**Jawad Timzit**

**CSS 436: Cloud Computing**

**Program 2: Rest**

Design Description

This Program is using/consuming two Service API Rest. The first API is s. <http://openweathermap.org/api> and the second API is <https://weatherstack.com/documentation>. It takes in the name of a city as a command line argument and return some information about the city using the two API’s.

My first API Access current weather data for any location including over 200,000 cities, and the second API is also for real-time weather data in a location of your choice, and also other information about the city like language, time zone, region of that location etc. we simply attach our preferred location to the API's current endpoint.

So, these two API will both use Http request call to get the information from the API’s. The URL will be defined with the connection. A connection will be created through this URL and the endpoint. When the connection is established then there will be a request set up using the GET to get the response code. The connection will be timed out if the connection was not successful after 3 seconds.

The response code:

* If the response has a status of 404 which means that the city the user entered is not correct a message will be displayed asking the user to enter in a correct city name.
* If the status code is 5xx which means that there is some error on the server side: The program will utilize an exponential back of logic to retry HTTP request. There will be 4 retries, at 1 second, 2,4, and seconds. If nothing happens during this interval and there was no response. The program will break out and display a message saying that we cannot connect to server.
* But if the response status is 200 means OK request the information will be extracted from the response object using Bufferreader /getInputStream.
* We access data by getting the index of the string by converting Stringbuffer to string after the connection get closed.

For the send API. The city name can be correct and can still perform or display some data, because that is how it is built. It is from the API side, because sometimes it handles wrong names as well. The focus will be on the first API when some input is not correct since the class (Professor) decided do not worry about the circuit breaker implementation. First API should be able to handle the errors and provide enough resiliency.