Project 5 Flu Tracker Documentation

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Application Overview

Flu Tracker is a web application for tracking and predicting flu activity in the United States. This system is mostly useful for epidemiologists and the general public for entering their flu predictions based on domain knowledge. The overall objective of the application is to increase flu awareness in society and help data analysts and epidemiologists in better modeling and predicting flu activity. In addition, this web application provides relevant information to casual (non-analyst) users too.

Following are the enhancements in project 5.

Part 1 Visualization Interface

We used highcharts.js (http://api.highcharts.com/highcharts), a JavaScript library for charts that enables with the draggable points plugin which enables users to view their predictions as well as interact with the charts to update the predictions. Clicking and dragging data points is a more intuitive method of viewing and modifying predictions in comparison to the table-based entry system. This chart also helps users to track and understand prediction by displaying the actual flu data released from the CDC. The line graph will show one line for the actual data received for the CDC, as well as one line for the predictions which the user has made. The addition of this new interface is a move away from the table-based prediction entry system used in project 3 and 4. Shown below is a snapshot,
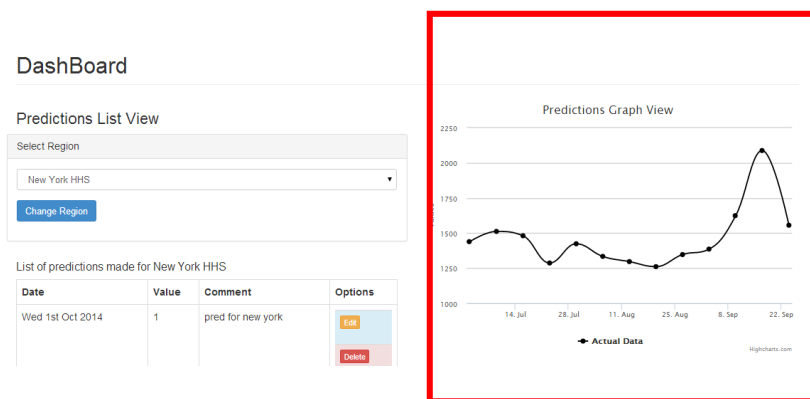

We do not support the add predictions functionality via this interface.The reason is because a new prediction can only be made on a Wednesday of every week which is not supported by the current capability. Shown below is a screenshot of the actual chart.

Part 2 External Data Source

For the external data source we used the data from http://www.cdc.gov/flu/weekly/flureport.xml, an API which published weekly flu data throughout the United States. This is designed to give users another source of information which they can use to make more informed predictions. The API classifies the activity in

each state into different categories such as No Activity, Sporadic, Widespread, and Local Activity. We use the JavaScript library datamaps.js (http://datamaps.github.io/) for rendering this data. Different colors are used to depict the flu severity level as shown below.
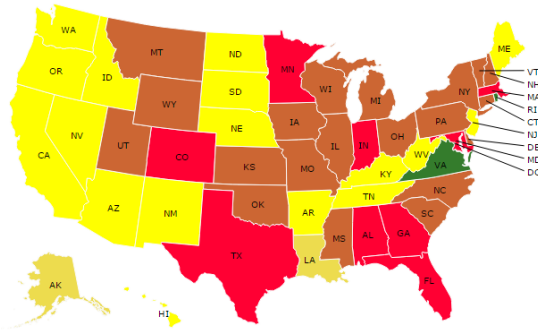
Intended Audience

This application is intended for data analysts, epidemiologists, and the general public for making predictions, publishing them and connecting with other domain experts.

Actions performed by a user (Project 5 additions only):

- View flu severity map, which will help to make predictions
- Click and drag on predictions graph to add/modify predictions
- Change view of predictions graph

Running the project online:

- Open: http://ec2-54-69-66-88.us-west-2.compute.amazonaws.com/flutracker/

Running the project on your system:

- Startup Apache and MySQL in the XAMPP control panel.
- Create a new database named "flu" using the phpMyAdmin interface provided in XAMPP.
- Import the flu.sql file into the flu database through phpMyAdmin. This will populate the database with the relevant records.
- Configure the SERVER_PATH in the config.php file depending on the location of the application in your system. This file is located in xampp/htdocs/code/app. The SERVER_PATH is used to reference all the public files. (For Mac users the application is in htdocs folder in xampp.).If set incorrectly all CSS and JavaScript will not be applied to the pages.
- Open a web browser and navigate to http://localhost/flutracker in order to explore the Flu Tracker web application.

Sample Username and Passwords:

- jonatho7, Password1!, site manager
- harshalh, Password1!, admin
- vivekb88, Password1!, moderator
- marysmith, Password1!, reg. user