



USER TESTING RESULTS ANALYSIS

Briana Bettin

CS5760 – April 20th, 2017

About the App

- Drinking Water Inspection App to be used by DNR representatives.
- These inspections usually require a form completion that states elements checked, their status, and actions that must be taken
- App allows a digital way to complete this form and to print it for final processing.
- Team: Cameron Pollock, Mark Schlax, Nichole Mackey, Sophia Farquhar, Jordan Gagnon, Cory Kroes, Briana Bettin (UX Expert), Rohith Pagadala (UX Expert)

Test Process

- Standard protocol of CITI Training for testing experts, form of consent signed by individuals being tested, statement of privacy of data and disclosure of any recording given.
- All my tests were done in Rekhi 118 to control environment.
- Participants answered initial questions, walked through scenarios given as if they were an inspector, and were given final thoughts questions.
 - *Observations noted included participant actions, statements, areas they lingered on, and so forth.*
- Three participants tested on laptop with a mobile sized browser window. Three tested on Android phone with screencast to laptop, which was recorded for review.
- Tests averaged about 20 minutes.
- Some tests had certain scenario orders flipped, as naturally in the field different areas of the form may occur in different orders. Flips were noted on each testing document with arrows.
- Sample scenario: *“You move to inspect the pumps, and notice some leakage occurring around the pipelines. Realizing this could be a problem, you make sure to take note of it on your evaluation form.”*

Results Summary – The Good!

- Users had minimal to zero difficulty understanding and completing the scenarios as was desired (desired result noted by a task in testing doc, but task not told to user, only scenario).
 - *Despite no training (where DNR reps will understand the terminology more), users were able to navigate scenarios and fill out the form as one would expect.*
- If users assumed linearity in the form fill out (Part 1, then 2, etc.) and had filled out the wrong section, all who did so managed to course correct – they realized later in the test that they had not filled out the right area due to their assumption of linearity, and revised the form without being told this.
 - *They also often corrected their bubble choice or filled in bubbles after the fact if they had forgotten or not noticed them prior.*
- Users seemed to really enjoy the color coding, several commented how it felt “right” and was an interesting addition as they filled out sections.

Results Summary – The Interesting

- Users did not necessarily understand corrective actions and how to add them or what to place within them. A DNR rep would likely understand these more, but users gave great feedback regarding redesigning it to be more intuitive.
- Several users noticed how the tabs toggle open and close based on radio button clicks, and many played with this feature as well as changing the tab color with Yes/No clicks. Several managed to note errors this way, such as when the color did not change as expected.
- In the mobile tests, users had difficulty saving the print out to a PDF on their device, as Google wanted to put it in Google Drive. This is not so much an issue with the app as this is Android behavior, but as saving a print out to a phone is not *normally* a common task, this may be a use issue without training.

Common Usability Questions

- All users indicated they would use this application again if DNR inspection were their job, and 5 of 6 users stated they enjoyed using the application.
- Users seemed to typically average about 3 years of smart phone usage
- 5 of 6 users were interested to strongly interested in testing the application
- All 6 testers were male
- No testers had any awareness of color blindness, visibility impairment, or accessibility needs in their typical technology usage.

Bug Report

- [1] Header Toggle: The accordion expands and collapses whenever a radio button is clicked – if users clicked on the header prior to open it, then click a radio button for if the issue is present or not, it will auto close. (Severity: 2)
- [2] Only the first four counties in alphabetical order are listed (Severity: 3)
- [3] The PWSID# is known to be 8 characters in specifications, but is not being properly bounded (Severity: 3)
- [4] On the print screen, text fields do not expand to size of input during printout, resulting in words outside the box bounds being cut off (Severity: 1)
- [5] Errors are not currently implemented, so could not be tested (Severity: 1)
- [6] When Print Preview is selected, page spawns a new “about:blank” page that is a replication of the previous page. Can easily confuse users who do not realize this is not their original browser window. (Severity: 4)
- [7] Remove Corrective Action button does not do anything (Severity: 2)
- [8] Color does not change back if user selects Yes or No to turn the header green or red, and then selects N/A, which is usually dark blue. (Severity: 2)

Recommended Changes

- Create a system (whether via randomized share links, logins, cookies, etc.) that allows users to save a form for later or to save their progress, in case something happens during their inspection that requires later review/changes.
- Have headers open on selection of the arrow or body of header, but on radio button click ensure a “Yes, issue present” keeps the body open, and a “No” or “N/A” may collapse it or leave it collapsed.
- Alter printable version to change text fields into labels or resize the text boxes in some way that guarantees all text typed can be seen in final form.
- Ensure that the N/A option changes header color as well as Yes and No.
- Implement errors and add unlisted county options.
- Create tooltips for any terminology or options that may be confusing, to ensure consistency across reps and forms.
- Do not allow a user to select “No” or “N/A” but also select check boxes for issues within the form, or select “Yes” with no check boxes selected.
- In Corrective Action, auto generate a corrective action item for each check box chosen so users do not have to scroll form to recheck the issues they noted. Describe the text area in some way such as “actions needed to resolve issue”, so users know these are actions needed, not a further description of the issue.

More to Come!

- Additional details can be found in my Usability Test Report, which will be posted to my website!
- <http://www.csl.mtu.edu/classes/cs4760/www/projects/s17/grad3/www/>
- Thank you! 😊