

# Usability Testing the NatureMapping Website

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## What is Usability Testing?

Usability testing is a procedure that tests the functionality of a document or website by asking subjects to complete tasks typically performed by users of the site. Usability testing can be a useful tool to diagnose what is and isn't working in a document or website and to identify focused strategies to improve their functionality.

## The NatureMapping Website

The NatureMapping website allows citizens to enter geolocated wildlife species observations into a central online database that scientists can use to monitor the distribution and abundance of birds, mammals, and herpatiles in Wisconsin.

Given that the NatureMapping project is one of the primary mechanisms by which data are being collected about non-game and non-endangered species in Wisconsin, it is important that the NatureMapping website ensures users can enter valid data. The NatureMapping website is also an important way to educate the public about Wisconsin wildlife and wildlife research.



A picture from the Wisconsin NatureMapping Website. For more information, go to: <http://www.wisnatmap.org/>

## Methods

We recruited 14 subjects to take part in this usability test: 7 citizens who had received training on the NatureMapping website by staff of the Beaver Creek Citizen Science Center ("trained") and 7 students enrolled at UWEC ("UWEC") intended to represent citizens who had not received training in NatureMapping but who might be interested in it.

We designed an instrument to test the important functions of the NatureMapping website. The questions were designed to specifically target the following four functions:

- ❖ Navigability: whether users can navigate, find, and use its features to enter and view data;
- ❖ Comprehensibility: whether users understand the information the site provides;
- ❖ Validity: whether the data users enter is accurate; and
- ❖ Reward: whether users enjoyed using the NatureMapping website.

The resulting instrument contained both task items that required subjects to enter and view species observations and survey items that inquired about subjects' attitudes toward the site.

## Key Findings and Recommendations

Usability testing the NatureMapping website permitted us to diagnose several problems with the site that interfered with one or more of these four important functions.

For example, half of subjects had difficulty navigating the login screens; we recommended that the site be modified to streamline the multiple-screen login procedure to a single screen.

A number of subjects also had difficulty navigating the multiple screens required to effectively submit their observation(s) into the database (Figure 1). Many subjects were unsure that they had successfully entered their data. We recommended that the data entry procedure be streamlined to facilitate data entry and to add a clear signal that assures NatureMappers that their data had been successfully entered into the database.

Figure 1. Total success rates for data entry tasks

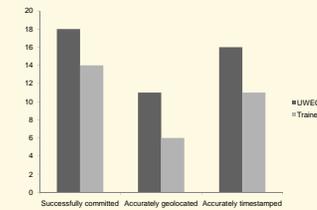


Figure 2. Number of 13 subjects who successfully completed data viewing tasks

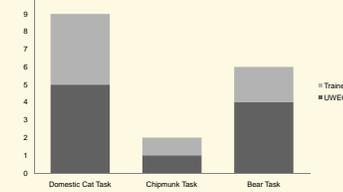


Figure 3. Likelihood to use and recommend NatureMapping site

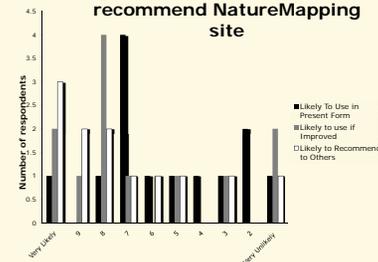
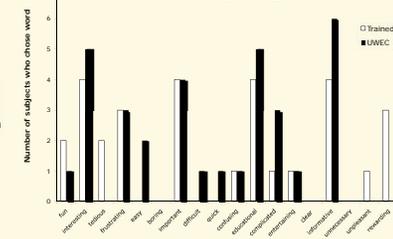


Figure 4. Impressions of NatureMapping Site



To ensure that the data NatureMappers enter into the database is valid, it is important that these observations be properly geolocated. However, only 40% of the species observations subjects entered into the database were properly geolocated (Figure 1); several subjects seemed unaware that more accurate geolocation was even possible, much less necessary to ensure data validity. We recommended that the geolocation procedure for data entry be streamlined.

Usability subjects also seemed unaware that the NatureMapping site offers two ways to view data: as a table or as a map with species observations indicated as points; as a result, their ability to view and comprehend data was compromised (Figure 2). We recommended that these two modes be offered to viewers in the form of a drop-down menu labeled "view as table" or "view as map."

Only about half of subjects indicated that they were more likely than not to use the NatureMapping site in its present form (Figure 3). One subject said during her debriefing that "we want to enter data, but it's not necessarily fun or relaxing for us." More subjects indicated that they'd be more likely to use the site if it were improved. This suggests that the NatureMapping site we tested did not provide adequate reward for users.

Despite the difficulties most users experienced in using the site, subjects seem positive overall about the NatureMapping project (Figure 4), suggesting that if the user interface of this website can be improved, the reservoir of interested, engaged citizens can make the NatureMapping website a valid, productive way to collect data about wildlife species in Wisconsin and to engage and educate citizens about wildlife science.

To see the entire usability instrument, or if you have questions or comments, please feel free to contact Dr. Ruth Cronje at [cronjer@uwec.edu](mailto:cronjer@uwec.edu) or Leanne Miller at [millerlb@uwec.edu](mailto:millerlb@uwec.edu)

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