Evaluation 2: Heuristic Evaluation

App: Stream & Trail
Team - 1

App Design:

The main purpose of this application is to check the trail condition before visiting the trail. This app will allow the users to check the trail condition and also to update the condition of the trail. For standard users, the data collected from user reports will be used to check if the trail is in good riding condition before actually traveling to the trail. The user report includes the muddiness information of the soil, which will be displayed on the home screen. Eventually it will be used to create a predictive model that integrates water level data of local streams. The users will be differentiated into two types authenticated and unauthenticated. Authenticated users are the students who use the trail, trail managers and the government officials. The authenticated users can give the feedback about the trail, update the condition of the trail and can upload and download the trail report. Unauthenticated users are the general public; they can only view the trail condition.

Identification of UI Domain:

The application is expected to be run on mobile devices, as it's intended point of use is often on the trails themselves. The app will also have to interface with the stream sensors in some fashion in order to access the data. The user will update the condition of the trail after use with the specifications like time, date, coordinates and the condition of the trails. This information will be helpful for the other users who want to use the trail. The users can see the condition of the trail from their home and can plan a visit to the trail based on the condition of the trail. And the trail managers will check the conditions that are reported and report their own data at their office. Similarly the researchers can download the data and analyse at their labs.

Usability Principles:

1) Visibility

One of the key usability principles of web application is Visibility. The mobile application should give great user experience. The users should not face any difficulty in viewing the trail condition. When uploading or downloading the trail conditions the navigations should be clearly visible.

2) Error Prevention

Careful designs should prevent a problem from occurring. Users should upload the condition of the trail with a confirmation before they commit to actions.

3) Flexibility and Efficiency of Use

The application should give very good experience to the users. The design and functionality of the application should be flexible and easily understandable. The interface should also be scalable for different screen sizes.

4) Consistency and Standards

The navigation bar should redirect the user to the exact page they want to view and the actions performed by the user in the application should give the clear and consistent results.

5) User Control and Freedom

The user should have the control and freedom over the screen. If by mistake the user submits the trail condition wrong, they should have an undo function.

6) Aesthetic and minimalist design

The display should not contain the unnecessary and irrelevant information.

7) Recognition rather than recall

Objects, actions and the options should be visible clearly. The user should not remember all the instructions and information. Everything should be easily accessible and retrievable.

8) Match between system and Physical environment

When the user updates the feedback using the location coordinates, that coordinates should specify the exact location location of the trail. The system should use the appropriate language for the users and follow real-world conventions.

Usability Problems:

If two users enter the same or different information, then there will be the duplication of the information and views. Especially in the case of researcher vs trail user home screen.

If the user updates the incorrect information in the trail condition, then there will be a problem. So there should be a continuous monitoring system.

Critical Usability Concerns

There are not many possible worst case scenarios, but there are quite a few chances to occur. Let's discuss them below.

Let's say a trail user updated the trail condition with the wrong information.
Scenario: If a regular trail user opens the app and checks the trail condition, there it states that the trail condition is good, but it is not. The user drives 30min and reaches the trail. When the user sees the trail conditions surely he/she will be frustrated. So continuous monitoring of the trail conditions by the trail manager is a must.

In an errored scenario if we want to retrieve the information of the previous year trail condition due to some technical issues or unavailability of data the reports maynot be available. This may cause some issues.
Scenario: Elinor wants to cut funding to the trail system, and she decides to justify doing so by proving that the trails aren't used very much. She logs onto the app, but after clicking around for 15 minutes can't find any statistics of the previous year. Frustrated, she closes the app and the trails stay funded.