

Yoobee College of Creative Innovation -  
Christchurch Campus  
Diploma in Software Development  
2202-Online-DSD

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**CS104 - UX Principles II**

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## OBJECTIVE & STRATEGY

### Client

Our app type is a native weather mobile app, though due to complications of different mobile OS our team will be using a non-native app which is universal to demonstrate the same. This is to be the 'Weather App' – Metservice.

### Business & User Requirements

#### Business Requirements

The client needs to deliver accurate weather forecasts spanning up to 10 days in the future. The application needs to look appealing and be simple to navigate. They also require some form of revenue from the application using advertisements.

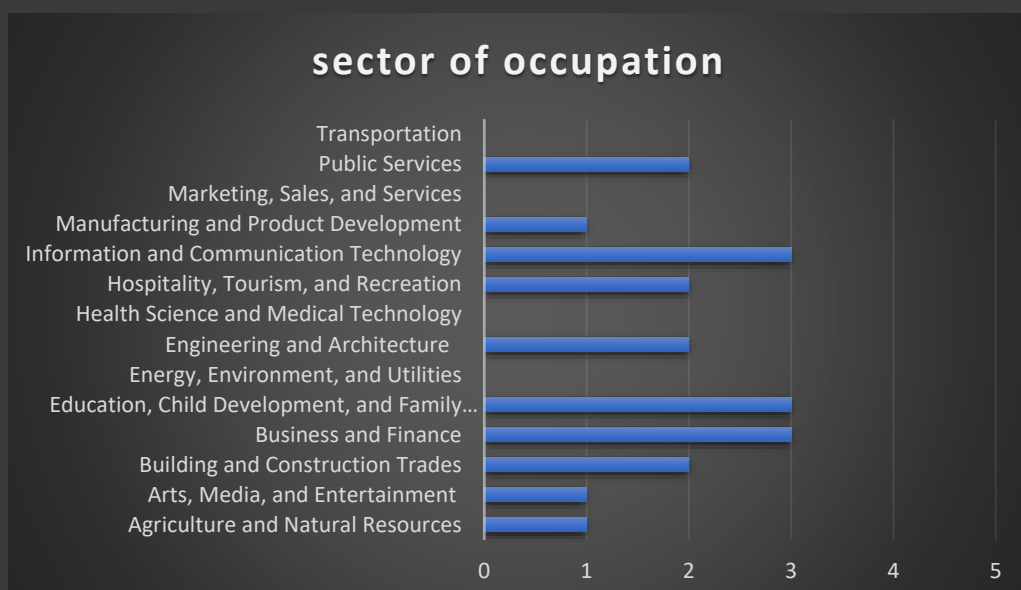
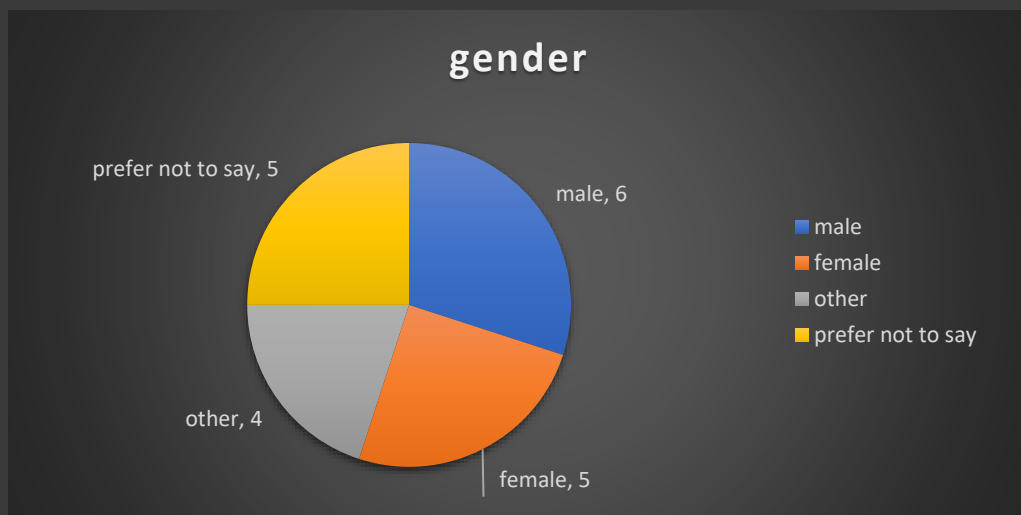
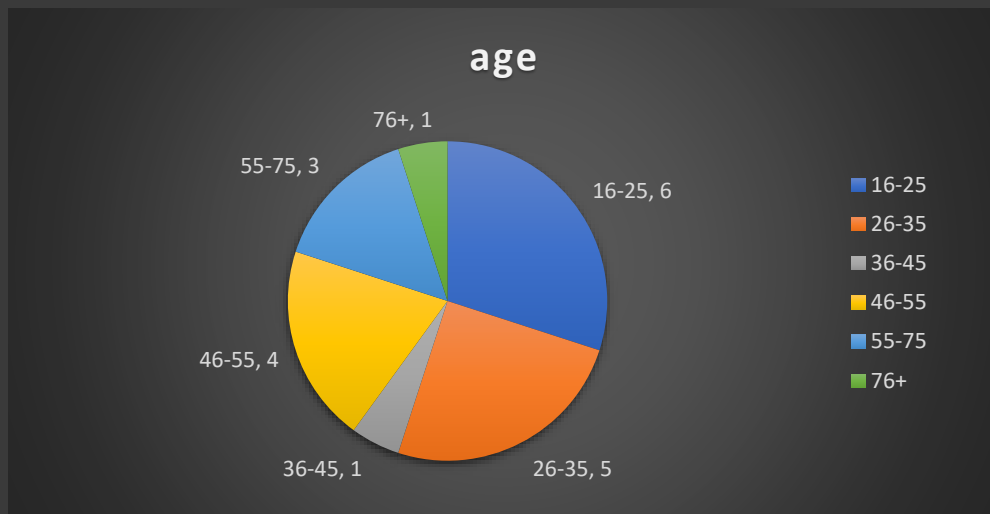
#### User Requirements

The application should also provide related information such as temperature, wind speeds, sunrise, and sunset. There is a wide scope of business and individual needs from a wide range of users, so simplicity is key. Locating temperatures, rain, wind, and other important data should be easy.

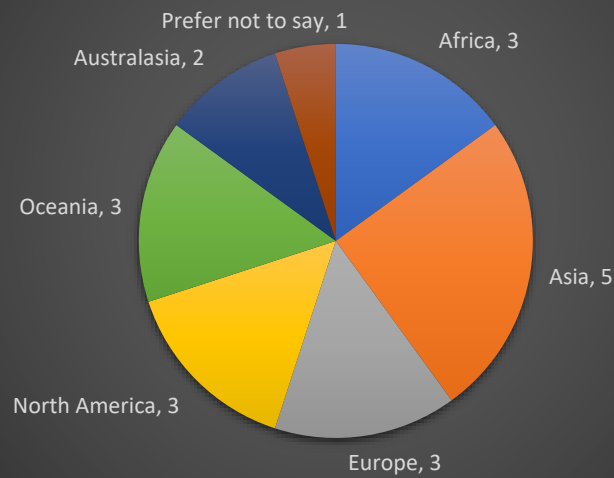
### Target Audience

Using the mobile app "MetService" The Clients target audience was derived and found as (including but not limited to) Fishing vessel / fleets, power companies, commuters, outdoor recreation. Therefore, it is the direct intention of the client to meet specific needs from these groups of people but cater to individuals and organisations of any nature simultaneously.

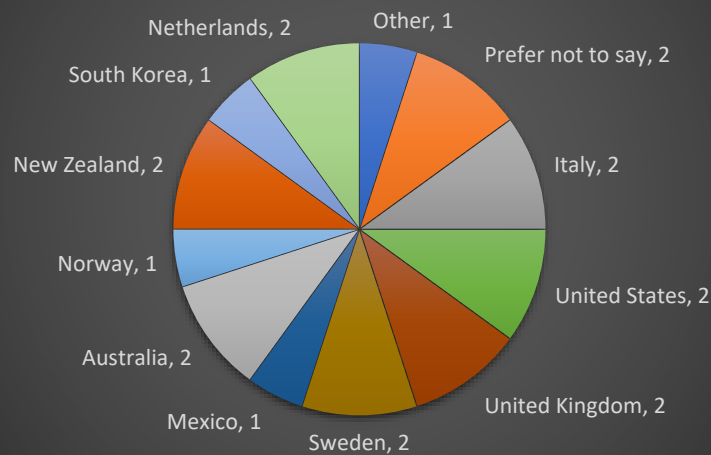
## Collated Data about the Target Audience



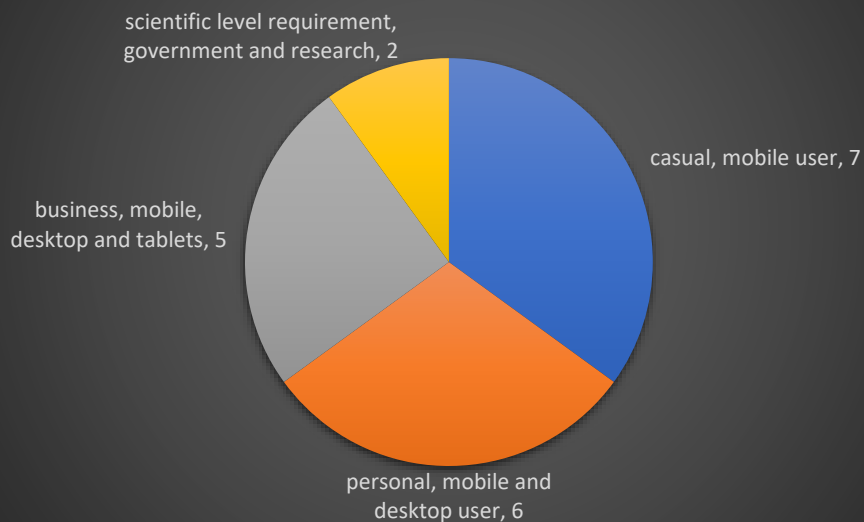
### born ethnicity by continent



### current culture / country where you reside



### technical ability / need with weather app



## Competitor Analysis

### Competitor 1:

Native weather applications.

Apple Weather / Samsung Weather

#### STRENGTHS:

Some of the main competitors for Metservice are the system default weather apps that come with your phone. Because these preinstalled apps can predict weather accurately, many people don't feel the need to install another weather app. This makes preinstalled apps a major competitor. System default apps are designed to look pretty and have good user feedback, this results in a good application and users will usually want a reason to use a different one.

#### WEAKNESSES:

While default weather applications are simple, they only provide the standard amount of weather forecasts, to keep the app simple and easy to use. This could cause users to install a separate weather app.



#### OPPORTUNITIES:

Default weather apps could add extra points of information, such as fire danger and their own weather forecast channel. Something that Metservice already has implemented. They could also try to make their satellite imagery simpler to use.

#### THREATS:

Pre-Installed weather apps that include satellite imagery make this feature feel forced. Reading satellite imagery can be confusing to some people. This change from a simple app to a more complicated one can be a potential threat.

## Competitor 2:

Windy weather application

Application link: [www.Windy.com](http://www.Windy.com)

### STRENGTHS:

Another competitor is – Windy, a successful weather app that gives an accurate and detailed weather map. This application uses satellite imagery to provide current and future weather statistics. This feature is accurate and very useful.



### WEAKNESSES:

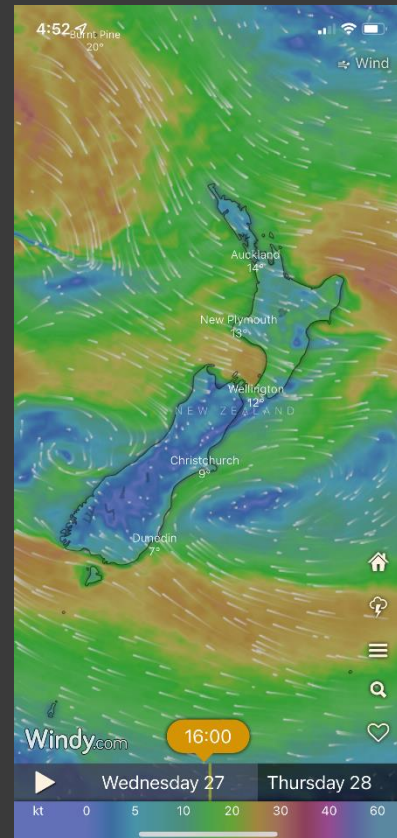
The app feels a bit too complicated and at some point, when trying to access future forecasts seems to change the appearance of the app. This graphical imbalance can cause confusion for a user.

### OPPORTUNITIES:

Windy could make their app all follow the same complexity or simplicity to make the app appear in a uniform manner.

### THREATS:

The apparent complexity of this app could drive users away from the app, making this a potential threat to Windy.



## Inspiration

Using the simplicity of default weather apps and complexity of Windy we can take inspiration from their apps and improve upon the areas they lack in. The simple and appealing nature of native weather apps work well to draw users in. Using separate pages for more detailed statistics such as weather maps will help branch the user into the more complex feeling.

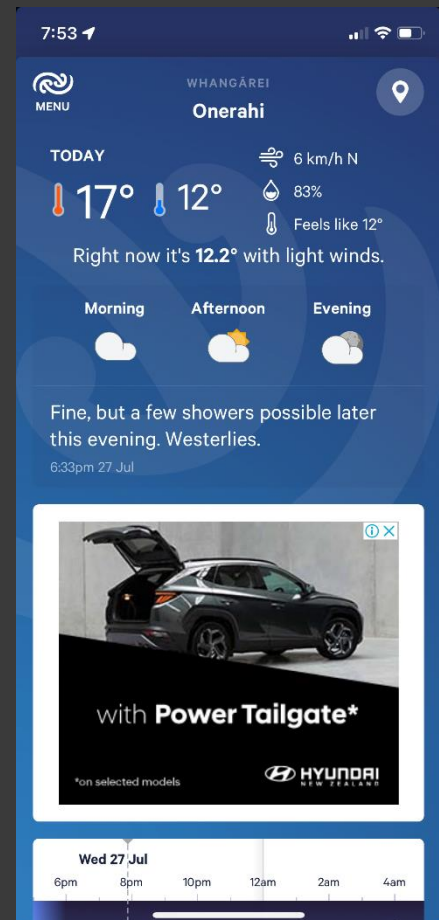
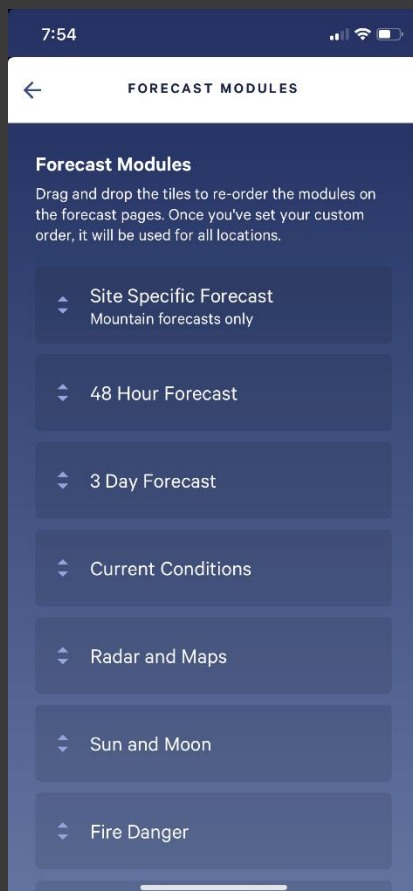
## Assumptions

From the data we gathered we assume that when using Metservice the users will be turned away by being greeted by advertisements. Because of native applications simple nature, we assume finding data could be slightly faster than our client's application. That is why one of the users we test will have experience using the weather applications. For this we predict the experienced user will be able to complete the tasks faster than the competitors.

## Guiding The Client with changes

### Changes To Expect

Advertisements, while an excellent source of revenue can be irritating to users. To reduce this frustration, we recommend putting them further down the page, instead of being one of the first things the user sees. I couldn't find a scroll bar, while the pages are relatively small this still feels tedious. Moving back from the menu requires you to swipe from the edge of your screen unlike entering the menu this is unnecessary.



Customising the pages is a bit confusing and hard to learn. To improve this the page could have widget editing by holding your finger on a module. It was a bit difficult to find the 10-day forecast, perhaps making this another module that is separate from the 3-day forecast.

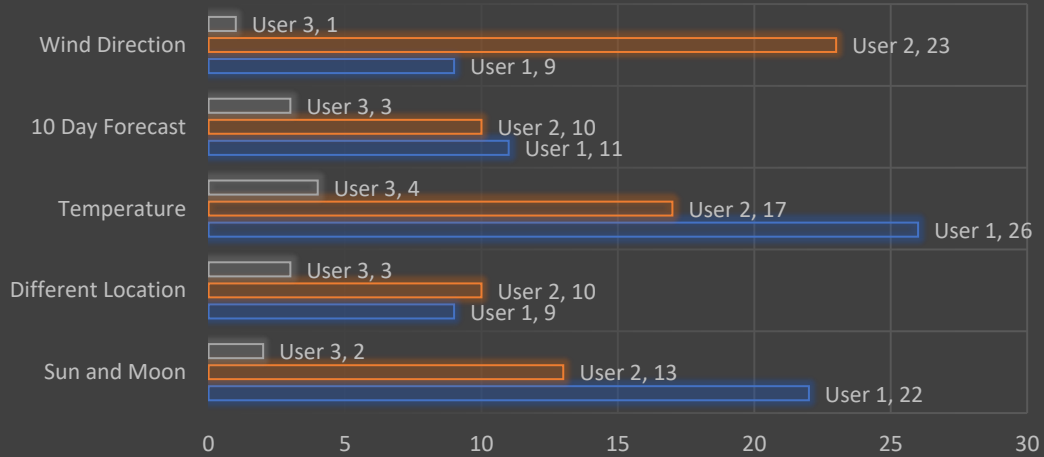
## RESEARCH

### User-Testing

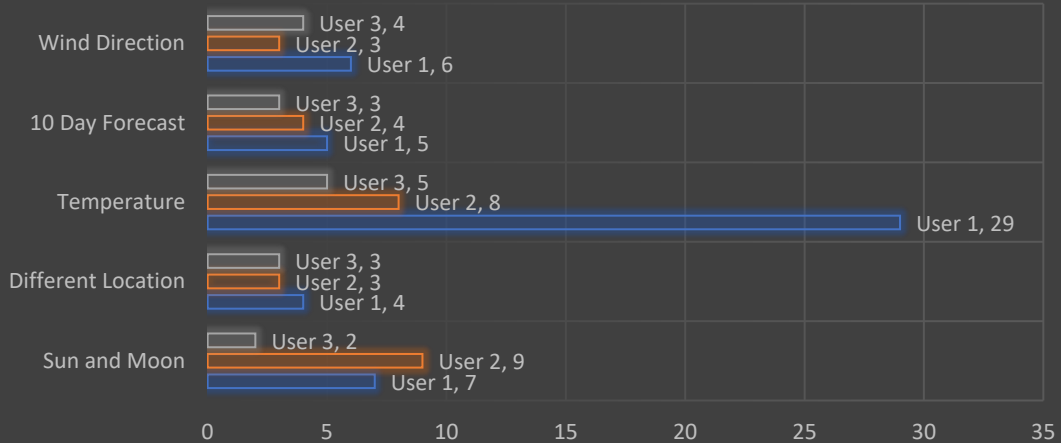
1. When is the sunset and sunrise?
2. What is the weather in a different location?
3. What will the temperature be at 12am tonight?
4. What's the weather 10 days from now?
5. What is the current wind direction in compass terminology?



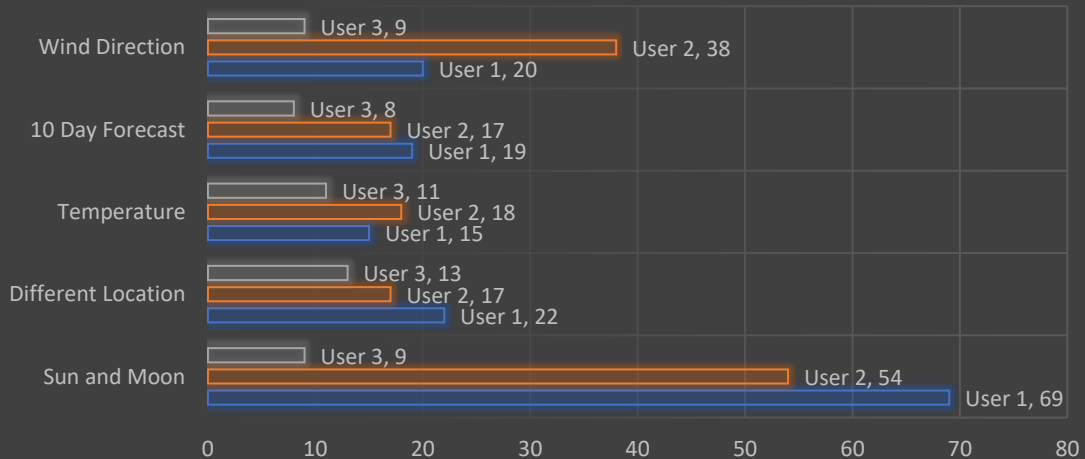
### Metservice Tasks (Time In Seconds)



### Native App Tasks (Time In Seconds)



### Windy Tasks (Time In Seconds)



## Observations

### Pain Points

#### METSERVICE

##### User 1

When trying to find the sunset the first user tried looking in the forecast module, until he realised it wasn't there.



##### User 2

When the second user opened Metservice he was given a pop-up advertisement and expressed that he thought it was odd for a weather app to have advertisements.

##### User 3

The third user (our user with experience using the application) was able to increase the efficiency of doing certain tasks. And completed the tasks faster than the experienced Windy user.

#### NATIVE WEATHER APPLICATION

As we assumed, all tasks done on the native applications were significantly faster, with the experienced user completing each task in under 5 seconds. We couldn't see too many pain points for the users. Other than the first user, who struggled when trying to find the temperature at 12am. The first user tried to find future temperatures using the satellite imagery.

#### WINDY

The Windy application produced the slowest results out of the three applications. A major pain point for both users 1 and 2 was finding the sunrise information, as you must scroll 5 days into the forecast before being met with the sunset and sunrise data. The location of the sunset data seems unrelated and out of place and could be put somewhere more easily accessible.

## Interview

### Qualitative Questions

1. What did you like the least about the application?
2. What are your thoughts on the placement of advertisements?
3. Would you like to have access to satellite imagery?
4. On a scale of 1-10 how simple was the application?
5. On a scale of 1-10 how would you rate the application?
6. What would you like to see improved?
7. Out of the 3 weather apps, which one do you prefer the most and why?



## Users

### User 1

WHAT DID YOU LIKE THE LEAST ABOUT THE APPLICATION?

Finding different modules, I didn't realize that there were so many modules for each statistic and thought I would find the information inside other modules.

WHAT ARE YOUR THOUGHTS ON THE PLACEMENT OF ADVERTISEMENTS?

I liked that they didn't pop-up on my screen, instead they were just there. I liked the way they went about placing them.

WOULD YOU LIKE TO HAVE ACCESS TO SATELLITE IMAGERY?

No, I personally do not like the complexity of weather maps.

ON A SCALE OF 1-10 HOW SIMPLE WAS THE APPLICATION?

About 8/10 it was simple but still managed to provide more advanced data.

ON A SCALE OF 1-10 HOW WOULD YOU RATE THE APPLICATION?

7/10, it's a good app, however it could use some improvement and the advertisement is a bit of a let-down.

WHAT WOULD YOU LIKE TO SEE IMPROVED?

The modules could be moved higher up in the page, so users can see there is clearly more data if they scroll down.

OUT OF THE 3 WEATHER APPS, WHICH ONE DO YOU PREFER THE MOST AND WHY?

I still prefer the native weather applications because they are simple, and they have all I really need.

### User 2

WHAT DID YOU LIKE THE LEAST ABOUT THE APPLICATION?

The advertisements, when I first opened the application, I got a pop-up advertisement.

WHAT ARE YOUR THOUGHTS ON THE PLACEMENT OF ADVERTISEMENTS?

While the ads did irritate me, I liked that most of them just sat in the background, and I didn't get any pop-ups after the first one.

WOULD YOU LIKE TO HAVE ACCESS TO SATELLITE IMAGERY?

Yes, this feature can be useful for some people however it should still be a separate module like the rain radar.

ON A SCALE OF 1-10 HOW SIMPLE WAS THE APPLICATION?

7/10, they had some advanced features implemented but went for a simple looking application, in my opinion this makes it seem less simple than it is.

ON A SCALE OF 1-10 HOW WOULD YOU RATE THE APPLICATION?

6/10, it has all the standard features and even some more, it was simple and useable however, the pop-up ads didn't really work for me.

WHAT WOULD YOU LIKE TO SEE IMPROVED?

I would suggest removing pop-up ads, and moving the other ads further down the page, so they aren't the first thing you see.

OUT OF THE 3 WEATHER APPS, WHICH ONE DO YOU PREFER THE MOST AND WHY?

The native weather apps, because they are simple and provide most of the data you need to find, I would have chosen Metservice if it weren't for the advertisement.

### User 3 (Experienced user)

#### WHAT DID YOU LIKE THE LEAST ABOUT THE APPLICATION?

Because of my experience, customizing the pages proved a bit difficult to learn.

#### WHAT ARE YOUR THOUGHTS ON THE PLACEMENT OF ADVERTISEMENTS?

The ads are fine, they don't pop-up often, other than when you open the app, they are tucked away in the background and not in your face.

#### WOULD YOU LIKE TO HAVE ACCESS TO SATELLITE IMAGERY?

Yes, this is an important feature that I look for in a weather application.

#### ON A SCALE OF 1-10 HOW SIMPLE WAS THE APPLICATION?

9/10, it was very simple to use and understand.

#### ON A SCALE OF 1-10 HOW WOULD YOU RATE THE APPLICATION?

5/10, it was simple and easy to learn, however it was still trying to pull of more difficult features, while they are implemented well, they still focus on keeping things simple. You should go for very simple or advanced not in between, while they do make a great middle weather application.

#### WHAT WOULD YOU LIKE TO SEE IMPROVED?

The module editing, I should be able to put any module on the top of the page not just below the first advert. It would also be good to be able to drag modules on the page instead of needing to go to another page.

#### OUT OF THE 3 WEATHER APPS, WHICH ONE DO YOU PREFER THE MOST AND WHY?

Windy, while the three apps were well made, I prefer a more advance weather application.

## Survey

### Quantitative Questions

1. Average age group?
2. Average frequency of weather application usage?
3. Length of application usage?
4. Application use intention?
5. Preferred appearance for information presentation? (Phrases, Graphs)
6. Application layout settings preference? (Simplistic, Advanced, Both)
7. Preferred theme appearance? (Dark, Light)
8. Opinion on advertisements?
9. Average location for application use?

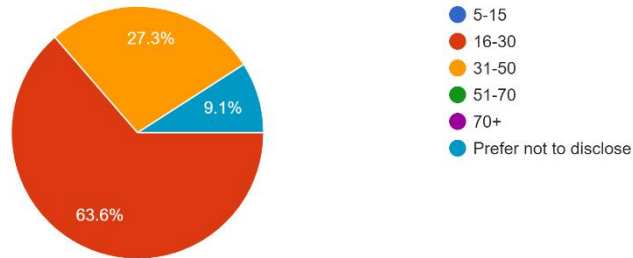
# ANALYSIS

## Data Analysis

### GRAPHS, TABLES AND SUMMARIES

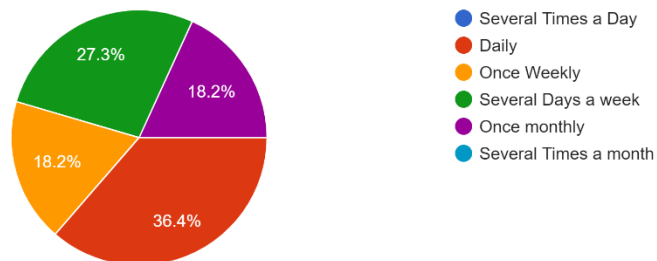
What age group do you fall into

11 responses



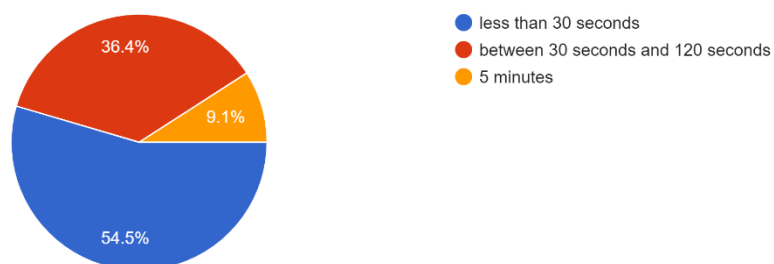
How often would you use your weather application? (pick one option best suited to you)

11 responses



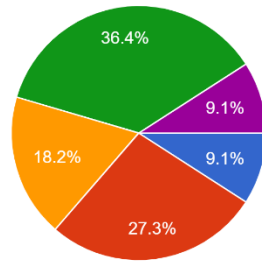
How long would one session typically last? (pick one option best suited to you)

11 responses



What type of information are you typically looking for? (choose one best suited to you)

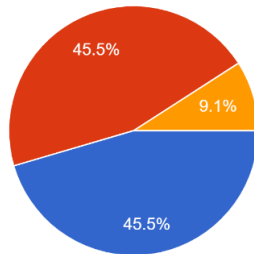
11 responses



- Temperature
- temperature "and" could be wind, or rain, perhaps surface pressure or humidity
- current conditions, and view a graph of upcoming rain or pressure patterns
- forecast for the next 5-10 days
- current conditions and weather patterns
- extreme weather warnings, storm warnings
- sun / moon / tide
- wind pressure, speed, at various levels

If you could choose default layout settings for the app, what would you choose

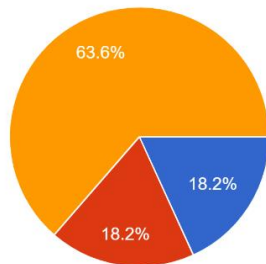
11 responses



- Simplistic
- Combined Range of Data not more than one page scroll
- Advanced, In depth, multiple sections or pages

Would you generally prefer to read a phrase, or interpret a graph or table of information

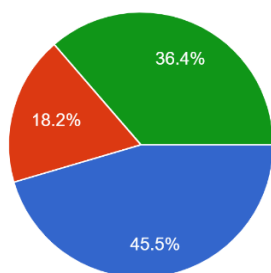
11 responses



- Prefer phrases
- Prefer graphs or tables
- Prefer a convenient combination

What would your preferred visual theme be?

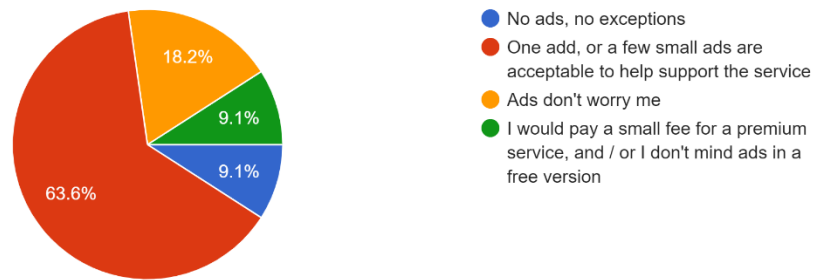
11 responses



- Dark Theme
- Light Theme
- High Contrast
- Default / Native Theme of Device

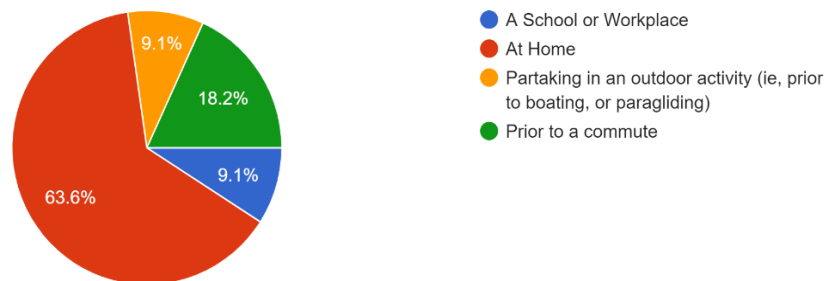
Do you accept some small ads to be beneficial to support the service?

11 responses



Where do you most often use a weather app (pick one that you agree to the strongest)

11 responses



## Survey Results Summary

### Most Common Results

Age:16-30

Usage: Daily

Typical Session Time: Less than 30 Seconds

Information Required: 5-10 Day Forecast

Preferred Layout: Combination Phrases / Graphs and Tables (Simplistic and Easily Comprehensible)


Preferred Theme: Dark Mode

Ad Preference: Few or One, in support of the service


Common setting: At Home


Although our client needs to cater to a variety of members within their target audience, from this survey we can glean the most useful and effective way to layout the client information to cut down view time and hassle for the highest percentage of users. To do so we have learned that the initial information should be all accessible within the first screen, or at worst, within one scroll down (another page). We need to address the needs of the most common users entirely in this window. This means a simplistic combination of graphs and phrases to dictate the forecast for the upcoming 5-10 days, including current conditions. The App is to be set in dark mode with bolder shades, not brighter colours. (Perhaps a singular or two bright colours can be used in a graph, for instance). The main users will predominantly be in their own home, likely to have a strong Wi-Fi signal, so we can afford a very slightly longer load time. It will be imperative to keep only one ad within the first important window, at most, the rest of the ads can be on other pages. We need to take full advantage of this window of space.

## Personas

NAME Carl O'Brien		OCCUPATION Concrete Placer	INCOME \$63,500
	HIGHEST LEVEL OF EDUCATION NCEA LEVEL 3		OUTSIDE EVENTS FREQUENCY Three times weekly average
	CURRENT WEATHER APP Apple Weather		FREQUENCY OF CHECKING WEATHER FORECAST 3 times weekly average
	LIKELIHOOD OF SWITCHING WEATHER APPLICATION 43%		AVERAGE SCREEN TIME 7 hours average
DEMOGRAPHIC  <u>Male</u> <u>26</u> Years  <u>New Zealand</u>  <u>Single</u>  <u>(New Zealand European)</u>	BACKGROUND  Carl has always used the default weather applications. He never really thought about using a different application. His primary use of weather forecasts is to plan meets with his mates. Carl has always used native applications and is adept to their simple design. So, Carl found using other, more complex applications a little frustrating.		
PREFERRED APPLICATION #1. Native Weather #2. Metservice #3. Windy	PHONE THEME PREFERENCE <del>Light Theme</del> Dark Theme <input checked="" type="checkbox"/>	FAVOURITE WEATHER CONDITIONS Sunny	



NAME Jordan Kahu	OCCUPATION <b>DATABASE ADMIN</b> (Casual Contract 30hrs per week)	INCOME <b>\$56,000</b>
	HIGHEST LEVEL OF EDUCATION Certificate  CURRENT WEATHER APP Samsung Weather  LIKELIHOOD OF SWITCHING WEATHER APPLICATION 87%	OUTSIDE EVENTS FREQUENCY Once weekly average  FREQUENCY OF CHECKING WEATHER FORECAST Once weekly average  AVERAGE SCREEN TIME 5 hours average
DEMOGRAPHIC  <u>Male</u> <u>34</u> Years  <u>New Zealand</u>  <u>Dating</u> <u>7 months</u>  <u>NEW ZEALAND MAORI</u>	BACKGROUND  <p>Jordon doesn't use weather apps often, therefore he hasn't found the need to use a different application. Jordon likes to go on hikes, bike rides, and other outside physical activities, meaning when he checks the weather, he needs accurate predictions. A more advanced weather app would suit his needs; therefore, he would be willing to switch to another application.</p> <p>He wouldn't mind learning how to use a new application. However, he would prefer the app didn't include any paid memberships and not too many advertisements.</p>	
PREFERRED APPLICATION #1. Native Weather #2. Metservice #3. Windy	PHONE THEME PREFERENCE <del>Light Theme</del> Dark Theme <input checked="" type="checkbox"/>	FAVOURITE WEATHER CONDITIONS Sunny

NAME Brittany Addison		OCCUPATION BEAUTY ASSISTANT (Fulltime)		INCOME \$49,500
	HIGHEST LEVEL OF EDUCATION Diploma		OUTSIDE EVENTS FREQUENCY four times weekly average	
	CURRENT WEATHER APP Windy		FREQUENCY OF CHECKING WEATHER FORECAST 7 times fortnightly average	
	LIKELIHOOD OF SWITCHING WEATHER APPLICATION 32%		AVERAGE SCREEN TIME 6 hours average	
DEMOGRAPHIC  <u>Female</u> 23_Years  <u>New Zealand</u>  <u>Defacto</u> <u>Relationship</u> 4 years  <u>New Zealand European</u>		BACKGROUND  Brittany attends outside events frequently, often needing to check the weather conditions. For that reason, she switched to an advanced weather application (Windy) so she can get highly accurate weather predictions.  When Brittany was looking for a different weather app, she tried many other applications, gaining experience with using many other weather services.		
PREFERRED APPLICATION #1. Windy #2. Metservice #3. Native Weather		PHONE THEME PREFERENCE Light Theme Dark Theme <input checked="" type="checkbox"/>		FAVOURITE WEATHER CONDITIONS Clear Skies

## Summary

From each users' responses and time taken to complete tasks, we can confirm our assumptions that an experienced user can use Metservice more efficiently than others. We can also confirm advertisements and module editing are major pain points for users. A user also pointed out that Metservice, a simple application that can provide complex information, does not contain some major points of data. From our observations we know that Metservice is well designed and needs more polishing than redesigning. Meaning we should be able to keep the colour scheme and intractability of the application, adding more features and polishing the application. Another potential improvement is in application themes, the application did not offer any themes. Some users may prefer to use dark mode.

## Improvement

### FEATURES & FIXES

1. Hold and drag module editor.
2. More advanced modules (e.g., smaller modules).
3. Pop-up advertisement removal.
4. Advertisement position change.
5. Satellite imagery.
6. 10-day forecast module.
7. Reorder default module positioning.
8. Scroll to top or scroll bar implementation.
9. General menu redesign.

These features favour a small area of primary interest, and low usage / view times.

## Plan

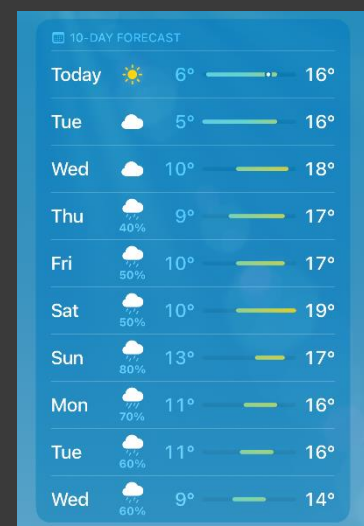
### IMPLEMENTATION

From the data we gathered we have some features and fixes to improve the application. Improving the module editor software to make it easier for users, a suggested hold to drag function, like editing apps & widgets on your phone home screen.



Modules could be made smaller to only take up half the page this will help point towards their being many more modules further down the page. On top of smaller modules bringing them to the top of the page will help portray a larger page. Pop-up advertisements should be removed completely. And other advertisements should be moved further down the page.

A simple 10-day forecast should be shown as a module with clicking on it opening the more advanced weather forecast.



There are a few fixes we need to implement. Adding a scroll bar will help provide good UX feedback for the user. Metservice labels wind direction opposite to where the wind is pointing. As it is describing where the wind is coming from, not where it is going, this strays from the standard wind labels and can be confusing. So, we will be changing this to display the wind direction in compass terminology. Satellite Imagery should be implemented as an interactable module for more advanced weather forecasts. With the features and fixes listed the menu may need to be repurposed or even redesigned, we could include an important forecast for general use that is always easily accessible.

## Card Sorting

Menu	Page	My Locations
<div>Navigation</div> <div>48-Hour Forecast</div> <div>10-Day Forecast</div> <div>Current Conditions</div> <div>Sun &amp; Moon</div> <div>Satellite Imagery</div> <div>Metservice TV</div>	<div>48-Hour Forecast</div> <div>Temperature</div> <div>Wind</div> <div>10-Day Forecast</div> <div>Today</div> <div>Tomorrow</div> <div>Current Conditions</div> <div>Temperature</div> <div>Wind</div> <div>Rainfall</div> <div>Humidity</div> <div>Pressure</div> <div>Sun &amp; Moon</div> <div>Sunrise &amp; Sunset</div> <div>Moon Phases</div> <div>Satellite Imagery</div> <div>Satellite Map</div> <div>Rain Radar</div> <div>Metservice TV</div> <div>Scroll To Top</div>	<div>Find a Location</div> <div>Edit</div> <div>Location</div> <div>Conditions</div> <div>Temperature</div> <div>Home</div> <div>Conditions</div> <div>Temperature</div> <div>Auckland</div> <div>Conditions</div> <div>Temperature</div> <div>Wellington</div> <div>Conditions</div> <div>Temperature</div> <div>Christchurch</div> <div>Conditions</div> <div>Temperature</div>