Software Requirements Specification

for

Android Weather Application

Version 1.0

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# Preface

## 1. Introduction

This section introduces the client to the requirement document. All members have agreed on all aspects of this document.

## 2. Purpose

A weather application that delivers real-time information about the weather to the user near the user’s location or a location at the user’s request.

## 3. Document Conventions

This document uses the dotted-numbered outline format to organize information. There are different sections within this document to describe various kinds of information pertaining to the account creation and management system.

## 4. Intended audience

This requirements document is intended for end-users and programmers of this system.

## 5. Proposed Document Scope

This requirements document provides information about the weather application.

The system has the following functions:

1. Authenticating user’s position using GPS technology and other Android API.

2. Display real-time weather from user’s position.

3. Allow user to request real-time weather information from other locations.

4. Display real-time weather near the position at the user’s request.

## 6. Definitions

Any definitions we need

# Overall Description

## 1. Document Perspective

The software specification document describes the functional and nonfunctional requirements of an account creation and management system for an Android weather application. For functional requirements, the document first describes a basic path taken by a user, and then describes the requirements the software shall fulfill in order to follow the said basic path. The document also describes some nonfunctional yet essential qualities the software shall possess.

## 2. Document Functions

This document provides the client with a basic guide on how the user will operate the software. The developers are provided with a rudimentary blueprint for the software.

## 3. User Characteristics

The system is designed with average web users in mind. So, the user is expected to have basic knowledge on how to operate a computer/laptop/phone/tablet.

## 4. End-User Operating Environment

The service can be used by anyone with an android device and internet connectivity.

## 5. Design and Implementation Constraints

The user must have an android device with an active internet connection.

# Functional Requirements

## 1. GPS Position

Authenticating the user’s position is the first step in delivering real-time weather updates. Following are some cases the user may encounter while trying to receive weather information.

### 1.1. Use Case 1:

Name : GPS Signal OK

Priority : Essential

Trigger : User interaction with mobile device

Precondition : User has valid Internet Connection and GPS position

Basic Path : Default path on startup

1. User starts the Android application on mobile device.

2. The Android application calls for GPS position.

3. The Android application successfully receives the GPS position.

4. The Android application uses the position to fetch real-time weather information using OpenWeatherApp API.

5. The display shows real-time weather updates.

Requirements:

This use case is the default state for the application on startup.

### 1.2. Use Case 2:

Name : No GPS Signal

Priority : Essential

Trigger : User interaction with mobile device

Precondition : User has valid Internet Connection but no GPS

Basic Path :

1. User starts the Android application on mobile device.

2. The Android application calls for GPS position.

3. The Android application does not receive the GPS condition within the WaitForGPS window.

4. The display shows “GPS not available”, “Retry” and “Select city”.

Requirements:

## 2. Manual Selection

The ap will allow the user to select a city from a ComboBox list.

### 2.1. Use Case 3:

Name : User selects a city

Priority : Essential

Trigger : User interaction with mobile device

Precondition : User has valid Internet Connection

Basic Path :

1. While in the Android application the user selects <ADD CITY>.

2. The Android application uses the CITY to fetch real-time weather information using OpenWeatherApp API.

3. The display shows real-time weather updates.

Requirements:

## 3. Data Return Errors

The ap will return an error with information in the event it does not receive data for the GPS or selected location within the expected time frame.

### 3.1 Use Case 4:

Name : No Usable Internet Available – GPS or Selected Location

Priority : Essential

Trigger : User interaction with mobile device

Precondition : Internet connection is either insufficient or non-existent

Basic Path :

1. The Android application attempts to fetch real-time weather information using OpenWeatherApp API but does not receive a reply within the WaitForWeather window.

2. The display shows “Unable to connect” and “Retry”

Requirements:

### 3.2. Use Case 5:

Name : No Data Available for Selected Location or GPS

Priority : Essential

Trigger : User interaction with mobile device

Precondition : API fails to return the expected data

Basic Path :

1. The Android application attempts to fetch real-time weather information using OpenWeatherApp API but does not receive an unexpected reply or no usable data within the reply

2. The display shows “Error” and “Retry”

Requirements:

# IV. Non Functional Requirements

The ap will have background images to match the current weather status.

## 1. Reliability:

The ap shall return the current weather information for the location requested.

## 2. Robustness:

The ap shall display errors in the event no internet connection, no GPS signal available, or if the weather information is unavailable for the location requested.

## 3. Maintainability

The ap shall be periodically tested to ensure connectivity to the API and be updated any time the API structure or link is updated.

## 4. Security

The ap shall not store nor share GPS or any other information from the mobile device.