A Web Interface for Exploring Open Big Data

Thomas Davenport

September 2015

Dissertation submitted in partial fulfilment for the degree of

Master of Science in Information Technology

Computing Science and Mathematics

University of Stirling

Abstract

The release of open data sources has provided a substantial opportunity for business and government. Providing information from these sources in way that can be accessed and queried potentially provides a useful tool that can aid research and decision making. The data however is from many different sources and there is no single tool to amalgamate all this information.

This project aimed to produce a database that could take advantage of open sources and present this data in a way that was meaningful and accessible through an interface. This interface would allow users to get an understanding of what data is available, be able to update the information provided with their own data, query the data via a range of methods and update the data held within the database.

The approach was to research how current solutions form their datasets, identify open sources of information to use, examine technologies that could be used to build the system and decide how the information that was found should be presented.

The implementation of the project involved building a web interface that was able to manage the interaction between the user and the database. The interface was written in Python using a Flask framework, and the database technology used was a mongoDB database.

A website was produced that met the objectives of the project. The database can be extended using CSV files and the site provides some methods to query the data held and produces some visualisation. The platform created provides a good framework for more data sources to be added and further development of the visualisation of information.

Attestation

I understand the nature of plagiarism, and I am aware of the University's policy on this.

I certify that this dissertation reports original work by me during my University project.

Signature   **Date**