CSCE 4925: Project Aero
User's Manual

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Revisions

Below is a list of any revisions made to this document.

Date	Description of Change Made	Person Making Change
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1 Introduction

The air quality in the City of Denton is notoriously bad. It's not a surprising fact given that there are two universities and multiple major highways and roadways that run through the city's limits. Worse still, there is only a single air quality sensor within city limits, and the next closest one is almost 15 miles away from the city.

The goal of this project is to create a network of air quality sensors to measure the air quality in the city of Denton so that citizens and city personnel alike can monitor air quality and take appropriate actions. The data obtained from the sensors is to be made public, so that air quality trends can be tracked all around the city. With these requirements met, the network would provide secure, real-time, and reliable data on the air quality in the city of Denton.

With the aim of creating a robust and open source of air quality data for the city of Denton, the Open Denton group has set out to establish a network of air quality sensors to gather and compile that data. In order to help achieve this goal, our group has been tasked with the following:

- Create a web client to display data in a highly readable manner.
- Create an API that records and displays air quality data in a readable manner
- Implement a scalable database to hold and model recorded data
- Integrate sensors and controllers that will read and relay data to the database over the internet
- Create documentation that allows community members to add sensors to the network

1.1 Purpose

The purpose of this document is to provide a thorough user guide for the user on how to use the site to either contribute their own personal node to the air quality system or how to navigate throughout the site to view different air qualities or node information data.

1.2 Definitions and Abbreviations

- D.A.M.N - Denton Air Monitoring Network
- Node- Air Quality Sensor
- AQI- Air Quality Index

1.3 Applicable Documents

- Maintenance Manual
- Test Plan

2 Getting Started

This section provides an outline of what the user will need to do to or have before jump starting on using the projectaerodenton.com site. Additionally, an overview of supported platforms is provided as well.

2.1 Supported Platforms

Browsers
- Internet Explorer
- Safari
- Mozilla Firefox
- Google Chrome
- Opera
- Microsoft Edge
- Default Browser of 3 Android Phones
- Safari on iPhone
- Google Chrome on iPhone

Softwares on the server
- XAMPP
- Python Library
- PHP
- PostgreSQL

Operating Systems
- Windows 7
- Windows 8 / 8.1
- Windows 10
- MacOS
- iOS
- Android

2.2 Getting Started

If a user simply just want to view the air quality in their local area without contributing a sensor, all they need to have and use is a browser to view the end client, the website. However; if they also want to contribute a sensor, the user simply needs to enter in the information about the sensor when adding the sensor to their account.

3 User's Manual

The purpose of the manual is for the users to use when they want to know essential information about the air quality system such as system functions, procedures, capabilities, how to use and navigate the website, and information about the nodes.

3.1 General Description

Provided below are the general descriptions of what an user will see from each menu item.

Navigating the Menu Items

Located on the top of the homepage are different menu items: 'Dashboard', 'Sensors', and 'About'. Click on which menu item you wish to navigate to.

Dashboard

The dashboard is the homepage of projectaerodenton.com. On the homepage, the user is able to view the daily AQI Index Averages, of Denton and Dallas, the current hazard level, the different air quality gauges, a map where all nearby sensors are located at, and a table displaying information about sensors.

Sensors

This is where you will see the AQI index averages data of your own personal sensor and other sensors nearby you, gauges of different air qualities, a map that will display where that sensor is located at, and a table showing a list of sensors that shows additional information about each sensor such as the sensor's name, status, and location.

About

The 'About' page is where the user will be able to go to learn more information about the AQI, the numerical system used to calculate the pollution in the air. Additionally, this is where the user can also view the team behind projectaerodenton.com, contact information, and additional resources.

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