THE WEATHER CHANNEL APPLICATION USABILITY TEST

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Executive Summary

This report discusses the methodology, findings, and recommendations for a usability test on The Weather Channel mobile application. We recruited six participants aged between 23 and 35 for this study for a 15-25 minute test session. The participants were asked warm-up questions, then asked to complete eight tasks, and then asked wrap-up questions to get some feedback on their overall experience with the application. The test sessions captured task completion times, user ratings of task from 1 through 5 based on difficulty, comments, and other feedback. The tasks were grouped into 3 categories: basic weather and location setting, iWitness account creation, and pollen alerts setup. Basic weather setting covers the most commonly used functionality, the iWitness account allows users to share photos and videos, and pollen alerts allows allergy sufferers to sign up for pollen alerts in their area.

Overall, all participants were able to complete all tasks successfully. However one of the tasks (creating an iWitness weather account) was rated high in difficulty and took significantly longer to complete than the other tasks, an average of 5 minutes while all other tasks were completed in less than 1 min and 30s. The recommendation for this issue is to add a ghosted arrow that informs users that there are more menu items available. The users felt this would be a good feature to add.

Introduction

The testing was done on an android-based mobile phone with the Weather Channel application loaded. The objective for this study was to evaluate the user experience of the application in three target areas by identifying usability issues, and providing recommendations. The three areas included the Locations, Weather and Maps screens; the iWitness screen; and the In Season and Settings screens. These screens covered three different goals a user may have while using the Weather Channel application. The first would be the typical user who users the Weather Channel application to check the current and future weather both in their current location, and in other locations. The second would be a user who would like to create an account so they could upload images to the iWitness sharing screen. Lastly, the third would be for users who have allergies and would like to see the current pollen information, and set up phone notifications when pollen levels are high.

Methodology

There were two test groups in two different locations of three participants each. The participants recruited were co-workers and friends. Four of the participants were male and two were female. The participants were between the ages of 23 and 35, college-educated, and had experience with

android-based smart phones The testing was done during a two day period. All participants had used at least three mobile applications, with Google Maps being the most used application, and all participants checked the weather at least once a day.

Once the participants were scheduled, each session lasted about 15 minutes in one test group and 25 minutes in the other test group. The participant was asked to sign the consent form and was read the introduction.

The participant was then asked the following warm-up questions:
1. Tell me about how you check the weather
   ---Are there specific sites that you use?
   ----If so, why do you use those sites?
2. Is there anything that frustrates you about your current method of checking the weather?
3. How often do you check the weather?
4. What kind of information would you expect to get from a weather mobile app?
5. What information would you like to see when you check the weather?
6. What is your first impression of the application?

The tasks were read to the participant while the participant tried to complete the tasks in the mobile application. The participant was timed on how long it took to complete the task and their responses and observations were recorded.

Test participants were asked to complete the following tasks:
1. You are planning on going out tonight, what would you do on the application to decide what to wear for the evening?
2. You want to know what you should wear to work for the next few days, what would you do on the application in order to do that?
3. You are planning a trip to New York City. Use the application to check if you should pack a jacket with you.
4. The Weather Channel mobile app allows users to set up a Witness Weather account, to view content that other users have uploaded about weather in the area. Create your own Witness Weather account in the app and check what local people have added.
5. Explore the Witness Weather screens. Are there any elements in this Witness Weather portion of the app that you find useful?
6. The Weather Channel mobile app also allows users to set up pollen alerts, where the app will send them a notification when pollen levels go above a certain amount. Set up a pollen alert in the app.
7. Explore the pollen alert setup screens. What do you think of the layout?
8. Turn off the pollen alert notification in the app.

After the test session the participant was asked the following wrap-up questions:
1. What is your overall impression of the application?
2. What do you like best about the application?
3. What do you like the least about it?

4. What would you do to improve the application?
5. Do you feel there is anything missing?
6. Do you have any other comments or suggestions?

Findings and Recommendations

The tasks were grouped into three sections: basic weather checking and location changes (Tasks 1-3); iWitness account creation (Tasks 4-5); and pollen alert setup (Tasks 6-8).

Severity Ratings
High - Red- Findings marked in red indicate that the Weather Channel should implement the recommendations provided, because the user was not able to accomplish the task, or rated the task difficult to accomplish (rating the task a 2.5 or lower on average).
Medium - Yellow- Findings marked in yellow indicate that the user had some difficulty accomplishing the task (rating of 2.6 to 3.9 on average), and that the Weather Channel could implement the recommendations provided to improve the rating and user satisfaction.
Low - Green- Findings marked in green indicate that the user was able to easily accomplish the task (rating of 4.0 or higher on average), but that the recommendations provided may improve their time or the overall functionality of the application.

Tasks 1-3: Basic Weather and Locations
For the basic weather checking tasks, participants were able to complete tasks on average between 17 and 43 seconds, which included exploring the screens and discussing what they found with the moderator.

Task 1
Severity: Low
The user was asked to check the weather for the evening. The tester was given the app with no location set. This meant the user had to set the requested location before continuing with the task.
Finding:
Two of the six users commented that they did not expect to have to enter the location themselves. Based on their experiences with other applications, they felt that the location should default to the current location using the GPS built into the phone. All users were able to easily set the location after noticing it was not currently set to their location. This was easily accomplished by providing the city name to click when a zip code or beginning of a city name was entered.
Recommendation:
The team recommends that the app sync up to their current location automatically by default, and update it as they travel.

Task 1:
Severity: Low
The test was conducted in the morning so when the tester needed to see the weather at night, that user would be required to have to use the whole application and scroll down. This would ensure areas outside of the default information presented on the home screen would be reviewed.
Finding:

During this process, three of the six participants had trouble scrolling up to return to the top temperature after scrolling down to complete task two. When the user began to scroll up, the application would sometimes not register that they were swiping the screen, and not move the information. This required the users to swipe several times in an exact location before the screen would move. The application only registered the area highlighted in red in the image below as available area to respond to swiping, meaning if a user started their finger in the area above or below the red area, it would not register that they were intending to scroll.
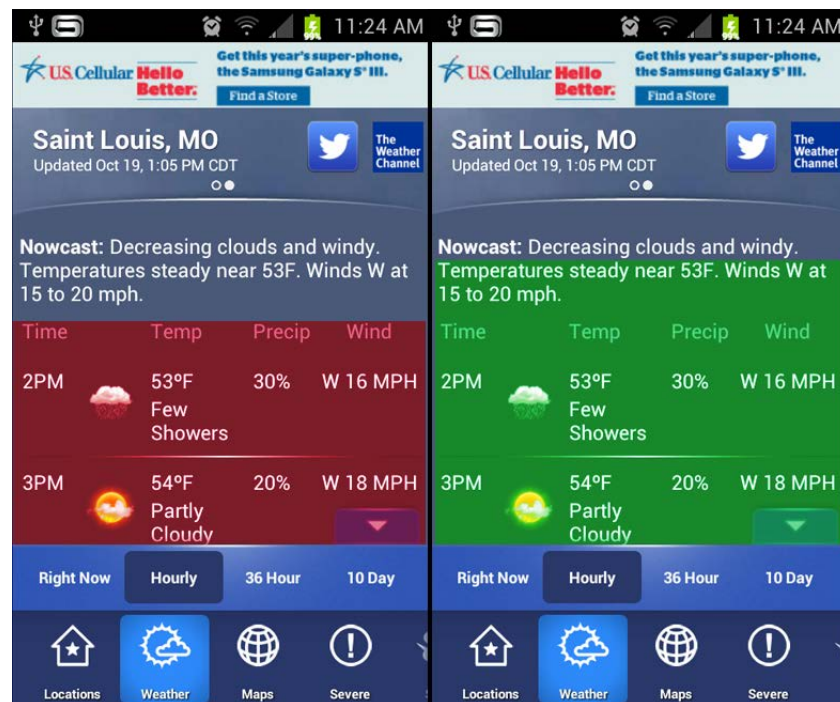
Recommendation:
The team recommends that the header information (which includes the 'Now Forecast' text, and column labels) be part of the registration when a user is attempting to scroll up or down, which would increase the response area allowed to the user (shown highlighted in green in the image above).

Task 1:
Severity: Low
Users were asked to look at the weather for the evening to determine if they should bring a jacket with them.
Findings:
All of the users tested used the Hourly screen inside the 'Weather' screen to view the weather for the next few hours. The Weather screen defaults users to the 'Right Now' sub screen, and a button on the bottom allows users to switch to the Hourly sub screen. Two of the participants had to click the Hourly screen button multiple times, because there is a Nowcast text block that describes the weather at that moment (highlighted in yellow in the image below). These participants commented that they read the Nowcast portion and were not sure that they were off of the 'Right Now' sub

screen. After clicking the button twice, they realized the temperatures underneath that screen showed the future weather.

Nowcast text showing current temp confused users on the hourly screen.

Hourly forecast button
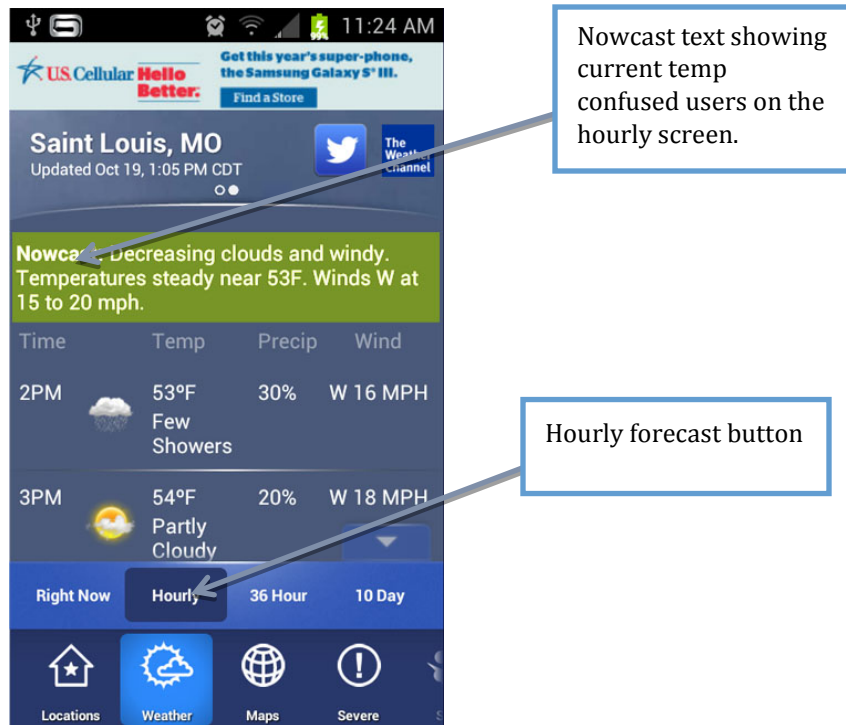
Recommendation:

Moving the Nowcast text block to the 'Right Now' sub screen would eliminate some of the confusion the users experienced by seeing it on the top of the screen. This would be more fitting in the 'Right Now' sub screen, and allow more room for more hourly weather. Additionally, adding a header to the top of each sub screen would allow the user to have a clear indicator of which screen they are on, especially when using a mobile device where the menu can be easily obscured by the user's hand.

Task 2:

Severity: Low

The user was asked to use the application to determine how to dress for work in the next few days.

Positive Finding:

Users all responded positively to the information and layout of the 36 Hour and 10 Day sub screens. Users used both of those screens to get a visual indication of what the weather would be like in their area, and commented that the clear icons as well as detailed information was helpful for accomplishing the task. Users unanimously rated this task a 5 in ease of use.

Recommendation:

The team recommends that the Weather Channel application keep the same information and layout available to users in the 36 Hour and 10 Day sub screens.

Task 3

Users were asked to check the weather in another city that they were planning on visiting.

Finding:

Users responded that being able to store multiple cities and allowing them to change to these locations quickly are great features.

Recommendation:

The team recommends that the Weather Channel application retain the function of storing cities, and keep the ability to change the city and enter a location at the top of the interface so users can notice it and use it quickly.

Task 3

Participants were asked to check the upcoming weather in New York City to determine what they felt they should pack.

Finding:

Two users checked the radar in Maps screen for New York City in addition to the 10 Day sub screen, to get a better idea of any upcoming storms and bad weather. While checking, they commented that it looked clear, but the Maps screen then updated with heavy clouds, which made them change their answer to packing a rain jacket.

Recommendation:

Improving the map refresh rate when playing and changing map layers would help users find valuable impending weather information quickly and accurately. If the map does not display the radar completely, a user may believe that the weather is clear, when in fact it will be storming.

Task 4-5: Creating an iWitness Account

Task 4:

The user was asked to create an iWitness account after performing tasks that were on the first two screens on the bottom menu.

Finding:

Three users were not sure initially where to find the iWitness screen because the bottom menu did not show that there were more icons available to the menu. One user found it by choosing the Social menu option first, which moved the menu over two icons.

Recommendation:

The team recommends that the menu have a ghosted arrow to show that there are more menu options to choose from. This would clearly inform users that there are more menu items available. The arrow should look like the down arrow that is used to indicate that the menu could be minimized, which users felt was a good feature.

The user was asked to access their iWitness account without having an existing login.

Finding:

Users had difficulties with finding a button or link to create an account. After exploring the screen, users resorted to clicking the 'Sign In' button, where they were asked to register. The median rating for this task was 1, with only one user rating it a 2, which indicated that the task was very difficult to perform.
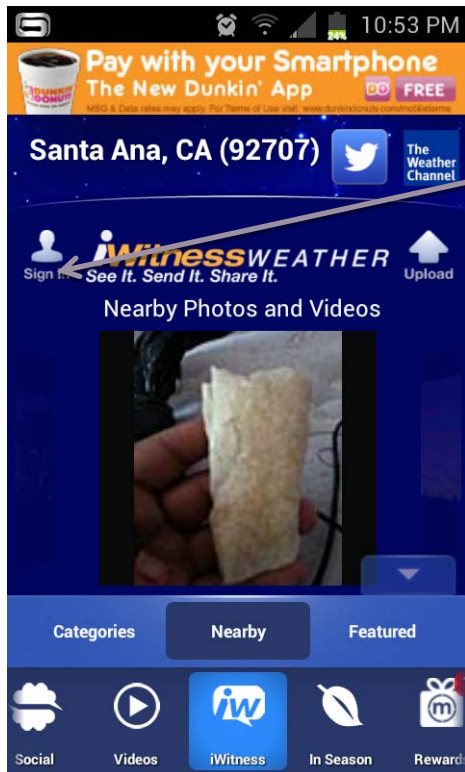
Users had difficulty locating the Sign In button to register an IWitness account
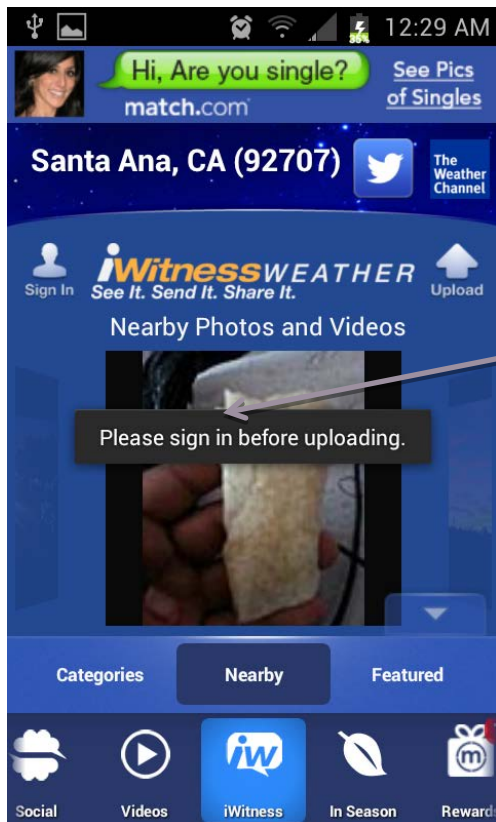
User is asked to sign in when they attempt to upload image

Recommendation:

It is recommended that the Upload button on the iWitness screen be changed to a 'Sign Up' button for users who are not logged in. This would give users a clear indicator as to where they could register. This also eliminates the Upload button for users without an account or who have not signed in, because they are not permitted to use that functionality. The Sign In should turn to Sign Out and the Sign Up should change to Upload after the user has logged in to their account.

Task 4:

Severity: High

During the account creation process, users were redirected to an external web form to enter their sign up information.

Finding:

All users performed the task within a range of 287 to 305 seconds, with an average of 296 seconds. All users commented that they did not like leaving the application to sign up, and that the external form did not return them to the application after they had completed the account creation process. The web form included a Captcha, which users struggled to enter correctly. Two users had to submit their form twice due to mistyping the Captcha entry. Users also felt that after they had returned to the application, it should retain the information they had just entered and automatically populate their user-name.

Recommendation:

The application should allow users to create their account inside the iWitness screen, which would alleviate the issues found. Users would not have to scroll in a browser to enter the required fields, a Captcha could be avoided, and the application would have access to their user-name.

Task 5:

Severity: Medium

Participants were asked to explore the iWitness functionality to see if there were any elements that they found to be useful.

Findings:

Four out of six users had trouble understanding how the photos were organized. They did not know how old the photos were, and if that accurately portrayed what the weather was at the time. They had to click detail for each photo to find out the date. Users did find the category organization easy to use, and enjoyed that they could view different types of photos in each category.

Recommendation:

This feature would be better understood if the photos were organized by date. Users would be able to see the most recent photos easily, and be able to sort by dates desired. This will better help users to see photo of the days from year to year.

Task 5:

Severity: Medium

Users were asked to explore the iWitness system to see if there were any elements that they found to be useful.

Findings:

Two out six users were surprised to find that there were videos available amidst the photos. After this discovery, they tried to find a way to just search for video and were not able to locate any filters.

Recommendation:

The team suggests that the Weather Channel application incorporate an additional filter to help separate photos from videos. This would allow users to efficiently find different types of media.

Tasks 7-8: Pollen Alerts Setup

Task 7:

Severity: Medium

Participants were asked to explore the pollen alert setup screens and comment on the layout.

Findings:

Two users perceived the level indicator to be a radio button next to the "No Activity" label and they assumed that you could click on the radio button to get more information or change the focus. They found that there was no interaction that went along with that part of the screen.
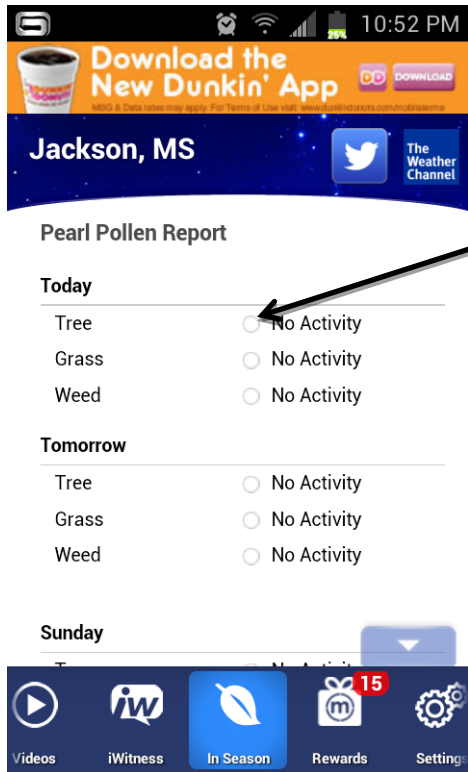
This appears to be a radio button, but it is not.

Recommendation:
The team suggests that the 'In Season' screen layout is changed to either omit the icon by the "No Activity" label, or change the icon to a square to indicate that it is not interactive. A legend of what the colors mean for the icons would also be an improvement.

Task 6:
Severity: Medium
One of the tasks requested participants set up pollen alerts in the system to send them a notification on their phone when pollen levels reached a high level.
Finding:
Five out of six testers tried to set up their pollen alert by going to the 'In Season' screen first, and did not go directly to Settings, where the pollen alerts are available to be enabled. Users only rated this task an average of 2.5, indicating that the task was not efficient.
Recommendation:
The Weather Channel application should design the 'In Season' screen to include the alert settings without having to go thought the Settings screen. The configuration of the Sign In button on the iWitness screen was a solid design choice for the overall layout, and the team feels that design element would work perfect in this situation as well. This will not only add to the consistency of the interface but will let the user be able to quickly change the setting without having to jump to other menu screens.

Users were asked to set up pollen alert notifications for their phones.

Finding:

Inside the notifications settings screen, participants questioned the need to set the home location, and either went into the Locations screen to do so, or were allowed to set it without a home location. The system indicated to the user in the setting that a home location was required to use the feature. If a user checked off the notification box but did not have a home location set, the system would not send a pollen alert, despite the system indicating that alerts were turned on.
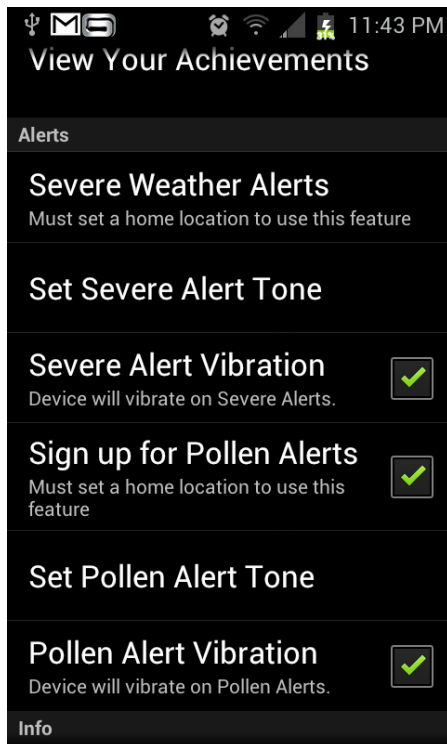
Recommendation:

The application should take the user to the Location screen to set a home location before allowing a user to set the notification. Taking the user directly to the Location screen from the Settings screen (or In Season screen if the above recommendation is implemented) provides a clear path for what the user must do to continue. After a home location is set, the application should return the user to the Settings screen so they can continue their desired work flow. Additionally, the system should not allow a user to check the box if they do not have a home location set (either by canceling the redirect, or by manually deleting the home location prior to setting up notifications). This limitation will show users the true state of the system, and indicate that additional setup is required to implement the feature on their phone.

One user suggested that it may be valuable to be able to set multiple locations for pollen alerts, for those who travel frequently or who work and live in different areas.

Severity: Medium

The users were asked to explore the pollen alert setup screens and provide feedback.

Finding:

Two participants mentioned that there was a difference in the day to day pollen alert and what was shown on the map below. On the map, the label refers to the map as tracking Ragweed, while on the day to day it is just Weed. The map also tracks Mold spore levels, but the day to day does not have this section.

Recommendation:

The In Season screen map should match the information above it, including the labels, and available activity monitors. Users would be able to process the information to the maps more efficiently because they could identify the connection between the two sections (the activity monitor and the map).

APPENDIX

Time on Task (in seconds)

Participant	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8
1	10	10	30	297	75	75	87	30

2	15	12	45	305	55	60	108	20
3	12	14	60	287	90	80	92	15
4	22	23	37	293	32	43	107	9
5	28	14	38	300	48	68	27	14
6	58	28	47	292	72	90	58	12
Average	24	17	43	296	62	69	80	17

Task Ratings (1 = very difficult, 5 = very easy)

Participant	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8
1	5	5	5	1	2	3	3	4
2	5	5	5	1	3	2	3	4
3	5	5	5	1	3	2	4	5
4	5	5	5	2	3	3	4	4
5	5	5	5	1	3	3	4	5
6	5	5	5	1	2	2	4	5
Average	5	5	5	1.2	2.7	2.5	3.7	4.5