**Web App. Dev. using PHP - ITE-5330**

**Lab - 4**

**Gas Station Management System Report**

This project is a Gas Station Management System developed in PHP, organized into several folders and following the Repository design pattern. The system is deployed using Podman and utilizes MySQL as the database backend.

**Code Organization:**

**Config:** Contains configuration files for setting up environment variables and system configurations.

**Middleware:** Handles the processes and operations that occur between request and response, ensuring proper request handling.

**Repositories:** The repository pattern is used here to abstract the interaction with the database, providing a clean interface. For example, the FuelRepository handles operations related to fuel data, and the UserRepository handles user-related data operations.

**Controllers:** GasStationController.php handles all requests related to the gas station's operations, while UserController.php is responsible for managing user operations such as registration and login.

**Public:** This contains the entry points for the application, such as index.php, dashboard.php, login.php, and register.php. The init.sql file is used to initialize the database schema.

**Views:** Responsible for rendering the frontend, displaying the user interface, and showing output to the users.

**Deployment:** The application is containerized using Podman, allowing for a consistent development and deployment environment.

Podman enables the encapsulation of the PHP application along with its dependencies into a container, which can then be deployed anywhere. The MySQL database runs in a separate container, and both containers are linked to enable communication.

This approach ensures portability and makes the system easy to scale. Overall, the project is well-structured, adhering to a clean separation of concerns through the Repository design pattern and organized folder structure. The use of Podman ensures reliable deployment and ease of maintenance.