



KARACHI INSTITUTE OF ECONOMICS & TECHNOLOGY
College Of Engineering

(Department of Software Engineering)

SOFTWARE DESIGN AND ARCHITECTURE

PROJECT PROPOSAL

“E-MARKETING WEBSITE”

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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:

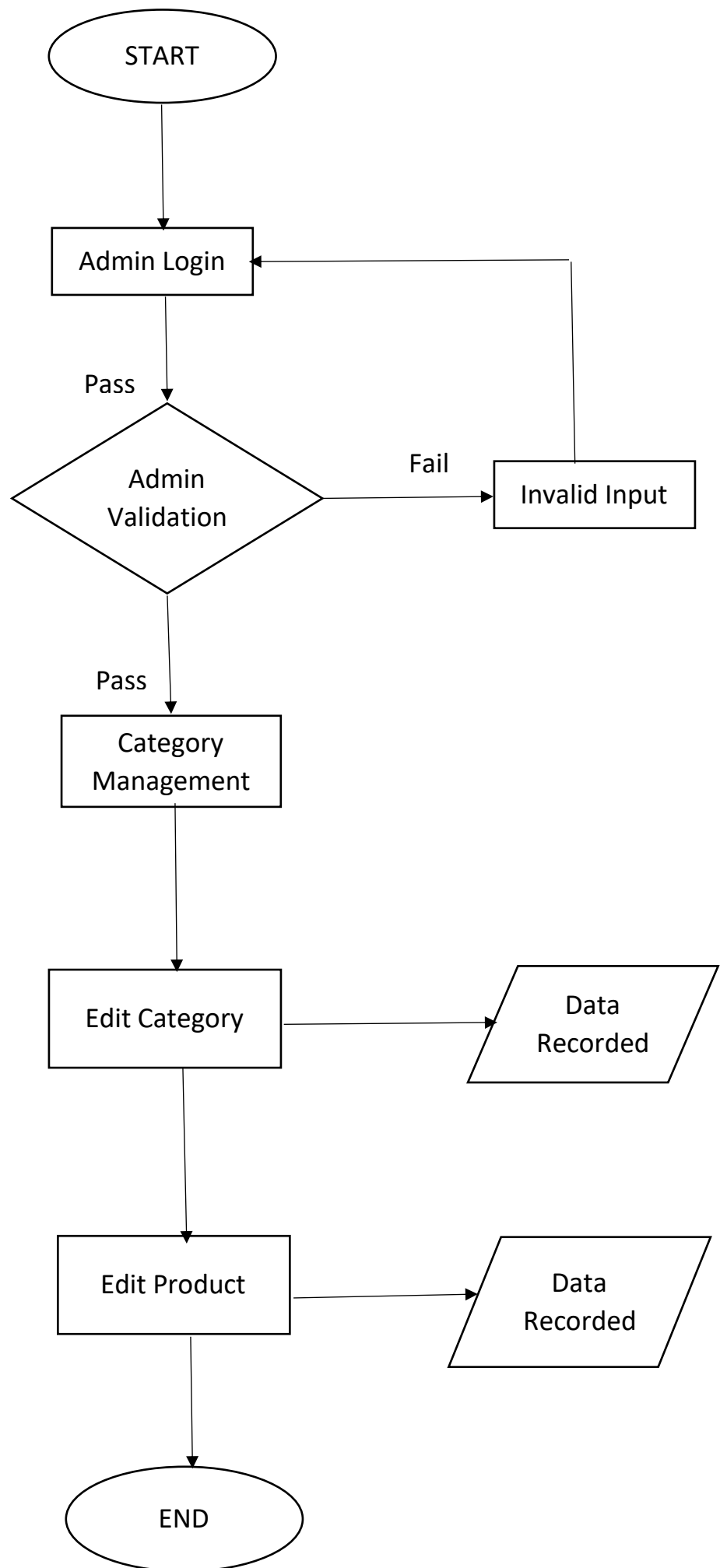
- **Validation Checks:**

- 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.

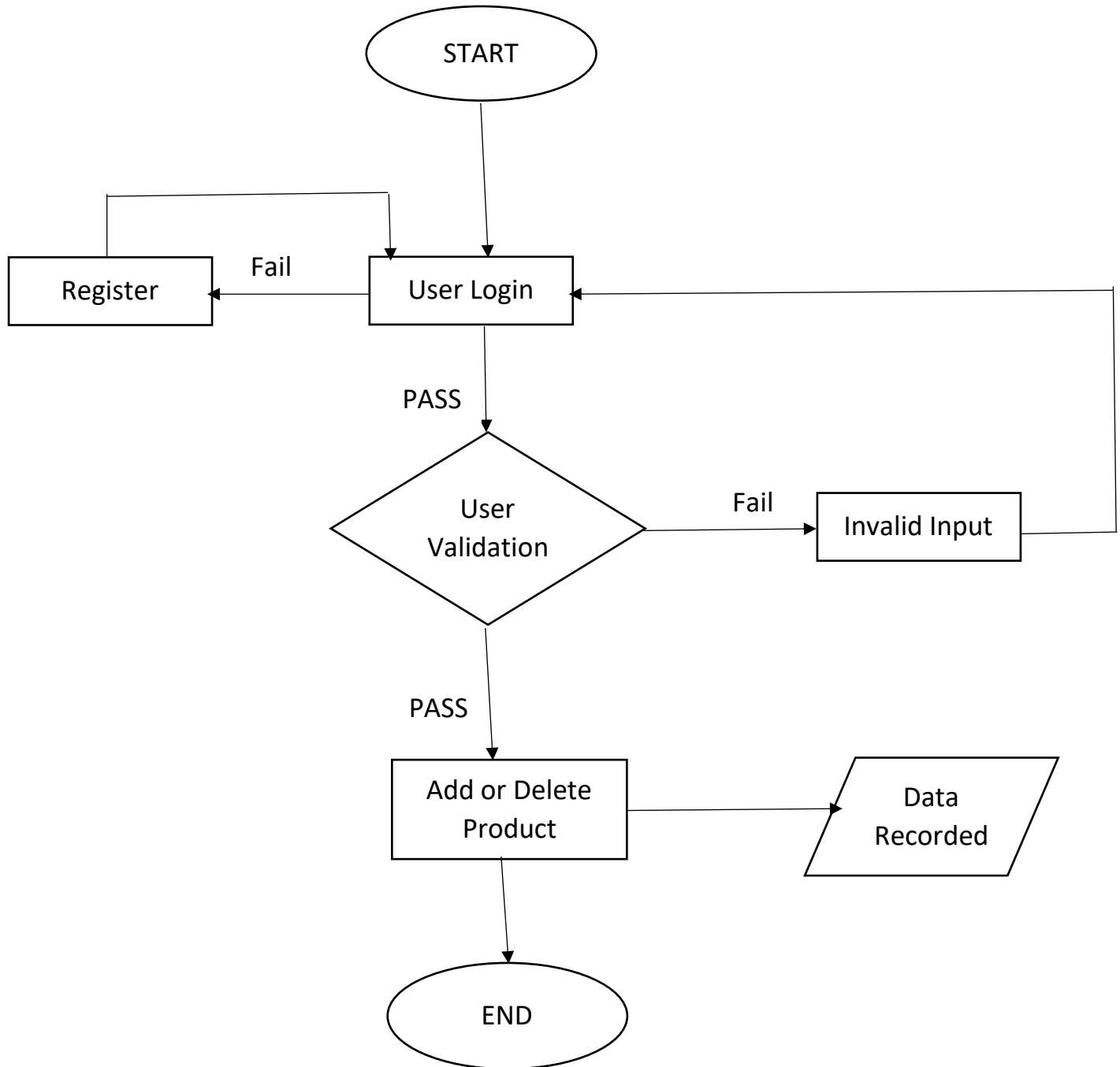
3. Product Management (View):

- 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.

