Split test between Scroll and Carousel prototype for Health Data Basics

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Background

A split test for the Health Data Basics plugin was conducted to evaluate desirability, usability, and engagement. During the test, participants explored one of three different prototypes where their behavior of what screens they visited and how long they spent on different sections was recorded. Participants then filled out a survey to provide opinions and sentiments.

Objectives

- Identify usability issues
- Evaluate desirability between quiz options
- Evaluate engagement between carousel and infinite scroll
- Gather qualitative feedback

Materials:

- Links to the prototype:
  - Carousel 1
    - https://www.canvasflip.com/protected/app/playback.php?project=25892&ref=ROqmdDoShvidIJmQZbgz5e2qp4w6gTN8
  - Carousel 2
    - https://www.canvasflip.com/protected/app/playback.php?project=25895&ref=7CUvRGSxAtljA2b66mSUiPjzpmFySZFZ
  - Scroll:
    - https://www.canvasflip.com/protected/app/playback.php?project=25601&ref=ddUlzk2lO7XkT9BgVQ3kplZnHJZ1efFs

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Participants

- 30 individuals living in the United States were recruited through Mechanical Turk with 94% (28/30) of individuals interested in their health. A between-subjects design was used with 10 individuals assigned to each prototype.

Recommendations

Education

- **"Job and background" is easier to remember than "socioeconomic"**
  - Individuals recalled "Job and Background" 100% (10/10) in comparison to socioeconomic 45% of the time (9/20) when quizzed on the 5 factors of health data. A Chi-Square test showed a significant difference with a p-value of .0037 and a 99% chance that the responses are different.
- **The Prototype is effective at teaching**
  - Individuals recalled the 5 factors of "Biology, Environment, Medical, Job and Behavior and Lifestyle" 97% of the time when quizzed on the categories following usage of the prototype.
- **Use plant growing quiz over sound effect quiz**
  - 9/10 individuals clicked on the plant quiz compared to 5/10 individuals who clicked on the sound effect quiz with a 94% chance of a difference existing. A Chi-Square test returned p=.051. Results are not significant with a confidence interval of .95, but are significant with a confidence interval of .9.

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Quiz selected
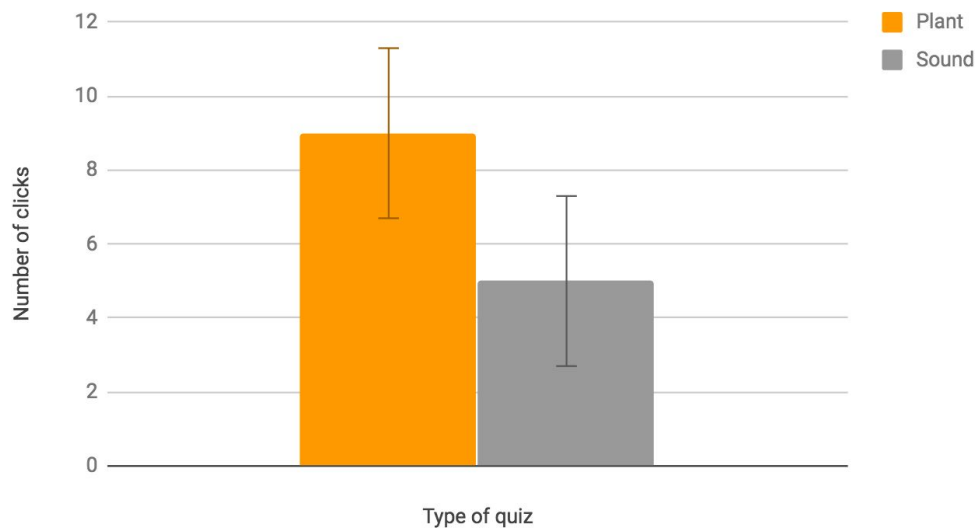
Interaction

- **Reduce shock of transition, or use of external links (NIH, Apps, Getmyhealthdata.org)**
  - From observations, individuals often navigated back to where they had left off after navigating to external links. In addition, 4 individuals made multiple clicks on the web page attempting to find a way to return to the app.
- **Reduce interaction ambiguity with icons**
  - 5 individuals clicked on icons that were not interactive on the "you can change your health page. It is hypothesized that this is due to the drop shadow card behind the icons.
- **Consider abbreviating 5 factors within the carousel**
  - There was a significant difference between time spent on the first 3 pages ((M=4.37 , SD= 6.01) and the pages discussing 5 factors (M=2.16, SD= 2.58). A paired sample T-test showed a significant difference " t=.85, = .04"

Average time on page for Carousel
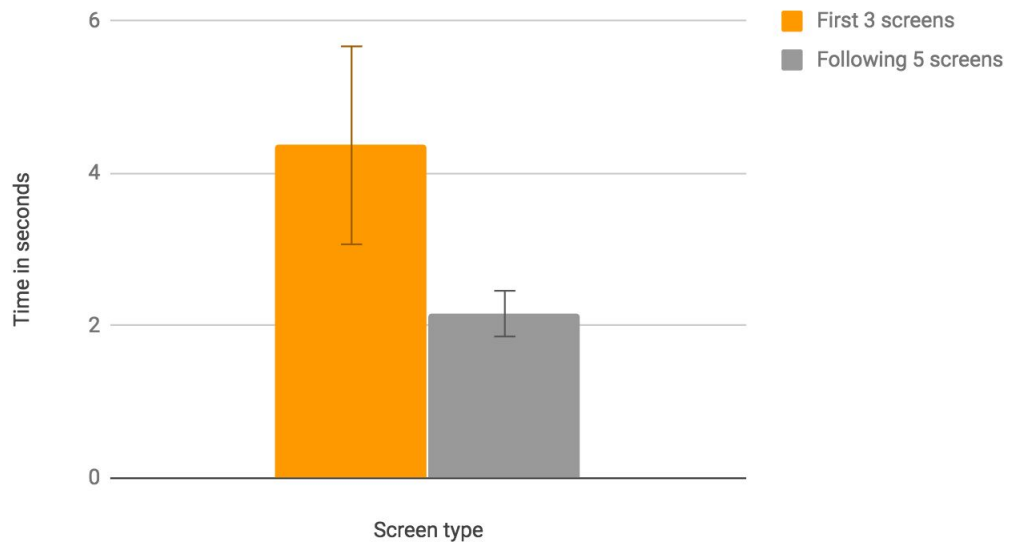
- **"Ghost buttons" for "make a change" are as effective as buttons with gradients**
  - Individuals clicked on the differing styles of buttons at equal rates.

Total Number of clicks by button type
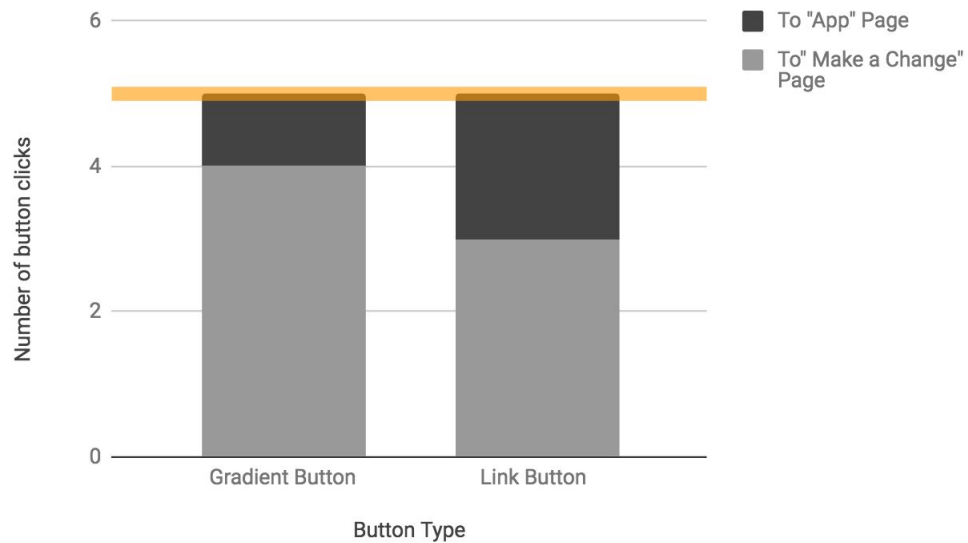
Comparison Between Prototypes

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- **Participants do not have a preference between the scroll or carousel prototype in usability, trust, appearance or loyalty.**
  - An ANOVA performed on the usability category was not significant with a p-value of .11. Due to significant overlap of confidence intervals, no analysis was performed on the other categories.


Survey responses by prototype
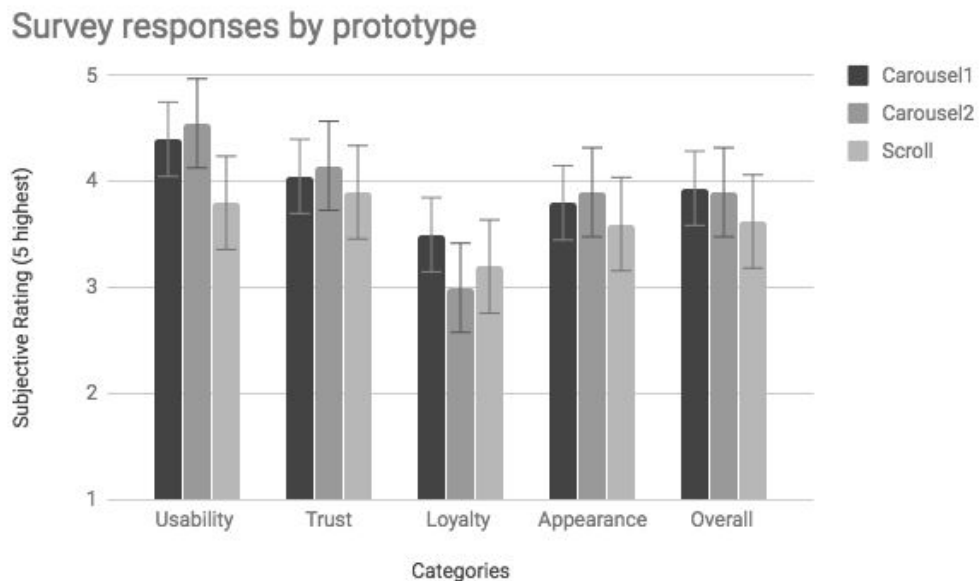
- **"Loyalty" or willingness to revisit a site could be improved**
  - Across all prototypes, loyalty had the lowest survey score with an average rating of 3.23 out of 5 compared to an average score of 4.0 of the other 3 categories. This result was significant with a paired sample t-test "t=2.87, p= .0058." Improving the return to this site may not be a goal of this particular plugin, as it provides an overview of Health Data. An individual looking for specific information would likely conduct a specific internet search.

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Average survey response across all prototypes
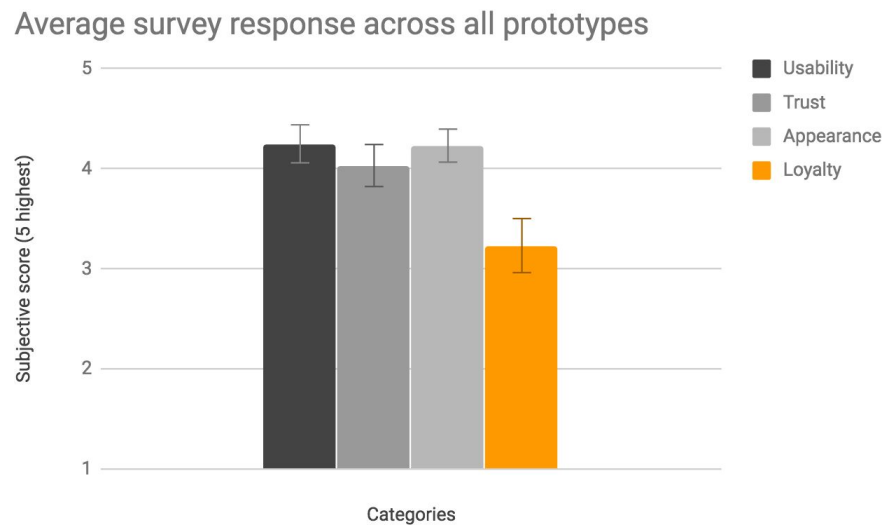
- **Individuals scan more and conduct deeper dives with scrolling prototype.**
  - There was a significant difference between pages explored with 56% page exploration with the scroll prototype vs 23% page exploration with the carousel group. The results are significant with a Chi-Square test having a p-value of .0018 and a 99% chance that the groups are different.
  - From observation, individuals in the scroll group would skip sections or quickly breeze past sections in comparison to the carousel where individuals would be more likely to scan a page.

Page visits by prototype type
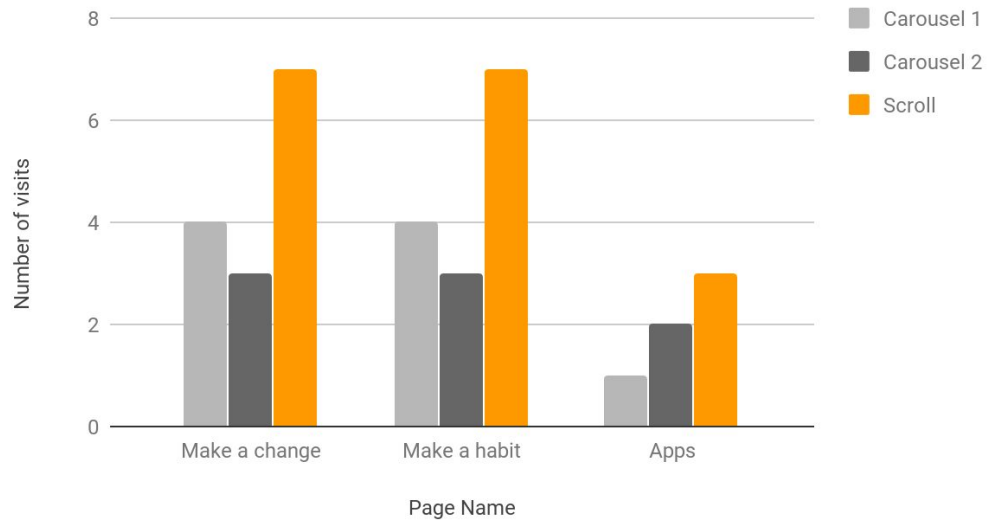
Limitations

- **The mobile format of the prototype when used on desktop browser led to test artifacts.**
  - Individuals on scroll version initially did not always realize click and drag to scroll and would often click on the header image or spend significantly more time figuring out how to navigate.
  - Individuals did not realize to go back the carousel was possible by swiping. This may have led to individuals to feel forced to take the quiz or complete the task. The note added on carousel 2 that swiping left to go back was possible may have influenced the quiz preference results.