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TechFlow, Inc. Response to
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Usability Testing

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TECHFLOW

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1.0 Purpose

The purpose of this document is to familiarize the reader with the usability test approach used by TechFlow for the U.S. Food and Drug Administration (FDA) in support of the Drug and Risk Information (DARI) public information website. It includes background on the purpose of our project, our users, the testing methods we'll be using and the test scenarios themselves.

2.0 Product Overview

The DARI product allows users to search FDA provided drug-related information by drug name and will show labelling information as part of the Minimally Viable Product (MVP). With our product users will receive the most current information provided by the FDA. Throughout the lifecycle of the application we used an iterative approach to review with the users the progress on the application and to ensure we interpreted the user stories correctly. This application is a result of the iterations with the user base.

A second product increment is planned for development that would also show users information relating to how many adverse events were reported for the drug searched. Beyond the second increment includes backlog items derived from user feedback and stretch goals intended to add value to the DARI product.

3.0 User Persona Overview

We have identified three user personas for the DARI MVP: Consumer, Health Professional, and Legal Professional.

3.1 Consumer

This persona represents any layman who requires prescription and/or over the counter drug information. The person we interviewed was interested in finding information for an ailing spouse or child, or it could be someone investigating drugs that he or she is taking or thinking of taking. The Typical Person in our project is an English-speaker with internet access.

3.2 Health Professional

The Heath Professional we interviewed was interested in having the ability to quickly find the drug's known side effects. The Medical Professional wants to access information quickly, is able to understand English and has access to the internet.

3.3 Legal Professional

The Legal Professional is a lawyer or legal assistant who needs to investigate drugs as part of a court case. The Legal Professional can understand English, has access to the internet, and needs to have information that is accurate and up-to-date and would be respected in court.

4.0 Testing Methods

For the testing we accompanied testers (L, B, K, and W) in case they needed any support that was beyond the information provided in the test cases. While they were testing we encouraged them to use the application in ways that where outside of the test cases to see if they developed any additional usability requirements. Our usability testing approach is an iterative process because of how we reengage the users to retest throughout the development lifecycle.

We provided the instructions below to the Usability Tester charge of running the tests.

The usability tester made sure they answered the following questions:

1. If you were to use this site, what device(s) would you use to access it?
2. If the user is currently carrying a non-desktop device that he or she would use to access our site, ask the user if he or she would be comfortable using the device during the testing process.

Participants were then directed to a computer that's been configured as follows:

1. The computer's browser's home pages should be directed to http://18f-dari.techflow.com
2. The computer should be running Skype for Business and recording the user's voice and actions

Participants were given a copy of written instructions for each scenario. Additionally, the tester read the text of each scenario out loud before the participant begins using the site. Participants were given up to 10 minutes with each scenario to complete the assigned task. We encouraged the testers to narrate what they're doing as they do it. If participants have a second device that they're willing to use, we asked them to perform the scenario again on the second device.

When the user completed the scripted scenarios, we gave the user a few minutes to play around with the site. When the user is finished, we made sure to save the recordings for later review.

Each completed testing session produced a results document. The results document contained the following sections:

1. Raw results – This section will note down how long each activity took and whether the user was successful in the task or not.
2. User Feedback – This section contains specific feedback from the user separate from our test scenarios.
3. Conclusions – This section contains conclusions from the tester regarding the user's session. It should include suggestions for improving the application.

Those results documents have all been reviewed and distilled down to a single Usability Testing Conclusions document. Each version of the application tested should have its own Usability

Testing Conclusions document. The Usability Testing Conclusions document(s) will be uploaded to GIT.

5.0 Test Scenarios

Below are the test scenarios, the parts not in italics are notes for the Tester and should not be read aloud. Only the italicized sections should be read to the participants. After giving the participant the instructions, we noted down how long it takes for the user to find the box to enter the text, as well as how long it takes the user to find the button to start the search. Note down how long it takes the user to find the needed information while scanning the result set.

If the user has multiple devices available, perform each test scenario on a different device and note down which device was being tested in your results.

The scenarios are provided on the next page for easy printing.

5.1 Scenario 1 – Consumer

You are a patient who's been prescribed the medication PREDNISONE, a steroid that is used to treat auto-immune conditions. Your doctor warned you that it might have serious side effects, but you can't remember what they are. Using our application (http://18f-dari.techflow.com/) determine the known side effects of PREDNISONE.

5.2 Scenario 2 – Health Professional

You are a health professional who is having difficulty understanding a prescription written by a doctor. You think that the doctor may have accidentally written down the generic name for the drug instead of the brand name. The drug on the prescription pad is "HYDROCODONE". You think that the doctor meant to prescribe "VICODIN". Use our application (http://18f-dari.techflow.com/) to confirm whether HYDROCODONE and VICODIN refer to the same medicine.

5.3 Scenario 3 – Legal Professional

You are a legal professional working a case for a car crash. Your client, the defendant, claims that he has no memory of the accident. He has also informed you that he was taking AMBIEN that was prescribed to him for insomnia. Using our site (http://18f-dari.techflow.com/), determine if there's any possibility that the AMBIEN was a factor in this accident.

6.0 Results

Here is the data we collected from our usability testing

6.1 First User "L"

1. Scenario 1 – Consumer (took about 2 minutes)
    a. User typed in lower case
    b. Clicked the search button instead of hitting Enter key
    c. Clicked the Read More
    d. Went on to check Use Instructions
2. Scenario 2 – Health Professional (took about 6 minutes)
    a. Searched on the Generic name first
    b. Clicked all the Read More buttons looking for "Vicodin"
    c. Wanted to search on Vicodin, but user was unable to locate the search box
    d. After prompting from the tester user used the search box to search for Vicodin
    e. User found the required information under Generic Name
3. Scenario 3 – Legal Professional (took about 4 minutes)
    a. Searched on Ambien
    b. Looked at Adverse Reactions
    c. Used mouse wheel to scroll through content
    d. User concluded information wasn't there
    e. User was scanning content looking for "memory"

NOTES: user would like to see a button to search the page for words

6.2 Second User "K"

1. Scenario 1 – Typical User (3 minutes)
    a. User went to search by
    b. Clicked search
    c. Looking for "side effects"
    d. Decided that adverse reactions was side effects
    e. User had trouble parsing the wall-o-text
2. Scenario 2 – Medical Professional (2 min)
    a. Searched for "hydrocodone"
    b. Found generic name
    c. Searched for "Vicodin"
    d. Found Generic name
3. Scenario 3 – Legal Professional (5 minutes)
    a. Searched for "ambien"
    b. Looked at Adverse Reactions
    c. User had trouble parsing the wall-o-text
    d. User unable to find info

NOTES:

a. User wondered if things like 5-hour energy are available
b. Search for caffeine yielded "maximum strength menstrual relief"
c. Bottom of information (the warning section) is cut off by the disclaimer
d. User wants a number to call when he can't find the info he wants
e. User dislikes the wall-o-text
f. User preferred a wider box for Read More
g. On mobile user had trouble closing modal popup, he used Back and Forward
h. "warning" section is cut off on mobile when looking at Ambien

6.3 Third User "B"

1. Scenario 1 – Typical User (2 min) MOBILE
    a. User entered prednisone
    b. User looked for a "side effects" section
    c. Went to Read More section of Adverse Reactions
    d. User found info
2. Scenario 2 – Medical Professional (4 min)
    a. User Searched for Hyrdocodone
    b. Clicked on Generic Name Read More
    c. User had trouble finding search box
    d. User searched for Vicodin
    e. User looked at Generic Name
3. Scenario 3 – Legal Professional
    a. User searched for "ambien"
    b. User read Adverse Reactions section
    c. User had trouble parsing wall-o-text
    d. User wanted paragraphs
    e. User looked at Dosage
    f. User was looking for "do not drive"

NOTES:

a. Read More buttons were expected to be in the box, not below it
b. User feels there's too much info on the page
c. User likes the ability to put in a brand name and see the generic names

6.4 Fourth User "W"

1. Scenario 1 – Typical User (3 min)
    a. User entered prednisone in box
    b. User clicked the search button
    c. User consulted the Warnings Section
    d. User didn't click/notice the Read More in Warnings
    e. User read Adverse Reactions without clicking Read More
    f. User found Read More button and clicked it
2. Scenario 2 – (5 minutes) iPhone/Safari

   a. User entered hydrocodone
   b. User is looking for generic name
   c. User looked at Generic Name section
   d. User read Adverse Reactions
   e. User read Dosage section
   f. User is looking for a Brand Name section
   g. User can't get to warning section (it's obscured on phones by the disclaimer)
   h. User exited and returned to the browser to get the search box back
   i. User entered Vicodin
   j. User went to Generic Name Section
3. Scenario 3 – (6 minutes)
   a. User entered "ambien"
   b. User clicked search
   c. User looked at Indication and Usage
   d. User looked at Adverse Reactions
   e. User concluded there was a small chance of amnesia

NOTES:

a. User would like bigger text
b. User likes the program
c. User likes the ability to find generic names by entering a brand name and vice versa
d. In FF the built-in autocomplete feature displays the list far under the search box

7.0 Conclusions and Action Items

7.1 Conclusions

After reviewing the feedback from users we determined several key areas that could be improved.

1. Users had difficulty getting back to the search box after they had already performed a search.
2. Users wanted to be able to search by generic name and see the brand name.
3. In one instance a user didn't notice the Read More tabs.
4. The users preferred a wider modal to pop up when clicking Read More.

7.2 Action Items

Based on the conclusions of the usability testing, we determined the following action items:

1. When a user scrolls down the page and can no longer see the search box, one should be provided at the top of the screen
2. In addition to displaying the generic name of a drug, our system should display the brand name

3. The Read More tabs should be inside the section they're connected to, instead of hanging slightly below. The colors should also be updated to make them more noticeable.
    a. Translated to UI cleanup task
4. The width of the modals created when users hit Read More should be increased
    a. Translated to UI cleanup task