



**KARACHI INSTITUTE OF ECONOMICS & TECHNOLOGY**  
**College Of Engineering**

(Department of Software Engineering)

***SOFTWARE DESIGN AND ARCHITECTURE***

**PROJECT PROPOSAL**

***“E-MARKETING WEBSITE”***

Group Members	Student ID
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## **OBJECTIVE:**

To design and implement an **E-marketing website** using the **MVC (Model-View-Controller)** architectural pattern in **C#** with **ASP.NET**, offering a robust, scalable, and user-friendly platform for creating, managing, and analyzing marketing campaigns. The goal is to enable businesses to streamline their marketing efforts, enhance customer engagement, and measure the effectiveness of their campaigns..

## **DESCRIPTION:**

### **1. Admin Login:**

The system begins with an **Admin Login** module.

- The admin provides their credentials to access the platform.
- The login form includes fields for **username** and **password**.
- Security measures include password hashing, captcha validation, and protection against SQL injection.

### **2. Admin Validation**

- The system checks the provided credentials against the database.
- **If credentials are invalid:**
  - An error message is displayed, such as "*Invalid username or password.*"
  - The admin is prompted to retry or recover their password.
- **If credentials are valid:**
  - The admin is granted access to the main dashboard, leading to category and product management functionalities.

### **3. Category Management**

Once logged in, the admin can manage product categories.

#### **• Features:**

##### **1. Add Category:**

- a) Admin can create new categories for organizing products (e.g., Electronics, Clothing).
- b) Inputs include category name, description, and optional image or icon.

## 2. Edit Category:

- a) Admin can modify existing categories to keep the website updated.
- b) Updates can include name changes, descriptions, or visual assets

## 3. Delete Category:

- a) Unused or obsolete categories can be removed to maintain database cleanliness.
- b) Validation ensures that categories linked to products are not deleted.

## 4. Product Management

The admin can also manage the products listed on the website.

- **Features:**

### 1. Add Product:

- Create new product entries under specific categories.
- Inputs include:
  - Product Name
  - Description
  - Price
  - Stock Quantity
  - Product Images
  - Category Assignment

### 2. Edit Product:

- Modify product details, such as price, stock, or description.
- Useful for updating information or correcting errors.

### 3. Delete Product:

- Remove discontinued or outdated products from the system.
- Validation ensures that accidental deletions are minimized through confirmation prompts.

## 5. Data Processing

Both category and product management involve **data validation and processing** to ensure system integrity:

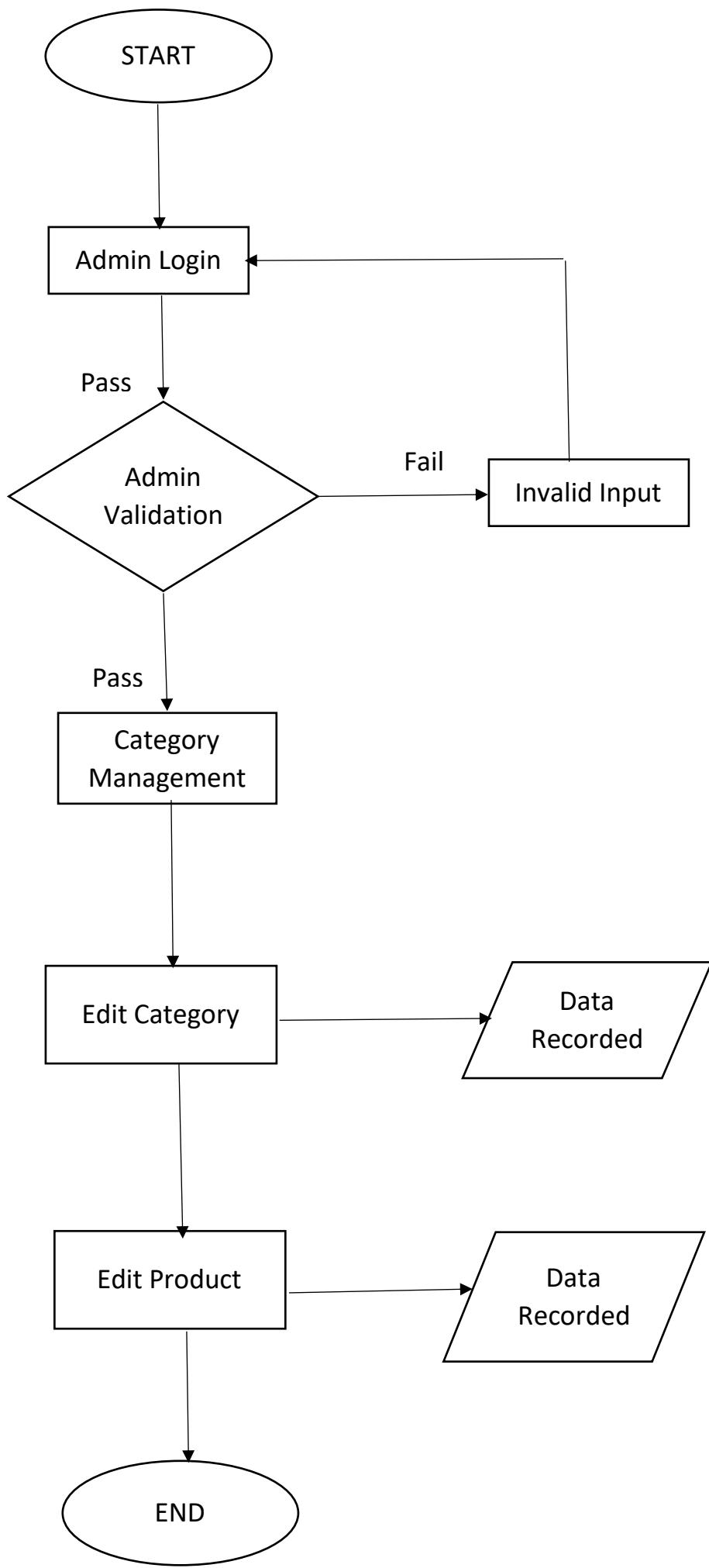
- **Validation Checks:**

- Unique category names and product IDs.
- Correct data formats for fields (e.g., price as numeric, images as valid file types).

- **Database Updates:**

- The system interacts with the database to insert, update, or delete records.
- Logs are maintained for admin actions for auditing purposes.

## FLOW CHART



➤ **(User Interaction)**

## 1. Login

- Users are required to input their credentials (**username and password**) to access the platform.
- **If login fails:**
  - The user is redirected to the **Register** page to create a new account.
  - A message prompts them to register if they don't already have an account.

## 2. Register

- Users who are new to the platform can create an account.
  - Inputs required for registration:
    - Name
    - Email
    - Password
    - Optional: Phone number, address, or other relevant details.
- **Data Recorded:**
  - The user's registration data is validated and stored in the database.
  - They are redirected to the login page after successful registration.

## 3. User Validation

- Upon a successful login or post-registration, the system validates the user's information against the database.
- **If validation fails:**
  - The user receives an error message such as "*Invalid input*".
  - They are prompted to re-enter their details or contact support.
- **If validation passes:**
  - The user gains access to the product management system.

## 4. Product Management

Users can interact with the **product management module** to:

### 1. Add Products:

- Users can upload product information such as name, description, price, category, and images.

### 2. Edit Products:

- Users can modify the details of existing products, including updating prices, stock, or images.

### 3. Delete Products:

- Unwanted products can be removed from the system.
- A confirmation prompt ensures accidental deletions are avoided.

### • Data Recorded:

- All product-related actions are stored in the database, ensuring updates are reflected across the platform.

## ❖ Technical Implementation Using ASP.NET MVC

### 1. Login & Registration (Controller):

- Use ASP.NET Identity for secure user authentication and role management.

### 2. Validation (Model):

- Validation logic ensures correct input formats and checks against existing records.

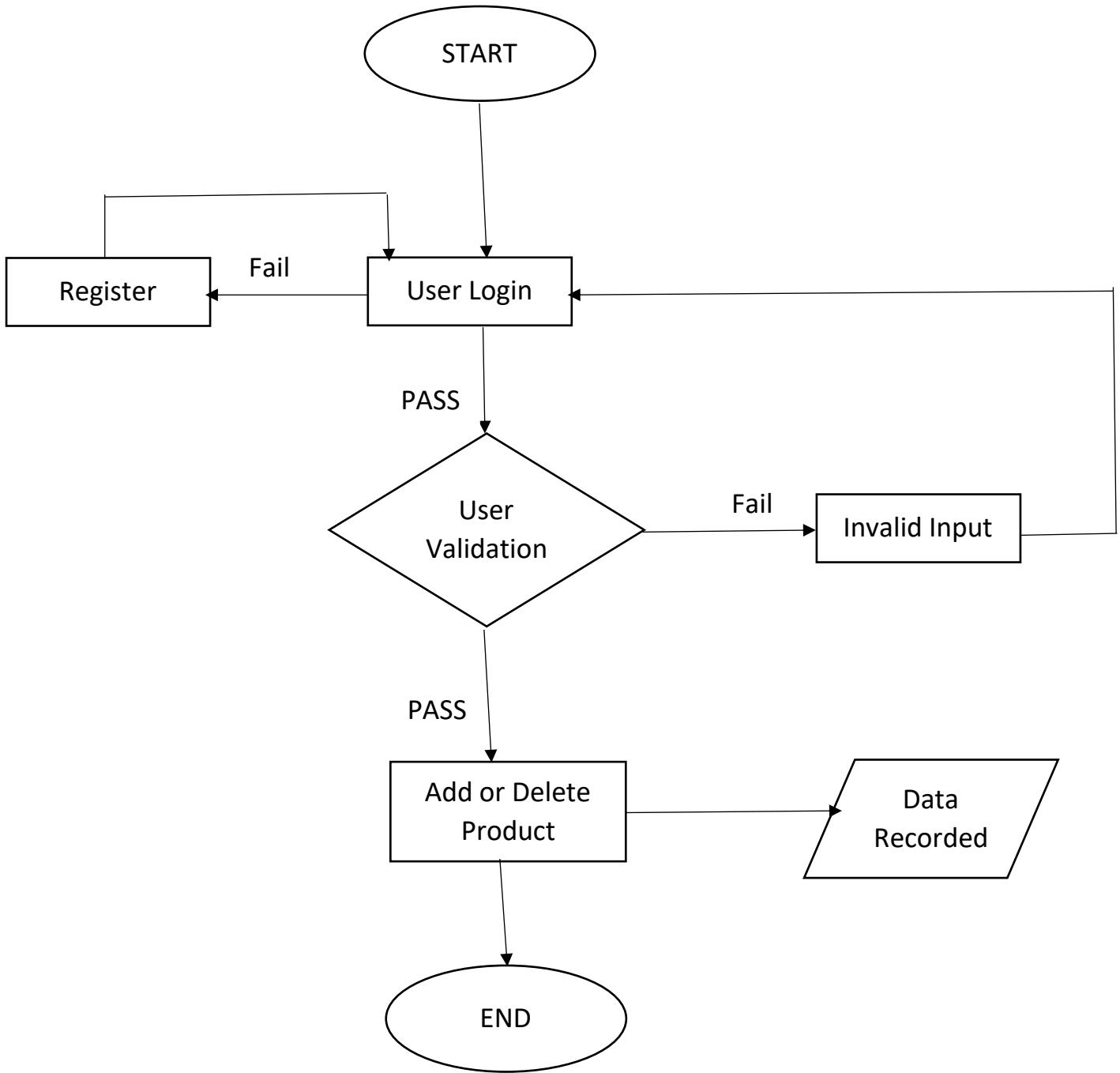
### 3. Product Management (View):

- Razor views or a frontend framework (React/Angular) for user-friendly interfaces.

### 4. Database:

- Tables for user accounts and product details.

## FLOW CHART



### ➤ Conclusion

This e-marketing website project aims to create a robust platform that simplifies the management of product categories and listings for admins and users. By leveraging the **MVC architecture**, the system ensures scalability, security, and maintainability. The features provide essential tools for admins to manage their e-commerce platform while ensuring future extensibility for user-facing functionalities like buyer interactions and analytics.

