

What Happened?

As you might have noticed, this project did not reach full fruition. There are multiple reasons for this and this document is meant to outline all of these reasons.

First, we lacked the knowledge needed for a web based front-end, database design, and the middle-man between the two. A large portion of the code that we wrote required us to do extensive research. We had to learn what to code and what each line of code did. Put simply, we had to learn how to code from the ground up. Everything we did we learned on the fly.

We spent a large amount of time working on a Ubuntu based server and kept experiencing issue after issue. It was only after experiencing a large number of major roadblocks that we finally decided to jump ship and move on to a Windows based server. After doing that, the sailing was much smoother.

Aside from the setup of the infrastructure and general lack of coding knowledge, we also experienced many issues in the coding process. We would find many tutorials on how to do something and none of them ever worked the way they should. One such issue was setting up the Google Charts. Between three group members, well over forty hours were poured into trying to link the data in our database to the charts. Unfortunately, examples we found online didn't work either. That was a big piece of what our project was missing. Due to the sheer number of issues we experienced, lack of knowledge, and time spent trying to fix these issues, we weren't left with enough time to even get our hands dirty on much else.

Our initial plan was to divide and conquer, and the two team members in charge of doing the front end had no idea how to build one. One member had a decent amount of experience and threw one together eventually, and it was only then that things on the front end started to get done. The reason that this didn't happen sooner was because this particular member was preoccupied working on other things for the project, specifically the node.

Because we had to take up so much time learning and researching coding aspects of our project, we were only minimally successful in getting this project implemented. Had we started the formal development in the Fall Semester, and been where we are now at the end of the Fall Semester, this project might have stood a better chance of being brought to fruition. However, we were told not to start any coding until Winter Break, which was advice that we unfortunately followed.

As the project manager, I do have to say that I am proud of where I and my teammates were able to get to with this project. Everything we did we had to learn on the fly, we went in with zero knowledge of how to use any aspect of any of the items that used in this project, and were able to create a cohesive looking front end, a database, a PHP script to run queries and output results into a JSON file, and a functioning air quality sensor. We also didn't have a lot of time to

work with to get the server setup and to actually implement the plan into code. In the end, the only things missing from this project, albeit big things, included an API to collect data from the sensors, an onboarding process for new sensors, a login portal for users to manage their contributed sensors, and the link between the charts and the database.