Opportunity and Significance

Tracking and analyzing customer feedback is key in maintaining a successful business. In order to improve the customer engagement and profitability of a business, online review data for a business and their competitors can be mined and organized for further analytical purposes.

Technical Objectives

• Build a web scraping engine that can access and store data from various review sites.
• Analyze stored data that has previously been scraped to perform topic analysis. This will allow categorization of reviews that can be used to identify weak points within a business’ process.
• Create a web application that will present all information collected and stored in a database into a format that is simple to use.

Technical Approach

• Utilize web scraping technologies gather review data such as score, review date, and the source site for dealerships and their competitors.
• List of dealerships and IRF locations scraped are stored in the database.
• Present gathered data in a web application that the client can use to view their online review reputation.
• Utilize string matching to classify reviews into pre-defined and configurable categories. The output will be able to help report common themes found in the collected reviews for each dealer.

Technologies

• C# for the web scraping engine and review categorization.
• .NET, HTML, CSS, and JavaScript for the front-end web application.
• Azure server and SQL database for storing and retrieving information.

Accomplishments and Results

• Web scraping engine can search, update, gather, and store online review data from 3 review sites: Google, Yelp, and SureCritic.
• Review content is analyzed and matched to the pre-defined categories.
• Web application to report gathered data on each dealership and their competitors.

Next Steps for Development and Test

• Categorization of Negative Review Indicators and Type of Work Indicators using machine learning and neural networks.
• Wider range of websites to obtain review content.

Commercialization Plan & Partners

Commercializing this product will involve making the product fully deployable and hosted on a hosting platform eventually. The scraping engine will be run by the administrators of the system on a periodic basis as they see fit. This will allow various dealerships across the nation to analyze their current status in their customer's eyes and address possible issues accordingly.