**Project Proposal for Semantic Web CS-6301.506**

**Team Members: (Project Group 7)**

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**Type of Project**: Custom Project Type 3 - Using data from DATA-GOV and hosting our own SPARQL endpoint.

**Project Topic & Title**: Analysis of Tire Quality.

**Description**:

The purpose of our project is to help people make informed decisions when choosing tires for their vehicles. The project will use RDF data from the DATA-GOV website that consists of tire quality parameters like Traction Performance, Temperature Resistance, Tread Wear etc, together with Brand and Tire Size information.

The data has been collected by National Highway Traffic Safety Administration (NHTSA) in order to assist consumers purchasing new vehicles or replacement tires. NHTSA has rated more than 4,200 lines of tires, including most used on passenger cars, minivans, SUVs and light pickup trucks using a grading system known as the Uniform Tire Quality Grading System (UTQGS).

In order to provide integration with other datasets we will use DBpedia to collect and display to the user additional information about the tire brands, like Year Established or Logo. This additional information will be extracted from the existing SPARQL endpoint hosted by dbpedia.org.

**Tire data URL**: <http://data-gov.tw.rpi.edu/wiki/Dataset_1353>

**Number of triples**: 34,763

**Number of entries**: 4,345

**DBpedia SPARQL**: <http://dbpedia.org/sparql>

**Number of triplets**: 883,644,431

**Tools**: Fuseki for hosting our SPARQL endpoint, HTML, and JavaScript library for plotting graphs.

**Schedule**:

* March 28th: Milestone 1
  + Download all necessary data.
  + Setup the SPARQL endpoint and verify its functionality.
  + Verify that we can integrate with DBpedia SPARQL endpoint.
* March 30th: Project checkpoint
* April 11th: Milestone 2
  + Develop the HTML webpages.
  + Implement communication with the SPARQL endpoints using JS.
  + Integrate the JS graph library for data visualization.
  + Start working on the documentation for the final submission.
* April 20th: Final project report submission

**Expected Results**:

After this project is complete, we will have a comparison of various quality parameters of various tires, which will help people decide which tires to buy for their car.