drafts and procedural information can better inform parliamentarians themselves and lead to more inputs from citizens and interest groups. However security risks, incompatibilities between services and information overload are cited as problems, compounded by lack of attention by parliamentary administrations to the planning and procedural changes needed for effective use of ICT investments (EPRI 2005).

Although it is the norm for European assemblies to refer legislative proposals to committees, who may consult experts and others affected, the EPRI study, like earlier ones (Caldow 1999, Trechsel *et al* 2003) reported little use of structured collaboration and consultation tools, with the exception of UK parliament which has piloted a variety of online consultations (Hoff, 2004).

Overall, the picture that emerges from these studies is of an increasing pace of change, with parliamentarians mostly adopting new ICT tools of their own accord rather than through strategic development by political parties or parliamentary administrations. The patchy uptake of ICT by parliaments compared with government has led some to conclude that elected representatives role in governance will become marginalized; e.g. “... the limited knowledge of the Internet displayed [by MPs surveyed in seven European countries] can also indicate a lack of political competence in a society that is in the process of being transformed by networking technologies...” (Elvebakk 2004, p.52).

This paper gives an overview of the functionality of the eRepresentative application that was developed in this context, before presenting the challenges and barriers from its implementation in five elected assemblies in Europe

## 2 Establishing User Requirements

A Soft Systems Methodology (SSM) approach was adopted; as in other projects, SSM has been found helpful in formulating eGovernment project scope in terms of drivers,

stakeholders, goals and constraints (e.g. Whyte and Macintosh, 2002, Heeks, 2005). SSM is a loosely structured and flexible way of enquiring into how problems are framed. A form of action research, in that it assumes that the researchers' role, like the designers, is to intervene and change a problem situation in collaboration with clients and 'problem-owners' (Checkland and Scholes, 1999).

A series of interviews were carried out by Napier University and Gov2u with an indicative sample of elected officials and technical staff in all assemblies involved in the project to establish the motivations and expectations of the members of elected assemblies to use eRepresentative to support their legislative roles.

It became clear that changing working styles are a central motivation: it is no longer sufficient for elected representatives to simply have access to email and mobile phones. Members increasingly have and use technology, while the supply of information is increasing and they have to simultaneously work on multiple issues of a different nature; they often need to become 'experts' on subjects being debated in a very short period of time and have to work on those subjects in conjunction with their colleagues.

At present it is necessary for members in most elected assemblies to have a physical hard copy of all documents relating to a session and it is often not possible for an individual member to read all documents in the timescale available for preparation. Hence, there is a need for (remote) electronic access to all relevant documents for a session.

The core requirements that were established include:

- improved access to background documents
- reporting of time-sensitive developments
- more opportunities for sharing of documents, transparent collaboration and consultation as well as for giving and seeking views
- remote participation in decision-making.

In meeting these requirements elected assemblies are faced with the twin challenges of supporting members at different levels of technical knowledge and skill while adapting traditional practices and procedures to meet the expectations of members of parliament and the public.

### **3 The eRepresentative Portal**

#### **3.1 Overview of functionality**

The eRepresentative platform facilitates the evaluation of personalised interaction with, and integration of, relevant information for national, regional and local elected representatives to support their day-to-day committee work, wherever or whenever required. The platform models state-of-the-art information management, mobile technologies and security systems to enable information sharing and access to large-scale information repositories to provide elected representatives with a mobile, personalised working environment.

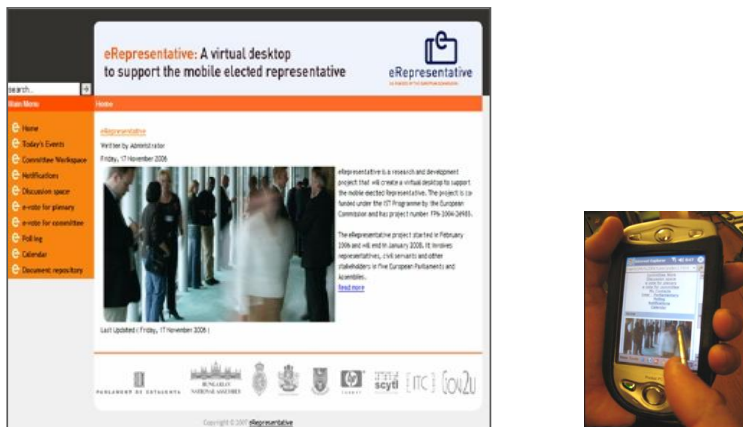
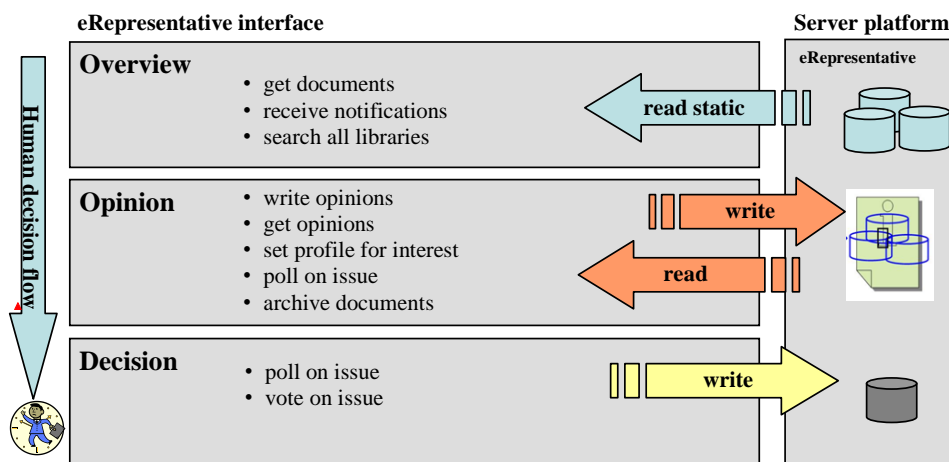


Figure 1. Screen shots

As illustrated in Figure 2 below, users are able to simultaneously work on multiple tasks of a different nature in their legislative role. As a result, elected representatives can become ‘participating experts’ on subjects being debated within a very short period of time, and are able to work on those subjects in conjunction with their colleagues. eRepresentative, as a comprehensive solution, facilitates this collaboration and helps national, regional and local elected representatives become more efficient, allowing them to work wherever or whenever required.



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Figure 2 - User perspective of eRepresentative platform

The solution streamlines the legislative process, facilitates the gathering of relevant information for the elected representatives’ work, as well as reduces associated costs. In other words, it could lead to a significant increase in productivity, regarded as critical by most European elected assemblies.

### 3.2 Technical characteristics

The eRepresentative platform is designed to allow users to access information and services through a number of modes, including web browsers, Microsoft Windows Mobile and smart phone devices. Complex services are provided by backend systems hosted on separate virtual machines.

As illustrated in Figure 3 below, eRepresentative is designed for flexibility in interfacing with existing legacy legislative systems using and document repositories. For ease of use and compliance with open standards, these APIs (Application Programming Interfaces) are Web Services based.

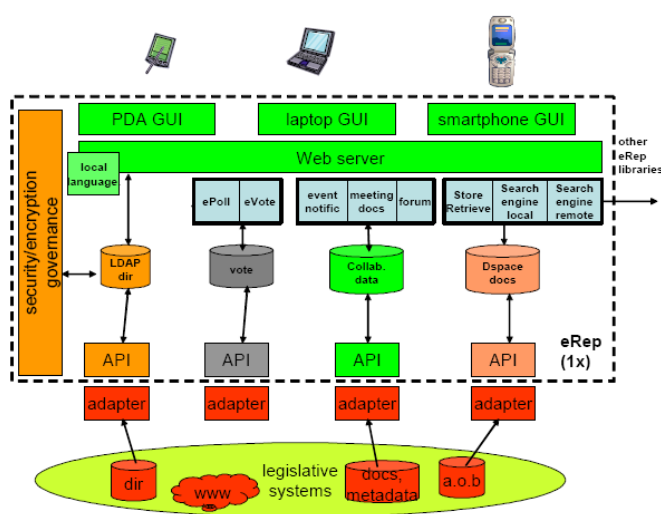


Figure 3. Overview of the eRepresentative platform technical model

Voting functionality is provided by the Pnyx application owned by Scytl SA<sup>2</sup>. To control the availability of these services to authorised users, an identity management function is used to authenticate and authorise the eRepresentative user. The design allows for this to be carried out by the security part of the web server itself, an proprietary external service such as Pnyx or an existing LDAP (Lightweight Directory Access Protocol) user directory.

## 4 Evaluating the solution

A core aim of eRepresentative is to evaluate its potential and usefulness for elected members as well as to assess the impact on legislative services. To this end, the project invested in developing and refining an evaluation approach to collect robust and reliable data on the use of eRepresentative, and also the wider impacts arising from its use.

The project undertook a review of available evaluation approaches, methods and frameworks and used this as the foundation of a distinctive approach taking into

<sup>2</sup> [http://www.scytl.com/eng/pnyx\\_core\\_pdf.htm](http://www.scytl.com/eng/pnyx_core_pdf.htm)

account the characteristics of both the users and the context. While it is necessary to evaluate the functionality of eRepresentative as a piece of software, this alone is insufficient; it is also important to carry out an assessment of whether the functionality is effective in meeting users' needs. However, it was recognised that data relating to sustained usage of the application by representatives in 'live' situations would be limited, since there are significant constraints associated with using a research prototype for ongoing legislative work. This meant that an assessment of the 'effectiveness' of eRepresentative had to be based (to some extent) upon users' *expectations* of usefulness after a relatively short period of time spent using the application, rather than upon evidence of the outcomes of usage over a long period of time.

These principles influenced the decision to develop and use 'scenarios'. These scenarios are descriptions of realistic situations where MPs are required to work remotely from their parliamentary offices – see Figure 4 below for an example. One usage scenario was developed for each assembly by the project team in association with representatives drawn from that assembly, who agreed to become part of a 'user panel' to help develop and evaluate eRepresentative. The scenarios had two purposes. Firstly, they 'validated' the scope for eRepresentative to support remote work, and were useful in the process of gather user requirements. Secondly, they were used during the evaluation to test whether eRepresentative offered appropriate functionality to properly support the representative in carrying out their mobile work.

Example scenario: Hungarian MP  
*Setting: Committee experts are working together out of office*

The European Issues Committee got a report from EU about the completion of the Schengen Border in Hungary. The chairman of the Committee asked Dr László Juhász to prepare a summary and presentation for the committee members. He realized that he needs another expert from the Security Committee. They need a shared working environment therefore they put the document into a common workspace using the Internet connection, where they prepare the report.

After finishing the report, Dr László Juhász connects to eRepresentative "Track committee legislative actions" and publishes the prepared report to the Committee Workspace and proposes a new agenda item for the next Committee meeting.

eRepresentative's "Committee event notification" automatically sends notification about the new document to all committee members and committee staff.

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**Figure 4. Example scenario**

A number of research criteria were also established, grouped into three categories. The first category is whether the application is non-obtrusive in operation, in terms of providing the required functionality in the expected way, and was assessed through technical testing. The second category, usefulness to users, positions the functionality of eRepresentative in the context of a number of benefits that could accrue from its use. The aim here was to collect data from research participants who had experience of using eRepresentative, in order to assess in what ways the functionality offered by the application would relate or contribute to these benefits. Therefore, the research

was interested in whether eRepresentative resulted in more efficient use of time, more convenient access to information, affected the traceability/transparency of information and decisions, led to faster availability of information, resulted in secure communication, and was easy to use. The third category, organisational impacts, was also assessed through data provided by the pilot assemblies as they implemented the solution.

After the application passed functional testing, data relating to the criteria outlined above were collected through a number of workshops with representatives and their staff and committee and IT support staff. Support staff were involved for two reasons; firstly to validate the process before involving representatives, and secondly to capture their distinct impressions on the usability and impact of the application from their own perspectives recognising their importance in ensuring systems operate successfully. This process is summarised in Figure 5 below.

<b>Technical (technical testing)</b>	Functional testing of the application by: <ul style="list-style-type: none"> <li>• IT staff following test scripts</li> <li>• end-users performing test cases as part of a ‘test scenario’</li> </ul>
<b>Useful to users (impact/benefit assessment)</b>	Triangulation between: <ul style="list-style-type: none"> <li>• Post-test questionnaire</li> <li>• Moderated group (or individual) discussion</li> <li>• Follow-up focus group</li> </ul>
<b>Organisational (impact/benefit assessment)</b>	

**Figure 5. Evaluation process overview**

The evaluation process brought out the importance of distinguishing ‘roles’ from ‘users’. For example: the role *committee chair* is carried out by both an MP (as decision maker) and his/her support staff (making documents available, agreeing agendas etc): two (at least) separate users of the system. Indeed, the *MP* role in a modern parliament is carried out by the elected representative (voting, decision making) and a team of assistants (correspondence, organising diaries etc). eRepresentative, therefore, acted as a research probe which both offered a solution to apparent organisational problems for MPs, and also revealed additional issues to be taken account of in future projects.

The detailed results of the evaluation process will be published in a later paper. In summary, data relating to the Test Scenarios confirms that the functionality of the application supports user needs. Questionnaire and Discussion Data suggests that there is an overwhelmingly positive response to eRepresentative across the core criteria, from representatives in particular.

## 5 Conclusion

The development of new technologies will (or at least should) not alter the core nature of representative democracy. The path to be covered by technology implementation should be closely linked to the current political structures and to the forms in which societies administer and adapt new technologies.

The risk of failure is heightened when technology is pushed as an end in itself without due attention to the contextual factors; and if all stakeholders – including elected members, officials, committee chairs, the secretariat – are not meaningfully involved. The key challenge is to understand the character of the institution before incorporating ICT - e.g. is it a new or mature institution, what is the extent of its resources, the relationship between representatives and their constituents.

This paper has addressed the challenge of integrating the ICT into representatives' legislative function and identified in eRepresentative a potential solution to representatives changing needs, such as secure remote participation in the committees that drive the legislative process.

The process of establishing user requirements and then of engaging the end users (including representatives) in evaluating the developed application gives a basis for optimism that existing parliamentary processes can be adapted to take advantage of the opportunities offered by developments in ICTs: that is, it is possible to start thinking in terms of organisation changes, not individual representatives adopting new tools of their own accord.

### **5.1 Postscript: The way ahead – bringing citizens directly into the process**

ICTs merely act as a magnifier and multiplier of the inherent tendencies and characteristics of the spaces where they are implemented. More and better technology doesn't necessarily mean more and better democracy. ICT are merely tools, they cannot solve political problems in and of themselves. Facilitating the connection between representatives and the represented is primarily and intrinsically a cultural function – it is not a product of technology.

So far, most parliamentary institutions still use a top-down approach in applying new ICT applications without increasing the effective participation of citizens. It is clear that ICT could facilitate a two-way accountability whereby representatives account for themselves in an open arena and citizens express their concerns, experiences, expert knowledge in the hope of engendering meaningful dialogue with their representatives.

Building on the technology developed, and the practical knowledge gained, one new project is now being undertaken by Gov2u with EC support to further promote research on ICT in legislative decision-making processes, while building trust and understanding in the democratic process and encouraging citizens to re-engage with their regional, national legislatures vis-à-vis the European Parliament. Demos@work<sup>3</sup> will use the eRepresentative platform to facilitate European-wide discussion between elected representatives and civil society on emerging policy issues that have wide public interest and potential impact on all countries within the European Union, showcasing in practice ways in which citizens can contribute to government, not only by being informed and consulted, but also by adding tangible quality to collective decision-making with their input

It must be stated however that though valuable, these projects will remain isolated examples if more consideration is not placed on when and how to use these tools in

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<sup>3</sup> <http://www.demosatwork.org/>



order to enhance democracy. Considering that the main barriers to citizens making effective use of these tools are much more likely to be organizational [how to coordinate the provision and use of the tools] and societal [how to motivate citizens to use them]; developing usable and accessible technology is only meaningful if it is accompanied by political backing and the active involvement of policy makers. The absence of such will negate any potential impact of an eParticipation project towards engendering greater citizen engagement. The good news is that a new generation of politicians is emerging that has both the ears and the willingness to wage into discussions with their constituencies.

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