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**An Accessibility and Usability Review  
of the NotifyMe Web Application**

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## **INTRODUCTION**

Since June 2001, federal regulations have required that U. S. Government Web sites and other software developed by or for the U. S. Government provide comparable access to the information for all users<sup>1</sup>. Per these regulations, computer users who have visual and/or other disabilities are entitled to have the same access as users who do not currently have any disabilities.

Some practitioners consider accessibility to be a subset of usability, while others think of accessibility as related to, but separate from, usability. The staff of the Census Bureau's Usability Lab consider usability to be an issue for all users, no matter what their abilities or disabilities may be. Thus, a user interface must be both accessible in the ways required by the federal regulations and usable for people with disabilities.

Though accessibility guidelines have several checkpoints that address general usability issues (e.g., having a logical tab order, dividing large information blocks into manageable groups, and using the clearest and simplest language appropriate), meeting the letter of the federal regulations on accessibility does not guarantee usability (Theofanos & Redish, 2003, 2005). Even if an application complies with regulations, it still may not be usable, as the Census Bureau's Usability Lab has found in other testing. Both usability and accessibility testing must be done to identify problems that users may encounter.

## **BACKGROUND**

This accessibility evaluation was performed on the NotifyMe Web application. NotifyMe allows persons to select manufacturing reports and be notified when those reports become available. The Economic Planning and Coordination Division (EPCD) requested that the Statistical Research Division (SRD) use its expertise to verify and/or identify accessibility problems in the SRD accessibility lab.

## **PURPOSE**

The purpose of this evaluation is to identify and rate the severity of accessibility problems to the developer of the NotifyMe Web application so that the problems can be resolved.

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<sup>1</sup> <http://www.section508.gov/index.cfm?FuseAction=Content&ID=3>

## **SCOPE AND METHOD**

This evaluation is primarily focused on testing accessibility for computer users with visual disabilities. Accessibility testing was performed using the Job Access With Speech (JAWS) 9 screen reader software<sup>2</sup>. For the purpose of this report, an item is judged to be accessible (compliant with the regulations) if it can be accessed by keyboard commands. Usability problems were detected by visual inspection by an analyst familiar with usability. These problems are included in this report as issues to evaluate in formal usability testing if resources are available.

## **FINDINGS**

Findings for the NotifyMe Web application are detailed in Figures 1-3. It will take a low level of effort to resolve the accessibility and usability issues identified in this review. A full evaluation of usability requires testing with actual participants in the laboratory. The priority for accessibility problems is rated high, medium, or low. An item flagged as high means that the user could not perform the task at all. An item flagged as medium means that the user could perform the task, but with difficulty. An item flagged as low priority means that the user with visual or other disabilities is not presented the same information as the able-bodied user, but can still perform the task. **All accessibility and usability issues reported here are high priority.** NotifyMe has these accessibility issues:

- The displayed text for the Accommodation button does not match the text vocalized by JAWS. (Figure 1)
- Characters used as arrows (“>>”) in the “More” link are vocalized as “greater than greater than.” (Figure 1)

During the process of accessibility testing, these usability problems were detected:

- A spelling error will cause a word to be mispronounced, which may cause JAWS users to back-track to hear the word again to determine its meaning. (Figure 1)
- Navigation is cumbersome when a sector has many sub-sectors. (Figure 1)
- Instead of one instruction for Step 1, two instructions are listed. (Figure 2)
- Text describing NotifyMe and information about receiving a confirmation e-mail wraps across two lines. (Figures 2 and 3)

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<sup>2</sup> <http://www.freedomscientific.com>

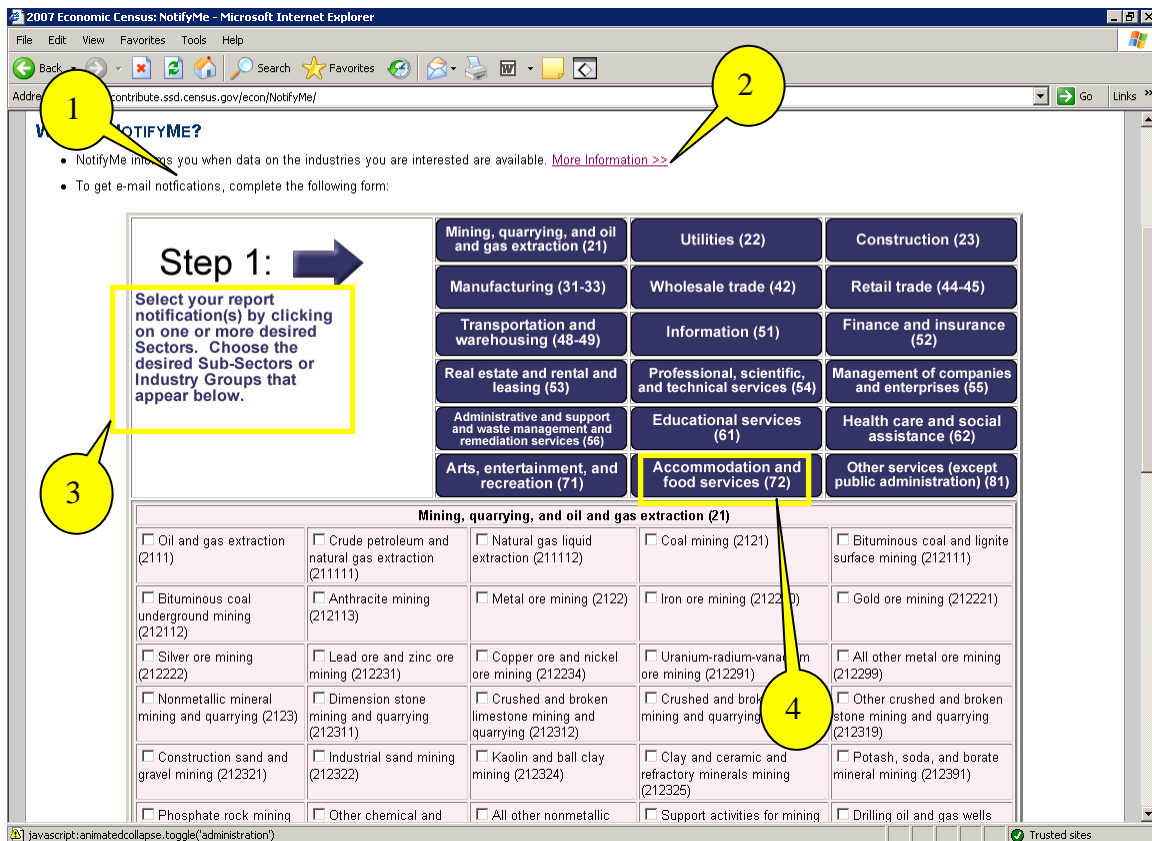


Figure 1. The NotifyMe opening screen has accessibility and usability issues.

1. The word “notifications” is misspelled.
2. The two “greater than” symbols intended to be seen as arrows appended to the link for more information are voiced as “greater than greater than” by the JAWS screen-reader. Hearing “greater than greater than” to represent a right-pointing arrow provides no value to screen-reader users. We recommend either deleting “>>” or placing “More Information” with a right-pointing arrow on a button to replace the link “More Information >>”.
3. Step 1 contains two instructions. For clarity and ease of reading, we recommend placing sentence 1 (sectors) into instruction 1a and sentence 2 (sub-sectors) into instruction 1b.
4. Displayed text in all sector buttons, except for the “Accommodation” button, matches the vocalized JAWS text. We recommend assigning “Accommodation and Food services (72)” to the label for this button. The lack of agreement between the displayed and vocalized text violates Section 508 1194.21 paragraph L.

## Selection of sectors and sub-sectors

The sub-sector checkboxes sometimes take up more than the height of one screen. To select the next sector, sighted users must scroll up the screen and JAWS users must repeatedly tab to the sector. To assist all users, we recommend a “Back to top” link at the bottom right of the check box table after the last sub-sector checkbox item. The target for this link should be just before the “What is NotifyMe” header.

Next, we present findings for Figure 2.

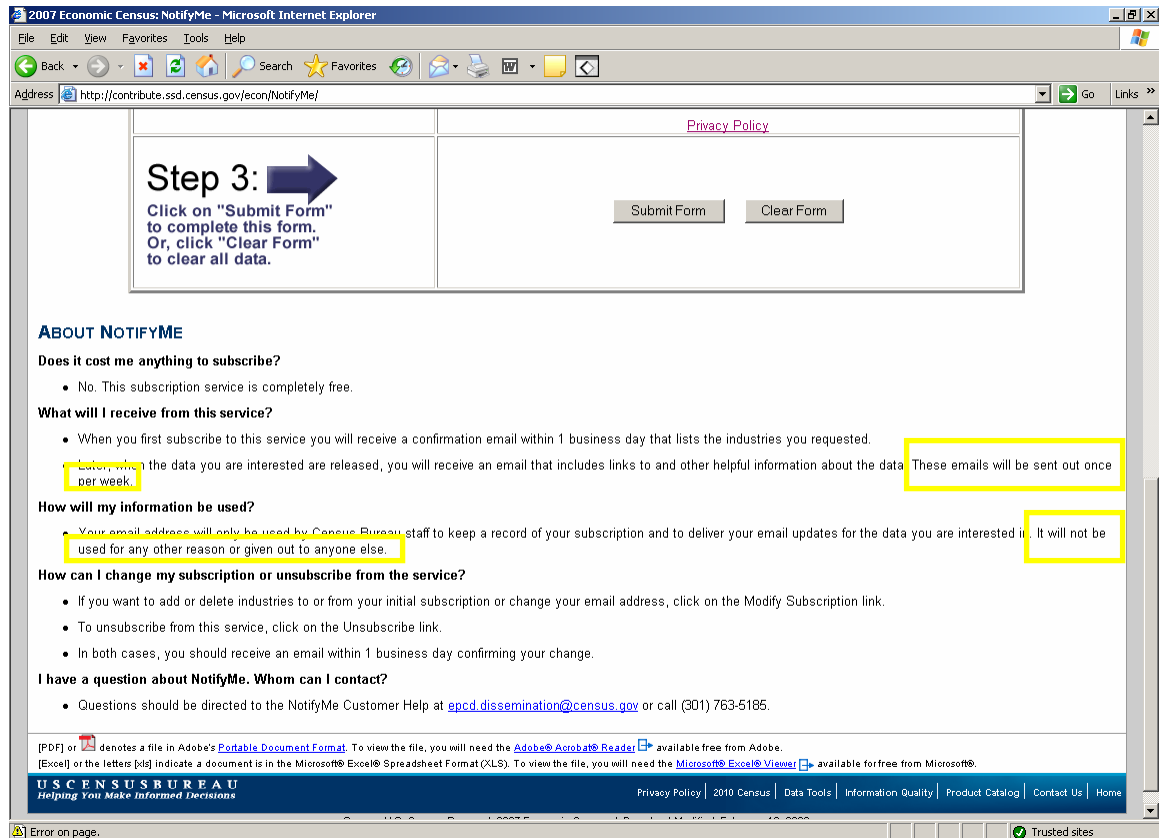


Figure 2. Text below the “About NotifyMe” header wraps across two lines.

Sentences noted in Figure 2 should not wrap from one line to the next; left-justify them under the appropriate bullet.

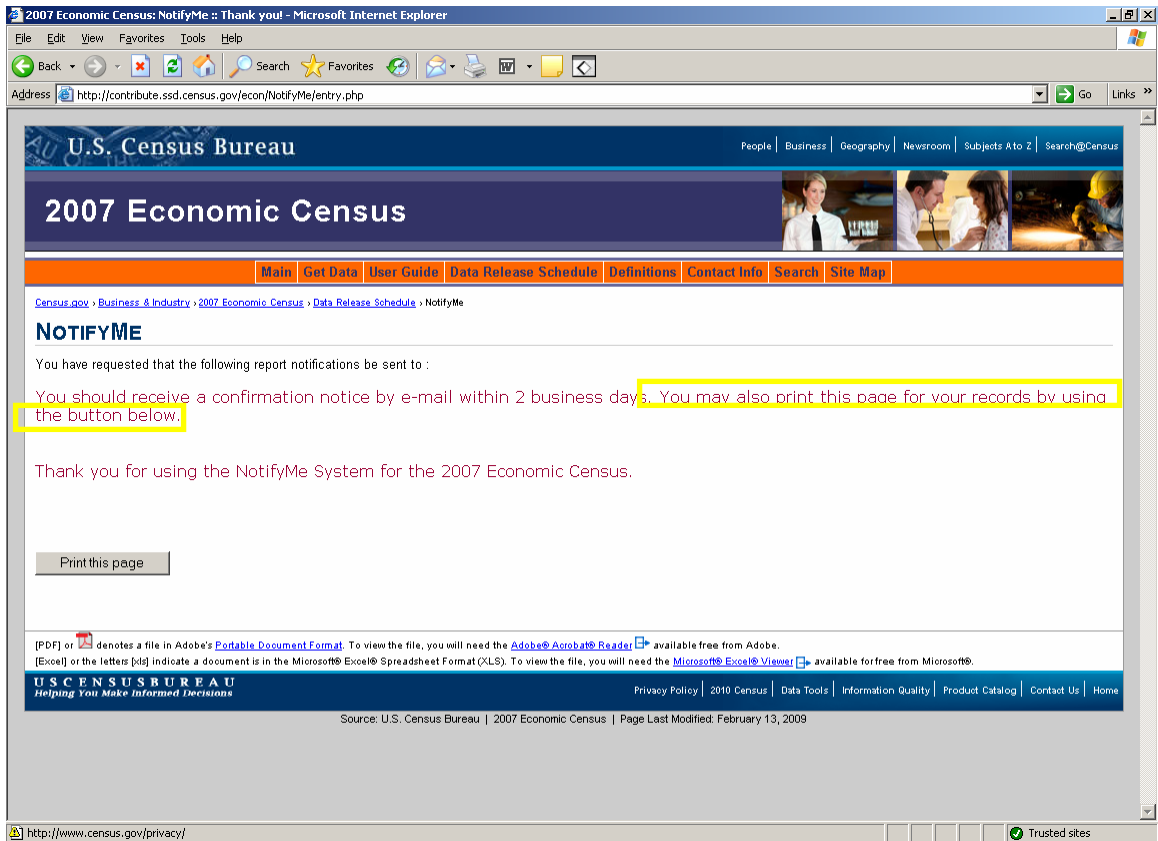


Figure 3. Information about e-mail confirmation wraps across two lines.

The sentence noted in Figure 3 should not wrap from one line to the next. Skip a line, and place it on the next line directly under the previous sentence (left-justified).

## Summary

### Accessibility

There were two accessibility issues in the NotifyMe Web application. First, the displayed text for the Accommodation button did not match the text vocalized by JAWS. This omission violates Section 508 1194.21 paragraph L. Second, characters used as arrows (“>>”) in the “More” link were vocalized as “greater than greater than” and provided no value to JAWS users.

### Usability

When the accessibility evaluation was being performed, some usability issues became apparent. Spelling errors cause words to be mispronounced, which may cause JAWS users to back-track to hear the words again to determine their meanings. Instead of one instruction for Step 1, two instructions are listed. Text describing NotifyMe and information about receiving a confirmation e-mail is not written for the Web and wraps across two lines. Navigation is cumbersome in cases where a sector has many sub-sectors.

The NotifyMe Web application will require very little effort to remedy the accessibility and usability issues uncovered in this evaluation. If both accessibility and usability recommendations enumerated in this evaluation are followed, then all users will be able to request their manufacturing reports with greater accuracy, ease and satisfaction. Full identification of usability issues, however, will require testing with actual participants in the usability lab. The participant group should include some users with disabilities.

### References

Theofanos, M. F. and Redish, J. (2003). Guidelines for accessible – and usable – Web sites: Observing users who work with screenreaders. *Interactions*, X.6, 38-51.

Theofanos, M. F., and Redish, J. (2005). Helping low-vision and other users with web sites that meet their needs: Is one site for all feasible? *Technical Communication*, 52.1, 9-20.