**COM661 Full Stack Strategies and Development (Application Plan)**

**Application:**  
**Biz Directory**: A searchable interactive directory of businesses and customer reviews. Users can browse, search, and view business listings and reviews. Registered users can contribute their own businesses and reviews. Admin users have elevated access to manage all listings and reviews.

**Dataset:**

Adapted from the Yelp Dataset Challenge

🔗 <https://www.yelp.com/dataset>

The original dataset includes over 160,000 businesses and more than 8 million reviews. For this project, a smaller version will be used, featuring approximately 60,000 businesses along with their associated reviews and tips. Tips are treated as short reviews and integrated into the reviews collection.

The dataset has been modified to suit the needs of the application. Each business entry contains details such as name, location, category, and phone number. Reviews are linked to businesses and users via object references in MongoDB.

**Functionality:**  
The API, built using Python Flask, exposes a complete set of RESTful endpoints for managing users, businesses, and reviews.

**Key Features:**

* Public users can browse and search businesses and read reviews.
* Registered users can add new businesses and create or edit their own reviews.
* Admin users can edit or delete any business or review.

**Authentication and Roles:**

* JWT-based user authentication (using Flask-JWT-Extended)
* Role-based access control with “user” and “admin” privileges
* Passwords are securely hashed using werkzeug.security

**API Endpoints include:**

* User registration and login
* CRUD operations for businesses and reviews
* Search functionality (by name, city, category)
* Pagination, filtering by rating
* Secure access via token authentication

The system ensures full CRUD capability across multiple collections and includes input validation, error handling, and appropriate HTTP status codes.