



Heuristic Evaluation of
CoCoRaHS app

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Heuristic Evaluation

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Main goal of this Evaluation:

The main goal of this evaluation document is to identify the general usability concerns of the undergraduate design, and also to illustrate the critical design concerns of the app.

Contents of this Evaluation Report:

<ul style="list-style-type: none">• UI domain description	<ul style="list-style-type: none">• Short description of the Undergrad design• Identification of the UI domain and short description
<ul style="list-style-type: none">• Heuristic usability principles Usability Problems	<ul style="list-style-type: none">• List of heuristic usability principles for the design's UI domain• List of usability problems generated from the heuristic evaluation
<ul style="list-style-type: none">• Critical Usability concerns	<ul style="list-style-type: none">• List of the critical usability concerns

Heuristic Evaluation Purpose:

Heuristic evaluation is the evaluation done by the evaluation managers where they review or inspect the app (product). In particular the evaluation is done by the usability experts and product domain experts. Heuristics can be described as set of the principles used, to examine the interface for violations of the principles. The main purpose of conducting heuristic evaluation is to explore usability concerns that might possibly confuse the users. The results from heuristic evaluation can be used to design most appropriate usability test scenarios..

UI Domain Description:

- **Application description:**

CoCoRaHS is designed to enable citizen scientists to study the precipitation, rainfall, snow and hail conditions in United States and Canada with the data contribution from enthusiasts, volunteers and county co-ordinators. This app allows the users to update their station information along with the photos of their rain gauges, which are usually set up in their backyard. The users will be able upload their comments about the photos and upload any useful weather information to the app through a comment section. This information is mainly used by meteorologists, emergency managers, university managers, national weather service and many others for examining the weather conditions in United States and Canada.

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- **UI domain:**

The UI domain for CoCoRaHS app is mobile logging system. It is the app that is mainly interested in collecting the metadata from the users and using it for research purposes and other educational purposes. It is important to know the weather conditions of the place before planning anything. So, this app is designed to provide information to scientists and researchers, and the CoCoRaHS App users will need a UI which will allow them to upload their metadata information and upload the photos of their rain gauge and will also be able to comment on their photos.

Heuristic usability principles:

This section of the evaluation will list the heuristic usability principles based on which the app will be evaluated. According to Jakob Nielsen and Rolf Molich, there are 10 original heuristics, which are stated in 'Usability Testing Essentials' by Carol M. Barnum textbook. In this section, I mentioned the evaluations based on these principles that are related to this app. The Usability Problems are included in this section, which explains the findings of the heuristic evaluations based on these principles.

- **Visibility of System Status:** The CoCoRaHS app doesn't give the user appropriate feedback, so this may confuse the user at some point. Since, the user using the app is not a regular customer and since he/she might use the app once in a while, appropriate feedback is necessary for the user within reasonable time so as to avoid confusion.
- **Match between system and the real world:** User interface design should be as simple and elegant as possible, so that every user will understand the working of the app very easily. Since, no tutorial is provided about using the app, at this point, it is suggestable to make the app more understandable to the user. The screenshots presented in cognitive walkthrough are confusing and will confuse the users easily if no help or tutorial section is included.
- **User control and freedom:** In the screens presented in the cognitive walkthrough, there is no emergency exit button if the user selects a wrong button, or if he/she doesn't want to upload the photos. All the users might not be interested in uploading their photos. It is advisable to include a skip button wherever necessary to avoid confusion.
- **Consistency and Standards:** The app is about submitting the metadata of the location. Any enthusiast in United States and Canada can make their contribution to this app, which means people from different time locations can

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upload the location data. This app doesn't provide different time location details, which might confuse the user.

- **Error Prevention:** There is no way for the user to save the information and upload if they don't have proper internet connection. The scientist mentioned in his preliminary meeting that the some users might be uploading their metadata from state national parks or might be at some places where there is no internet connection available, so they should be able to save their information. The screenshots has not mentioned anything about saving the data anywhere.
- **Flexibility and efficiency of use:** There is no save option provided, which makes the app more flexible to use. By using the save option the user will be able to save the metadata location while he/she is at the location, add some photos which will be saved in the phone's gallery and be able to upload them when they have internet access.
- **Help and documentation:** There is no help documentation or tutorial on how to use this app. The users of this app are may range anywhere from young to old aged people, so help and documentation of this app should be provided in order to make this app useable.
- **Help users recognize, diagnose and recover from errors:** By adding the help documentation to the app, the users will be able to recover from errors if they encounter any.

Critical Usability concerns:

There are some usability concerns for this app. The user may get lost between the views, and he/she might get confused and might post wrong station if they are entering it manually. The critical usability concern is that sometimes the user might not want to make the uploaded photos to be seen by public. So, user consent should be made clear before uploading their photos. And the page leading to the user consent should be easily accessible without any complication.

Critical Usability Concern with a short story:

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Jenny visited Yellowstone national park last week, and she wanted to post her metadata location when she was at that location, but she noticed that she didn't had internet connection. So, she couldn't save her while she was there and she was really disappointed. Instead, if the user was able to save the location of the data if there is no internet connection and upload it whenever her phone gets connected to internet, this would allow many more users to use this app.