Introduction
This chapter will help you understand why incorporating usability is an important business decision for government websites. You’ll see how government websites serve two very different roles, and you’ll analyse examples of successful and not-as-successful government websites. Finally, you’ll understand the origin of website design best practices recommendations that focus on usability.

Keywords
User-centred design, website usability

Glossary Terms
- Heuristics
- Mental model
- Usability
- User-centered design

What Is Usability and Why Should You Care?
Think about the last time you read a book, the paper kind. Did you have trouble finding the table of contents? How easy was it to find a specific page or chapter? What about figuring out who wrote the book, was that a challenge?

Books, in a word, are usable. They conform to an accepted structural framework.

Publishers have had centuries to perfect the interface that is the book and yet it remains, in many respects, almost unchanged from the days of Gutenberg. The Web, on the other hand, is only two decades old. Is it any wonder that our website visitors often tap their mice in frustration?

For the purposes of this chapter, a usable website is one where a site visitor can easily find what she’s looking for and successfully do what she came to the website to do, without resorting to “search” in frustration or finding herself pressing the back button with the urgency of Pavlov’s dog seeking a treat.

A usable website is one that “doesn’t make me think” (Steve Krug) or that has been “obviously designed” (Robert Hoekman, Jr.).

Many government websites don’t meet this definition.
Current State Of Government Website Use

Recent data from the Pew Internet & American Life Project (Smith, 2010) suggests that 8-in-10 Americans who are online (78 percent of American adults) visit government websites. Americans are not alone in wanting access to online government information. In Australia, the numbers are similar; in 2010, 8-in-10 Australians reported having broadband access at home (Thomler, 2011). In a 2008 survey, the Internet was often cited as the most recent channel used to contact government (Australian Government Information Management Office, 2009). However, Internet adoption is not quite as robust in the European Union. In 2010, Europa reported that only 6-in-10 adults had Internet access. In 2006, the percentage of EU citizens who contacted government officials ranged widely, from 3 percent in Romania to 61 percent in Iceland (Europa, 2011).

In the minds and actions of most of our citizens, websites are, or are becoming, mainstream. The Internet is the modern day equivalent of yesterday’s small town courthouse. In the U.S., about half of our website visitors are trying to get something done, they are checking out agency services. Services range from renewing automobile license plates to finding out how to apply for unemployment. These are the kinds of services that, before the web, would have necessitated a visit to a local government office.

Another 1-in-2 online American adults seek public policy information online. This information was once doled out by local newspapers or shared by public officials in periodic newsletters. The Internet makes it easier for citizens to be informed, a cornerstone of democracy, but only if citizens can find the information that they are looking for.

Providing online information can be easier than building an application that substitutes for a visit downtown, and information-heavy websites tend to be less expensive to build. Perhaps that’s why about half of the Americans interviewed told Pew researchers that they succeeded with “everything” they were trying to do on government websites. Another 1-in-3 accomplished ‘most’ of what they were trying to do. But 20 percent said that they had an unsuccessful experience.

What Pew researchers failed to ask was how difficult it was to accomplish “everything.” In early 2011, Foresee edged closer by asking 330,000 Americans how satisfied they were with their experience at 110 government websites. The Foresee numbers mirror the Pew results: the satisfaction rate was 75 percent.

The converse is that as many as 1-in-4 Americans visit government websites and leave either feeling unsatisfied or without having had a successful experience. We can, and should, do better.

Foresee researchers asked American citizens what government agencies needed to do to improve their websites. Tied for first place: improve functionality and transparency. Functionality -- the usefulness, convenience, and variety of online features available on the website -- relates to replacing that trip downtown;
transparency -- how thoroughly, quickly, and accessibly the website discloses information -- to information availability.

Making websites more usable saves money because it reduces service costs. It’s less expensive for all concerned (citizen and agency) if I can pay my property taxes online. In addition, enhanced customer satisfaction improves the brand that is government service. “Highly satisfied” citizens are more likely than others to participate with that government agency in the future and rate the agency higher on a scale measuring trust, according to the Foresee data.

Although interaction designers and usability professionals have studied what works (and what doesn’t) on the web, too often this information is misunderstood or not accessible to those who make budget decisions. These case studies are designed to help you become acquainted with concepts related to website usability.

Case Studies

When Wired launched in the 1990s, it challenged conventional publishing standards and audience expectations of what a “magazine” was supposed to look like. Wired’s designers experimented with a kaleidoscope palette reminiscent of ’60s psychedelica.

The magazine stood in stark contrast to conventional, pedestrian publications with their dark ink on light-colored paper. However, in other interface matters, the magazine was conventional. The table of contents was in the front; the magazine read from front-to-back. Today, however, Wired’s print designers experiment in other ways; feature stories are, in the main, classic black-on-white but its covers can still be delightfully colorful and avant garde.

There are key usability lessons embedded in this story:

- **Make the experience feel familiar.** Readers and website visitors want their experience to be comfortable, and, for this to happen, designers must honor expected patterns. For example, placing the table of contents at the front of a book or magazine gives nod to an expected pattern. So does placing page numbers on the outside corners; page numbers along the inside of the page may look attractive to a designer but they are not functional for the reader, who may search for them in vain. Even though it’s possible to execute an edgy design it might not be the right thing to do.

- **Understand your audience.** What is it that your customer wants to do with your product? This user-centered question differs dramatically from the orientation of many communication efforts that start with “what we want our customers to do.” If your design makes it harder for a reader to feel successful, she won’t be in your audience very long. Part of understanding your audience means thinking about the mental models of your customers. A mental model is a person’s internal framework for how something is supposed to work; Robert Hoekman, Jr. writes in *Designing The Obvious* (2006) that mental models shape “how we assimilate new things into our existing knowledge.” Designs that violate a person’s mental model result in cognitive dissonance, unease and disorientation. Wired was hard to read, so the designers adapted.
• **Practice appropriate consistency.** We can manipulate design to call attention to text or images, and we can also use design to provide cohesion, to make disparate elements feel like a whole. Our goal should be to make the website experience feel frictionless, without cognitive dissonance. Consistency can also nurture a feeling of familiarity.

• **Test and evaluate your designs.** We use the research to inform the redesign, and only then do we make changes. For example, there’s a reason most magazine feature stories are printed with dark ink on light-colored paper; it’s easier to read. We need the contrast that was missing from neon green on hot pink.

When we think about usable websites, however, we have another factor to consider: interactivity. Novels are linear and are usually read front-to-back. Magazines and newspapers cluster thematic nuggets; usually it doesn’t matter what order we read each one. Website content is more like a magazine or newspaper than a novel; it is a series of discrete units connected by theme, not narrative. However, website applications, such as paying property taxes, look and feel more like a traditional software application.

In addition, as site owners, we don’t control how our citizens “enter” our sites. Citizens are as likely to arrive through a side door (a search result or a shared link) as through the front door (home page). Thus we also must incorporate way finding signals into our design that help people understand where they are, where they can go and where they have been. Both the information and the functional sides of our sites have to accommodate citizen interaction.

With this background in mind, we’ll explore two examples. The first, obtaining a motorcycle endorsement, is primarily an information task. The second, paying a parking ticket, is primarily a functional one.

**Obtaining A Motorcycle Endorsement**

In order to drive an automobile or motorcycle, a citizen must have a license. The motorcycle license is an addendum, an endorsement appended to a driver’s license. In this scenario, our citizen, Betsy, has a valid driver’s license with a motorcycle endorsement. She recently moved and is trying to determine the licensing requirements in her new home state and how she can schedule an appointment to transfer her license from Pennsylvania. Although the DMV may think these as distinct tasks, for Betsy there is only one: get a new driver’s license with a motorcycle endorsement.

This scenario epitomizes most citizen interaction with government websites: it is task-focused and not something she will do again. Therefore, the system has to be very clear because learnability will not come into play in system navigation. However, because Betsy has recently relocated, she may be more familiar with the state government website than the average citizen.

There are two ways Betsy might approach the task of finding this information. She could go straight to the state government home page. Conversely, she might enter
through a side door, either by employing a search engine or by asking friends if they know where this information can be found.

*What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.*

~Herb Simon, Nobel Prize Winner

Traditional government website homepages have been organized as portals, an entry that displays a diverse and wealth of information in a systematic way. For example, Europa.eu is the official portal for the European Union; USA.gov is the portal for the U.S. federal government; and Australia.gov.au is “your connection with government” if you are Australian. Emerging government website design acknowledges the far-ranging scope of information and minimizes visual clutter by focusing on search as the tool for access. If Betsy chooses to start at the state government home page, her experience will be shaped by these two distinct styles of information organization.

**State of Illinois**

[INSERT: State of Illinois: home]

The state of Illinois (U.S.A., population 13 million) uses a standard portal design. Betsy scans the home page, looking for “driver’s license.” She might see the “More How Do I?” link in the lower right. Or she might mouse-over the primary navigation nouns; if she does, she’ll discover hidden information, links to additional services. What she won’t find is the phrase “driver’s license” or even “DMV” (an abbreviation for the Department of Motor Vehicles used in her home state of Pennsylvania).

According to Jeff Johnson (2006), writing in *Designing With The Mind In Mind*, when we are focused on a task we tend to notice only the things that match our goals. This is sometimes described as following the “scent” of information. Website visitors are framed as foragers who use cues, such as phrases or images, to make a judgment about whether or not the page at the end of the link will meet their needs (Chi, 2001). To create a website that helps citizens accomplish their goals, designers need to thoroughly understand both the goal and the steps needed to accomplish that task. They also need to understand the language used by citizens, not the language used by specialists.

However, like many portal sites, the Illinois website structure mirrors that of the government itself. In the primary navigation, for example, the “Government” options include executive, legislative, judicial, agencies, elections and local government. Although Betsy is looking for functional phrases, such as “get a driver’s license”, the website is structured like an organization chart.

If Betsy were to click the home page “How Do I?” link, she might be overwhelmed at the resulting page: an exhaustive list of 300 phrases. Although the phrases begin with verbs (apply, obtain, volunteer) there is no data grouping. “Driver’s license” appears five times on the page (if Betsy knows how to search in page with ctl-f) but the instances are scattered from top to bottom. Even so, none meet her need.
It’s possible that at this point Betsy would resort to search. The Illinois site mirrors design found on other sites; there is a prominent search box in the upper right corner of the home page. This touch of familiarity makes Betsy feel as though she might be able to accomplish her task.

After she types “driver’s license” into the search box, she discovers that in Illinois, driver’s licenses are under the purview of the Secretary of State. The first link for her search directs her offsite to a commercial, not government, domain: CyberDriveIllinois.com. However, because the link is provided by the official website, she shrugs off the inconsistency and clicks the link.

Betsy is still looking for the words “driver’s license” but the phrase is not on this new home page, either. Should she look for it in “Services” or “Department”? She clicks Services (there are no mouseover menus on this site, a lack of consistency) and sees the link “services for motorists.” There’s light at the end of the tunnel!

Although the next page contains no link for motorcycles, it does have a link for driver’s licenses. One more click and she’s found the “Driver’s License” page. However, there is no link for people who have moved and need to transfer an existing license. Moreover, the motorcycle page has information only for graduates of the Illinois Motorcycle Rider Course. The page that answers all of her questions is the FAQ, which she finds after exhausting the more obvious choices.

These web designers implemented what is known as a breadcrumb trail in the navigation. A well-designed breadcrumb is one way to provide wayfaring information because the links clearly answer the question “Where am I?” If the hypertext changes color to reflect different states (pages I have visited and pages I have not visited), then the links also clearly answer the question “Where have I been?” Breadcrumbs are less helpful in providing clues as to “Where can I go from here?”

As you can see from examining at this breadcrumb, the Illinois site has a linear structure that mirrors that of the government agency. This is not task-focused or user-centered design if it is the way we expect citizens to find information. The result is a site that is not as easy to use as it could be.

Betsy will not be able to make an appointment at her local Secretary of State facility in Champaign, IL. But she can find the address, phone number and hours of operation. It’s taken quite a long time to find what she needs to know, but she thinks it was better than having to negotiate voice mail prompts.

State of Utah
[INSERT: State of Utah: home]
The Interactive Media Council awarded the state of Utah (U.S.A., population 3 million) its “best in class” award in 2011 for its website, which has a search- and task-centric home page. This design reflects a dramatically different approach to helping citizens find information compared with the Illinois design. The Utah site is more closely aligned with the design style of the Microsoft Bing home page.

Betsy doesn’t notice the “driver license” link (small type, poor contrast) mentioned under “Popular Searches” because when she places her mouse over “Residents” she sees “Newcomers Guide.” The very first link: Getting a Driver License. It’s good that Betsy did not click on the popular search link “driver license”; she would have been brought up short by a page that demanded a login.

[INSERT: Utah Public Safety]

Betsy may have been taken aback at the dramatic change in visual appearance after clicking the “Getting a Driver License” link, however. But then she notices the “Utah.Gov Services” bar along the top of the page, a visual cue that the site is part of the state information system. The bar provides consistency and familiarity.

[INSERT: Utah Public Safety Licensing]

After clicking “Licensing” in the left-hand navigation, Betsy sees examples of Utah driver’s licenses. It may not be clear to her that she is supposed to click on an image. She also sees the “Motorcycle” link to the right of the page, so she tries that. She’s rewarded with detailed information that explains how to get a license with or without taking a motorcycle safety course. There’s information about the motorcycle skills test, but there is no background information about the knowledge test.

[INSERT : State of Utah: Offices]

Betsy will not be able to make an appointment at her local Department of Public Safety offices in Logan, UT. But she can find the address, phone number and hours of operation. And she learns that the Logan office requires an appointment for road tests and also provides testing for motorcyclists.

**State of New South Wales**

[INSERT: NSW Home]

The government of New South Wales (Australia, population 7 million) website is a portal but the information is structured around tasks, not the government’s organizational chart. On the home page, Betsy immediately spots her task phrase: “Get a driver license.”

[INSERT: NSW licensing]
With one click, Betsy is rewarded with information about both auto and motorcycle license requirements, including links to fees, tests, office locations (no scheduling here, either) and handbooks for test prep. Moreover, there is a link specifically for new residents of NSW. This is by far the most usable and user-centered design of the three sites.

State of California

[INSERT: CA appointments]

Unlike the other three governments, the state of California (U.S.A., population 37 million) has developed an online appointment system for both office visits and non-commercial license driving tests. Betsy could use the application to schedule an appointment to apply for her California driver’s license. Afterwards, she could schedule her appointment for a motorcycle driving test; in order to schedule the appointment, she must know her California driver’s license number.

Paying For A Parking Ticket

According to Scott Wylie, “unpaid parking citation fines represent a hidden—and potentially large—source of untapped revenue owed to governments.” The city of Seattle WA (U.S.A., population 563,000) raised $10 million from parking meters in 2002; about 25 percent of all tickets were sent to collections, potentially another $3+ million. Thus there is an incentive for making it easy for citizens to pay tickets online.

In this scenario, Brian received a parking ticket because he paid for 60 minutes of parking but did not return to his car until 90 minutes later. The parking ticket shows information about his car (make, model and license plate), the time and date of the infraction, and information on how to pay or appeal the ticket. He has a vague memory that he needs to pay the ticket within about a week or the fees double, but he has misplaced the tiny slip of paper. Now what?

Seattle, Washington

[INSERT Seattle.gov]

Like Utah, the Seattle website has been honored with awards; it was named the top city site in the 2011 contest sponsored by the Center for Digital Government and Government Technology magazine (Heaton, 2011). And like Illinois and New South Wales, Seattle favors a portal design.

Brian starts with the Seattle.gov homepage. He glances quickly around the site, looking for the magic phrase, “pay parking ticket.” He even scrolls up and down, but doesn’t see anything that catches his eye.

Unlike the Illinois site, there is no mouseover menu associated with the primary navigation. Thus Brian has to make a guess; he choses City Services.
Brian notices a “How Do I…” box on the right side of the City Services page. There’s a scrollbar, but he doesn’t need to use it: “Pay a parking or traffic ticket online” are the words he is looking for.

There’s nothing in the detailed explanation that addresses Brian’s problem: he has misplaced the ticket so he doesn’t have the ticket number. But he selects the “Pay A Ticket Online” option in the hope that he’ll be able to finish this task. Two clicks later, he’s presented with a choice: do you or do you not know your ticket number. He selects “assistance in locating your ticket or case number.”

*If you do not know your ticket number, please call 206 684 5600 during office hours between 8:00 AM and 5:00 PM, Monday through Friday except holidays, and press 0 (zero) to speak to a Customer Service Representative.*

Brian will not be able to pay his parking ticket online unless he can find that tiny slip of paper or until he phones the Seattle Municipal Court.

**Baltimore, Maryland**

When Brian visits the Baltimore MD (U.S.A., population 637,000) website, he thinks for a moment that he has landed on the website for the Baltimore Convention Bureau; there’s a business-like, promotional feel to the site, with blog copy and Twitter and YouTube tabs taking center stage. However the designers use shape and color to direct his eyes to “I Want To…” which is a drop down menu. The down arrow is prominent and communicates the needed action: mouseover me.

Designers at the Baltimore site understand that for citizens, paying a parking ticket is functionally the same as paying a ticket associated with a red light or speeding camera. They have designed a system where computers do what they do best: sort data. And all Brian needs is his license plate number and a credit card to pay his fine.

**Vancouver, British Columbia**

The website for Vancouver, B.C. (Canada, population 2.3 million) looks a lot like that for New South Wales. And as Betsy did in NSW, Brian immediately spies his task phrase “paying your parking ticket” on the website homepage.

He breathes a little easier when he sees that the penalty window is two weeks, not one. Brian clicks “pay ticket” and breathes even easier when he realizes that he can find his ticket by inputting his license plate number. Vancouver local government accommodates online payment for residents from all of Canada as well as all 50 U.S. states. That’s global thinking!
Summary
In each of the four driver’s license scenarios as well as the three parking ticket scenarios, the website designers have taken pains to make the experience feel familiar. Sites conform with evolving web design norms. One potentially jarring experience is the choice in Illinois to have the Secretary of State website use a .com instead of a .gov domain. Also, both payment systems have a distinctly different look-and-feel from the referring web pages.

There is less consistency in understanding the audience. It’s important for website design to reflect how our citizens think and to be organized around their needs rather than to be structured like an organizational chart. We need to ask ourselves: “what are our citizens trying to do?” Make the home page a place where it is easy for citizens to begin the most common tasks with a single click and spot key phrases on an initial scan. The sites that do this best: New South Wales and Vancouver followed closely by Baltimore, which requires mouse-action to see the key phrase.

Because the state of Utah elected to act like a search engine instead of a traditional portal, designers had to devise a way to practice appropriate consistency, so that citizens felt like they were in an integrated place when they left home based. To do this, the designers developed a thin services bar that resides atop all Utah government sites. This solution is less resource intensive than forcing all sites conform to a standard template. It’s one that the two cities might consider for the payment systems.

This scenario analysis is an example of testing and evaluating your designs. In a heuristic analysis, usability experts assess how well a design conforms to a set of heuristics or rules. In an expert analysis, usability experts examine a website in order to tease out possible problems. These forms of evaluation are generally less expensive than usability testing with representative citizens; however, expert and heuristic analyses are important but should not be a substitute for testing.

Tips
1. Be Useful.
The most usable website are useful. Visual appeal is important (more on that in a moment) but the sites must first be useful. To be useful, the design must embody a clear understanding of tasks and motivations and be structured to support the visitor’s mental model, not that of the designer nor that of the organization.

2. Be Accessible
In the United States, government websites must conform with Section 508 of the U.S. code; information on the web must be accessible to people with disabilities. Just as accessibility requirements like curb cuts proved beneficial to citizens other than those in wheelchairs (fathers with strollers, bicyclists, small children and people temporarily
on crutches, for example), website accessibility can improve your usability. Moreover, an accessible website helps all citizens more actively participate in civic life.

3. Be Attractive
We’ve all heard the aphorism “you only have one chance to make a good first impression.” Research suggests that for websites, not only is there only one chance but we make up our minds in a blink, in as little as 50 milliseconds (Lindgaard, 2006). The visual appeal (or lack thereof) is directly related to perceptions of usability; a positive first impression may lead to “potentially negative aspects [of a website being] generously overlooked.”

4. Be Social
Government exists to serve citizens. Make it easy to find social page – see baltimore

5. Think Mobile
What government services are logical candidates for mobile access? Those that have a direct relationship to being on the go. Paying your property taxes? Probably not. Knowing what rush hour traffic looks like or when the next bus or train arrives? Probably.

Summary & chapter highlights/message

Further reading and references

Books
- Designing The Obvious, Robert Hoekman Jr
- Designing With The Mind In Mind, Jeff Johnson
- Don’t Make Me Think, Steve Krug

Articles

Websites
- http://usability.gov
- http://plainlanguage.gov
- http://section508.gov
- http://ec.europa.eu/ipg/standards/accessibility/
- http://ec.europa.eu/ipg/
References


---

1 Typefaces and language, on the other hand, have changed dramatically, as anyone who has tried to read Old English or Old German can attest. See *The History of Visual Communication, The Printing Press* at [http://citrinitas.com/history_of_viscom/press.html](http://citrinitas.com/history_of_viscom/press.html)

2 Other options were the telephone and in-person.


4 As quoted by Hal Varian in *The Information Economy, Scientific American* September 1995. [http://people.ischool.berkeley.edu/~hal/pages/sciam.html](http://people.ischool.berkeley.edu/~hal/pages/sciam.html)