Creating an ASP.NET MVC Application to Display Student Marks Statistics

Introduction

Rainbow School wishes to analyze student performance data to generate various statistics. To achieve this, we will create an ASP.NET MVC application that displays statistics based on marks obtained by students in a class. This guide outlines the step-by-step process for creating this application.

Create an ASP.NET MVC Project

Launch Visual Studio Community Edition.

Go to "File" > "New" > "Project...".

Select "ASP.NET Web Application (.NET Framework)" under "Visual C#" and choose a suitable project name.

Click "OK" and choose the "MVC" template. Click "Create" to generate the project.

Design the Schema

Review the schema designed for the school database in the Model Class.

Ensure that we have defined the necessary tables in our database schema, such as Student and Mark classes.

Create Models

In the models folder add an ADO.NET Entity Data Model which connects the database from SQL Server to the MVC Project.

Create Controllers

Right-click on the "Controllers" folder in your project.

Select "Add" > "Controller...".

Choose "MVC 5 Controller with views, using Entity Framework" and click "Add".

Select a model class (e.g., Student) and configure the controller actions for CRUD (Create, Read, Update, Delete) operations.

Follow the same procedure to create controllers for other models (Mark).

Create Views

In the Controllers folder, we will find the auto-generated views for CRUD operations.

Customize these views to provide a user-friendly interface for adding, editing, deleting, and viewing records.

Repeat this step for all controllers we have created.

Implement CRUD Operations

In the controller actions (e.g., Create, Edit, Delete), write code to interact with the database using Entity Framework. Ensure we implement the logic for fetching student marks data.

Implement any necessary LINQ queries to generate the required statistics based on the marks obtained by students.

Testing

Run the application to test CRUD operations and verify that we can create, read, update, and delete records in the Student and Mark tables.

Test the statistics page to ensure it displays the desired statistics correctly.

Push to GitHub

Track the changes using Git. Open a Git Bash or command prompt.

Navigate to the project directory.

Initialize a Git repository: git init

Add all files to the repository: git add .

Commit the changes: git commit -m "Creating an MVC School Database"

Create a new branch: git branch -M Section7_MVCDb

Add a remote repository (GitHub): git remote add origin

https://github.com/PrashastVats1/Practice-Projects.git

Push the changes to GitHub: git push -u origin Section7_MVCDb

GitHub Link: https://github.com/PrashastVats1/Practice-Projects/tree/Section7_MVCDb

Conclusion

We have successfully created an ASP.NET MVC application to display statistics of marks obtained by students. This application allows Rainbow School to analyze student performance data efficiently and provides a user-friendly interface for managing school-related information.