MGA Department of IT
ITEC 3280 – Web Programming

# Assignment 8: PHP Forms - Adding Products to the Catalog

**Background:** Building on the foundation from Assignment 7, where we displayed product data from a JSON file, we now aim to create a form that allows users to add new products to the catalog dynamically. This assignment introduces students to form handling in PHP, focusing on data validation and persistence through the JSON file.

**Objective:** In this assignment, you will create a PHP form allowing users to add new products to the existing catalog. After the form submission, the product details will be validated, saved in the JSON file, and displayed dynamically on the catalog page. This exercise helps students learn how to handle forms in PHP, validate input data, and update a JSON file.

**Requirements:**

1. **Form Creation**
    - Create a PHP page named add_product.php that contains a form with the following fields:
        - Product Name (text input, required)
        - Price (number input, required)
        - Description (textarea, optional)
        - Submit Button (to add the product)
2. **Form Handling**
    - When the form is submitted, validate the input fields to ensure that:
        - The Product Name is not empty.
        - The Price is a positive number greater than zero.
        - If validation fails, display error messages near the respective fields and do not add the product.
3. **Appending the Product to the JSON File**
    - Once the form is submitted and validated, add the new product to the existing products.json file.
        - Read the current contents of the products.json file.
        - Append the new product to the array of products.
        - Write the updated array back to the products.json file.
    - After submission, redirect the user to the product_catalog.php page, where they can view the newly added product.

4. **Error Handling and Feedback**
    - Implement error handling to ensure that:
        - If the products.json file cannot be accessed or updated, display an error message.
        - Proper user feedback is given when the product is added successfully or if any errors occur during form processing.

**Deliverables:**

- **add_product.php -** The PHP file containing the form and logic for adding products to the catalog.
- **product_catalog.php -** The updated product catalog page displays the newly added products.
- **products.json -** The JSON file stores all products, including newly added ones.

**Grading Criteria:**

- Form Creation (30%)
    - Correct creation of the HTML form with appropriate fields for product input.
    - Proper form submission handling and feedback to the user.
- PHP Form Handling (30%)
    - Successfully read, validate, and write the new product data in the JSON file.
    - Proper error handling and user feedback when validation fails.
- Dynamic Display of Products (20%)
    - Products are dynamically loaded and displayed in the catalog after being added through the form.
- Code Quality (20%)
    - Clean, well-organized code with meaningful variable names and comments.
    - Correct usage of PHP for reading and writing JSON data.

**Conclusion:** By completing this assignment, students will learn how to work with PHP forms, handle form data, and manage file input/output operations. This assignment demonstrates a typical server-side operation where data is input by a user, validated, and then persisted for future use.