



Deep Dish Data

Created by: Pablo E. Calix, Kenneth Meyer, Teo Price-Broncucia,
Jossely Salgado, Gabrielle Toutin





OUR CHANT

Hey, Deep dish what do you say

Solving problems is our way

Hey, Deep dish what do you say?

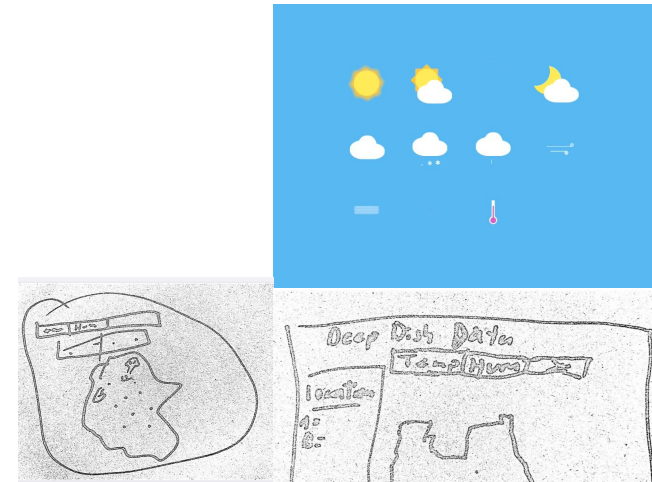
Making answers is our way

Hey, Deep dish what is your name?

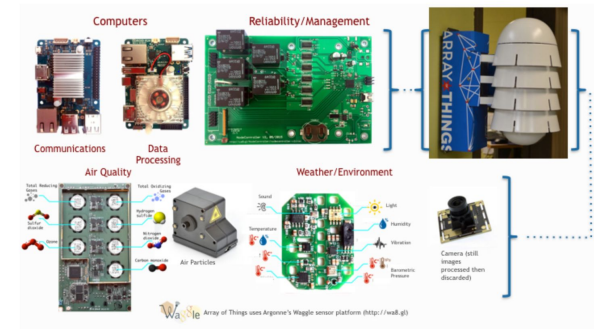
Deep dish data, deep-dish data, THE DEEP DISH DATA!

Project overview

- Array of Things - a networked urban sensor project
 - Sensors are spread across Chicago
 - Measure: temperature, humidity, quantity of particulate matter, traffic, ect
- Purpose: provide the public with actionable data
 - Make accessible, easy to understand, useful
- Our plan
 - Create/train a model
 - Visualize our data/predictions
 - Create a website



Current AoT Node Architecture



Cloudy Cluster

- Access data quickly
 - Cleaning and processing through 17 GB of data
 - Jupyter use over VNC
- Used Orangefs to collaborate and provide access to files
- Expansion of nodes
 - Increase our RAM and processing power on the fly



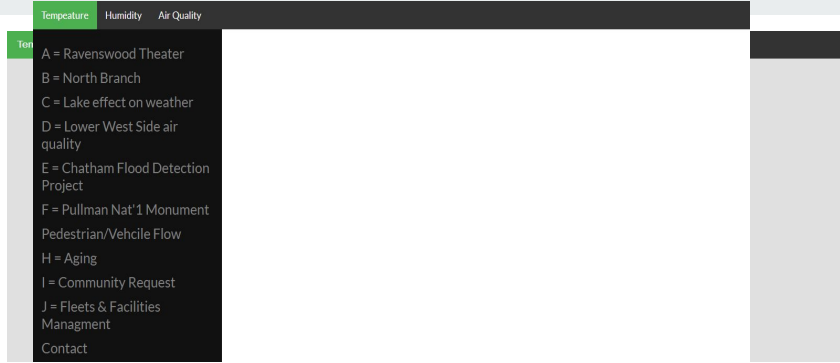


Demo



Challenges

- Data management
 - Size of file - edited size of CCQ Instance
- Installation
 - Spent large amounts of time installing Jupyter notebooks, TensorFlow
 - Only one person could use Jupyter notebooks through the VNC at a time (annoying)
- Implementation of Machine Learning
 - Desired to use weather data from sensors to forecast future weather and environmental conditions
 - Wanted to investigate how environmental factors affect crime
- Front End of Website
 - Transferring our past map from google to Visual Studios
 - Leading to numerous amount of API-Errors



Main enemy: time :(

If we had more time, we would

- Train and implement the forecasting AI
- Add features
 - Automatically collect the most recent data
 - Allow the user to request an AI forecast from the website
 - Link the model to the website to display a forecast for each sensor node on the map



Team contact info



(L-R): Pablo: calixp0129@gmail.com Josselyn: josselyns45@gmail.com Kenneth: kmeyer2@utexas.edu
Teo: teopb92@gmail.com Gabrielle: gctoutin@gmail.com