



CIS 1250: ASSIGNMENT 2 Monday, November 3, 2014

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# WEATHER PLUS

SOFTWARE DESIGN & REQUIREMENTS SPECIFICATION

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#### 1. PREAMBLE

#### 1.1 PRODUCT OVERVIEW

Weather Plus (WP) is a mobile application that fetches weather information and displays it in a meaningful way. WP will be released for both the Android and iOS platforms (this document will reference the initial Android release). While people have access to their local weather forecast through multiple mediums, such as tv, radio, online, and other applications on their mobile devices, WP intends to distinguish itself by highlighting the main reason that people want this information in the first place-- they just want to know how to prepare for the weather. The average person just wants to know what the weather is going to be like throughout the day and how they should prepare for it; they don't care about cloud ceiling, atmospheric pressure, or want to look at meteorological system maps, so why present that information to them? This information only serves to distract and frustrate the user. WP intends to improve user experience by only providing the information that is relevant to the user and by making clothing suggestions with using a clean, simple, and elegant user interface.

# 1.2 PRINCIPLES

WP has two aspirations to be intuitive and relevant. WP wants to provide users with weather information that is important to them and nothing more in a manner that is obvious.



#### 2. **REQUIREMENTS**

#### 2.1 ACCURACY

WP must be able to display accurate meteorological information based upon the user's indicated locale. This information must be accurate, and updated in a timely manner. In addition to this, the user must be able to specify their own location, or can use GPS to automatically make that choice on their behalf.

## 2.2 CUSTOMIZATION

Users must be able to customize presented information into a format that is relevant to them. Users must be able to change their preferred unit display, ie. displaying temperature in degrees Celsius vs. Fahrenheit, and change the type of clothing displayed based upon their indicated gender.

#### 2.3 NOTIFICATIONS

WP is intended to be easy to use. This means the application cannot produce excessive notifications or disturbance to the user outside of normal operation and use. WP must not intentionally cause the user inconvenience and so 'push' notifications or similar alerts will be avoided unless necessary (in the event of extreme weather events where the user could be in danger), or requested by the user. In essence, the app will only run when the user chooses to do so, and outside of this operation, the app will not produce any disturbances.

## 2.4 SOFTWARE UPDATES AND MAINTENANCE

Software updates are to be applied on a need only basis, and are to be applied discretely and without inconveniencing the user. Excessive updates will undoubtedly interfere with the user's enjoyment of the app, and as such are to be avoided. An initial, one time patch is to be applied within six months of initial release to remedy any issues or common complaints that may arise.

#### 2.5 TIMELINE

The project is not intended to take more than 12 months in primary development. At the 8 month mark (or approximately two thirds of the way through development, whichever comes first), a demonstration of the current state of the software is to take place. All stakeholders whose interests pertain to this project shall be informed on the current state of affairs. At that time, further evaluation as to whether or not the project is proceeding as expected will take place. A team will be assigned to maintain the software after the initial release (2.4).

# 2.6 BUDGET

The company contracted to develop WP will be offered terms stating a budget of \$250,000 for the first year of development. The software maintenance (2.4) will be considered as an aside, whose budget will be discussed at the 8 month development mark (2.5).

## 2.7 USER INTERFACE

The user interface will allow for easy navigation of the app, made possible by the use of a menu button, which is available to the user at any point during their use of the app. Clean, image and icon driven layouts will be favoured instead of text heavy description.

## 2.8 CLOTHING RECOMMENDATIONS

The user will be presented with clothing recommendations based on temperature and weather for various periods of a day. For example, though it might be sunny in the morning, WP will advise that you wear a coat if the forecast calls for colder weather later in the day, or it might remind you to bring an umbrella along if there is rain forecasted for the afternoon.

## 2.9 GENDER SPECIFICATION

The user will be allowed to specify their gender (2.7), which will determine what type of clothing recommendations are made (2.8).

# 2.10 STAKEHOLDER INVOLVEMENT

All Stakeholders will be allowed to give feedback on the project, to the extent that their role permits. Stakeholders are permitted to review and amend any of the previous requirements sections (2.1 - 2.9), so long as they do not considerably alter the project or seriously inconvenience other stakeholders.

#### 3. DESIGN

#### 3.1 METEOROLOGICAL DATA AGGREGATION

WP pulls meteorological data from the <u>Yahoo! weather API</u> and then presents that data to the user in a focused manner.

#### 3.2 PRESENTATION

Only practical information, the temperature, chance of precipitation, wind speed, and overall condition will be displayed. The overall condition will take into account more detailed data and deliver a single word summary, such as 'humid', 'warm', 'cloudy', etc. The amount of text on screen will be minimized. Icons and symbols will be used extensively.

## 3.3 SETTINGS

The user will have the option at any time to change change their personal preferences by clicking the menu icon button. From this screen, they will have the option to manually change the way that WP conveys information.

## 3.4 LOCATION

Although user's can have WP automatically find their locale by using GPS, they can also manually specify their location. The currently selected location will be indicated on the main screen on the 'location bar'.

# 3.5 UNIT DISPLAY

Users can specify whether they prefer to view weather data in of metric or imperial units.

#### 3.6 GENDER

Since the focus of WP is to help make cloting suggestions, users can specify their gender to ensure that they recieve gender appropriate recomendations. Changing the users indicated gender will also change the icons that are displayed; ie. a male might get a recomendation for a shirt, wheras a female might get a recommendation for a dress.

## 3.7 ALERTS

Users can indicate the amount of alerts and push notifications that they would like to recieve. By default, WP will only alert users of emergency situations that present a danger their safety. Users can opt to disable this feature should they consider it bothersome or redundant. Users can also opt to increase their level of notification and recieve push notifications for less threating weather conditions like lightling or hail, or even opt to recieve a daily forecast notification that can be viewed on the lock screen of their device.

#### 3.8 ICONOGRAPHY

Clothing suggestions and summary weather conditions are deemed as the most relevant types of information and are presented in the forms of icons in order to draw the attention of the user and help give a basic understanding of what to wear.

# 3.9 COLOUR

For the most part, WP uses a cool and neutral colour palatte. Red is used to alert the user of a dramatic weather change or a bad weather condition. The contrast between both blue and red is deliberate and is intended to draw the attention of the user.

## 3.10 CHUNKING

WP is structured so that it displays weather in four sections: Morning, Afternoon, Evening and Overnight. Each of these have their own subsections where figures are displayed in text grouped on the left of the interface and clothing suggestions are grouped together on the right of the interface. Chunking information in this way is intended to assist users in absorbing and retaining information.

# 3.11 ALIGNMENT

Text and other UI elements are aligned in a consistent manner, and are typically left-justified in order to aid in readability.

#### 4. INTERFACE PROTOTYPE

# INTERFACE OVERVIEW 4.1 The interface adheres to the specifications of Google's Material Design, uses alignment and spacing in a consistent manner (3.11), and uses text size and colour to highlight areas of importance (3.9). Important areas are considered to be the various times a day, categorized as morning, afternoon, evening, and overnight (3.10), as well as the overall weather condition (3.2). WP will present an area's temperature, chance of precipitation, and wind speed (3.2). At the bottom of the interface is the location bar, which will indicate the current city and date. The user can manually change the city and date





by clicking this bar, or simply advance by one day by clicking the arrow on the bar. The colour scheme consists of monochromatic tones for text and background elements, blue #1866C2 used for the status bar, and blue #1E70E9 used for the the menu bar and date selection area (3.9). Icons are used to convey clothing suggestions in a generic and straightforward way (3.8).

# 4.2 CUSTOMIZATION

WP will only display information relevant to the user (3.3). Users can select their gender, location, and notification frequency level through the settings menu. The settings menu can be accessed by clicking the menu icon that is present on every page (3.4 - 3.7). Changing the user's gender will alter the type of icons that are displayed. In case of an emergency situation, text and icons relating to the situation will be red #E31B3F in order to stand out (3.9).



#### 5. APPENDIX

#### 5.1 TARGET AUDIENCE

## 5.11 BUSY PEOPLE

The kind of person who is in a rush or pressed for time may find this application particularly appealing because it will allow them to get the relevant information that they require at a glance. This is a broad demographic that can span from the soccer mom who wants to know how to dress her kids for school, to the student who is late for school, to the business executive who can't afford to waste time.

## 5.11 THE FASHION CONSCIOUS

The service will target the fashion conscious user who bases their day around what they plan on wearing. This type of person will find particular value in the application as it emphasizes clothing choices over displaying statistical information.

# 5.12 THOSE IN AREAS WITH VARIALBE WEATHER

Individuals living in an area where the weather can frequently change will find more value out of the application than those living in an area where the weather is constant, for instance near the poles or the equator.

#### 5.2 ACKNOWLEDGMENTS

- 5.22 UI ELEMENTS AND "MATERIAL DESIGN" SPECIFICATION
- Copyright Google Inc.
- http://developer.android.com/design/material/index.html
- 5.23 NEXUS 5 MOCKUP
- Copyright Stefan Hinck
- http://dribbble.com/shots/1552949-Google-Nexus-5-Mockup-PSD

#### 5.24 ICONS

- Copyright VisualPharm LLC
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