Forecasting System

**Introduction**

There is often a great need for this type ofsystem, particularly during the brutal, bitterly cold winters we experience here in Chicago. Often, deciding if a school or business should close based on a forecast is a tough decision since nothing is guaranteed. Our system will help the administration in a school or business to determine if they should remain open or close for the day.

The system will function primarily through the use of a user inputted forecast to determine if the school/business should remain open or to close for the day of concern. Ideally, the system will be a perfect addition to the software available to the decision makers at Northeastern Illinois University because as a strictly commuter school, NEIU students come from different parts of the city and have vested interests in any adverse weather conditions that may delay or otherwise affect their commutes to school. This system will allow the decision makers to come up with a decision even faster.

**Glossary**

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| TERMS | DEFINITIONS |
| Wind Chill | Air temperature felt by the body on exposed skin due to the flow of the air. |
| Altimeter | Pressure reduced to mean sea level using the temperature profile of the standard atmosphere. Is the pressure value to which an aircraft altimeter scale is set so that it will indicate the altitude of the aircraft on the ground at the location for which the pressure value was determined. |
| Z | Time conversion Zulu used in the military and in aviation. |
| Dew Point | Temperature to which air must be cooled at constant pressure to achieve saturation. Has to be above 32 °F. |
| MB | Stands for millibars. Used to represent atmospheric air pressure. Sea level pressure is defined as 1000 mb. Going up in the atmosphere, the pressure levels decreases. The main levels Meteorologist look at for forecasting are 850, 700, 500, and 300 for various parameters such as wind, moisture and temperature to aid in forecasting the weather at the surface. |
| Relative Humidity | Is how close an air sample is to saturation at a specific temperature. |

**User Requirements Definition**

The website will strive to accurately and reliably predict if a business and/or school should close on the day of choosing based on the user entered forecast.

**Functional Requirements**

o The system will allow admins to enter a forecast for the day of choice.

o The system shall display the following current weather conditions:

o Temperature in Celsius and Fahrenheit

* Wind Speed direction and strength in MPH
* Wind Gusts in MPH
* Wind Chill in Fahrenheit
* Visibility in miles
* Dew Point in both Fahrenheit and Celsius

o Humidity

o Altimeter

o Current Day and Time in Zulu

o The user as an admin can

o The system shall provide the admin with an option to choose the current weather location

o The system will display a decision of either staying open or closing

**Non-functional Requirements**

- The system should be made available at all times, and be hosted on a web server with a database connection

- The system is coded in such a way that optimizes maintainability

**System evolution**

• Continuation of current weather cities and current weather output

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