

# Heuristic Evaluation

HERP ATLAS PROJECT – TEAM FROG FINDERS

## Team Members

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## App Description

The design of the app is for a native Android app where users can submit a single observation of a herptile in the state of Michigan. The user will need to log in to the app and is not able to submit an observation anonymously, which comes at the request of the client team. The app then presents a home page, from which the user can either submit a new observation, manage their locally stored observations, or log out of the app. The observation page is a form with multiple data fields that can be filled out, while the manage observations page allows the user to individually upload locally stored observations to the client's database or perform a bulk upload. There is also a navigation menu that contains help documentation and navigation links to access the different pages when not on the home page.

## App Domain

Mobile app for field observations – data over forms.

This application will be used to collect field observations of herptiles in the state of Michigan. It will submit data that are viewable on a companion web dashboard, so this application is primarily a data over forms application for submitting single observations and does not need to display multiple or aggregated data.

## Heuristics

The following heuristics were chosen based on the fact that the client team has a large number of fields that users can fill out, with only a small subset of the fields being required. As such, the organization and display of these fields is crucial. Another factor influencing the choice of heuristic is the range of technological comfort the users could have, so users will need to be able to access help and support documentation, especially concerning the non-required data fields.

- Boucher's Ergonomic Criteria:
  - (B-H) Help
    - The site helps and guides the user.
  - (B-VO) Visual organization
    - The page is well organized.
- Nielsen's 10:
  - (N-CS) Consistency and Standards
    - Users should not have to wonder whether different words, situations, or actions mean the same thing.
  - (N-HD) Help and Documentation
    - It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.
  - (N-VSS) Visibility of System Status
    - The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time
- Gerhardt-Powal's Cognitive Engineering Principles:
  - (GP-D) Group data in consistently meaningful ways

- Within a screen, data should be logically groups; across screens, it should be consistently group. This will decrease information search time.
- (GP-I) Include in the displays only the information needed by the user at a given time
  - Exclude extraneous information that is not relevant to current tasks so that the user can focus attention on critical data.

## Potential Usability Problems

- Different use of “record”/“recordings” on the home page. Violates N-CS, B-H.
- Observation form does not clearly indicate all required fields. Violates B-H, B-VO.
- Observation form fields are not grouped by relation or requirement. Violates GP-D, B-VO.
- Need to leave the observation form to read documentation with no indication of whether an in-progress observation is saved. Violates N-VSS.
- There are multiple ways to access documentation (toolbar and nav menu), settings (toolbar, nav menu, manage observations page), and account actions (logout button on both main page and nav menu) that could cause confusion on where and how to make adjustments and/or perform actions without further explanations. Violates B-H, N-HD, N-CS.

## Critical Usability Concerns

- Indication of required fields
- Grouping of fields
- No indication of form data being saved when leaving

These three are chosen because the usability of the form is the primary function of the app. The other potential problems are things the user can learn to work with, but if the form does not function as expected then it is likely the users will not use the app.

## Critical Usability Scenario

The user wants to make an observation and starts filling out the form. They aren't sure of the species of the herptile, so they mark down the group and check the autofilled time and location. They then navigate to the help docs, see what to do if the species is not known. They return to the form and see that their previously entered data is gone. They quickly reenter the information, including the appropriate species response, and try to save the observation but cannot because the app did not tell them a picture was required. By this point, the herptile has moved on and the user cannot take a picture to submit, so they abandon the process of trying to make an observation.