Evaluation Assignment 2
Swept Away - Team 5

Sandeep Battula - Grad 9
App Idea: WEPP Model

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1 Design Description

Swept Away have created an app that utilizes the WEPP model to allow high school students, researchers, and citizen scientists. There are three pages, the first page is a landing and data entry page, where there are input boxes for climate file, soil type, slope and cover percentage. The next page is data result page, where there are percentage text for the probability of runoff, probability of erosion and probability of delivery, and there is a recalculate option along with the inputs change the slope and cover percentage. The last page is where the result history with a table of previous queries, and a restart buttons.

2 UI Domain

This is a mobile friendly version of the WEPP website. This app is aiming towards streamlining the app interface towards high school students and researchers alike to see the effects of erosion in a place and to collect data. Additionally by changing some parameters, see different outputs, hereby allowing comparisons.
A specific required feature for this app is the ability to specify the location manually and use GPS.

3 UI principles

The first record UI principles was in 1994 by Jakob Nielsen[*], however it has been than 25 years since those principles, it seems that they have stood the test of time as this blog on Adobe[†] implies. So we will go with these UI principles.

3.1 Visibility of System Status

Though it wasn't developed yet, this app should show updates when the system changes without the user's consent. For example if the GPS isn't working, and the user tries to use the automatic GPS location, then it must notify the user that GPS isn't working and tell the user to try manually location selection. Another place to display statuses, is to assure the user when their data has been sent, once complete.

3.2 Match Between System and the Real World

Since Americans are the target group, We should build this app using American English. Since we are targeting many different kinds of users from student, citizen scientists and researchers, we should use plain language, and when technical language is used there should be a definition in plain language if possible.

3.3 User Control and Freedom

Since this app uses pages and its main form of navigation is going from one page to another. This app should have its own back button and a paired forward button, in the navigation bar. Also the app should automatically save the form on the current page, so the user can go back and forth as they alter the form without loss of information or time. Since the alternate option is to have the form forget, and make the user type it back.

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[*]https://www.nngroup.com/articles/ten-usability-heuristics/
[†]https://theblog.adobe.com/do-the-10-usability-heuristics-still-hold-up-over-a-decade-later/

3.4   Consistency and Standards

This is where a good design comes in. If the app follows Google Material design standards or other standard then the app doesn't have to reinvent the wheel and the user will be mostly adjusted to the interface, while still allowing the app to have a unique look with stylistic choices like light content on a dark background or vice versa.

3.5   Errors

If the form is incomplete when the user tries to go to the next page, the user needs to be informed of the inputs that have invalid inputs, like maybe shaking the specific boxes on error, and showing a tool tip on what should go here.

3.6   Recognition Rather than Recall

Having all the labels near their respective inputs, follows design convention, so people recognize where to put their inputs, rather than try to remember.

3.7   Flexibility and Efficiency of Use Accelerators

Since the app currently is very limited in its use, there isn't any need to consider it.
However if there is any added functionality that would prove useful to only to experts, then putting in a switch that handles the expert mode would be useful.

3.8   Aesthetic and Minimalist Design

The design should take into account that most people will use this app on a screen outside, so a good contrast that still works indoors would help everyone. Also following this design all-throughout the app would create a sense cohesiveness.

3.9   Help Users Recognize, Diagnose, and Recover from Errors

Refer to Errors.

3.10   Help and Documentation

Since this is an app that is going to mostly taught by teachers, make sure there is a guide either separate but is sent with the app, or inbuilt with the app, so that teachers can show the app to students. However the app must still be usable enough that when experts use the app unhindered.

4   Usability Problems

There are several usability problems:

The current app doesn't support GPS and manual location, which is a requirement.
There should be a new design so that it is better in the sun and indoors.

4.1   Critical Usability Concerns

These are also Usability Problems as well but are more important Critical Usability Concerns.

There isn't any support of notifying the users to problems with internet and connectivity.
Scenario: There are students all scattered in a national park, doing science fair data collection for their science report. They assume that the app is saving their data to the cloud when there is no internet connection at all, thus their reports are bad since they didn't collect data.

The wording of the app isn't good, and can be confusing for novice users.
Scenario: A foreign student in a student exchange program and doesn't have a good enough grasp on what the teacher is saying. They are wondering, what is the difference between slope and slope percent is?, He asked other students to find out what was the difference.