

Could HCI Change the Destiny of the Italian Public Administration Websites? The “GLU” Experience

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CONTEXT

With the spread of different technologies, the proliferation of several types of software and the growing virtualization of data and services, the development of usable systems allowing users to fruitfully exploit such technologies becomes increasingly important. Human-Computer Interaction (HCI) proposes different methodologies and techniques for designing and evaluating usable software systems. However, such methodologies and techniques have had too little impact on software development practice, as demonstrated by several papers (e.g., see [1], [2]). Consequently, many developed software systems show a very poor usability. This is equally true for commercial software and for Public Administration (PA) web sites, which have been developed with the objective of improving the interaction between citizens and public agencies or government functions.

In Italy, the level of use of digital public services is still under the European average: only 18% of Internet users interact with Public Administration (PA) websites. This puts Italy in the twenty-fifth place among the 28 EU member states measured by the Digital Economy and Society Index (DESI). PA websites are judged poorly because of incomplete implementation of digital services, poor handoff between digital and other processes, and low usability [3].

Italy has had legislation and policies that require PA to work toward usable and accessible services since 2001 (e.g. see [4]). Transparency in government is a goal that can be accomplished for e-Government and Open Government. If it will be fully embraced, enormous amounts of information/services could become available to every citizen, regardless of his/her status, employment, age, education level and on any device he/she uses (e.g.,

computer, tablet, smartphone). But it is not enough. All HCI researchers have the mission of spreading HCI practices among people working not only in companies that develop websites for PAs, but also among those people working in the PA websites staff.

CONTRIBUTION

Since the end of 2012, GLU (Gruppo di Lavoro per l'Usabilità, in English, Working Group on Usability), related to Italy's Presidency of the Council of Ministers – Department for Public Administration (DFP) has been working to support people of the PA website staff in performing design and evaluation activities in order to improve usability of their websites and other e-government systems [5].

Among the different activities of GLU, it is worth noting the following ones. First of all, it is important to mention the eGLU 2.1 and eGLU-M Protocol published in May 2015, to guide PA web professionals and editors (even with a minimal expertise) in performing simplified usability testing of the websites they work on, by committing limited resources in terms of time and people. The protocol has been conceived to provide web editors a practical guide that suggests them how organizing and performing usability tests. This document provides all the needed tools (e.g. modules to report the usability problems, spreadsheets to analyze the acquired data according to the identified measurement criteria) and the specific steps to organize and perform an effective usability test by also using the thinking aloud technique, which is well known for allowing to perform an accurate evaluation at low cost [6].

Another important activity of GLU concerns the definition of a framework to facilitate the inclusion and specification in Call for Tender (CfT) of requirements related to the adoption of Human-Centered Design (HCD) techniques by software companies. A study described in [1] revealed an important but previously hidden result, namely: during product development process companies focus almost exclusively on the requirements formally established in the CfT of a particular project. Generally, such requirements do not include usability and user experience and thus, those qualities are neither integrated into the project, nor evaluated on the way to completion and delivery. Thus, in order to introduce HCD techniques in the development of PA

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websites, a framework has been defined that considers three different levels of requirements. Depending on the complexity of the system to be developed, the framework prescribes to adopt different HCD techniques (e.g., personas, scenarios, interviews, questionnaires, user tests) [7].

Since 2013 the Department for Public Administration and the Working Group on Usability have been arranging workshops with public sector web professionals and through an annual meeting on usability at Forum PA, the Italian annual public administration conference.

In the last few years, in order to increase knowledge and awareness on the usability of websites and online services in public administration, several workshops, webinars and online courses were held also by Formez PA, Centre for Services, Assistance, Studies and Training for the Modernisation of the PA – a recognised association, subject to the control, of Department for Public Administration (DFP). Among these courses, it is worth mentioning “Assistance in using eGLU 2.0 methodology”, a blended course (5 webinars + exercises, 1 community of practice, 2 workshops) realized between 2014 and 2015, aimed at assisting and supporting participants in designing and setting up simplified usability tests with the eGLU 2.0 Protocol (2014 version of the protocol) [8].

In 2015, Formez PA succeeded in reaching a huge number of PA participants (about 850) realizing and delivering an online course on the quality of web services, composed of 4 autonomous learning modules (multimedia lessons, video lessons, video interviews to testimonials), assessment tests and remote drills subjected to peer review. In particular, the fourth module was focused on tools to evaluate websites and online services with specific reference to the eGLU methodology [9].

In addition, for the promotion and dissemination of methods and techniques for evaluating the usability of PA websites, on October 2, 2014, the Department for Public Administration and the High Institute of Communication and Information Technology (ISCOM) scientific and technical body of the Italian Ministry of Economic Development (MISE) signed a collaboration agreement for the activation and management of a permanent training cycle for the use of the eGLU Protocol. Indeed, two training courses were held yearly. The courses address people working in web staffs of the PA sites. Thanks to this collaboration, a research project, involving also University of Perugia and University of Bari, was defined. Its name was PA++ (A Public Administration + mobile and + usable: design and evaluation of Public Administration Web sites). One of the main result of PA++ is UTAssistant, a web-based platform aimed at supporting remote usability testing, from the test design to the analysis of the data collected following the guidelines provided by the eGLU 2.1 and eGLU-M evaluation protocol. The idea is to provide Italian Public Administration with a lightweight and simple service that does not require any installation on user devices or special requirements. In fact, thanks to the use of

the recent evolutions of the HTML5 standard and JavaScript, the browser gathers data from peripherals like webcam, microphone, mouse, keyboard, and so on. From a technological point of view this is an important step forward with respect to the state-of-the-art that can foster a wide adoption of this tool and, consequently, of the usability testing technique.

LESSONS LEARNED

A considerable part of our activities research in the last years has been devoted to convincing software practitioners of the advantages of integrating HCD techniques in their development practices. To accomplish this goal, the work of GLU is proceeding at two different levels: 1) the *corrective level*: the eGLU 2.1 and eGLU-M protocol and the UTAssistant platform allow people working in the PA website staff, who are not expert in HCI technique, to perform usability evaluation and thus improve the usability of their existing products; 2) the *systemic level*: the introducing of usability requirements in CfT of PA websites, as suggested by the framework, obligates practitioners who develop PA website to consider usability, and HCI techniques in general, during the design of such sites.

Last but not least, both online and face to face training courses, are becoming very useful to promote the usability culture among the Italian PA. All the tools developed within GLU are updated continuously in order to improve their quality.

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