Green University of Bangladesh

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Blog Website : Online Story Telling Hub

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Lab Project Status

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Contents

Chapter 1

Introduction

1.1 Overview

This project **"Blog Website"**focuses on building a dynamic blog website using modern web technologies, including JavaScript, HTML, CSS, and PHP for back-end functionality. The website allows users to read and publish articles, create and manage their accounts, and interact with content dynamically. Users can edit their profiles, upload photos, and track their activities. The blog site includes interactive features such as comments, likes, and sharing options, enhancing user engagement with the content and each other. JavaScript is used to create a responsive and interactive user interface, providing real-time feedback and dynamic content updates. Designed with user-friendliness in mind, the website ensures smooth navigation and a pleasant experience for both content creators and readers. It supports various content formats, including text, images, and videos, making it a versatile platform for different types of articles. The primary goal is to foster a vibrant online community where users can easily share their ideas, stories, and knowledge. [1] [2]

BLOG
Create a beautiful blog. Choose your unique style and from a selection of easy templates. Adjust the graphics, images and the rest of the components. Showcase your best and start making money. Our customer support is always for you.

1.2 Motivation

The inspiration for this project arises from the rapidly growing trend of online content creation. In today's digital age, people are increasingly looking for platforms where they can express their thoughts, share knowledge, and connect with a wider audience. Existing platforms often fall short in providing a seamless and engaging user experience. This project aims to bridge that gap by developing a website that makes it simple and enjoyable for users to share their ideas and information. The goal is to create a space where content creators and readers can interact fluidly, making the exchange of information both dynamic and accessible.

1.3 Problem Definition

In today's digital age, the demand for efficient and user-friendly platforms for sharing content and engaging with readers is growing rapidly. Traditional blogging platforms often lack the necessary interactivity and dynamic features that modern users expect. The primary challenge is to develop a comprehensive blogging website that not only supports easy content creation and management but also fosters a vibrant and engaging user community.

1.3.1 Problem Statement

The core problem this project aims to solve is the development of a user-friendly, efficient, and engaging platform for managing blog posts and facilitating user interactions. Many current blogging platforms can be overly complex or lack the necessary features to support an active community of users. This project seeks to create a streamlined, robust solution that addresses these issues, providing a versatile and dynamic space for content creation and interaction.

1.3.2 Complex Engineering Problem

To further elaborate, Table 1.1 summarizes the attributes of the complex engineering problem addressed by this project:

Name of the P	Attributes	Explanation of how to address
P1: Depth of knowledge required	Web technologies(HTML,CSS, JavaScript,PHP,MySQL)	Developing a dynamic blog website requires a thorough understanding of front-end and back-end technologies to ensure functionality, security, and performance.
P2: Range of conflicting requirements	User interface vs. performance	Balancing a rich, interactive user interface with the need for fast load times and smooth performance is crucial. This involves optimizing code, using efficient algorithms, and ensuring responsive design.
P3: Depth of analysis required	User experience analysis	Conducting user experience research to understand user needs and preferences, followed by iterative testing and improvement based on feedback.
P4: Familiarity of issues	Common web development challenges	Addressing common issues such as cross-browser compatibility, mobile responsiveness, and security vulnerabilities.
P5: Extent of applicable codes	Compliance with web standards	Ensuring the project adheres to web standards (W3C), accessibility guidelines, and security best practices to provide a robust and compliant solution.
P6: Extent of stakeholder involvement and conflicting requirements	Balancing needs of different user groups	Engaging with various stakeholders, including content creators, readers, and administrators, to gather requirements and feedback, ensuring the platform meets diverse needs.
P7: Interdependence	Integration of various technologies	Coordinating the integration of different technologies and modules, such as front-end frameworks, back-end servers, databases, and third-party APIs, to create a cohesive and functional system.

Table 1.1: Attributes of the complex engineering problem

This table outlines the complexity and scope of the engineering problems tackled in this project, highlighting the various aspects that need careful consideration and thoughtful solutions.

1.4 Design Goals/Objectives

The design goals and objectives of this project are aimed at creating a dynamic, user-friendly, and efficient blogging platform. These goals guide the development process to ensure the final product meets the needs and expectations of both authors and readers.

- **Objectives Of My Project Are :**

User-Friendly Interface:

- Develop a simple, intuitive interface for authors and readers.
- Make it easy to create, edit, and publish blog posts.

Dynamic Content Management:

- Enable real-time updates and interactions.
- Allow easy scheduling and categorizing of posts.

Robust Account Management:

- Implement secure registration and login.
- Let users manage their profiles and preferences.

Responsive Design:

- Ensure the website works well on all devices.
- Optimize for different screen sizes and resolutions.

High Performance and Scalability:

- Ensure fast load times and smooth performance.
- Design to handle growing traffic and interactions.

Security and Privacy:

- Implement strong security to protect user data.
- Follow best practices for data protection.

Search and Navigation:

- Organize content with categories and tags.

These goals ensure a comprehensive and user-friendly blogging platform for content creators and readers.

1.5 Application

The Blog Website developed in this project has various practical applications in the real world.Some of thease are :

- **Personal Blogs:**
  - Share personal stories, experiences, and opinions.
- **Professional Portfolios:**
  - Showcase work and industry insights.
- **Corporate Blogs:**
  - Communicate with customers and share company updates.
- **Educational Content:**
  - Publish tutorials, resources, and educational articles.
- **News and Journalism:**
  - Post real-time news, reports, and opinions.
- **Community Updates:**
  - Share news and events within a community or organization.
- **Marketing and Promotion:**
  - Promote products and engage with customers.
- **Hobby Blogs:**
  - Connect with people sharing similar hobbies or interests.
- **Guest Blogging:**
  - Feature articles from different authors.
- **Monetization:**
  - Earn through ads, sponsored posts, and affiliate marketing.

This platform provides an easy and dynamic way for users to create, share, and engage with content online.

Chapter 2

Design/Development/Implementation of the Project

2.1 Introduction

The project **"Blog Website"** focuses on creating a dynamic blog website that offers users the ability to read, publish, and manage articles effortlessly. It also includes features for account management and interactive content engagement. The website is designed to be intuitive, ensuring that both experienced and novice users can navigate and use its features with ease. The goal is to build a platform that not only hosts diverse content but also fosters a community where users can actively participate and connect through their shared interests. [3] [4] [5]

2.2 Project Details

This section elaborates on all the details of the project, outlining the steps taken from conceptualization to implementation.

2.2.1 Requirements Gathering

- **Identify Stakeholders:** Determine the needs of users, administrators, and developers.
- **Functional Requirements:** List features such as user registration, login, post creation, comment functionality, and admin controls.
- **Non-functional Requirements:** Define performance benchmarks, security measures, and usability standards.

2.2.2 System Design

- **Architecture:** The blog website follows a three-tier architecture: Presentation Layer (frontend), Logic Layer (backend), and Data Layer (database).
  - **Presentation Layer:** Built using HTML, CSS, and JavaScript for creating interactive and responsive web pages.
  - **Logic Layer:** Implemented using PHP to handle server-side logic and business rules.
  - **Data Layer:** Uses MySQL to store user data, posts, comments, and other information.
- **Wireframes and Mockups:** Create visual representations of the user interface to guide development.
  - **Home Page:** Displays latest blog posts and a navigation menu.
  - **Post Page:** Shows the full content of a blog post along with comments and a form to add new comments.
  - **User Dashboard:** Allows users to manage their posts, edit profiles, and view their activity.

2.2.3 Development

- **Frontend Development:**
  - **HTML and CSS:** Structure and style the web pages to ensure they are visually appealing and easy to navigate.
  - **JavaScript:** Add interactivity, such as form validations and dynamic content loading.
- **Backend Development:**
  - **PHP Scripts:** Write PHP scripts to handle form submissions, database interactions, and server-side logic.
  - **MySQL Database:** Design and implement the database schema, create tables, and establish relationships between entities.
- **Database Management:**
  - **Schema Design:** Plan the database schema to efficiently store and retrieve data.
  - **Data Migration:** Populate the database with initial data and ensure seamless data management.

2.2.4 Testing

- **Unit Testing:** Write tests for individual components to ensure they function correctly.
- **Integration Testing:** Test the interaction between different components to verify they work together seamlessly.
- **User Acceptance Testing (UAT):** Conduct testing sessions with end-users to gather feedback and make necessary adjustments.

2.3 Implementation

This section details the implementation process of the dynamic blog website using HTML, CSS, JavaScript, PHP, and MySQL. It covers the setup, development stages, tools and technologies used, and step-by-step instructions for creating the project's features.

2.3.1 Tools And Technology

- **Frontend:** Use HTML, CSS, and JavaScript.
- **Backend:** PHP for handling server-side tasks.
- **Database:** MySQL for storing and retrieving blog content and user data efficiently.
- **Development Environment:** Use user-friendly tools like *Visual Studio Code* for coding.

2.3.2 The workflow

Here's a step-by-step workflow for the development of my dynamic Blog Website.

1. **Setup Environment**
   - Install XAMPP to set up a local server environment with Apache and MySQL.
   - Create the project directory within the `htdocs` folder of XAMPP.
2. **Design Database**
   - Open phpMyAdmin and create a new database named `curious _chronicles`.
   - Create tables for `users` , `categories` and `posts`.
   - Define the necessary fields for each table, such as user ID, post ID,category ID, title, content, and timestamps.

3. **Build Frontend**
   - Create HTML templates for the homepage, individual post pages, user dashboard, and login/register pages.
   - Use CSS for style the pages for a consistent and responsive design.
   - Add JavaScript for form validation and dynamic content updates.
4. **Develop Backend**
   - Write PHP scripts to handle user registration, login, and authentication.
   - Create scripts for managing blog posts, including creating, editing, and deleting posts.
5. **Integrate Frontend and Backend**
   - Connect the HTML forms to PHP scripts for processing user inputs.
   - Fetch data from the MySQL database and display it dynamically on the web pages.
   - Ensure secure handling of data to prevent SQL injection and other vulnerabilities.
6. **Testing**
   - Conduct unit tests on individual components, like user registration and post creation.
   - Perform integration tests to ensure different parts of the website work together smoothly.
   - Gather feedback from potential users through user acceptance testing to identify areas for improvement.
7. **Deploy Website**
   - Configure a web server to host the PHP application, ensuring it matches the local development environment.
   - Use Git for version control, committing changes regularly and managing different features through branches.
   - Push the code to a GitHub repository for backup and collaboration.
8. **Monitor and Maintain**
   - Implement monitoring tools to track website performance and uptime.
   - Plan regular updates to add new features, fix bugs, and enhance security.

2.4 Algorithms

Algorithm 1: Algorithm for Blog Post Management

```
Input: User inputs through HTML forms (title, content, category, user ID, etc.)
  Output: Display blog posts with responsive design and categorized display
Initialize Connection to MySQL Database Connect to the MySQL database (blog_website) using PHP's mysqli or PDO extension.
Insert New Blog Post Input: Title, content, category, user ID submitted via a form. Process: Validate inputs to prevent SQL injection and ensure data integrity. Construct an SQL INSERT query to add the new post to the posts table, including the category. Execute the query using PHP mysqli_query() or PDO::exec().
Fetch Blog Posts by Category Input: Category ID or name submitted via a form. Process: Construct an SQL SELECT query to fetch posts filtered by category from the posts table, joined with users table for user information. Execute the query using PHP mysqli_query() or PDO::query(). Retrieve fetched rows as associative arrays. Display posts dynamically using HTML and PHP loops (foreach).
Responsive Design Implementation Input: None (used internally to display posts responsively). Process: Use CSS media queries to adjust the layout and styling based on screen size (e.g., desktop, tablet, mobile). Ensure images and content adapt to different screen resolutions using responsive design principles in HTML and CSS.
Update Blog Post Input: Post ID, updated title, content, category submitted via a form. Process: Validate inputs and ensure the user has permission to edit the post. Construct an SQL UPDATE query to modify the existing post in the posts table. Execute the query using PHP mysqli_query() or PDO::exec().
Delete Blog Post Input: Post ID submitted via a form. Process: Validate inputs and ensure the user has permission to delete the post. Construct an SQL DELETE query to remove the post from the posts table. Execute the query using PHP mysqli_query() or PDO::exec().
Error Handling Implement error handling throughout the process to manage database connection errors, query execution errors, and user input validation errors. Display appropriate error messages to the user using PHP try-catch blocks or conditional statements.
```

2.5 Important Parts of the Project Code

Here are some key sections from my project code that highlight the main functionalities of my dynamic blog website. These examples include HTML, CSS, JavaScript, PHP, and MySQL integration.

2.5.1 Database Connection

This code handles Database Connection to the MySQL Database.

```
    <?php
    require 'constants.php';
$dbHost = 'localhost';
$dbUser = 'root';
$dbPassword = '';
$dbName = 'curious_chronicles';
$dbConnection = mysqli_connect($dbHost, $dbUser, $dbPassword, $dbName);

if (mysqli_errno($dbConnection)) {
    die(mysqli_error($dbConnection));
}
```

2.5.2 User Registration (PHP)

This code handles user registration by collecting user information and storing it in the MySQL database.

```
<?php
session_start();
require 'config/database.php';

if (isset($_POST['submit'])) {

    $firstName = filter_var($_POST['fname'], FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $lastName = filter_var($_POST['lname'], FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $username = filter_var($_POST['username'],

    FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $email = filter_var($_POST['email'], FILTER_VALIDATE_EMAIL);
    $createPass = filter_var($_POST['createPass'],

    FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $confirmPass = filter_var($_POST['confirmPass'],

    FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $avatar = $_FILES['avatar'];

    // echo $firstName, $lastName, $email, $username, $createPass, $confirmPass;
    //var_dump($avatar);

    if (!$firstName) {
        $_SESSION['signup'] = "Please enter first name";
    } else if (!$lastName) {
```

```
    $_SESSION['signup'] = "Please enter last name";
} else if (!$username) {
    $_SESSION['signup'] = "Please enter username";
} else if (!$email) {
    $_SESSION['signup'] = "Please enter a valid email";
} else if (strlen($createPass) < 8 || strlen($confirmPass) < 8) {
    $_SESSION['signup'] = "Password should be at least 8 characters";
    if ($createPass !== $confirmPass) {
        $_SESSION['signup'] = "Password does not match";
    }
} else if (!$avatar) {
    $_SESSION['signup'] = "Please add avatar";
} else {
    $hashedPassword = password_hash($createPass, PASSWORD_DEFAULT);
    // echo $createPass . '<br>';
    // echo $hashedPassword;

    $userCheckQuery = "SELECT * FROM account WHERE

    username = '$username' OR email = '$email'";
    $userCheckResult = mysqli_query($dbConnection, $userCheckQuery);

    if (mysqli_num_rows($userCheckResult) > 0) {
        $_SESSION['signup'] = 'username or email already registered';
    } else {
        $time = time();
        $avatarName = $time . $avatar['name'];
        $avatarTempName = $avatar['tmp_name'];
        $avatarDestinationPath = 'images/' . $avatarName;

        $allowedFiles = ['png', 'jpg', 'jpeg'];
        $extension = explode('.', $avatarName);
        $extension = end($extension);

        if (in_array($extension, $allowedFiles)) {
            if ($avatar['size'] < 1000000) {
                move_uploaded_file($avatarTempName, $avatarDestinationPath);
            } else {
                $_SESSION['signup'] = "File size is

                too large, should be less than 1mb";
            }
        } else {
            $_SESSION['signup'] = "file extension must be png, jpg or jpeg";
        }
    }
}
```

```
    if ($_SESSION['signup']) {
        header('Location:' . ROOT_URL . 'signup.php');
        die();
    } else {
        $insertUserQuery = "INSERT INTO account

        (firstName, lastName, username, email, password, avatar) VALUES
        ('$firstName','$lastName','$username','$email','

        $hashedPassword','$avatarName')";

        try {
            $insertUserResult = mysqli_query($dbConnection, $insertUserQuery);
            if (mysqli_errno($dbConnection)) {
                $_SESSION['signup'] = "Connection failed, Please try again later";
                header('Location:' . ROOT_URL . 'signup.php');
                die();
            } else {
                $_SESSION['signupSuccess'] = "Registration successful.
                Please login";
                header('Location:' . ROOT_URL . 'signin.php');
                die();
            }
        } catch (Exception $error) {
            $_SESSION['signup'] = "Registration failed, Please try again later.

            <br>".$error;
            header('Location:' . ROOT_URL . 'signup.php');
            die();
        }

    }
} else {
    //if btn wan't clicked
    header('Location:' . ROOT_URL . 'signup.php');
    die();
}
```

2.5.3 Article Submission Form (HTML)

This Form allows users to submit new blog articles.

```
<?php
require 'config/database.php';
include 'partials/header.php';
```

```
$query = "SELECT * FROM categories";
$categories = mysqli_query($dbConnection, $query);

if (isset($_SESSION['addPost'])) {
    $message = $_SESSION['addPost'];
    $messageClass = "error";
    unset($_SESSION['addPost']);
} else if (isset($_SESSION['addPostSuccess'])) {
    $message = $_SESSION['addPostSuccess'];
    $messageClass = "success";
    unset($_SESSION['addPostSuccess']);
}
?>

<section class="section form_section">
    <div class="container form_sectionContainer">
        <h2>Add Post</h2>
        <?php if (isset($message)) : ?>
            <div class="alert-message <?= $messageClass ?>"><?= $message ?></div>
        <?php endif; ?>
        <form action="<?= ROOT_URL ?>
        admin/addPostLogic.php" method="post" enctype="multipart/form-data">
            <input type="text" name="title" id="title" placeholder="Title">
            <input type="text" name="badge" id="badge"

            placeholder="e.g. Working Tips, Health Tips">
            <select name="category">
                <?php while ($category = mysqli_fetch_assoc($categories)) : ?>
                    <option value="<?= $category['id'] ?>"><?= $category['title']
                <?php endwhile; ?>
            </select>

            <label for="article"></label>
            <textarea rows="10" name="article" id="article" placeholder="Article">

            <script>
                CKEDITOR.replace('article');
            </script>


            <?php if ($_SESSION['userIsAdmin'] == true) : ?>
                <div class="control">

                    <input type="checkbox" name="isFeatured" value="1"

                    id="isFeatured"
                    class="check_box" checked>
                    <label for="isFeatured">Featured</label>
                </div>
            <?php endif; ?>

            <div class="form_control">
                <label for="thumbnail">Add Thumbnail</label>
                <input type="file" name="thumbnail" id="thumbnail">
            </div>
            <button type="submit" class="btn btn-primary"

            name="submit">Add Post</button>
        </form>
    </div>
</section>

</body>

</html>
```

2.5.4 Article Submission (PHP)

This script handles the article submission and stores the data in the MySQL database.

```
<?php
require 'config/database.php';

if (isset($_POST['submit'])) {
    $userId = $_SESSION['userId'];

    $title = filter_var($_POST['title'], FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $badge = filter_var($_POST['badge'], FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $body = filter_var($_POST['article'], FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $categoryId = filter_var($_POST['category'], FILTER_SANITIZE_NUMBER_INT);
    $thumbnail = $_FILES['thumbnail'];

    //if not checked on featured
    $isFeatured = 0;

    if (isset($_POST['isFeatured'])) {
        $isFeatured = 1;
    }
    if (!$badge) {
        $badge = "";
    }
    //validate data
    if (!$title) {
        $_SESSION['addPost'] = "Enter Post Title";
    } else if (!$categoryId) {
```

```
    $_SESSION[’addPost’] = "Select Category";
} else if (!$body) {
    $_SESSION[’addPost’] = "Enter post article";
} else if (!$thumbnail[’name’]) {
    $_SESSION[’addPost’] = "Choose post thumbnail";
} else {
    $time = time();
    $thumbnailName = $time . $thumbnail[’name’];
    $thumbnailTempName = $thumbnail[’tmp_name’];
    $thumbnailDestinationPath = ’../images/’ . $thumbnailName;

    $allowedFiles = [’png’, ’jpg’, ’jpeg’];
    $extension = explode(’.’, $thumbnailName);
    $extension = end($extension);

    if (in_array($extension, $allowedFiles)) {
        if ($thumbnail[’size’] < 3000000) {
            move_uploaded_file($thumbnailTempName, $thumbnailDestinationPath);
        } else {
            $_SESSION[’addPost’] = "File size is too large,
            should be less than 3mb";
        }
    } else {
        $_SESSION[’addPost’] = "file extension must be png, jpg or jpeg";
    }
}
if ($_SESSION[’addPost’]) {
    header(’Location:’ . ROOT_URL . ’admin/addPost.php’);
    die();
} else {
    $insertPostQuery = "INSERT INTO posts (title, body, thumbnail, categoryId,
    userId, isFeatured, badge) VALUES (?, ?, ?, ?, ?, ?, ?)";

    $stmt = mysqli_prepare($dbConnection, $insertPostQuery);

    mysqli_stmt_bind_param($stmt, "sssiiis", $title, $body, $thumbnailName,

    $categoryId, $userId, $isFeatured, $badge);

    if (mysqli_stmt_execute($stmt)) {
        $_SESSION[’addPostSuccess’] = "Post added successfully.";
        header(’Location:’ . ROOT_URL . ’admin/addPost.php’);
        die();
    } else {
        $_SESSION[’addPost’] = "Failed to post. Please try again later.";
        header(’Location:’ . ROOT_URL . ’admin/addPost.php’);
        die();
    }
```

```
        mysqli_stmt_close($stmt);
        mysqli_close($dbConnection);
    }
} else {
    //if btn wan’t clicked
    header(’Location:’ . ROOT_URL . ’admin/addPost.php’);
    die();
}
```

2.5.5 Add Category Section (HTML)

This script add Category on the **"Blog Website"**.

```
<?php
require ’../config/database.php’;
include ’./partials/header.php’;

if (isset($_SESSION[’addCategorySuccess’])) {
    $message = $_SESSION[’addCategorySuccess’];
    $messageClass = "success";
    unset($_SESSION[’addCategorySuccess’]);
}
if (isset($_SESSION[’addCategory’])) {
    $message = $_SESSION[’addCategory’];
    $messageClass = "error";
    unset($_SESSION[’addCategory’]);
}
?>

<section class="section form_section">
    <div class="container form_sectionContainer">
        <h2>Add Category</h2>

        <?php if (isset($message)) : ?>
            <div class="alert-message <?= $messageClass ?>"><?= $message ?></div>
        <?php endif; ?>

        <form action="<?= ROOT_URL ?>admin/addCategoryLogic.php" method="POST"

        enctype="multipart/form-data">

            <input type="text" name="title" id="title" placeholder="Title">
            <label for="description"></label>
            <textarea rows="4" name="description"
            id="description" placeholder="description"></textarea>
            <script>
                CKEDITOR.replace('description');
            </script>
            <div class="form_control">
                <label for="thumbnail">Add Thumbnail</label>
                <input type="file" name="thumbnail" id="thumbnail">
            </div>
            <button type="submit" name="submit"

            class="btn btn-primary">Add Category</button>
        </form>
    </div>
</section>

<?php include '../partials/footer.php' ?>
```

2.5.6 Add Category Section (PHP)

```
    <?php

require 'config/database.php';

if (isset($_POST['submit'])) {
    echo 'hi';

    $title = filter_var($_POST['title'], FILTER_SANITIZE_FULL_SPECIAL_CHARS);
    $description = filter_var($_POST['description'],
     FILTER_SANITIZE_FULL_SPECIAL_CHARS);

    $avatar = $_FILES['thumbnail'];

    if (!$title) {
        $_SESSION['addCategory'] = ' Enter Title';
    } else if (!$description) {
        $_SESSION['addCategory'] = ' Enter Description';
    } else if (!$avatar) {
        $_SESSION['addCategory'] = "Please add thumbnail";
    }
    //For image validation
    else {
        $time = time();
        $avatarName = $time . $avatar['name'];
        $avatarTempName = $avatar['tmp_name'];
        $avatarDestinationPath = '../images/' . $avatarName;

        $allowedFiles = ['png', 'jpg', 'jpeg'];
        $extension = explode('.', $avatarName);
        $extension = end($extension);

        if (in_array($extension, $allowedFiles)) {
            if ($avatar['size'] < 1000000) {
                move_uploaded_file($avatarTempName, $avatarDestinationPath);
            } else {
                $_SESSION['addCategory'] = "File size is too large,
                should be less than 1mb";
            }
        } else {
            $_SESSION['addCategory'] = "file extension must be png, jpg or jpeg";
        }
    }


    if (isset($_SESSION['addCategory'])) {
        header('Location: ' . ROOT_URL . 'admin/addCategory.php');
        die();
    }else{
        $query = "INSERT INTO categories (title, description, avatar)
        VALUES ('$title', '$description', '$avatarName')";
        $result = mysqli_query($dbConnection, $query);

        if(mysqli_errno($dbConnection)){
            $_SESSION['addCategory'] = "Couldn't add category";
            header('Location: '. ROOT_URL . 'admin/addCategory.php');
            die();
        }else{
            $_SESSION['addCategorySuccess'] ="Category $title added successfully";
            header('Location: ' . ROOT_URL . 'admin/addCategory.php');
            die();
        }
    }
} else {
    header('Location: ' . ROOT_URL . 'admin/addCategory.php');
    die();
}
```

2.5.7 Dashboard Using Java Script

Java Script Used For Making Dashboard in my Website.

```
'use strict';
const sidebar = document.querySelector('aside');
const showSidebarBtn = document.getElementById('show_sidebar_btn');
const hideSidebarBtn = document.getElementById('hide_sidebar_btn');
const showSidebar = () => {
    sidebar.style.left = ’0’;
    showSidebarBtn.style.display = ’none’;
    hideSidebarBtn.style.display = ’inline-block’;
};

const hideSidebar = () => {
    sidebar.style.left = ’-100%’;
    showSidebarBtn.style.display = ’inline-block’;
    hideSidebarBtn.style.display = ’none’;
};

showSidebarBtn.addEventListener(’click’, showSidebar);
hideSidebarBtn.addEventListener(’click’, hideSidebar);
```

2.5.8 Responsive Design (CSS)

This CSS code ensures the website looks good on both desktop and mobile devices.

CSS code of my project is very large.Here I added some of CSS code of my Project.

```
:root {

    /* Background Colors */
    --bg-wild-blue-yonder: hsla(165, 93%, 65%, 1);

    --bg-carolina-blue: hsla(165, 100%, 50%, 1);

    --bg-prussian-blue: hsla(206, 100%, 25%, 1);

    --bg-oxford-blue: hsla(206, 100%, 20%, 1);

    --bg-oxford-blue-2: hsla(206, 100%, 15%, 1);


    /* Font Colors */
    --text-white: hsla(0, 0%, 100%, 1);
    --text-alice-blue: hsla(206, 100%, 95%, 1);

    --text-columbia-blue: hsla(165, 100%, 90%, 1);

    --text-wild-blue-yonder: hsla(165, 93%, 65%, 1);

    --text-carolina-blue: hsla(165, 100%, 50%, 1);
```

```
--text-shadow-blue: hsla(207, 100%, 67%, 1);

--text-slate-gray: rgb(134, 199, 252);


/* Gradient Colors */
--gradient-1: linear-gradient(90deg, #07e0c7, #07e0c7 51%);

--gradient-2: linear-gradient(90deg, #07e0c7, #07e0c7 51%, #07e0c7);

--gradient-3: linear-gradient(0deg, #001d24, transparent);


/* Border Colors */
--border-wild-blue-yonder: hsla(165, 93%, 65%, 1);

--border-prussian-blue: hsla(206, 100%, 25%, 1);

--border-white: hsl(0, 0%, 100%);
--border-white-alpha-15: hsla(0, 0%, 100%, 0.15);

/* Default Colors */
--white: hsl(0, 0%, 100%, 1);
--black: hsl(0, 0%, 0%, 1);

/* font family */
--fontFamily-noto_sans: 'Noto Sans', sans-serif;

/* font size */
--fontSize-1: 2.9rem;
--fontSize-2: 2.0rem;
--fontSize-3: 1.8rem;
--fontSize-4: 1.6rem;
--fontSize-5: 1.5rem;
--fontSize-6: 1.4rem;
--fontSize-7: 1.2rem;
--fontSize-8: 1.3rem;

/* font weight */
--weight-medium: 500;
--weight-semiBold: 600;
--weight-bold: 700;
--weight-extraBold: 800;

/* Line height */
--lineHeight-1: 1.3;
--lineHeight-2: 1.5;
--lineHeight-4: 1.5;
```

```
    /* Box shadow */
    --shadow-1: 0 8px 20px 0 hsla(0, 0%, 0%, 0.05);
    --shadow-2: 0px 3px 20px hsla(180, 90%, 43%, 0.2);

    /* border radius */
    --radius-6: 6px;
    --radius-8: 8px;
    --radius-16: 16px;
    --radius-48: 48px;
    --radius-circle: 50%;
    --radius-pill: 200px;
    /* transition */
    --transition-1: 0.25s ease;
    --transition-2: 0.5s ease;
    --cubic-in: cubic-bezier(0.51, 0.03, 0.64, 0.28);
    --cubic-out: cubic-bezier(0.05, 0.83, 0.52, 0.97);

    /* section padding */
    --section-padding: 70px;
}



   /**
   * TOPICS
   */

    .topics .section-title {
        font-size: 2rem;
    }

    .slider {
        --slider-items: 3;
    }

    .slider-item {
        min-width: calc(33.33% - 13.33px);
    }



    /**
   * FEATURE
   */

    .feature {
        position: relative;
    }

    .feature-bg {
        display: block;
        position: absolute;
        top: -100px;
        right: 0;
        pointer-events: none;
    }



    /**
   * RECENT POST
   */

    .recent-post-card {
        grid-template-columns: 0.5fr 1fr;
        gap: 20px;
    }

    .pagination-btn {
        width: 42px;
        height: 42px;
    }



}





/**
 * responsive for large than 768px screen
 */

@media (min-width: 768px) {

    /**
   * CUSTOM PROPERTY
   */

    :root {

        /**
     * typography
     */

        /* font size */
        --fontSize-1: 6.4rem;
        --fontSize-2: 4.5rem;

    }



    /**
   * REUSED STYLE
   */

    .container {
        max-width: 720px;
    }

    .section .form_sectionContainer {
        width: 720px;
    }

    /**
   * RECENT POST
   */

    .recent-post-card {
        grid-template-columns: 0.7fr 1fr;
    }

    input,
    select {
        padding: 1rem 1.6rem;
        /* Increased padding for better touch experience */
    }

    .alert-message {
        padding: 1rem 1.6rem;
    }



}
```

```
/**
 * responsive for large than 992px screen
 */

@media (min-width: 992px) {

    /**
   * REUSED STYLE
   */

    .container {
        max-width: 930px;
    }

    .section .form_sectionContainer {
        max-width: 930px;
    }

    /**
   * HERO
   */

    .hero {
        padding-block-start: calc(var(--section-padding) + 80px);
    }

    .hero .container {
        grid-template-columns: 1fr 1fr;
        align-items: center;
    }

    .signup {
        margin: 0 300px;
    }

    /**
   * TOPICS
   */

    .topic-card {
        display: grid;
        grid-template-columns: 0.3fr 1fr;
        align-items: center;
        gap: 20px;
    }
    /**
   * FEATURE
   */

    .feature-list li:nth-child(-n+2) {
        width: calc(50% - 15px);
    }

    .feature-list li:nth-child(n+3) {
        width: calc(33.33% - 20px);
    }

    .feature-list li:nth-child(n+3) .headline-3 {
        --fontSize-2: 2rem;
    }



    /**
   * TAGS
   */

    .tags .grid-list {
        grid-template-columns: repeat(4, 1fr);
    }



    /**
   * RECENT POST
   */

    .recent-post .container {
        grid-template-columns: 1fr 0.6fr;
        align-items: flex-start;
    }



    /**
   * FOOTER
   */

    .footer-top {
        grid-template-columns: repeat(3, 1fr);
    }

    .footer-bottom {
        display: grid;
        grid-template-columns: 1fr 1fr;
    }

    .copyright {
        margin-block-end: 0;
    }

    /* .dashboard */
    .dashboardContainer {
        grid-template-columns: 20rem auto;
    }

    .dashboard main {
        margin-left: 1.5rem;
    }

    .dashboard aside {
        position: static;
        box-shadow: none;
        left: 0;
        height: auto;
    }

    .dashboard .slidebar_toggle {
        display: none;
    }

    #hide_sidebar_btn {
        display: none;
    }

    .dashboard main table thead {
        display: table-header-group;
    }

    .dashboard main table tr {
        display: table-row;
        flex-direction: row;
    }

    .dashboard main table tr:nth-child(even) {
        background-color: transparent;
    }

    .dashboard aside a:is(:hover, :focus-visible) {
        background: (var(--));
    }
```

```
}




/**
 * responsive for large than 1200px screen
 */

@media (min-width: 1200px) {

    /**
   * REUSED STYLE
   */

    .container {
        max-width: 1140px;
    }

    body.nav-active {
        overflow-y: overlay;
    }



    /**
   * HEADER
   */

    .nav-open-btn,
    .navbar-top,
    .copyright-text {
        display: none;
    }

    .navbar,
    .navbar.active {
        all: unset;
        display: block;
    }

    .navbar-list {
        border-block-end: none;
        display: flex;
        gap: 40px;
        margin-inline: auto;
    }
    .header .btn {
        margin-inline-start: 0;
    }

    .navbar-link {
        color: var(--text-wild-blue-yonder);
        font-weight: unset;
    }

    .navbar-link:is(:hover, :focus-visible) {
        color: var(--text-carolina-blue);
        transform: translateX(0);
    }



    /**
   * HERO
   */

    .hero .container {
        max-width: 1050px;
    }



    /**
   * TAGS
   */

    .tags .grid-list {
        grid-template-columns: repeat(6, 1fr);
    }



    /**
   * FOOTER
   */

    .footer-top {
        gap: 40px;
        padding-inline: 120px;
    }
```

These code sections illustrate some functionality of my dynamic Blog Website.

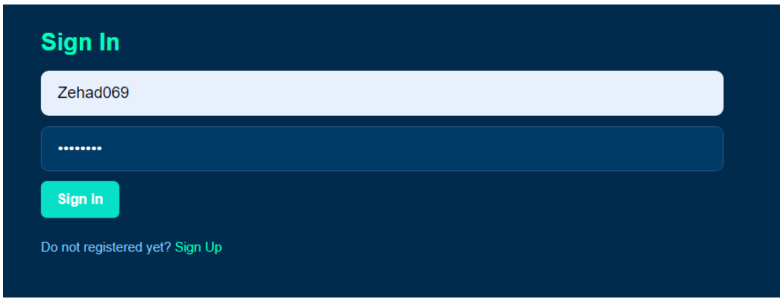
Chapter 3

Performance Evaluation

3.1 Simulation Environment/ Simulation Procedure

3.1.1 Frontend View

This chapter evaluates the performance and efficiency of the blog website through various tests and simulations.



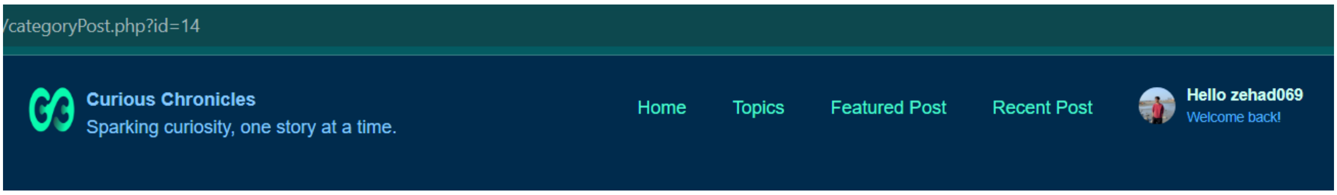
Sign In

Zehad069

••••••••

Do not registered yet? Sign Up

Figure 3.1: First Outlook Of My Blog Website.



/categoryPost.php?id=14

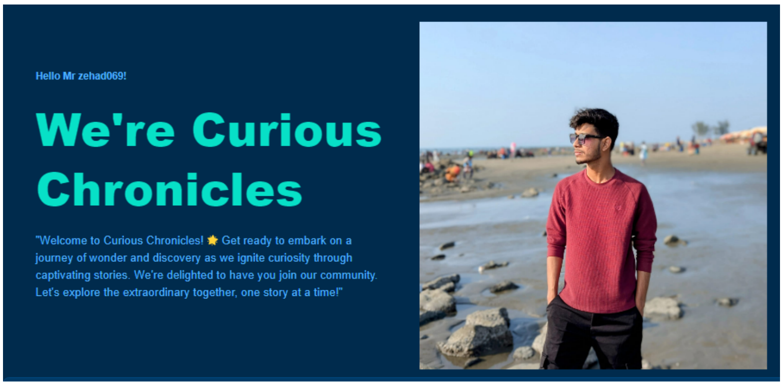
Curious Chronicles

Sparking curiosity, one story at a time.

Hello zehad069

Welcome back!

Figure 3.2: My Website Logo,Dashboard and Various Types Of Option Showing By Navigation Bar.

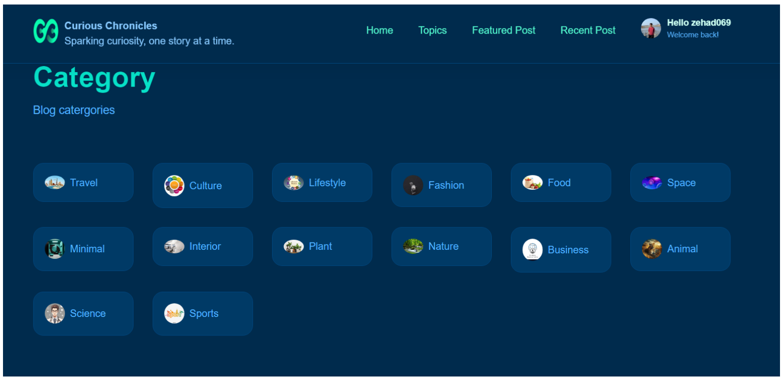


Hello Mr zehad069!

We're Curious Chronicles

"Welcome to Curious Chronicles! 🌟 Get ready to embark on a journey of wonder and discovery as we ignite curiosity through captivating stories. We're delighted to have you join our community. Let's explore the extraordinary together, one story at a time!"

Figure 3.3: When IClick Home Bar. It’s Show User Profile and Welcome Message.



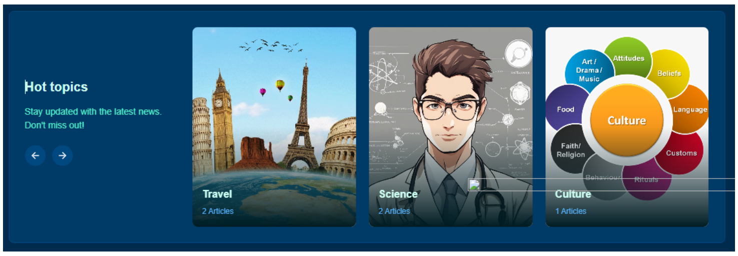
Curious Chronicles
Sparking curiosity, one story at a time.

Hello zehad069
Welcome back!

Category

Blog catergories

Figure 3.4: Different Types Of Post Related Category in my Website .



Hot topics

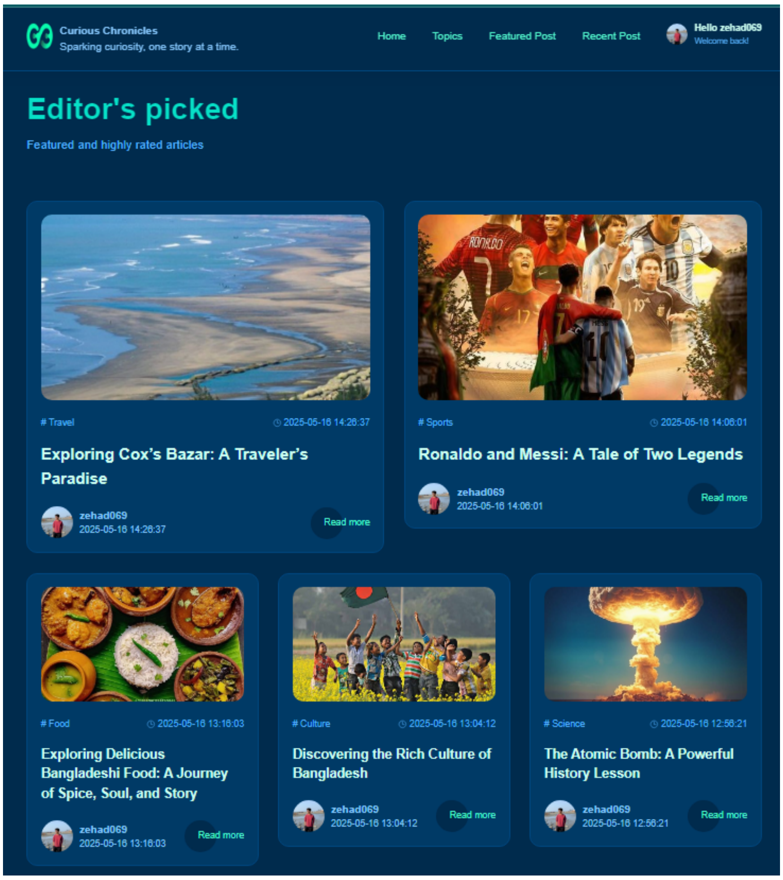
Stay updated with the latest news.
Don't miss out!

Travel
2 Articles

Science
2 Articles

Culture
1 Articles

Figure 3.5: When IClick Topics Bar. It’s Show Last Update Of my Website .



Editor's picked

Featured and highly rated articles

Travel ◷ 2025-05-16 14:26:37

Exploring Cox’s Bazar: A Traveler’s Paradise

zehad069
2025-05-16 14:26:37

Sports ◷ 2025-05-16 14:06:01

Ronaldo and Messi: A Tale of Two Legends

zehad069
2025-05-16 14:06:01

Food ◷ 2025-05-16 13:16:03

Exploring Delicious Bangladeshi Food: A Journey of Spice, Soul, and Story

zehad069
2025-05-16 13:16:03

Culture ◷ 2025-05-16 13:04:12

Discovering the Rich Culture of Bangladesh

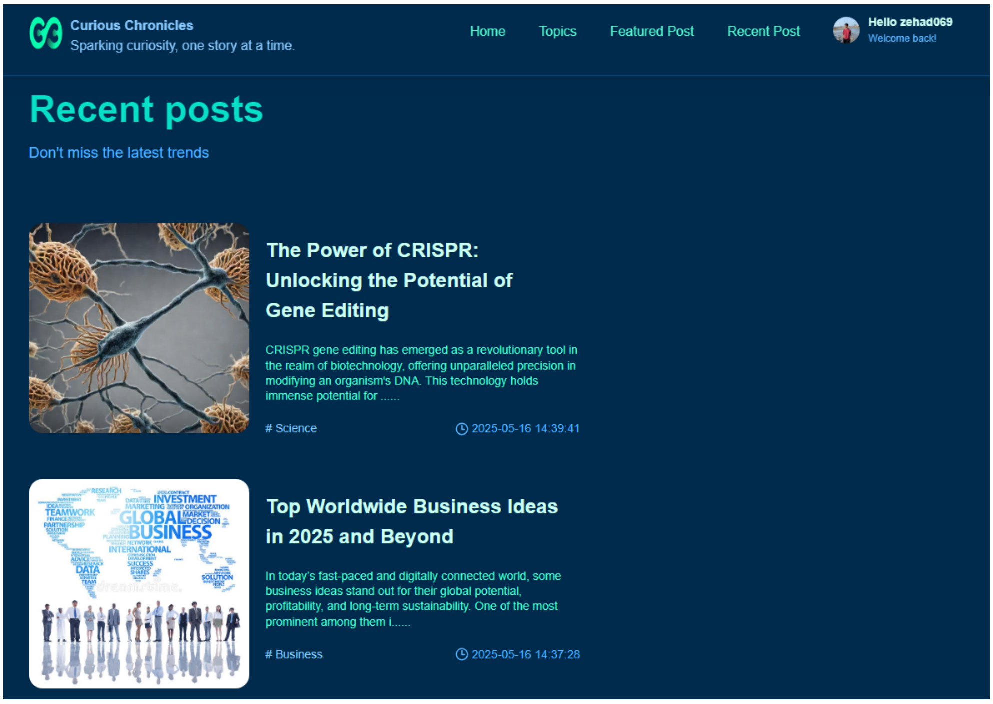
zehad069
2025-05-16 13:04:12

Science ◷ 2025-05-16 12:56:21

The Atomic Bomb: A Powerful History Lesson

zehad069
2025-05-16 12:56:21

Figure 3.6: When IClick Featured Bar. It’s Show Featured Mark Post .



Curious Chronicles
Sparking curiosity, one story at a time.

Recent posts

Don't miss the latest trends

The Power of CRISPR: Unlocking the Potential of Gene Editing

CRISPR gene editing has emerged as a revolutionary tool in the realm of biotechnology, offering unparalleled precision in modifying an organism's DNA. This technology holds immense potential for ......

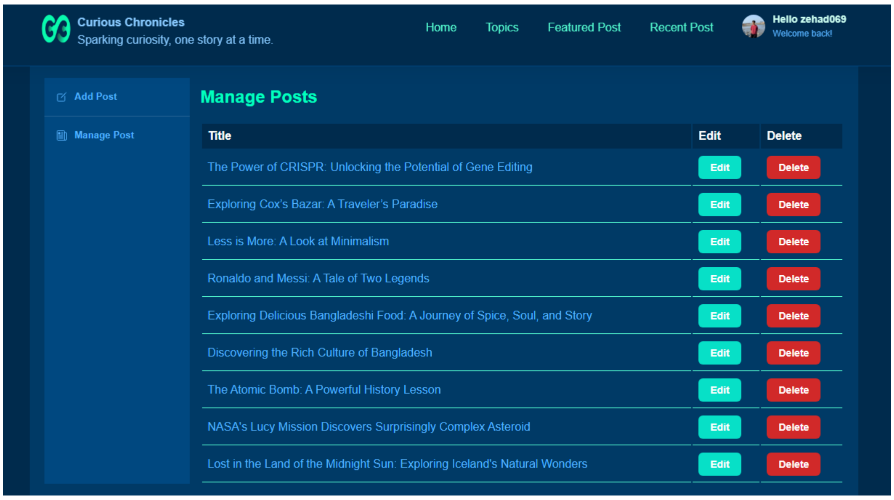
Science 2025-05-16 14:39:41

Top Worldwide Business Ideas in 2025 and Beyond

In today's fast-paced and digitally connected world, some business ideas stand out for their global potential, profitability, and long-term sustainability. One of the most prominent among them i......

Business 2025-05-16 14:37:28

Figure 3.7: When IClick Recent Bar. It's Show Recent Post .

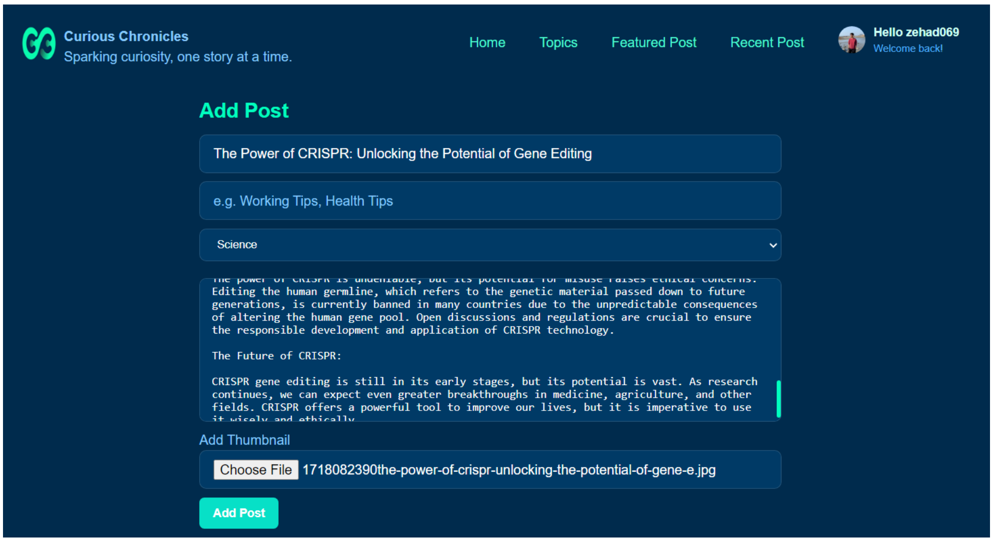


Curious Chronicles
Sparking curiosity, one story at a time.

Manage Posts

Title	Edit	Delete
The Power of CRISPR: Unlocking the Potential of Gene Editing	Edit	Delete
Exploring Cox's Bazar: A Traveler's Paradise	Edit	Delete
Less is More: A Look at Minimalism	Edit	Delete
Ronaldo and Messi: A Tale of Two Legends	Edit	Delete
Exploring Delicious Bangladeshi Food: A Journey of Spice, Soul, and Story	Edit	Delete
Discovering the Rich Culture of Bangladesh	Edit	Delete
The Atomic Bomb: A Powerful History Lesson	Edit	Delete
NASA's Lucy Mission Discovers Surprisingly Complex Asteroid	Edit	Delete
Lost in the Land of the Midnight Sun: Exploring Iceland's Natural Wonders	Edit	Delete

Figure 3.8: When I Click Dashboard Bar. It's Shows User Post Related Page.Those I am Admin Of My Website.So, It's Shows Admin Page.



The Power of CRISPR: Unlocking the Potential of Gene Editing

e.g. Working Tips, Health Tips

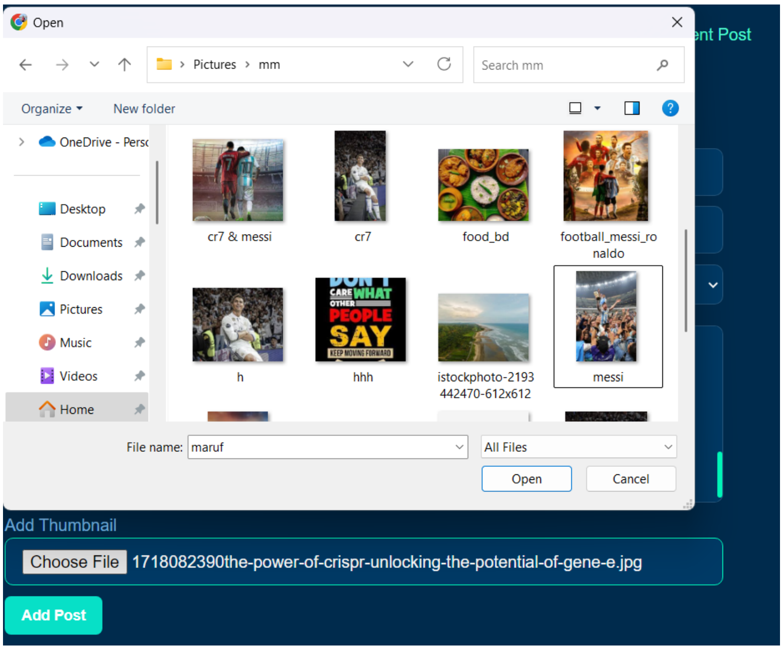
Science

```
The power of CRISPR is undeniable, but its potential for misuse raises ethical concerns.
Editing the human germline, which refers to the genetic material passed down to future
generations, is currently banned in many countries due to the unpredictable consequences
of altering the human gene pool. Open discussions and regulations are crucial to ensure
the responsible development and application of CRISPR technology.

The Future of CRISPR:

CRISPR gene editing is still in its early stages, but its potential is vast. As research
continues, we can expect even greater breakthroughs in medicine, agriculture, and other
fields. CRISPR offers a powerful tool to improve our lives, but it is imperative to use
it wisely and ethically.
```

Add Thumbnail

Choose File 1718082390the-power-of-crispr-unlocking-the-potential-of-gene-e.jpg

Figure 3.9: Add Post.

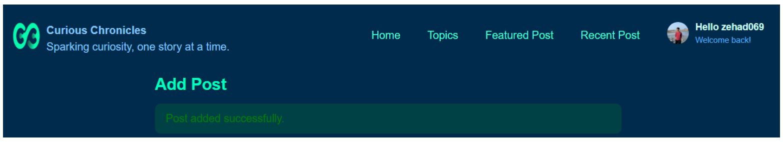


File name: maruf

Add Thumbnail

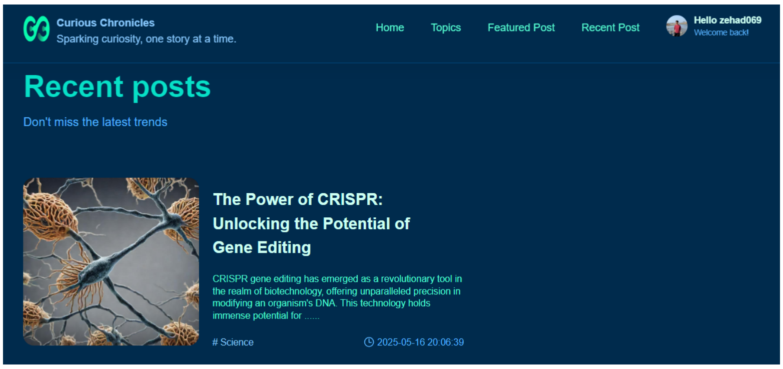
Choose File 1718082390the-power-of-crispr-unlocking-the-potential-of-gene-e.jpg

Figure 3.10: Add Picture From File With Post.



Post added successfully.

Figure 3.11: Post Added Successfully.



Recent posts

Don't miss the latest trends

The Power of CRISPR: Unlocking the Potential of Gene Editing

CRISPR gene editing has emerged as a revolutionary tool in the realm of biotechnology, offering unparalleled precision in modifying an organism's DNA. This technology holds immense potential for ......

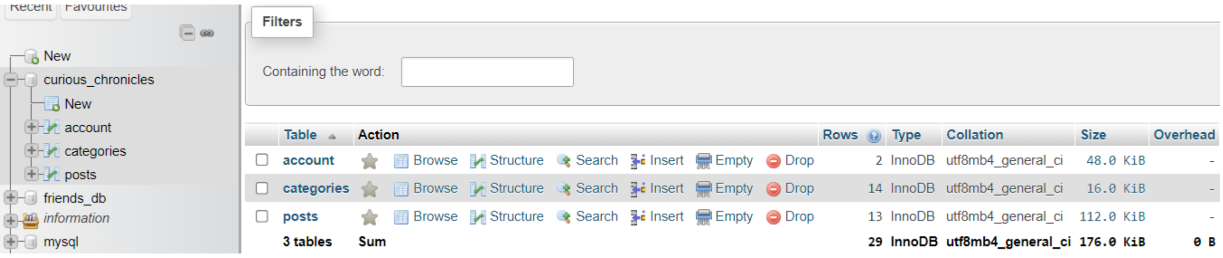
Science 2025-05-16 20:06:39

Figure 3.12: Showing Post That I Added Now.

© Developed by
Zehad & Maruf.

Figure 3.13: This is My Website Footer.

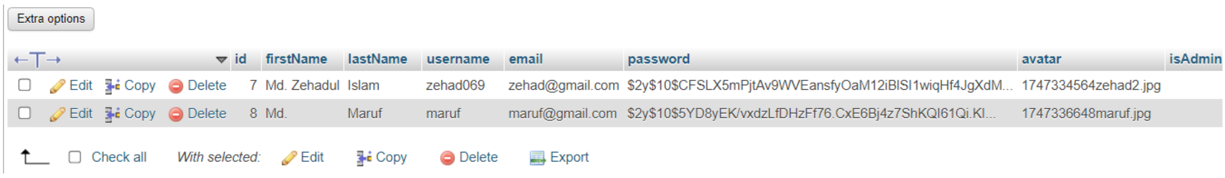
3.1.2 Backend



Containing the word:

	Table	Action							Rows	Type	Collation	Size	Overhead
□	account	★	Browse	Structure	Search	Insert	Empty	Drop	2	InnoDB	utf8mb4_general_ci	48.0 KiB	-
□	categories	★	Browse	Structure	Search	Insert	Empty	Drop	14	InnoDB	utf8mb4_general_ci	16.0 KiB	-
□	posts	★	Browse	Structure	Search	Insert	Empty	Drop	13	InnoDB	utf8mb4_general_ci	112.0 KiB	-
	3 tables	Sum							29	InnoDB	utf8mb4_general_ci	176.0 KiB	0 B

Figure 3.14: This is My Database With Three Tables

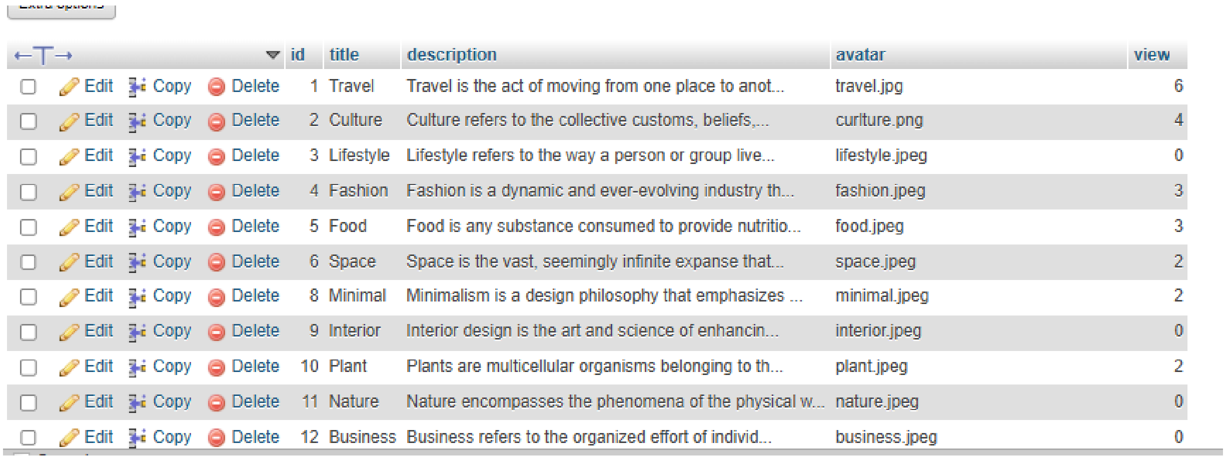


Extra options

←T→	id	firstName	lastName	username	email	password	avatar	isAdmin
□ Edit Copy Delete	7	Md. Zehadul	Islam	zehad069	zehad@gmail.com	$2y$10$CFSLX5mPjtAv9WVEansfyOaM12iBlSl1wiqHf4JgXdM...	1747334564zehad2.jpg	
□ Edit Copy Delete	8	Md.	Maruf	maruf	maruf@gmail.com	$2y$10$5YD8yEK/vxdzLfDHzFf76.CxE6Bj4z7ShKQl61Qi.Kl...	1747336648maruf.jpg	

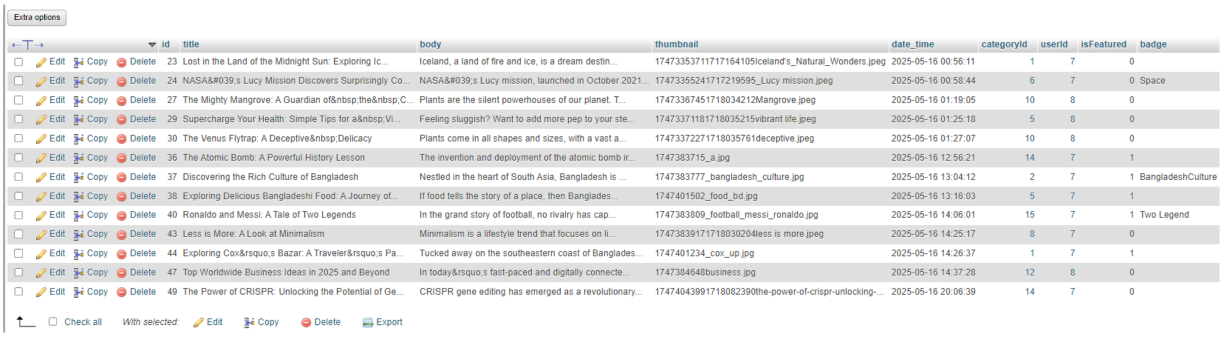
□ Check all *With selected:* Edit Copy Delete Export

Figure 3.15: Account Table



←T→	id	title	description	avatar	view
□ Edit Copy Delete	1	Travel	Travel is the act of moving from one place to anot...	travel.jpg	6
□ Edit Copy Delete	2	Culture	Culture refers to the collective customs, beliefs,...	curlture.png	4
□ Edit Copy Delete	3	Lifestyle	Lifestyle refers to the way a person or group live...	lifestyle.jpeg	0
□ Edit Copy Delete	4	Fashion	Fashion is a dynamic and ever-evolving industry th...	fashion.jpeg	3
□ Edit Copy Delete	5	Food	Food is any substance consumed to provide nutritio...	food.jpeg	3
□ Edit Copy Delete	6	Space	Space is the vast, seemingly infinite expanse that...	space.jpeg	2
□ Edit Copy Delete	8	Minimal	Minimalism is a design philosophy that emphasizes ...	minimal.jpeg	2
□ Edit Copy Delete	9	Interior	Interior design is the art and science of enhancin...	interior.jpeg	0
□ Edit Copy Delete	10	Plant	Plants are multicellular organisms belonging to th...	plant.jpeg	2
□ Edit Copy Delete	11	Nature	Nature encompasses the phenomena of the physical w...	nature.jpeg	0
□ Edit Copy Delete	12	Business	Business refers to the organized effort of individ...	business.jpeg	0

Figure 3.16: Categories Table



Extra options

←T→	id	title	body	thumbnail	date_time	categoryId	userId	isFeatured	badge
□ Edit Copy Delete	23	Lost in the Land of the Midnight Sun: Exploring Ic...	Iceland, a land of fire and ice, is a dream destin...	17473353711717164105Iceland's_Natural_Wonders.jpeg	2025-05-16 00:56:11	1	7	0	
□ Edit Copy Delete	24	NASA&#039;s Lucy Mission Discovers Surprisingly Co...	NASA&#039;s Lucy mission, launched in October 2021...	17473355241717219595_Lucy mission.jpeg	2025-05-16 00:58:44	6	7	0	Space
□ Edit Copy Delete	27	The Mighty Mangrove: A Guardian of&nbsp;the&nbsp;C...	Plants are the silent powerhouses of our planet. T...	17473367451718034212Mangrove.jpeg	2025-05-16 01:19:05	10	8	0	
□ Edit Copy Delete	29	Supercharge Your Health: Simple Tips for a&nbsp;Vi...	Feeling sluggish? Want to add more pep to your ste...	17473371181718035215vibrant life.jpeg	2025-05-16 01:25:18	5	8	0	
□ Edit Copy Delete	30	The Venus Flytrap: A Deceptive&nbsp;Delicacy	Plants come in all shapes and sizes, with a vast a...	17473372271718035761deceptive.jpeg	2025-05-16 01:27:07	10	8	0	
□ Edit Copy Delete	36	The Atomic Bomb: A Powerful History Lesson	The invention and deployment of the atomic bomb ir...	1747383715_a.jpg	2025-05-16 12:56:21	14	7	1	
□ Edit Copy Delete	37	Discovering the Rich Culture of Bangladesh	Nestled in the heart of South Asia, Bangladesh is ...	1747383777_bangladesh_culture.jpg	2025-05-16 13:04:12	2	7	1	BangladeshCulture
□ Edit Copy Delete	38	Exploring Delicious Bangladeshi Food: A Journey of...	If food tells the story of a place, then Banglades...	1747401502_food_bd.jpg	2025-05-16 13:16:03	5	7	1	
□ Edit Copy Delete	40	Ronaldo and Messi: A Tale of Two Legends	In the grand story of football, no rivalry has cap...	1747383809_football_messi_ronaldo.jpg	2025-05-16 14:06:01	15	7	1	Two Legend
□ Edit Copy Delete	43	Less is More: A Look at Minimalism	Minimalism is a lifestyle trend that focuses on li...	17473839171718030204less is more.jpeg	2025-05-16 14:25:17	8	7	0	
□ Edit Copy Delete	44	Exploring Cox&rsquo;s Bazar: A Traveler&rsquo;s Pa...	Tucked away on the southeastern coast of Banglades...	1747401234_cox_up.jpg	2025-05-16 14:26:37	1	7	1	
□ Edit Copy Delete	47	Top Worldwide Business Ideas in 2025 and Beyond	In today&rsquo;s fast-paced and digitally connecte...	1747384648business.jpg	2025-05-16 14:37:28	12	8	0	
□ Edit Copy Delete	49	The Power of CRISPR: Unlocking the Potential of Ge...	CRISPR gene editing has emerged as a revolutionary...	17474043991718082390the-power-of-crispr-unlocking-...	2025-05-16 20:06:39	14	7	0	

□ Check all *With selected:* Edit Copy Delete Export

Figure 3.17: Post Table

3.2 Results Overall Discussion

The Results Overall Discussion highlights several key achievements and considerations of my blog website project. The user engagement aspect stands out, facilitated by an intuitive interface and responsive design across various devices, ensuring seamless navigation. Leveraging PHP and MySQL, the platform efficiently manages diverse blog posts and categories, supporting dynamic content presentation. Performance testing revealed robust capabilities under different conditions, with ongoing optimizations aimed at enhancing database efficiency and server-side caching. User feedback has been pivotal in refining features like search functionality and category management, ensuring continuous usability enhancements. Challenges included optimizing fronted performance for extensive content volumes, with ongoing solutions to bolster system reliability and user satisfaction. Looking ahead, plans involve expanding community features, integrating social media tools, and enhancing analytics for content performance tracking. In conclusion, the project successfully meets its objectives by providing a dynamic, accessible platform for content creation and interaction, laying a solid foundation for future enhancements and innovations.

3.3 Complex Engineering Problem Discussion

A significant challenge in my project was designing a user-friendly website that seamlessly adapts to various devices while ensuring optimal content management. This involved striking a balance between simplicity for content creators and accessibility for readers. Additionally, integrating efficient category management and search functionalities posed technical complexities that required careful planning and implementation. Moving forward, my focus remains on enhancing these features to continually improve user interaction and satisfaction.

Chapter 4

Conclusion

4.1 Discussion

In this section, I reflect on the project's outcomes and what they mean. my goal was to create a dynamic blog website using HTML, JavaScript, CSS, PHP, and MySQL. This setup allowed us to manage content creation, user interaction, and adaptability on different devices effectively. I used a step-by-step approach to continuously improve usability and performance. One challenge was optimizing how quickly the website handled lots of users. Ialso focused on making sure the website looked good and worked well on all screens, big and small. By adding categories and making the website responsive, Imade it easier for users to find and enjoy content. Looking ahead, Icould make the website even better by letting users share posts on social media and using data to understand how people use the website. In summary, this project met its goals by providing a flexible platform for content creators. It sets the stage for future improvements that can make the website even more useful and enjoyable for users.

4.2 Limitations

Despite my efforts, several limitations were identified during the development of my project:

- **Performance Optimization:** Achieving optimal loading times for pages with extensive content and images remains an ongoing concern, especially on slower network connections.
- **Feature Set:** Limited integration of advanced features such as real-time commenting and social media sharing due to time constraints and complexity in implementation.
- **Database Scalability:** While MySQL serves as a reliable database solution, scaling to handle large volumes of data and simultaneous user requests could potentially impact performance.

- **Security Measures:** Basic security measures, like input validation and secure user authentication, were implemented, but advanced security features, such as HTTPS and advanced data encryption, require additional resources for full implementation.

Addressing these limitations will be crucial for enhancing the overall functionality and user experience of the project in future iterations.

4.3 Scope of Future Work

Looking ahead, there are several ways I can improve my project:

- **Enhanced User Interaction:** Add features like real-time comments, user profiles, and personalized content suggestions.
- **Performance Optimization:** Make my website faster by improving code and how it interacts with the database.
- **Improved Security:** Strengthen security with HTTPS, data encryption, and protections against hacking.
- **Mobile-Friendly Design:** Create a better experience for users on phones and tablets.
- **Analytics Integration:** Use tools to understand how users interact with my site and make it better.
- **More Content Categories:** Add more topics and tags to help users find what they're interested in.
- **SEO and Marketing:** Make my site easier to find on search engines and attract more visitors.

These changes will make my project more useful and enjoyable for everyone.

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