

# Some Approaches to Usability Evaluation of E-Government Portals: Cases of Belarus and Vietnam

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## Introduction

Usability refers to the quality of a user's experience when interacting with products or systems, including websites, software, devices, or applications. Usability evaluation is one of the most important tasks that should be carried out for every products. Usability [evaluation methods](#) are divided into three groups: testing, inquiry and inspection. The first two requires participation of users so it is expensive to produce quality and reliable results. Therefore, in this paper we focus on inspection group, which includes cognitive walkthrough (task-specific), heuristic evaluation (holistic), among [others](#).

## Usability evaluation of e-government portals

### Belarusian portal

Belarusian portal (<http://portal.gov.by>) is a very important interaction tool between the government, society and citizens. In fact, this portal is a mirror of the government, business and society as a whole and its efficiency depends on how well it is designed, developed and implemented. Our research revealed a number of problems in the portal - inconvenient user interface, usage of outdated technology, content that is hard to understand, confusing menus, lack of user documentation, etc.

In order to increase the interaction efficiency of government it is necessary to implement a set of measures for serious portal revision. First, it's important to pay special attention to usability issues, interaction experience design, development of modern information architecture. The most advanced technologies in the portal development should be used because outdated technologies will not allow to develop the portal and integrate it with modern information systems in the future.

### Vietnamese portal

Vietnamese portal (<http://www.chinhphu.vn/portal/page/portal/English>) has made a great contribution for its citizens in accessing to e-gov information and services. However, Vietnamese portal still has some basic problems with usability which should be addressed to make information and services reachable by its users and at the same time increase the ranking of the portal.

Some of the problems can be easily fixed by a few lines of code, such as by modifying .css for links that open pages in a new tab and for focused link. Adding a link to portal homepage for the portal logo is also easy. Moving sitemap and add support/help link to the top panel does not require a lot of work as well. Replace News section by a few links should also be feasible.

Some of the problems require more work, but learning from high ranking portals such as of Norway, Singapore, Korea should make the work feasible. As the portal links to many other pages and sites, we know that making all these pages having some consistency takes time and rework. But the government should produce some general, basic rules regarding the design of the page so that other governmental

sites linked from the portal should conform, so that in the long run make not only the portal homepage, but also its sub-pages and sub-sites more consistent and more usable for most its users.

One of the emerging technologies in building website is web components [5]. The government portal may start paying attention to this technology to build make it easier for other governmental sites to integrate with the portal. For example, a header component could be created and other sub-sites will just need to include the component in their pages.

Today and in the near future, more and more users will access the portal and most of them will use their mobile devices to access the information and services. So mobile first strategy should be initiated as soon as possible. As there are many types of mobile devices, using responsive web design approach will help reduce the cost of building several versions of portal for different screen sizes. The portal may also consider expose some of its information and services via Web API so that other third parties can build native applications running on mobile devices for portal access.

## **Lessons learnt**

Belarus and Vietnam are long-term partners that collaborate closely and actively cooperate in many socio-economic and cultural fields. Our countries have close ties and our governmental and economic systems are very similar, so we strive for closer cooperation including public administration field. This fact is driven by the need for a joint research on e-government development. The research of our experience in e-government portals development will allow us to better understand each other, understand the features of state building of our countries and update the mechanisms of public services delivery and information systems that support these efforts.

## **Conclusions**

Belarusian portal development for public services delivery is an important and timely step to improve the mechanisms of interaction between the government, business and society. The portal was created in 2011 and is constantly updated. It is expected that in the coming years the portal will be a key link in the relationship between the government, society and business. Today it is necessary to solve the main issue - to make the portal easier to use. Simplicity and ease of use of the portal will attract more users, reduce red tape, increase transparency and efficiency of the government.

Vietnamese portal was first designed nearly ten years ago. Now it contains a lot of information and services. Trends in ICT have changed the way users access the portal and they also have more expectations from it. Vietnamese portal will be 10 years old in 2016. So restructuring the portal homepage with focus on usability is a necessary and urgent task to make the government information and services usable by the citizens. We hope that the problems and solution ideas with the portal home page that we have shown here will spark more detailed studies to make the portal more friendly and easy for all its users.

The usability research of the Belarusian and Vietnamese e-government portals has allowed us to identify common development problems, determine the directions of public services improvement and promotion in both countries. Areas for further co-development, closer integration and cooperation in the provision of public services focused on citizens were also identified.

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## References

1. Barnum, Carol M.. - Usability testing essentials [Elektronisk resurs] : ready, set-- test! / Carol M. Barnum.. - 2011.
2. Lazar, Jonathan. - Web usability : a user-centered design approach / Jonathan Lazar. - 2006.
3. Leventhal, Laura M.. - Usability engineering : process, products, and examples / Laura M. Leventhal, Julie A. Barnes.. - 2008.
4. Nielsen, Jakob. - Prioritizing Web Usability [Electronic resource]. - 2006.
5. Universal usability : designing computer interfaces for diverse user populations / edited by Jonathan Lazar.. - 2007.
6. Usability success stories : how organizations improve by making easier-to-use software and Web sites / [edited by] Paul Sherman.. - 2006.