

Birds of a Feather Session: HCI and Usability

Gary Marchionini, Organizer

Government websites and other digital services are crucially dependent on good user interfaces (UIs) to provide easy and universal access to entire populations. Designing and implementing such UIs demands an ongoing process of user needs assessment, mapping data to interaction models, prototyping designs, and conducting usability tests. This process is ongoing because the installed base of technical platforms and user expertise and expectations continues to evolve. This birds of a feather session will discuss how government agencies can UI design as an ongoing part of their information technology work. Participants will be invited to share best practices and suggest key problems that academic partners might help agencies solve.

Notes from the session follow:

The summary is in three parts, an overview of the problem, issues related to usability, and issues related to design.

Preamble:

User interfaces are especially important challenges to DG for several reasons”

- First, they must support the broadest possible participation by constituents--this is **universal usability** in action.
- Second, because the very nature of government centers on information creation and control, they must support a **wide range of specialized information services**; for a national government, this means millions of web pages and files.
- Third, **customer expectations are extreme**—people expect government websites to contain everything (e.g. the general public often makes no distinctions among levels of government or even national boundaries,) to be integrated (there may be no recognition of the size and scope of government), and to be free (supported by tax dollars).
- Fourth, governments also are constrained by a variety of **mandates** specifying what must be provided. This leads to less flexibility in what data is collected and how it is disseminated.
- Fifth, government agencies and their services are, by nature, **low risk** taking operations. The incentives that the private sector has to be innovative (e.g., large profits) are not at play in government service--taking a risk that pays off can be advantageous to departments or careers but rewards tend to be incremental rather than quantum.
- Sixth, for many applications, pressure situations for crisis management changes the HCI requirements

Design

User needs

Tools for people who work at agencies vs tools for the general public. Some of the same constraints (e.g., old browsers and legacy systems) but very different user capabilities and expectations.

Adoption of innovation:

Although private sector adopts more quickly, they also can react/back off more quickly when marketplace reacts

Outsourcing in gov exacerbates compatibility problems across systems (lack of careful specs based on shared standards; inability to assess the testing metrics)

Needed work

Natural interfaces---speech, gesture,

Collaborative interfaces---

Security and privacy---

Generality vs customized interfaces

The data itself strongly influences design...how? What are the mappings? **How many designs are ubiquitous across agencies?**

Some ideas on this

Forms (most agencies provide downloadable forms)

Images & Maps (visual + haptics+ audio)

Tables

Browsing and Learning

Help

Q&A

Usability

Sets of best practices, bloopers, exemplars

Universal usability includes 508/ADA but also elderly, children, platform, pressure

Need **new methods/tools/metrics** for usefulness (e.g., browsing, decision making, exploration, hypothesis generation, etc.). perception of time passing vs biometric versions

DG usability testing needs

- Online research subject pool (webbie judges) for website usability;
- corpus of good and bad websites on CD-ROMs (won't change);
- automatic website validation tools—big need;
- distributed usability labs where students/researchers can go;
- testbeds of data that can be used for testing UIs

