A CMS Development for a Web-Based News Platform and RSS Feed Integration for Media Headlines

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Submitted in partial fulfillment of the requirements for the degree of
Bachelor of Science in Computer Science and Engineering



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SONARGAON UNIVERSITY (SU)

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APPROVAL

The project titled "**A CMS Development for a Web-Based News Platform and RSS Feed Integration for Media Headlines**" submitted by Md. Nur Ullah Al Noman (CSE2101022068), Md. Joynal Abedin Khan (CSE2101022014), Miss. Yeasmin Ara (CSE1901016108), Mohammad Samsher Howlader (CSE1702011014) and Md. Naymul Islam (CSE2101022144) to the Department of Computer Science and Engineering, Sonargaon University (SU), has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents.

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DECLARATION

We, hereby, declare that the work presented in this report is the outcome of the investigation performed by us under the supervision of **Mohammad Naderuzzaman, Associate Professor,** Department of Computer Science and Engineering, Sonargaon University, Dhaka, Bangladesh. We reaffirm that no part of this project has been or is being submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

In today's world, web-based news platforms play an important role by providing instant access to information from anywhere at any time. They allow news organizations to update stories in real-time, making sure readers stay informed about current events. Users can easily search and read content on devices like—smartphones and computers. These platforms also promote community engagement through features like comments and social media sharing. This project involves the design and development of a Content Management System (CMS) for a web-based news platform. The name of CMS is TidingsBD, published under the domain www.tidingsbd.com. The CMS allows administrators to manage news content, multimedia, user control, advertisements, user interactions, and much more via a dynamic admin panel. Additionally, here's another project that includes an RSS feed integration system and is published under the domain www.tidingsbd.com/media-headlines that aggregates RSS feed information from various Bangladeshi media websites, displaying headlines with relevant images and timestamps. This feature enhances the user experience by offering a comprehensive view of the latest news, allowing users to navigate directly to original sources for in-depth reading. This dual project aims to simplify complex content management processes and streamline news updates, providing an efficient solution for news publishing and media aggregation online.

ACKNOWLEDGMENT

At the very beginning, we would like to express my deepest gratitude to the Almighty Allah for giving us the ability and the strength to finish the task successfully within the schedule time.

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We are also thankful to all our teachers during our whole education, for exposing us to the beauty of learning.

Finally, our deepest gratitude and love to my parents for their support, encouragement, and endless love.

LIST OF ABBREVIATIONS

Ajax	Asynchronous JavaScript and XML
CMS	Content Management System
CSS	Cascading Style Sheets
DBMS	Database Management System
DFD	Data Flow Diagram
ICANN	Internet Corporation for Assigned Names and Numbers
jQuery	JavaScript Library
JS	JavaScript
JSON	JavaScript Object Notation
MySQL	My Structured Query Language
PDO	PHP Data Objects
PHP	Hypertext Preprocessor
RSS	Really Simple Syndication
SQL	Structured Query Language
TBD	TidingsBD
XAMPP	Cross-Platform, Apache, MySQL, PHP, and Perl
XML	Extensible Markup Language
XSS	Cross-Site Scripting

TABLE OF CONTENTS

Title		Page No.
DECLARATION ……		iii
ABSTRACT ……		iv
ACKNOWLEDGEMENT ……		v
LIST OF ABBREVIATION ……		vi
CHAPTER 1		1 – 3
THE DEVELOPMENT OF TIDINGSBD CMS AND RSS INTEGRATION		
1.1	Introduction ……	1
1.2	Project Motivation ……	1 – 2
1.3	Problem Statement ……	2
1.4	Objectives ……	2 – 3
1.5	Challenges ……	3
CHAPTER 2		4 – 5
SOFTWARE DEVELOPMENT LIFE CYCLE (SDLC)		
2.1	Introduction ……	4
2.2	Software Development Life Cycle Models ……	4
2.3	Waterfall Model Design ……	4 – 5
2.4	Why the Waterfall Model is Better for www.TidingsBD.com? ……	5
CHAPTER 3		6 – 8
DEVELOPMENT TOOLS AND TECHNOLOGIES		
3.1	Introduction ……	6
3.2	Programming Languages and Technologies ……	6 – 7
3.3	Development Environments ……	7
3.4	Hosting and Deployment ……	8
3.5	System and Browser Requirements ……	8
CHAPTER 4		9 – 18
SYSTEM ARCHITECTURE AND DESIGN		
4.1	Introduction ……	9
4.2	Entities ……	9
4.3	Attributes ……	9 – 10

4.4 Relationships …… 10
4.5 E-R Diagram …… 10 – 11
4.6 Use Case Diagram …… 11 – 12
4.7 Schema Diagram …… 13
4.8 Data-Flow Diagram …… 13 – 14
4.9 Database Table …… 15 – 18

CHAPTER 5 19 – 31
TIDINGSBD: THE COMPLETE INTEGRATION OF CMS AND RSS FEED
5.1 Introduction …… 19
5.2 Back-end …… 19 – 27
5.3 Front-end …… 28 – 30
5.4 RSS Feed Integration …… 31

CHAPTER 6 32 – 33
CONCLUSION, LIMITATIONS AND FUTURE WORKS
6.1 Conclusion …… 32
6.2 Limitations …… 32
6.2 Future Works …… 33

REFERENCES …… 34

LIST OF TABLES

Table No.	Title	Page No.
Table 4.1	User Table	15
Table 4.2	Category Table	15
Table 4.3	News Table	15
Table 4.4	Photo Gallery Category Table	16
Table 4.5	Photo Gallery Table	16
Table 4.6	Video Gallery Category Table	16
Table 4.7	Video Gallery Table	16
Table 4.8	Page Table	16
Table 4.9	File Table	16
Table 4.10	Advertisement Table	16
Table 4.11	Menu Table	17
Table 4.12	Home Category Table	17
Table 4.13	Social Media Table	18
Table 4.14	Home Setting Table	18
Table 4.15	Footer Setting Table	18
Table 4.16	Logo Setting Table	18
Table 4.17	Favicon Setting Table	18
Table 4.18	Color Setting Table	18

LIST OF FIGURES

Figure No.	Title	Page No.
Fig. 2.1	SDLC	4
Fig. 2.2	Waterfall Model	5
Fig. 3.1	PHP, MySQL, XML, HTML, CSS, Bootstrap, JS, jQuery, Ajax & JSON	7
Fig. 3.2	XAMPP, Visual Studio Code and Notepad++	7
Fig. 3.3	Namecheap, ICANN, Server and RSS Feed	8
Fig. 3.4	Windows 11 and Google Chrome	8
Fig. 4.1	Entities	9
Fig. 4.2	Attributes	10
Fig. 4.3	Relationships	10
Fig. 4.4	E-R Diagram	11
Fig. 4.5	Use Case Diagram for News Reader	12
Fig. 4.6	Use Case Diagram for Admin	12
Fig. 4.7	Schema Diagram	13
Fig. 4.8	Data-Flow Diagram for User	13
Fig. 4.9	Data-Flow Diagram for Admin	13
Fig. 4.10	Data-Flow Diagram for User Panel	14
Fig. 4.11	Data-Flow Diagram for Administrator Login	14
Fig. 5.1	Administrator Login Page	19
Fig. 5.2	Administrator Password Recovery Page	20
Fig. 5.3	Administrator Dashboard Page	20
Fig. 5.4	Users View Page	21
Fig. 5.5	Add Users Page	21
Fig. 5.6	Logo Add/Update Page	21
Fig. 5.7	Favicon Add/Update Page	21
Fig. 5.8	Footer Information Add/Update Page	22
Fig. 5.9	Page to Update How Many News Want to Keep in Sidebar	22
Fig. 5.10	Page to Update Website Title and Meta Description	22
Fig. 5.11	Page to Update Website Color	22
Fig. 5.12	View News Categories Page	23
Fig. 5.13	Add News Category Page	23
Fig. 5.14	Edit News Category Page	23
Fig. 5.15	News View Page	24
Fig. 5.16	Add News Page	24
Fig. 5.17	Page View Page	25
Fig. 5.18	Add Webpage Page	25
Fig. 5.19	Menu View Page	25
Fig. 5.20	File View Page	25
Fig. 5.21	Add File View Page	26

Fig. 5.22	View Photo Categories Page	26
Fig. 5.23	Add Photo Category Page	26
Fig. 5.24	View Photo Gallery Page	26
Fig. 5.25	View Video Categories Page	26
Fig. 5.26	Add Video Category Page	26
Fig. 5.27	View Video Gallery Page	26
Fig. 5.28	Advertisement Management Page	27
Fig. 5.29	Social Media Add/Update Page	27
Fig. 5.30	Home Page	28
Fig. 5.31	News Details Page	29
Fig. 5.32	Technology Category News Page	29
Fig. 5.33	About Us Page	30
Fig. 5.34	Photo Gallery Page	30
Fig. 5.35	Video Gallery Page	30
Fig. 5.36	Home Page of Media Headlines via RSS Feed Integration	31

CHAPTER 1

THE DEVELOPMENT OF TIDINGSBD CMS AND RSS INTEGRATION

1.1 Introduction

In today's world, technology plays a vital role in our lives, making it hard to imagine a moment without it. The era of computer technology has revolutionized how we function, with many daily tasks relying on web applications. Websites have become a primary source of information, accessible anytime and anywhere, often at a low cost. In this information age, knowledge is a valuable resource, and we are developing our project to raise awareness among people.

This project involves the design and development of a custom Content Management System (CMS) for a web-based news platform, branded as TidingsBD, which is pivotal for streamlining the creation, management, and distribution of digital news. The CMS features an attractive front-end interface and a backend with essential features for a modern newspaper website. It is built using procedural PHP, allowing easy customization and preventing SQL injection or XSS attacks. Administrator-level security and invalid page URL submission checking are also implemented.

A CMS simplifies news publishing by providing a user-friendly interface for non-technical users. The CMS, accessible via an administrator panel, enables management of various aspects such as users, news content, categories, media uploads, and site settings. It also integrates features like photo and video galleries, advertisements, and social media.

Additionally, an RSS feed-based webpage has been developed to aggregate and display media headlines from different news outlets in Bangladesh, offering real-time news updates.

This combination of CMS and RSS feeds ensures a dynamic, up-to-date, and easily navigable news experience for users.

1.2 Project Motivation

a) **Primary Goal:** To create a dynamic web-based news system that is accessible to all, enabling efficient record-keeping and processing of news-related activities.
b) **Interest in Web Development:** Aimed to work on a web-based project during my B.Sc. in CSE.
c) **Need for Improvement:** Identified the necessity to upgrade existing online news systems.
d) **CMS Creation:** Developed a Content Management System to facilitate effective news management.
e) **Domain Purchase:** Established an online presence by purchasing www.tidingsbd.com.
f) **Administrator Panel Features:** Implemented user-friendly features for managing content, media, and subscriptions.

g) **RSS Feed Integration:** Created a PHP webpage to display headlines from various Bangladeshi media websites.
h) **User Engagement:** Enhanced user experience by linking headlines to full articles on external sites.
i) **Accessibility:** Published the CMS and RSS feed webpage, making them publicly accessible.

1.3 Problem Statement

- **User-Centric Design Objective:** The study aims to design a user-friendly web-based system for an online news portal, offering access to categories like country, technology, business, Islamic lifestyle, health, and crime, while also integrating RSS feeds to display headlines from multiple Bangladeshi media outlets.
- **Complex Management:** Non-technical users find it challenging to manage content.
- **Security Risks:** Vulnerabilities to SQL injection and XSS attacks threaten data safety.
- **Information Overload:** Users struggle to consolidate headlines from multiple sources.
- **Customization Issues:** Existing systems lack flexibility for tailored functionalities.
- **User Engagement:** Limited social media and interactive features hinder engagement.
- **Update Delays:** Slow content refreshes result in outdated information.
- **Mobile Accessibility:** Poor optimization for mobile users limits access.
- **Subscriber Management:** Ineffective handling of subscriber engagement.
- **Analytics Deficiency:** Insufficient insights into reader preferences.
- **High Maintenance Costs:** Expensive upkeep due to hardware and software needs.

1.4 Objectives

- **CMS Development:** Design and develop a robust Content Management System (CMS) for a web-based news platform.
- **User-Friendly Interface:** Facilitate easy content management for non-technical users.
- **Feature Implementation:** Include essential features such as user management and customizable settings.
- **News Categorization:** Organize articles into categories like country, technology, and health.
- **Media Management:** Provide tools for uploading and managing photos and videos.
- **Subscriber Management:** Incorporate features for effective audience engagement via email notifications.
- **RSS Feed Integration:** Aggregate RSS feeds from Bangladeshi media outlets to display headlines.
- **Real-Time Updates:** Ensure news articles are instantly available upon publication.
- **Navigation and Accessibility:** Enhance navigation for convenient access to external sources.

- ❖ **Public Accessibility:** Publish the CMS and webpages for public information access.
- ❖ **Continuous Improvement:** Gather user feedback for ongoing enhancements and updates.
- ❖ **Search Functionality:** Implement a search feature for quick article retrieval.
- ❖ **Analytics Integration:** Use analytics tools to monitor engagement and performance.
- ❖ **Social Media Integration:** Enable article sharing on social media platforms.
- ❖ **Advertisement Management:** Include features for managing advertisements for monetization.
- ❖ **Responsive Design:** Ensure the site is accessible on various devices.
- ❖ **Security Measures:** Implement security protocols to protect user data.
- ❖ **Content Scheduling:** Allow scheduling of articles for future publication.
- ❖ **Multi-language Support:** Explore adding multi-language options for broader reach.
- ❖ **User Interaction:** Facilitate user reviews and comments on articles to foster engagement.

1.5 Challenges

- **Technical Complexity:** Integrating features like RSS feeds and user management.
- **Security Concerns:** Protecting against SQL injection and XSS attacks.
- **User Experience Design:** Balancing functionality with user-friendly design.
- **Cross-Browser Compatibility:** Ensuring consistent performance across browsers.
- **Responsive Design:** Adapting for mobile devices effectively.
- **Data Management:** Organizing a large volume of news and media content.
- **Real-Time Updates:** Implementing features for instant news updates.
- **Performance Optimization:** Ensuring fast loading times under high traffic.
- **Content Moderation:** Managing user-generated content to prevent misinformation.
- **Third-Party Integration:** Seamless connectivity with social media and email services.

CHAPTER 2

SOFTWARE DEVELOPMENT LIFE CYCLE (SDLC)

2.1 Introduction

The Software Development Life Cycle (SDLC) is a structured sequence of steps in software engineering that efficiently design and develop a software product. The SDLC framework comprises several steps:

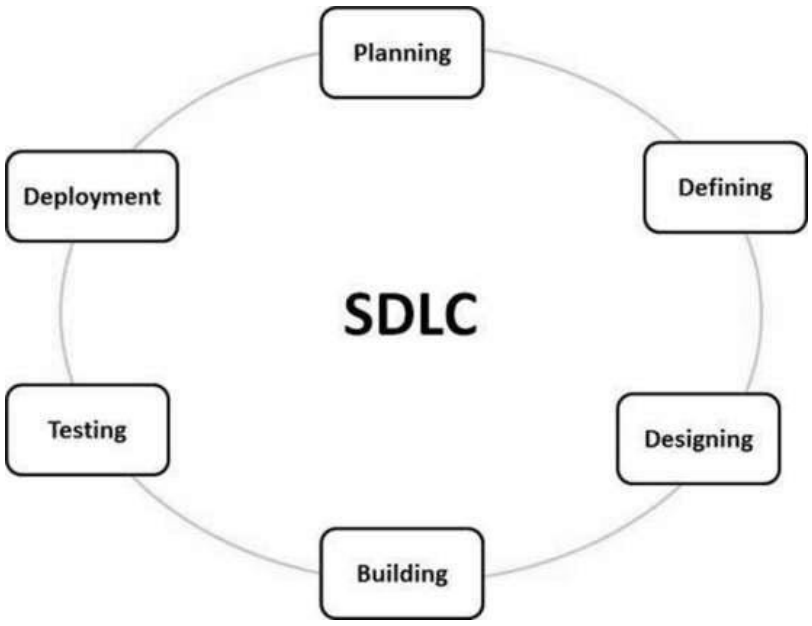


Fig. 2.1: SDLC

2.2 Software Development Life Cycle Models

There're various software development life cycle models defined and designed that are followed during the software development process. These models are also referred to as software development process models. Each process model follows a series of steps unique to its type to ensure success in the process of software development. Following are the most important and popular SDLC models followed in the industry:

i) Waterfall Model
ii) V-Model
iii) Iterative Model
iv) Spiral Model

For our project, we will be following the Waterfall Model to build our software.

2.3 Waterfall Model Design

Waterfall approach was first SDLC Model to be used widely in Software Engineering to ensure the success of the project. In The Waterfall approach, the whole process of software development is divided into separate phases. In Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially. Following is a diagrammatic representation of different phases of the waterfall model:

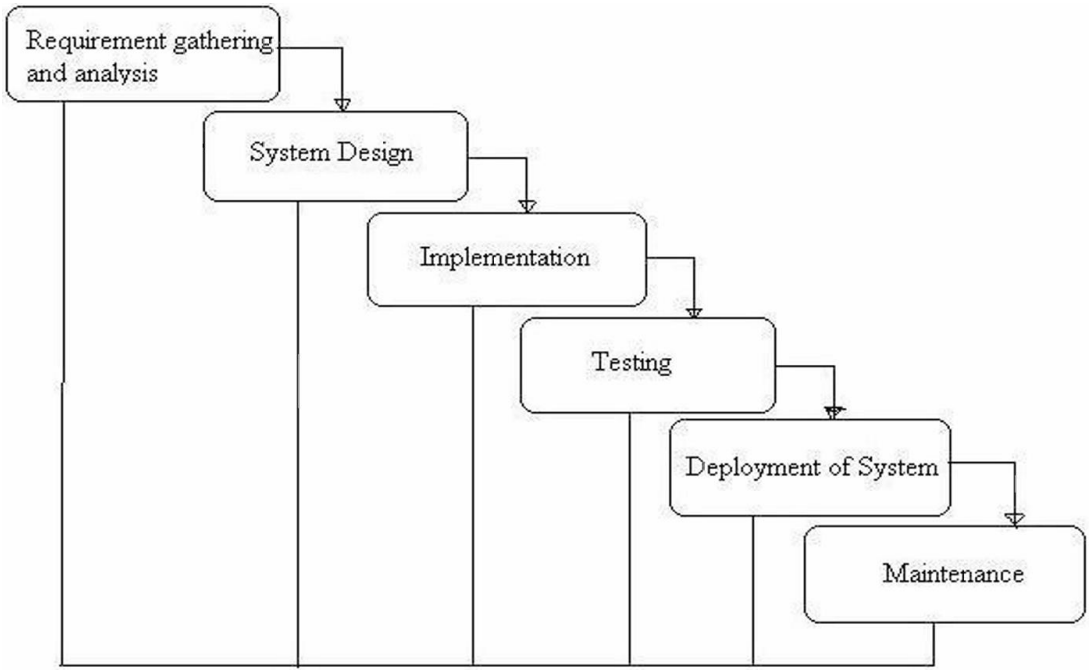


Fig. 2.2: Waterfall Model

2.4 Why the Waterfall Model is Better for www.TidingsBD.com?

- **Structured Process:** Offers a clear, step-by-step approach.
- **Distinct Phases:** Each phase—requirements, design, implementation, testing, maintenance—is separate.
- **Comprehensive Documentation:** Ensures thorough records for future reference.
- **Predictable Timelines:** Provides fixed timelines and budgets.
- **Stable Requirements:** Best for projects with clear, unchanging requirements.
- **Risk Mitigation:** Completes each phase before progressing, minimizing risks.

CHAPTER 3

DEVELOPMENT TOOLS AND TECHNOLOGIES

3.1 Introduction

The development of TidingsBD involved a variety of tools and technologies aimed at building a dynamic, feature-rich CMS. From PHP for server-side scripting to MySQL for database management, each technology played a vital role in the project. The system also incorporates RSS Feed functionality to collect real-time news from other media outlets in Bangladesh, ensuring up-to-date headlines. Furthermore, it covers the steps required for hosting the site online, including purchasing a domain and hosting service. In this chapter, we will explore the tools and technologies used, their purpose, and how they contributed to the system's development and online deployment.

3.2 Programming Languages and Technologies

- **PHP:** PHP is a popular server-side scripting language designed for web development. It handles dynamic content, session tracking, databases, and more. PHP is used to build the core of TidingsBD CMS, including processing user inputs, managing the news content, categories, and user authentication, along with handling media uploads and interactions within the administrator panel.
- **HTML:** Extensible Hypertext Markup Language (HTML) is the standard language for creating web pages and defining the structure and layout of a document. We build the TBD interface using HTML, which provides the essential structure for all pages, including the administrator panel and user-facing components.
- **MySQL:** MySQL is a relational database management system (RDBMS) used for storing and managing data efficiently. In TidingsBD, MySQL stores all user data, news articles, categories, photo and video galleries, and subscriber lists. It plays a critical role in retrieving and storing data across the CMS platform.
- **XML:** Extensible Markup Language (XML) is used to encode documents in a format that is readable by both humans and machines. TidingsBD uses XML to fetch and display RSS feed information from other media sites, allowing users to view headlines and redirect to detailed news on external websites.
- **CSS:** Cascading Style Sheets (CSS) control the visual presentation of web pages, allowing for customization of fonts, colours, and layout. CSS styles the entire TidingsBD platform, ensuring a consistent and professional look and feel across different pages and media sections.
- **Bootstrap:** Bootstrap is a front-end framework used to develop responsive, mobile-first websites. TidingsBD uses Bootstrap to create a responsive layout that adapts seamlessly across various devices, ensuring an optimal user experience on desktops, tablets, and mobile devices.
- **JavaScript (JS):** JavaScript is a programming language that allows for creating dynamic content and interactive elements on web pages. In TidingsBD, JavaScript handles client-side interactivity, such as form validation, content updates, and real-time responses to user actions without reloading the page.

- **jQuery:** jQuery is a JavaScript library that simplifies HTML document traversal, event handling, and animations. jQuery simplifies complex JavaScript functions in TidingsBD, including managing dynamic form inputs and enhancing user interactions within the CMS.
- **Ajax:** Asynchronous JavaScript and XML (Ajax) allows web pages to update asynchronously without reloading the entire page. TidingsBD uses Ajax to load data asynchronously, improving the user experience by enabling background server communication without full page reloads.
- **JSON:** JavaScript Object Notation (JSON) is a lightweight data-interchange format that is easy for humans to read and write. TidingsBD uses JSON to transmit data between the server and client for smooth, efficient exchanges, particularly in the RSS feed integration and content management functionalities.



Fig. 3.1: PHP, MySQL, XML, HTML, CSS, Bootstrap, JS, jQuery, Ajax & JSON

3.3 Development Environments

- **XAMPP:** XAMPP is a free and open-source cross-platform web server solution stack package that includes Apache, MySQL, PHP, and Perl. In TidingsBD, XAMPP serves as a local development environment, allowing me to test the CMS and its features without deploying it on a live server. This facilitates efficient debugging and testing of functionalities.
- **Visual Studio Code:** Visual Studio Code (VS Code) is a powerful and lightweight source code editor developed by Microsoft, featuring support for various programming languages and tools. In TidingsBD, Visual Studio Code provides an intuitive interface and essential features like debugging, syntax highlighting, and extensions, which enhance my productivity while coding and developing the CMS.
- **Notepad++:** Notepad++ is a free and open-source text and source code editor that supports several programming languages, offering features such as syntax highlighting and code folding. In TidingsBD, Notepad++ is used for quick edits and modifications to code files. Its simplicity and lightweight nature make it a convenient tool for managing smaller scripts and configuration files efficiently.



Fig. 3.2: XAMPP, Visual Studio Code and Notepad++

3.4 Hosting and Deployment

- **Domain:** A domain is a unique address on the internet that identifies a website, allowing users to easily access the site without remembering complex numerical IP addresses. The domain www.tidingsbd.com is essential for the web-based news platform., providing a professional online identity and easy navigation for users. When registering the domain through Namecheap, an ICANN fee is applied as part of the standard registration process.
- **Hosting:** Hosting is a service that allows a website's files and data to be stored on a server, making it accessible on the internet. Hosting from Namecheap is crucial for TidingsBD as it ensures that the CMS and website are reliably available to users online, providing the necessary infrastructure for performance.
- **Server Setup:** Server setup involves configuring the server environment to ensure that the website operates efficiently and securely. Proper server setup is vital for TidingsBD to handle user traffic effectively, maintain security, and support all CMS functionalities. The web hosting server was configured to handle PHP scripts, MySQL databases, and allow RSS Feed collection for real-time news updates. The PHP scripts also manage user interactions and dynamically display content
- **RSS Integration:** RSS integration allows the website to collect and display updates from various media sources through a standardized feed format. For TidingsBD, RSS integration enhances content delivery by automatically updating the site with the latest headlines from different Bangladeshi media outlets, improving user engagement and accessibility.



Fig. 3.3: Namecheap, ICANN, Server and RSS Feed

3.5 System and Browser Requirements

- **Operating Systems:** An operating system (OS) is software that manages computer hardware and software resources, providing essential services for computer programs. Examples include Windows, macOS, and Linux. The TBD project requires an operating system to ensure compatibility with development tools like XAMPP and Visual Studio Code, facilitating the smooth execution of the CMS and its features.
- **Internet Browsers:** Internet browsers are software applications that enable users to access, retrieve, and view content on the web. Common examples include Google Chrome, Mozilla Firefox, and Microsoft Edge. The TBD project requires an internet browser to allow users to access the online news portal, interact with the CMS, and view news articles and media from various sources seamlessly.



Fig. 3.4: Windows 11 and Google Chrome

CHAPTER 4

SYSTEM ARCHITECTURE AND DESIGN

4.1 Introduction

In this chapter, we will explore the architecture and design of the Content Management System (CMS) developed for TidingsBD, a web-based news platform. We will discuss the various modules that comprise the system, the entities involved, their attributes, and the relationships between them. Additionally, we will illustrate the design with diagrams, including the Entity-Relationship (E-R) diagram, use case diagram, schema diagram, data-flow diagram, and database tables. This chapter aims to provide a comprehensive understanding of the TidingsBD CMS and how it facilitates the management of news content.

4.2 Entities

Objects or components in the system that hold data and have a distinct existence. Entities are the primary objects within the CMS that hold data, represented by rectangles. Entities represent the key components of the CMS. For TidingsBD, the primary entities include:

- **User:** Represents individuals who have access to the CMS.
- **News:** Represents articles and news items published on the portal.
- **Category:** Represents different classifications of news.
- **Media:** Represents images and videos uploaded to the CMS.
- **Subscriber:** Represents individuals who subscribe to news updates.



Fig. 4.1: Entities

4.3 Attributes

Attributes are the characteristics or properties of each entity. Each entity has specific attributes that define its characteristics, denoted by ovals connected to their respective entity rectangles. For example:

- **User:** Attributes include user ID, username, email, password, and role (Admin/Super Admin/Publisher).
- **News:** Attributes include news ID, title, content, publication date, category ID, and author ID.
- **Category:** Attributes include category ID, name, and description.
- **Media:** Attributes include media ID, type (image/video), file path, and associated news ID.
- **Subscriber:** Attributes include subscriber ID, email, and subscription date.

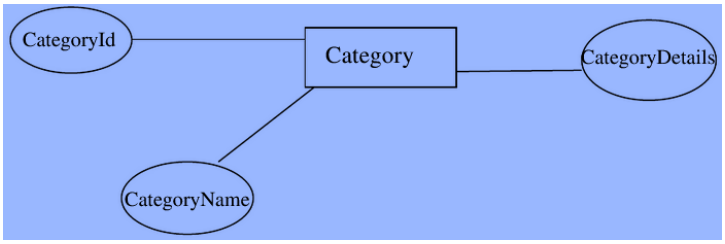


Fig. 4.2: Attributes

4.4 Relationships

Connections between entities that describe how they interact with each other. Relationships define how entities interact with one another within the CMS, shown as diamonds connecting the entities involved. The relationships among entities in the TidingsBD CMS are as follows:

- **User to News:** A user (Admin/Super Admin/Publisher) can create and manage multiple news articles.
- **News to Category:** Each news article is associated with one category, while each category can contain multiple news articles.
- **News to Media:** News articles can have multiple media files associated with them.
- **Subscriber to News:** Subscribers can receive updates about multiple news articles.

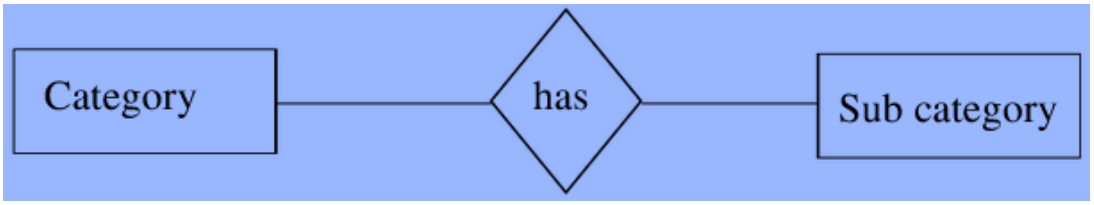


Fig. 4.3: Relationships

4.5 E-R Diagram

The Entity-Relationship Diagram (ERD) visually represents the entities and their relationships within the TidingsBD CMS. It illustrates how each entity interacts, providing a clear overview of the system's architecture. The E-R diagram is an essential tool for understanding the database design and aids in effective system implementation.

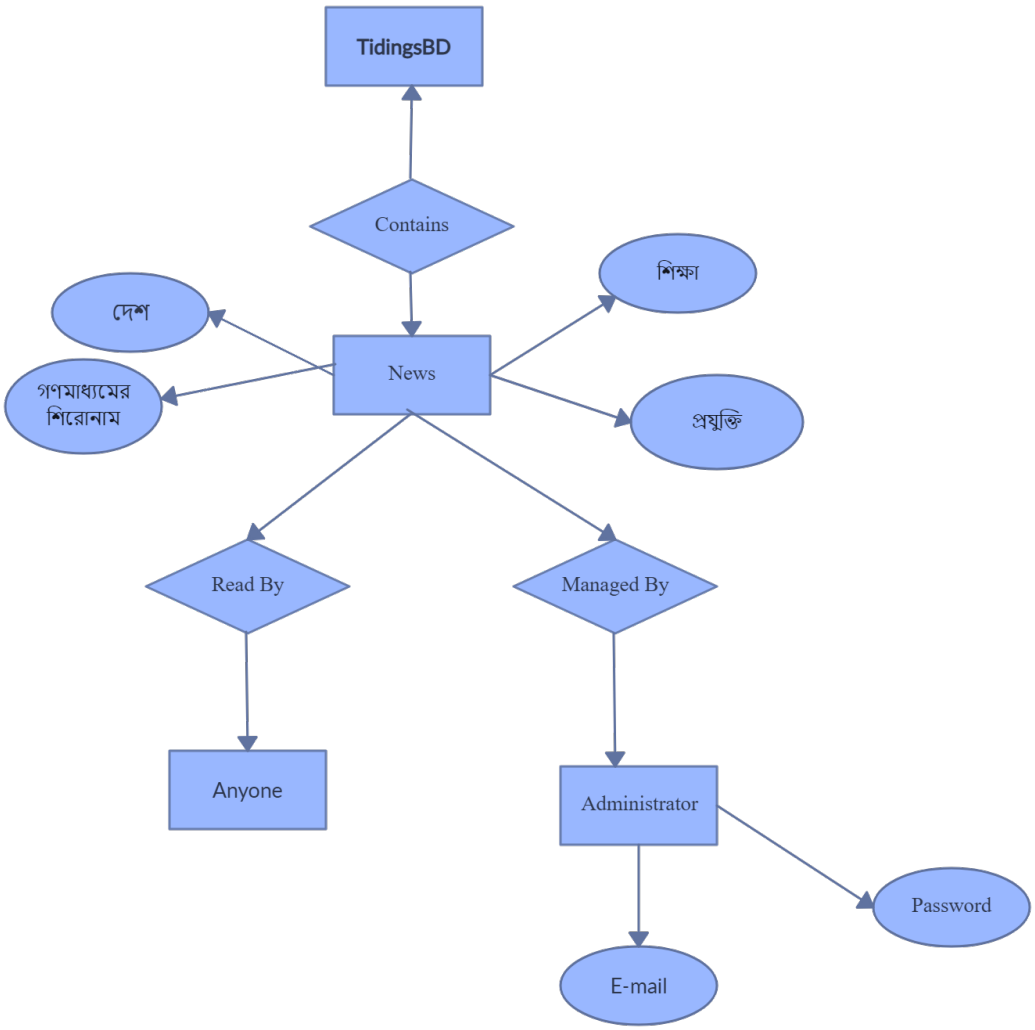


Fig. 4.4: E-R Diagram

4.6 Use Case Diagram

A Use Case Diagram represents the functional requirements of a system. It shows how users (actors) interact with the system's functionalities (use cases). It helps in identifying system operations and the roles of users in relation to these operations. The Use Case Diagram outlines the various interactions that users (admins, super admins, publisher) can have with the system. It visually represents the functionality available to each type of user, detailing actions such as creating news articles, managing users, and accessing settings. This diagram helps in understanding user roles and system requirements. In the context of TidingsBD, a Use Case Diagram can illustrate how different user types (like Admin and Regular Users) interact with the system. For instance:

- **Admin:** Can add news, manage users, and configure settings.
- **Regular User:** Can view news and subscribe.

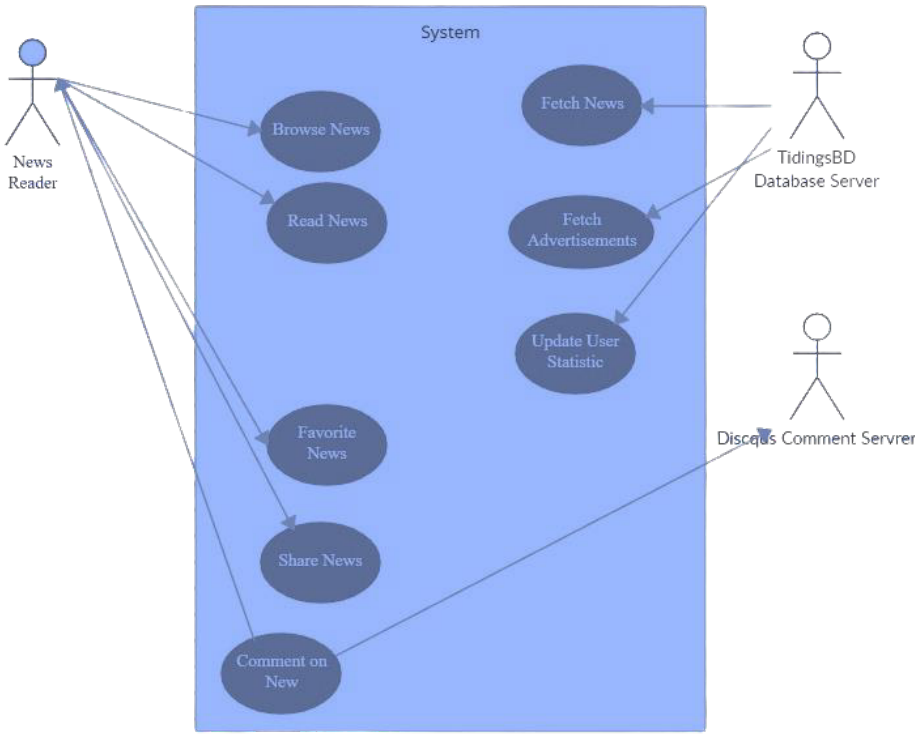


Fig. 4.5: Use Case Diagram for News Reader

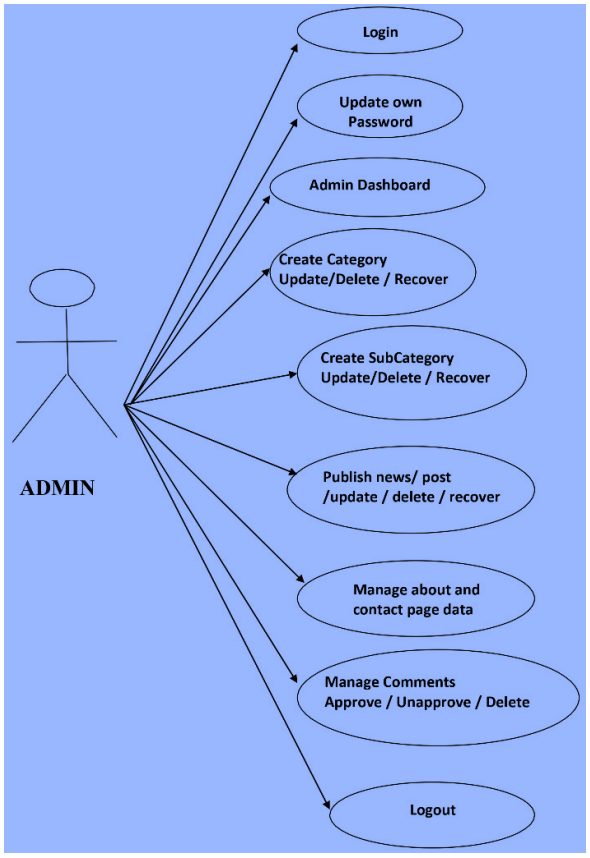


Fig. 4.6: Use Case Diagram for Admin

4.7 Schema Diagram

A Schema Diagram visually represents the structure of a database, including its tables, attributes, relationships, and constraints. It defines how data is organized within the database, showing entities (tables) and the relationships between them, often illustrated through Primary Keys (PK) and Foreign Keys (FK). The Schema Diagram serves as a blueprint for the database structure used in TidingsBD. It details the tables, fields, and relationships among them, which is crucial for effective database management. This diagram ensures clarity in data organization and retrieval processes.



Fig. 4.7: Schema Diagram

4.8 Data-Flow Diagram

The Data-Flow Diagram (DFD) illustrates the flow of information within the TidingsBD CMS. It shows how data is processed and transferred between various modules, users, and the database. The DFD provides insights into how information moves through the system, highlighting the interactions that occur during data handling.

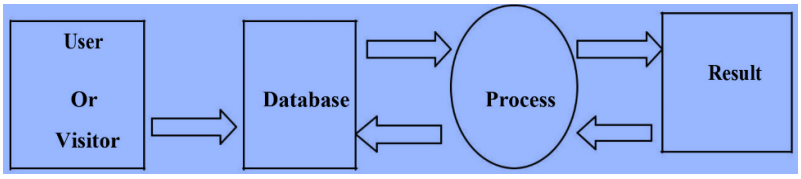


Fig. 4.8: Data-Flow Diagram for User

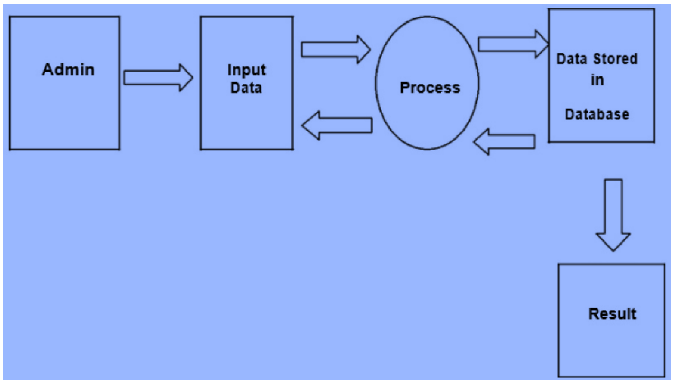


Fig. 4.9: Data-Flow Diagram for Admin

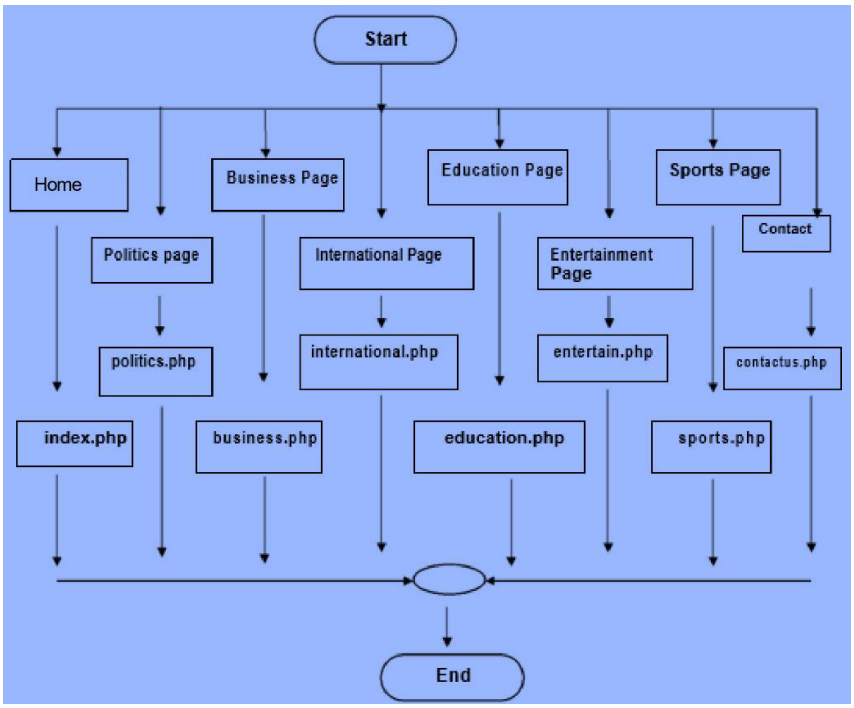


Fig. 4.10: Data-Flow Diagram for User Panel

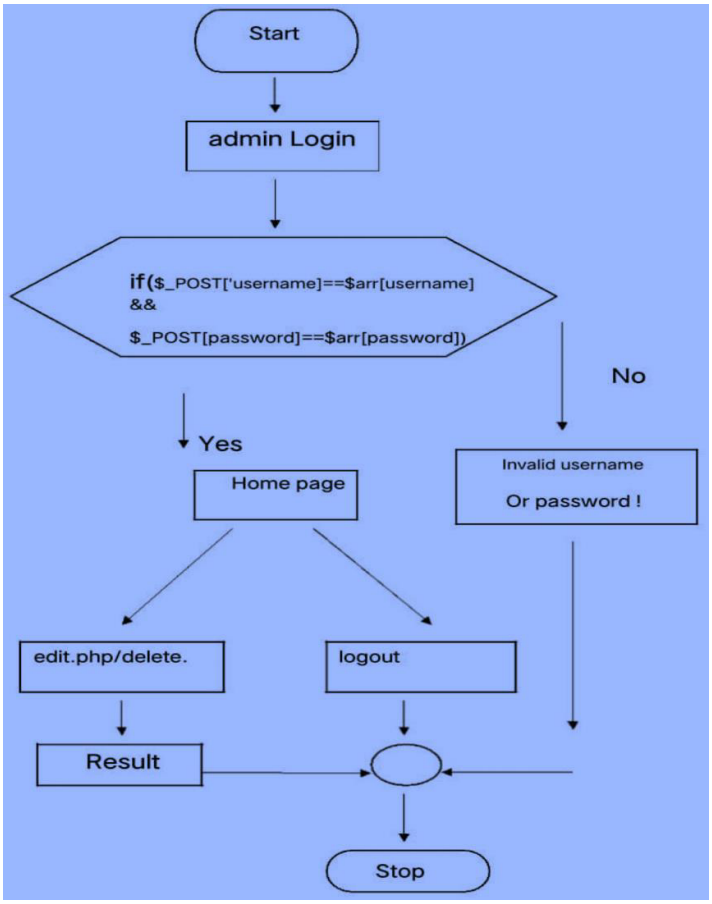


Fig. 4.11: Data-Flow Diagram for Administrator Login

4.9 Database Table

The database tables for TidingsBD store structured information about users, news articles, categories, media, and subscribers. Each table is designed to hold relevant attributes and maintain relationships with other tables. This organization facilitates efficient data management, retrieval, and integrity, ensuring the CMS operates smoothly.

User Table

	id	full_name	email	phone	password	photo	role	status	token
Edit Copy Delete	1	N. A. Noman	n.a.noman@coxsbazarbd.com	01719-487149	4335ab7f6b732fa5cf9c664ae5fd1da3	user-1.png	Super Admin	Active	
Edit Copy Delete	2	Mohammad Naderuzzaman	nader_u@yahoo.com	01955-529841	01261f6170af9ae623d019611a000de7	user-2.jpg	Super Admin	Active	
Edit Copy Delete	3	Md. Joynal Abedin Khan	joynalabedinkhan7@gmail.com	01842-555477	91c0746cf9897c27e0f8778a6c8de229	user-3.jpg	Admin	Active	
Edit Copy Delete	4	Yeasmin Ara	yeasminara0677@gmail.com	01621-880677	e6ce022cfb743c66afc48244e311facf	user-4.jpg	Admin	Active	
Edit Copy Delete	5	Mohammad Samsher Howlader	shamsherhowlader35@gmail.com	01782-176196	fc2d169cbb6e0e54b5cdc7a64e0d8122	user-5.jpg	Admin	Active	
Edit Copy Delete	6	Md. Naymul Islam	naiemulislam8@gmail.com	01882-876907	f8025d076b131376f20a3b3618b26c83	user-6.jpg	Admin	Active	

Table 4.1: User Table

Category Table

	category_id	category_name	category_slug	status	meta_title	meta_keyword	meta_description
Edit Copy Delete	1	দেশ	country	Active	বাংলাদেশ	বাংলাদেশ	বাংলাদেশ
Edit Copy Delete	2	বিশ্ব	world	Active	আন্তর্জাতিক	আন্তর্জাতিক	আন্তর্জাতিক
Edit Copy Delete	3	শিক্ষা	education	Active	শিক্ষাঙ্গন	শিক্ষাঙ্গন	শিক্ষাঙ্গন
Edit Copy Delete	4	প্রযুক্তি	technology	Active	আইটি বিশ্ব	আইটি বিশ্ব	আইটি বিশ্ব
Edit Copy Delete	5	রাজনীতি	politics	Active	রাজনীতি	রাজনীতি	রাজনীতি
Edit Copy Delete	6	খেলা	sports	Active	খেলা	খেলা	খেলা
Edit Copy Delete	7	বাণিজ্য	business	Active	বাণিজ্য	বাণিজ্য	ব্যবসা বাণিজ্য ও অর্থনীতির খবর
Edit Copy Delete	8	চাকরি	job-seek	Active	চাকরি	চাকরি	চাকরি
Edit Copy Delete	9	বিনোদন	entertainment	Active	বিনোদন	বিনোদন	বিনোদন
Edit Copy Delete	10	ইসলামী জীবন	islamic-lifestylie	Active	ইসলামী জীবন	ইসলামী জীবন	ইসলামী জীবন
Edit Copy Delete	11	মতামত	opinion	Active	মতামত	মতামত	মতামত
Edit Copy Delete	12	জাতীয়	national	Active	জাতীয়	জাতীয়	জাতীয়
Edit Copy Delete	13	লাইফ স্টাইল	life-style	Active	জীবনযাপন	জীবনযাপন	জীবনযাপন
Edit Copy Delete	14	শিল্প ও সাহিত্য	art-literature	Active	শিল্প ও সাহিত্য	শিল্প ও সাহিত্য	শিল্প ও সাহিত্য
Edit Copy Delete	15	অপরাধ	crime	Active	অপরাধ	অপরাধ	অপরাধ
Edit Copy Delete	16	স্বাস্থ্য	health	Active	স্বাস্থ্য	স্বাস্থ্য	স্বাস্থ্য
Edit Copy Delete	17	পরবাস	exile	Active	পরবাস	পরবাস	পরবাস

Table 4.2: Category Table

News Table

	news_id	news_title	news_slug	news_content	news_date	publisher	photo	status	source	is_featured	total_view	meta_title	meta_keyword	meta_description
Edit Copy Delete	6	ইলিশ ধরায় ২২ দিনের নিষেধাজ্ঞা শুরু ১৩ অক্টোবর	ইলিশ-ধরায়-২২-দিনের-নিষেধাজ্ঞা-শুরু-১৩-অক্টোবর	<p>মা ইলিশ রক্ষায় আগামী ১৩ অক্টোবর থেকে ৩ নভেম্বর ...	23-09-2024	এন. এ. নোমান	news-6.jpg	Published	সমকাল	1	15	ইলিশ ধরায় ২২ দিনের নিষেধাজ্ঞা শুরু ১৩ অক্টোবর	ইলিশ	ইলিশ ধরায় ২২ দিনের নিষেধাজ্ঞা শুরু ১৩ অক্টোবর
Edit Copy Delete	7	বৈরুতে ইসরায়েলের যামলায় নারী-শিশুসহ নিহত বেড়ে ৪৫	বৈরুতে-ইসরায়েলের-যামলায়-নারী-শিশুসহ-নিহত-বেড়ে-৪৫	<p>লেবাননের রাজধানী বৈরুতে ইসরায়েলের বিমান যামলায় ...	23-09-2024	এন. এ. নোমান	news-7.jpg	Published	সমকাল	1	0	বৈরুতে ইসরায়েলের যামলায় নারী-শিশুসহ নিহত বেড়ে ৪৫	বৈরুত, ইসরায়েল, যামলা	বৈরুতে ইসরায়েলের যামলায় নারী-শিশুসহ নিহত বেড়ে ৪৫
Edit Copy Delete	8	যোগাযোগযন্ত্র ব্যবহারে নিষেধাজ্ঞা ইরান রেভুলুশনা...	যোগাযোগযন্ত্র-ব্যবহারে-নিষেধাজ্ঞা-ইরান-রেভুলুশনা...	<p>ইরানের ইসলামিক রেভুলুশনারি গার্ড কর্পস (আইআরজি...	23-09-2024	এন. এ. নোমান	news-8.jpg	Published	সমকাল	1	0	যোগাযোগযন্ত্র ব্যবহারে নিষেধাজ্ঞা ইরান রেভুলুশনা...	নিষেধাজ্ঞা, ইরান, রেভুলুশনারি	যোগাযোগযন্ত্র ব্যবহারে নিষেধাজ্ঞা ইরান রেভুলুশনা...
Edit Copy Delete	9	ইসরায়েলকে সহযোগিতার অভিযোগে ইরানে ১২ জন গ্রেপ্তার	ইসরায়েলকে-সহযোগিতার-অভিযোগে-ইরানে-১২-জন-গ্রেপ্তার	<p>ইসরায়েলকে সহযোগিতা ও ইরানের নিরাপত্তার বিরুদ্ধে...	23-09-2024	এন. এ. নোমান	news-9.jpg	Published	সমকাল	1	0	ইসরায়েলকে সহযোগিতার অভিযোগে ইরানে ১২ জন গ্রেপ্তার	ইসরায়েল, ইরান, গ্রেপ্তার	ইসরায়েলকে সহযোগিতার অভিযোগে ইরানে ১২ জন গ্রেপ্তার
Edit Copy Delete	30	কানাডায় 'নলেজ এনগেজমেন্ট' বাংলাদেশি কমিউনিটি শীর্ষ...	কানাডায়-'নলেজ-এনগেজমেন্ট'-বাংলাদেশি-কমিউনিটি-শীর্ষ...	<p>কানাডায় “নলেজ এনগেজমেন্ট' উঁইথ বাংলাদেশি কম...	23-09-2024	এন. এ. নোমান	news-30.jpg	Published	সমকাল	1	0	কানাডায় 'নলেজ এনগেজমেন্ট' বাংলাদেশি কমিউনিটি শীর্ষ...	কানাডা	কানাডায় 'নলেজ এনগেজমেন্ট' বাংলাদেশি কমিউনিটি শীর্ষ...
Edit Copy Delete	31	বন্যার্তদের জন্য তহবিল সংগ্রহে কানাডায় সাংস্কৃতিক ...	বন্যার্তদের-জন্য-তহবিল-সংগ্রহে-কানাডায়-সাংস্কৃতিক-...	<p>বাংলাদেশের বন্যার্তদের জন্য তহবিল সংগ্রহে কানাড...	23-09-2024	এন. এ. নোমান	news-31.jpg	Published	সমকাল	1	1	বন্যার্তদের জন্য তহবিল সংগ্রহে কানাডায় সাংস্কৃতিক ...	বন্যার্ত	বন্যার্তদের জন্য তহবিল সংগ্রহে কানাডায় সাংস্কৃতিক ...
Edit Copy Delete	32	বন্যার্তদের জন্য তহবিল সংগ্রহে কানাডায় কনসার্ট ১৪	বন্যার্তদের-জন্য-তহবিল-সংগ্রহে-কানাডায়-কনসার্ট-১৪-...	<p>বাংলাদেশের বন্যার্তদের সহায়তায় অর্থসং...	23-09-2024	এন. এ. নোমান	news-32.jpg	Published	সমকাল	1	0	বন্যার্তদের জন্য তহবিল সংগ্রহে কানাডায় কনসার্ট ১৪	বন্যার্ত	বন্যার্তদের জন্য তহবিল সংগ্রহে কানাডায় কনসার্ট ১৪ ...
Edit Copy Delete	33	ছাত্র-জনতার গণঅভ্যুত্থান নিয়ে কানাডায় আলোচনা সভা	ছাত্র-জনতার-গণঅভ্যুত্থান-নিয়ে-কানাডায়-আলোচনা-সভা-	<p>কানাডার টরেন্টোতে ‘ছাত্র-জনতার গণ...	23-09-2024	এন. এ. নোমান	news-33.jpg	Published	সমকাল	1	0	ছাত্র-জনতার গণঅভ্যুত্থান নিয়ে কানাডায় আলোচনা সভা	ছাত্র-জনতা	ছাত্র-জনতার গণঅভ্যুত্থান নিয়ে কানাডায় আলোচনা সভা

Table 4.3: News Table

Photo Gallery Category Table

	p_category_id	p_category_name	status
Edit Copy Delete	1	Flower	Active

Table 4.4: Photo Gallery Category Table

Photo Gallery Table

	photo_id	photo_caption	photo_name	p_category_id
Edit Copy Delete	1	ব্রাশ জাতীয় ফুল	photo-1.jpg	1

Table 4.5: Photo Gallery Table

Video Gallery Category Table

	v_category_id	v_category_name	status
Edit Copy Delete	1	Islamic Videos	Active

Table 4.6: Video Gallery Category Table

Video Gallery Table

	video_id	video_title	video_iframe	v_category_id
Edit Copy Delete	1	Is Medical Insurance Allowed in Islaam? - Dr Zakir...	dkT0R7_npSk	1

Table 4.7: Video Gallery Table

Page Table

	page_id	page_name	page_slug	page_content	page_layout	status	meta_title	meta_keyword	meta_description
Edit Copy Delete	1	আমাদের সম্পর্কে	about-us	<p>ⓘ Project of 5 students of section 2...	Full Width	Active	About Us		
Edit Copy Delete	2	যোগাযোগ	contact-us	<p>Address: Kanchan Tower (Lift-0...	Full Width	Active	Contact Us		
Edit Copy Delete	3	ফটো গ্যালারি	photo-gallery		Gallery Page	Active	ফটো গ্যালারি		
Edit Copy Delete	4	ভিডিও গ্যালারি	video-gallery		Video Page	Active	ভিডিও গ্যালারি		

Table 4.8: Page Table

File Table

	file_id	file_title	file_name
Edit Copy Delete	1	My Certificate Fee	file-1.pdf

Table 4.9: File Table

Advertisement Table

	adv_id	adv_location	adv_photo	adv_url	adv_status
Edit Copy Delete	1	Under Featured News	advertisement-1.png		Show
Edit Copy Delete	2	Sidebar Top	advertisement-2.png		Show
Edit Copy Delete	3	Sidebar Bottom	advertisement-3.png		Show

Table 4.10: Advertisement Table

Menu Table

	menu_id	menu_type	menu_name	category_or_page_slug	menu_order	menu_parent	menu_url
Edit Copy Delete	1	Category	দেশ	country	1	0	
Edit Copy Delete	2	Category	শিক্ষা	education	2	0	
Edit Copy Delete	3	Category	প্রযুক্তি	technology	3	0	
Edit Copy Delete	4	Category	খেলা	sports	4	0	
Edit Copy Delete	5	Category	চাকরি	job-seek	5	0	
Edit Copy Delete	6	Category	বাণিজ্য	business	6	0	
Edit Copy Delete	7	Category	বিশ্ব	world	7	0	
Edit Copy Delete	8	Other	আরও		8	0	#
Edit Copy Delete	9	Category	জাতীয়	national	9	8	
Edit Copy Delete	10	Category	রাজনীতি	politics	10	8	
Edit Copy Delete	11	Category	মতামত	opinion	11	8	
Edit Copy Delete	12	Category	ইসলামী জীবন	islamic-lifestylie	12	8	
Edit Copy Delete	13	Category	পরবাস	exile	13	8	
Edit Copy Delete	14	Category	অপরাধ	crime	14	8	
Edit Copy Delete	15	Category	বিনোদন	entertainment	15	8	
Edit Copy Delete	16	Category	লাইফ স্টাইল	life-style	16	8	
Edit Copy Delete	17	Category	শিল্প ও সাহিত্য	art-literature	17	8	
Edit Copy Delete	18	Category	স্বাস্থ্য	health	18	8	
Edit Copy Delete	19	Page	ফটো গ্যালারি	photo-gallery	19	8	
Edit Copy Delete	20	Page	ভিডিও গ্যালারি	video-gallery	20	8	
Edit Copy Delete	21	Page	আমাদের সম্পর্কে	about-us	21	8	
Edit Copy Delete	22	Page	যোগাযোগ	contact-us	22	8	

Table 4.11: Menu Table

Home Category Table

	id	category_id	category_order	category_layout
Edit Copy Delete	14	14		
Edit Copy Delete	15	1	1	Normal 2 Columns
Edit Copy Delete	16	2		
Edit Copy Delete	17	3	3	Normal 1 Column
Edit Copy Delete	18	4	2	2 Columns (6 posts)
Edit Copy Delete	19	5		
Edit Copy Delete	20	6		
Edit Copy Delete	21	7		
Edit Copy Delete	22	8		
Edit Copy Delete	23	9		
Edit Copy Delete	24	10		
Edit Copy Delete	25	11		
Edit Copy Delete	26	12		
Edit Copy Delete	27	13	5	2 Columns (6 posts)
Edit Copy Delete	28	14		
Edit Copy Delete	29	15		
Edit Copy Delete	30	16		
Edit Copy Delete	31	17		

Table 4.12: Home Category Table

Social Media Table

	social_id	social_name	social_url	social_icon
Edit Copy Delete	1	Facebook	https://www.facebook.com/TidingsBDFB/	fa fa-facebook
Edit Copy Delete	2	Twitter		fa fa-twitter
Edit Copy Delete	3	LinkedIn		fa fa-linkedin
Edit Copy Delete	4	Google Plus		fa fa-google-plus
Edit Copy Delete	5	Pinterest		fa fa-pinterest
Edit Copy Delete	6	YouTube	https://www.youtube.com/@TidingsBD	fa fa-youtube
Edit Copy Delete	7	Instagram		fa fa-instagram
Edit Copy Delete	8	Tumblr		fa fa-tumblr
Edit Copy Delete	9	Flickr		fa fa-flickr
Edit Copy Delete	10	Reddit		fa fa-reddit
Edit Copy Delete	11	Snapchat		fa fa-snapchat
Edit Copy Delete	12	WhatsApp	https://chat.whatsapp.com/D6GPyCG2hpc3sjag01stcH	fa fa-whatsapp
Edit Copy Delete	13	Quora		fa fa-quora
Edit Copy Delete	14	StumbleUpon		fa fa-stumbleupon
Edit Copy Delete	15	Delicious		fa fa-delicious
Edit Copy Delete	16	Digg		fa fa-digg

Table 4.13: Social Media Table

Home Setting Table

	id	meta_title_home	meta_description_home
Edit Copy Delete	1	TidingsBD | টাইডিংসবিডি	TidingsBD

Table 4.14: Home Setting Table

Footer Setting Table

	id	footer_about	footer_copyright	contact_address	contact_email	contact_phone	total_recent_news_footer	total_popular_news_footer
Edit Copy Delete	1	<p>এটি সোমাবারগঠ ইউনিভার্সিটি’র সিএসই-এর ২২ব...	কপিরাইট © টাইডিংসবিডি ২০২৪ | সর্বস্বত্ব সং...	কক্সবাজার টাওয়ার (লিফট-০২), কাঁঠালবাগান বাজার, গ্রীন...	tidingsbd@coxsbazarbd.com	(+৮৮) ০৯৬৯৬-৯৬৭৯৯	3	3

Table 4.15: Footer Setting Table

Logo Setting Table

	id	logo
Edit Copy Delete	1	logo.gif

Table 4.16: Logo Setting Table

Favicon Setting Table

	id	favicon
Edit Copy Delete	1	favicon.png

Table 4.17: Favicon Setting Table

Color Setting Table

	id	theme_color	copyright_bg_color
Edit Copy Delete	1	008000	228B22

Table 4.18: Color Setting Table

CHAPTER 5

TIDINGSBD: THE COMPLETE INTEGRATION OF CMS AND RSS FEED

5.1 Introduction

In this chapter, we delve into the comprehensive integration of both the front-end and back-end components of TidingsBD, a Content Management System (CMS) developed for a web-based news platform. By examining the seamless interplay between user interface and server-side operations, we highlight the functionality and design choices that enhance user experience. Additionally, we explore the implementation of RSS feed integration, allowing users to access real-time news updates from various media outlets. This chapter aims to provide a thorough understanding of the system's architecture, functionality, and user engagement strategies through detailed screenshots and explanations.

5.2 Back-end

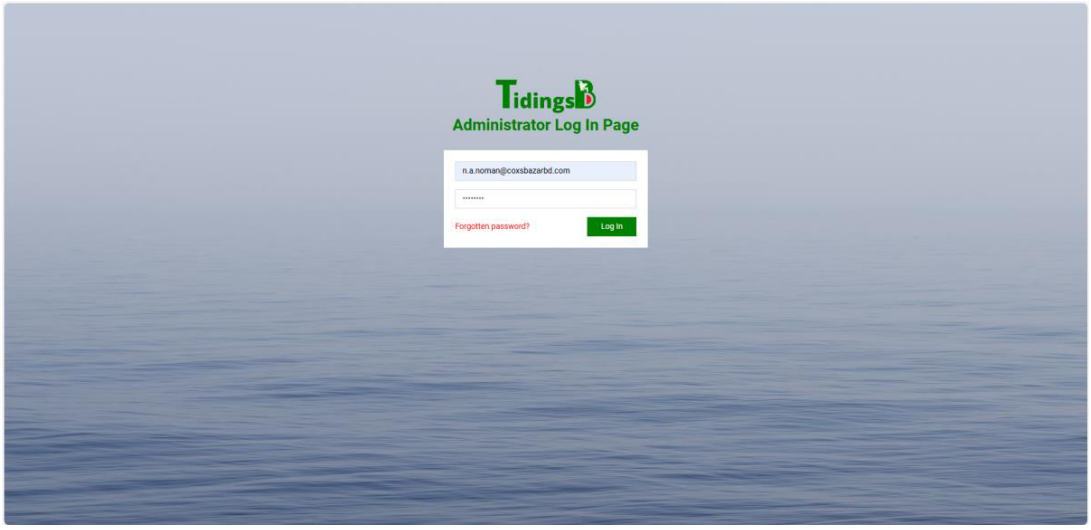


Fig. 5.1: Administrator Login Page

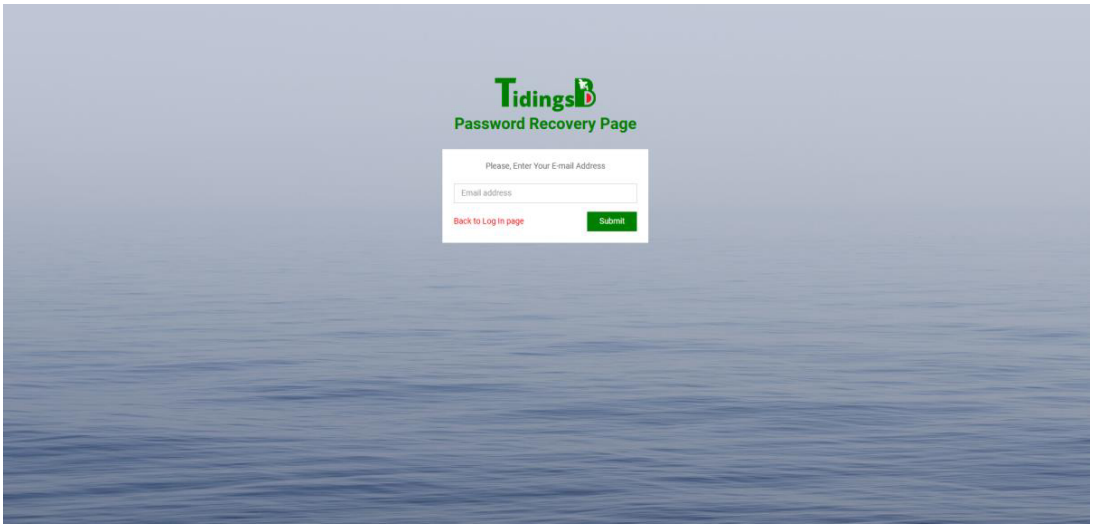


Fig. 5.2: Administrator Password Recovery Page

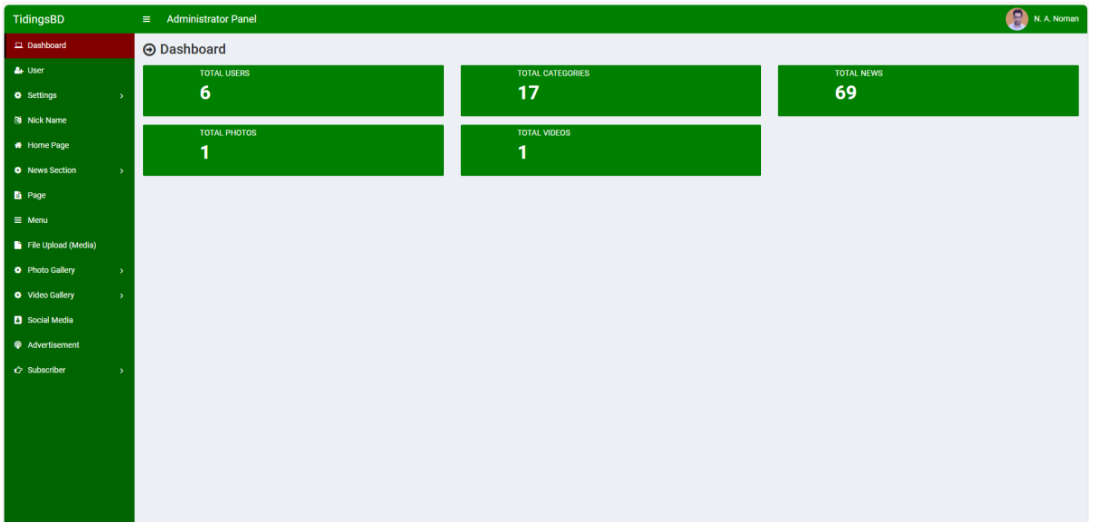


Fig. 5.3: Administrator Dashboard Page

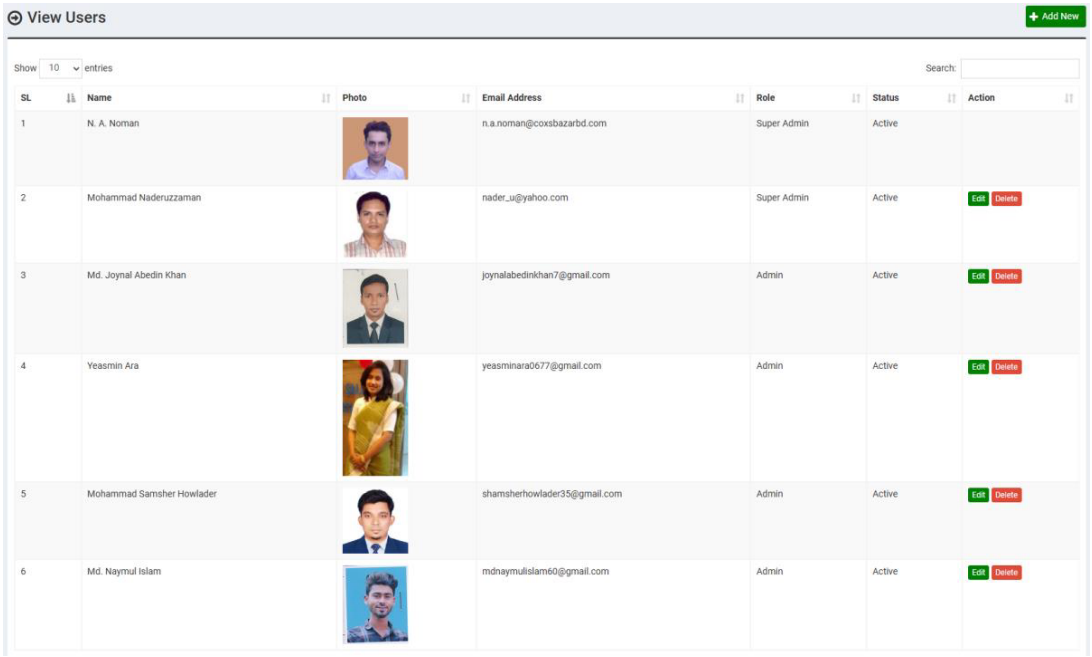


Fig. 5.4: Users View Page

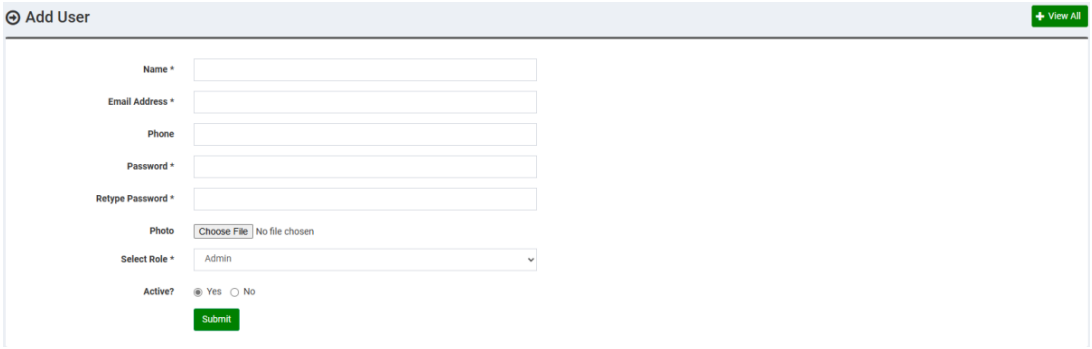


Fig. 5.5: Add Users Page

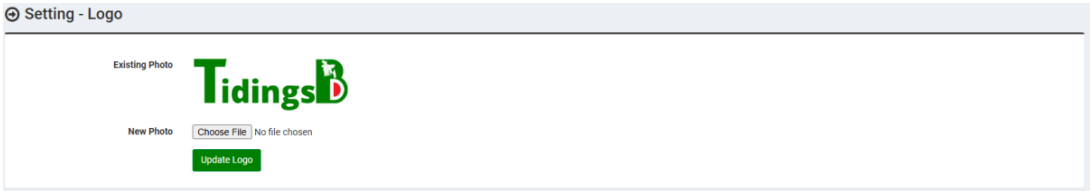


Fig. 5.6: Logo Add/Update Page

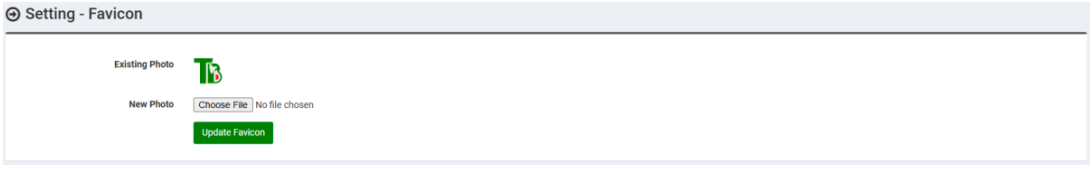


Fig. 5.7: Favicon Add/Update Page

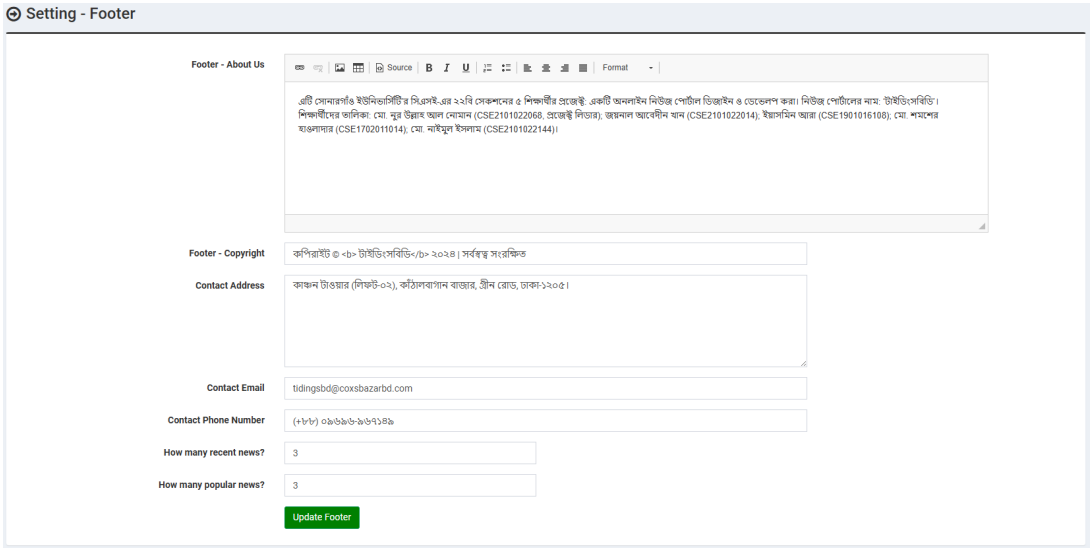


Fig. 5.8: Footer Information Add/Update Page

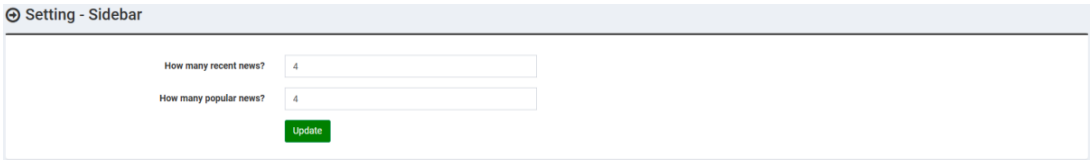


Fig. 5.9: Page to Update How Many News Want to Keep in Sidebar

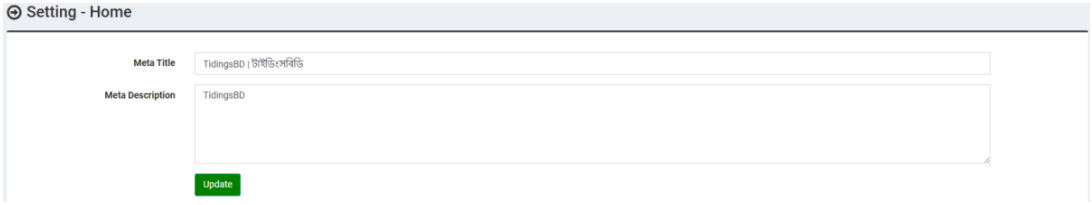


Fig. 5.10: Page to Update Website Title and Meta Description

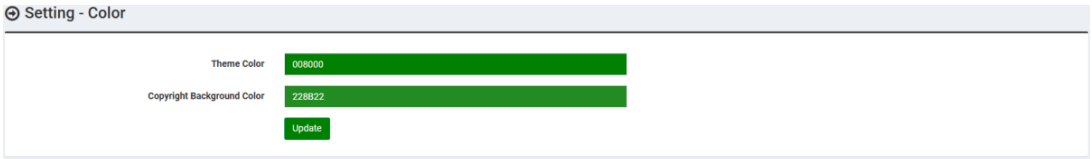


Fig. 5.11: Page to Update Website Color

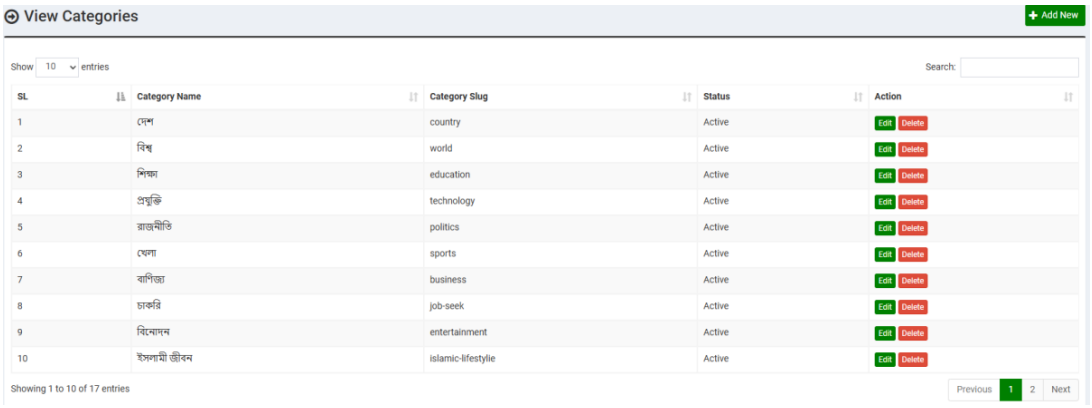


Fig. 5.12: View News Categories Page

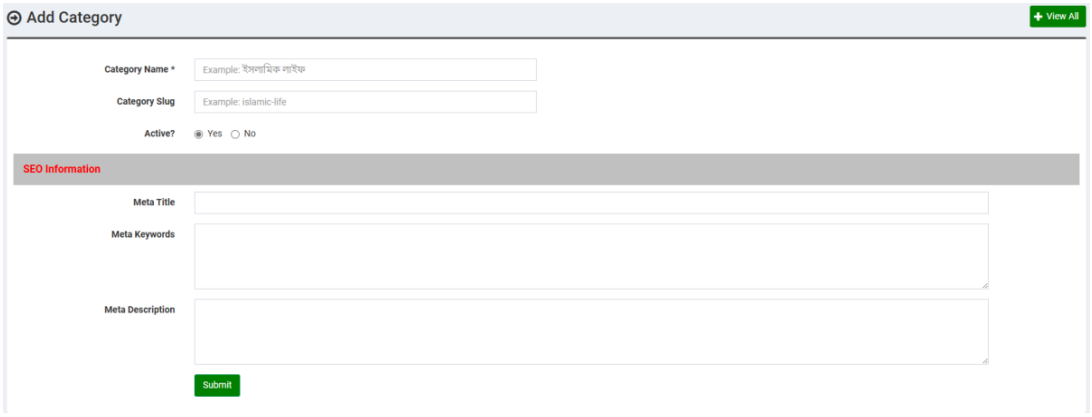


Fig. 5.13: Add News Category Page

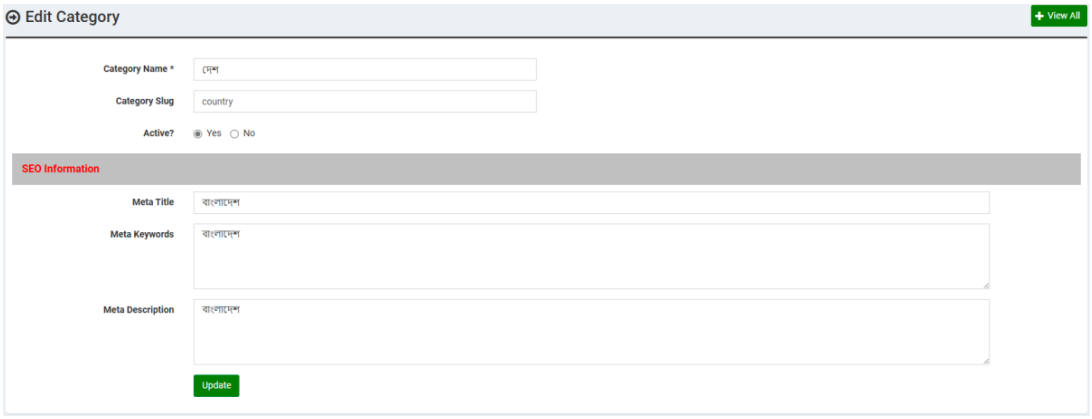


Fig. 5.14: Edit News Category Page

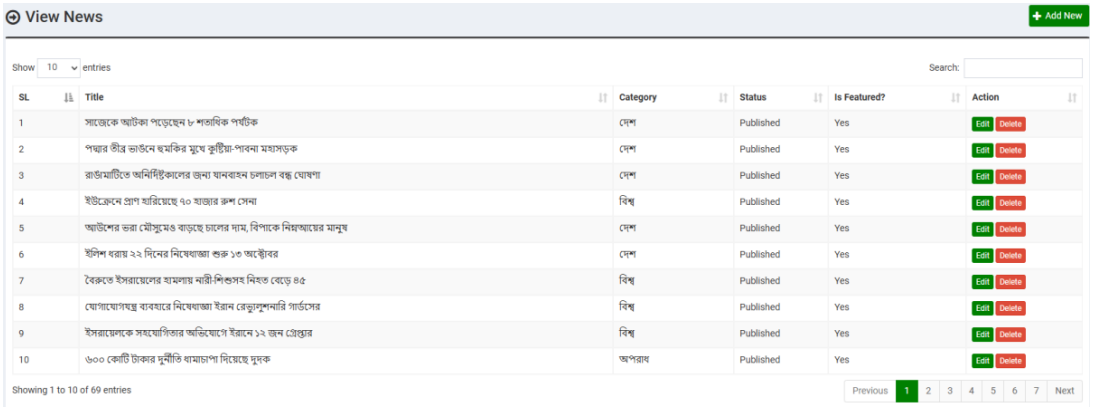


Fig. 5.15: News View Page

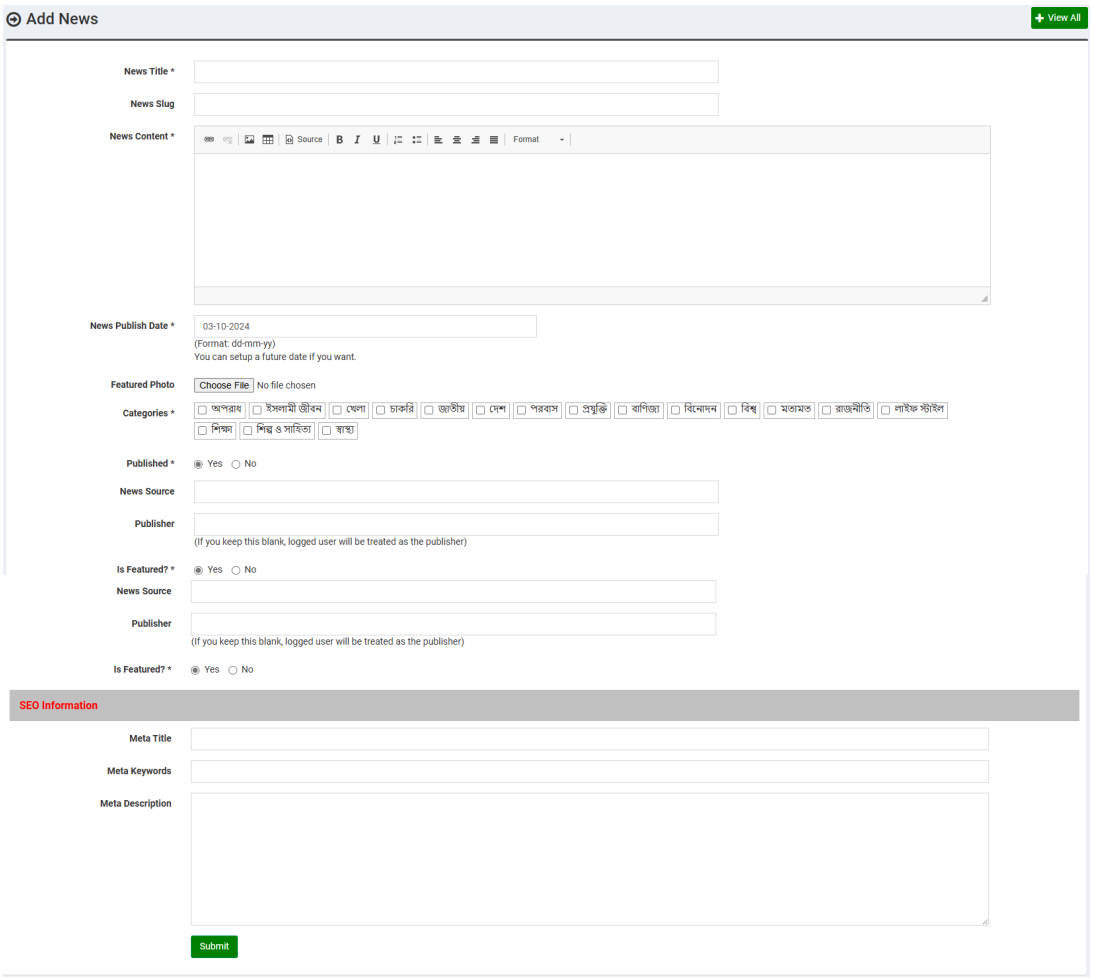


Fig. 5.16: Add News Page

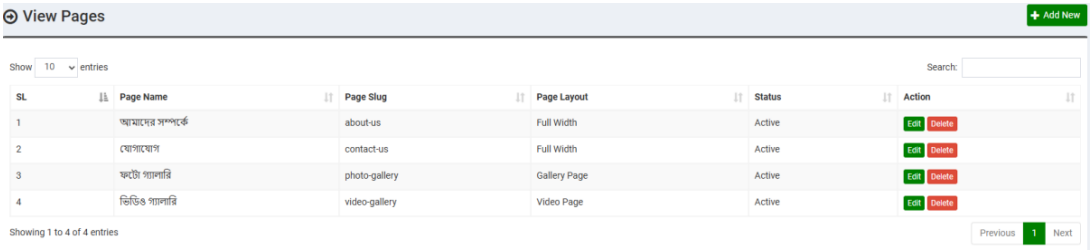


Fig. 5.17: Page View Page

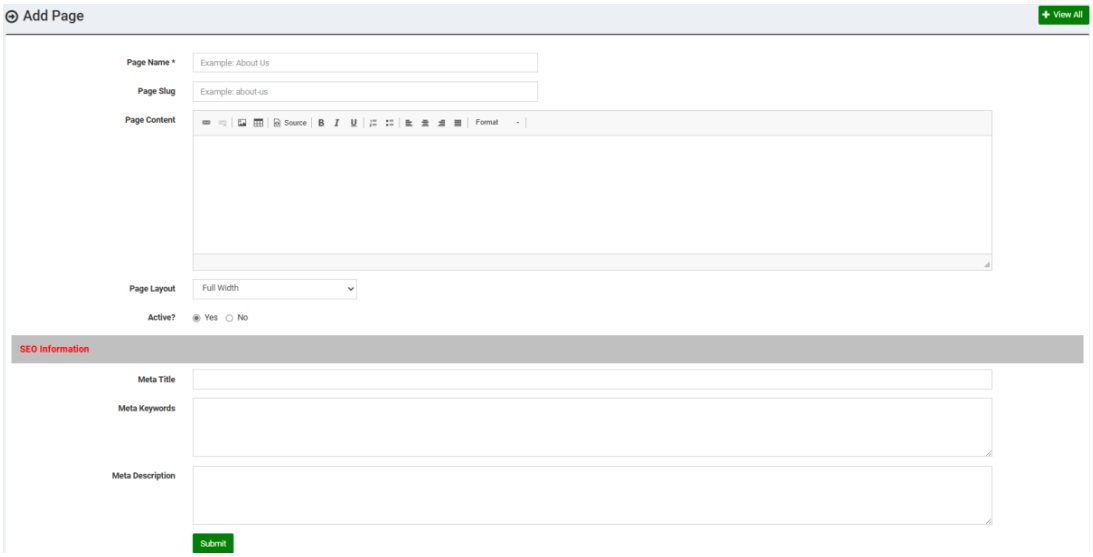


Fig. 5.18: Add Webpage Page

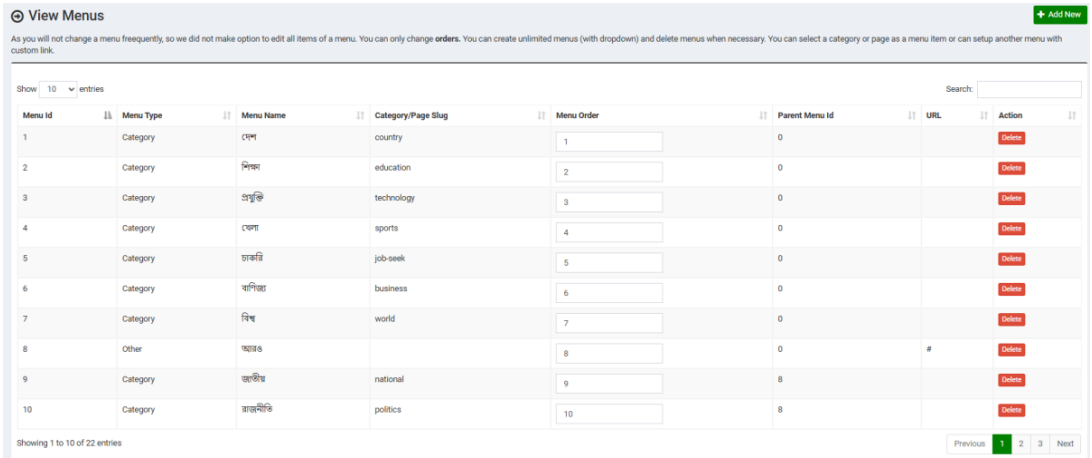


Fig. 5.19: Menu View Page

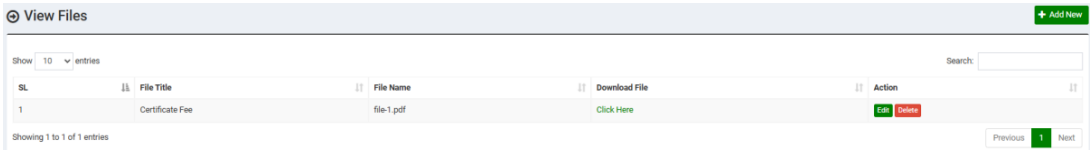


Fig. 5.20: File View Page

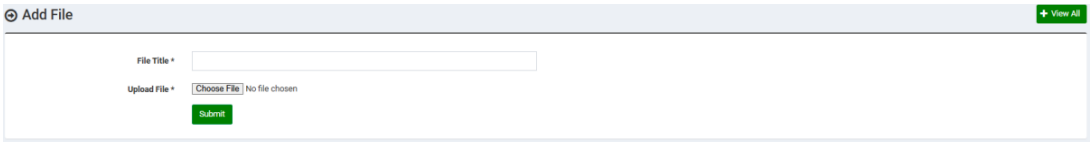


Fig. 5.21: Add File View Page

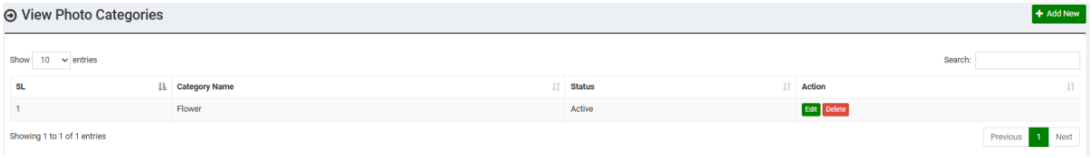


Fig. 5.22: View Photo Categories Page

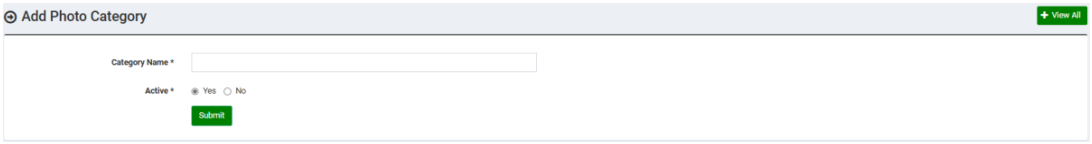


Fig. 5.23: Add Photo Category Page



Fig. 5.24: View Photo Gallery Page

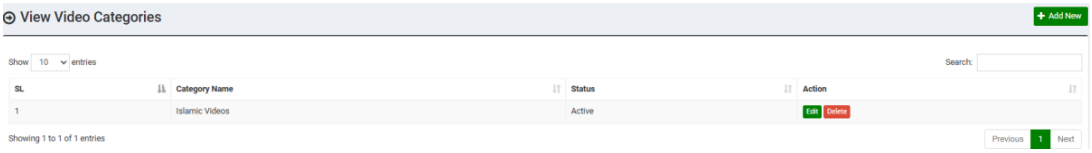


Fig. 5.25: View Video Categories Page

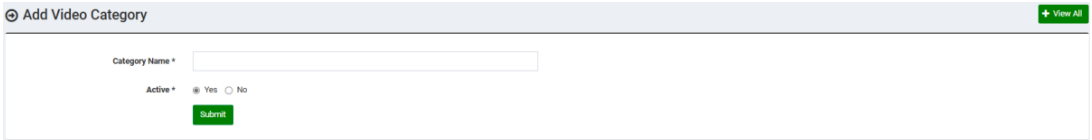


Fig. 5.26: Add Video Category Page

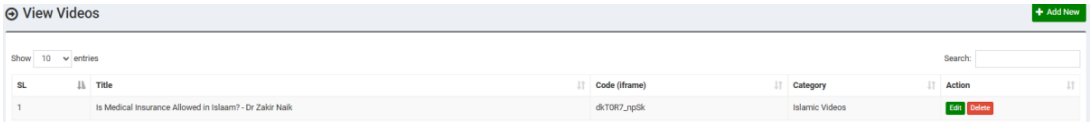


Fig. 5.27: View Video Gallery Page

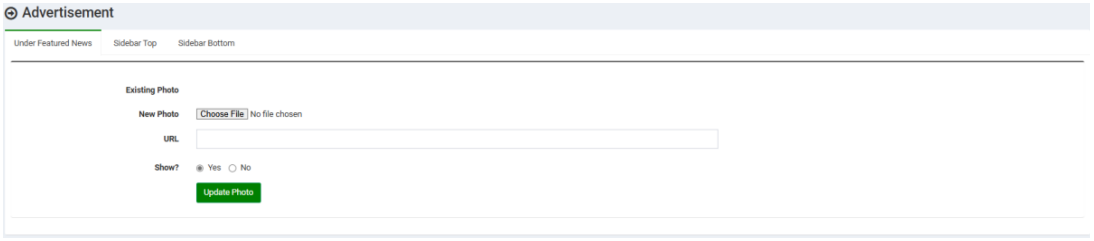


Fig. 5.28: Advertisement Management Page

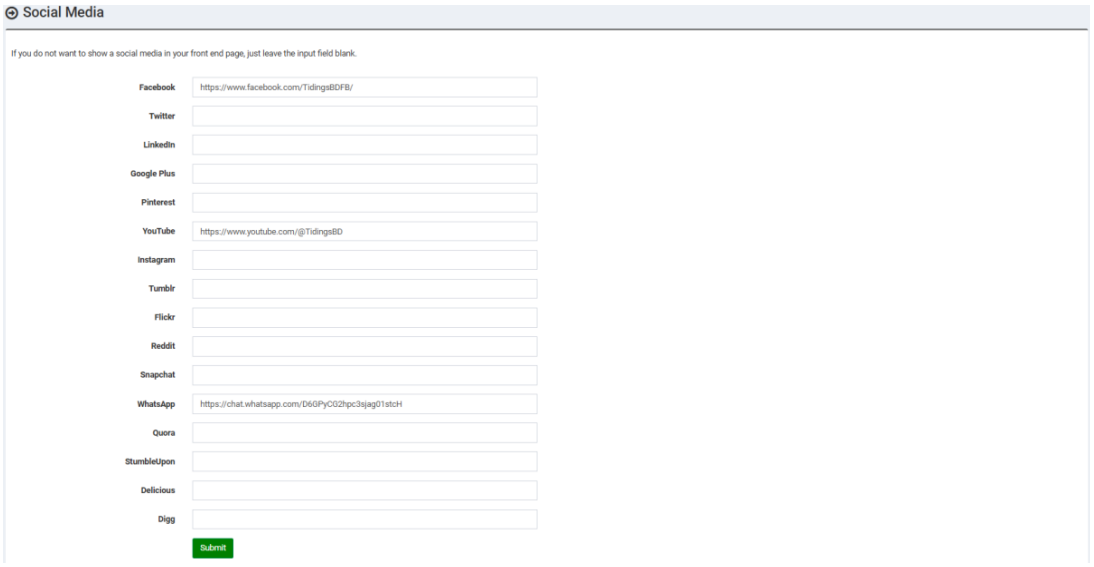


Fig. 5.29: Social Media Add/Update Page

5.3 Front-end

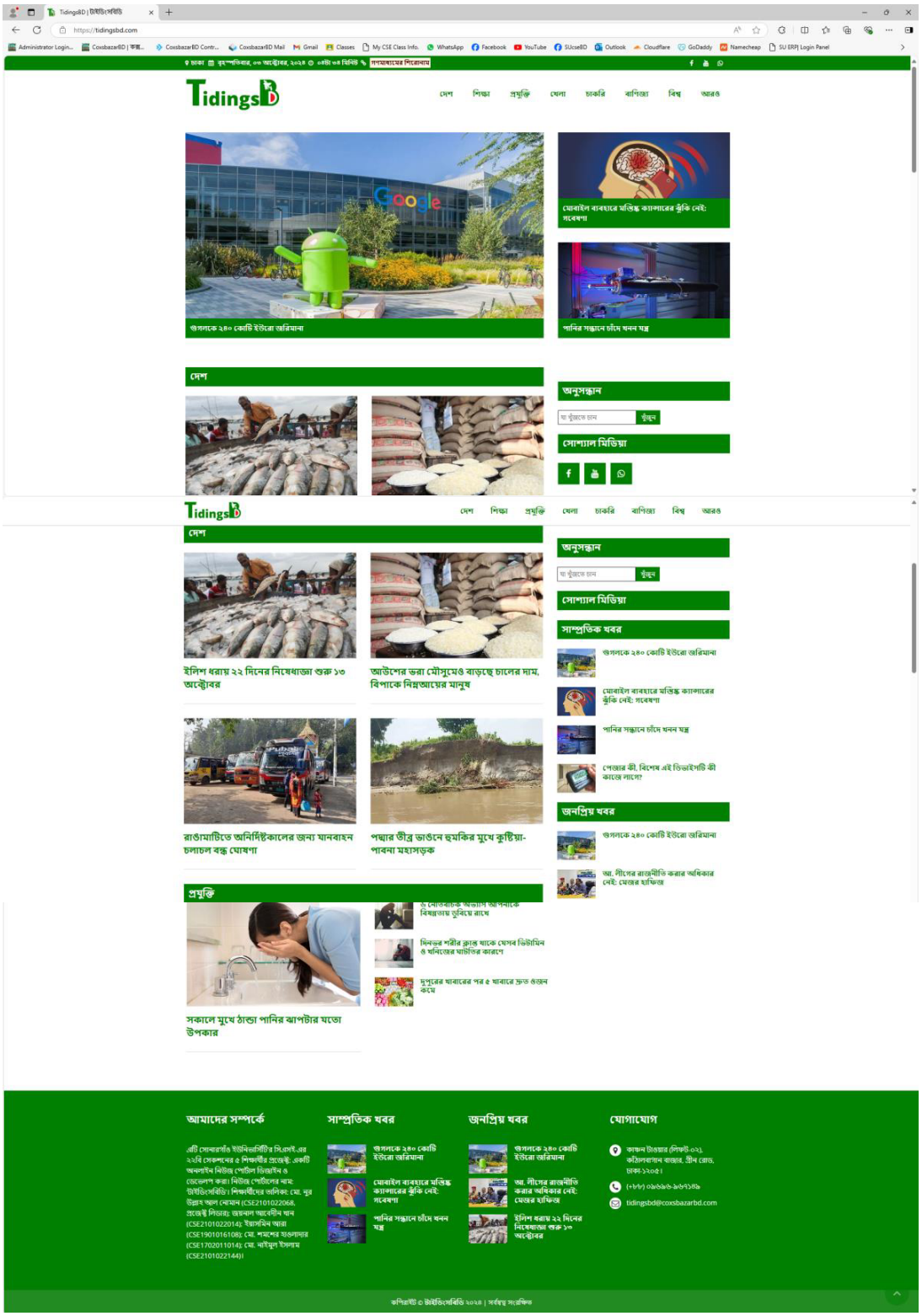


Fig. 5.30: Home Page

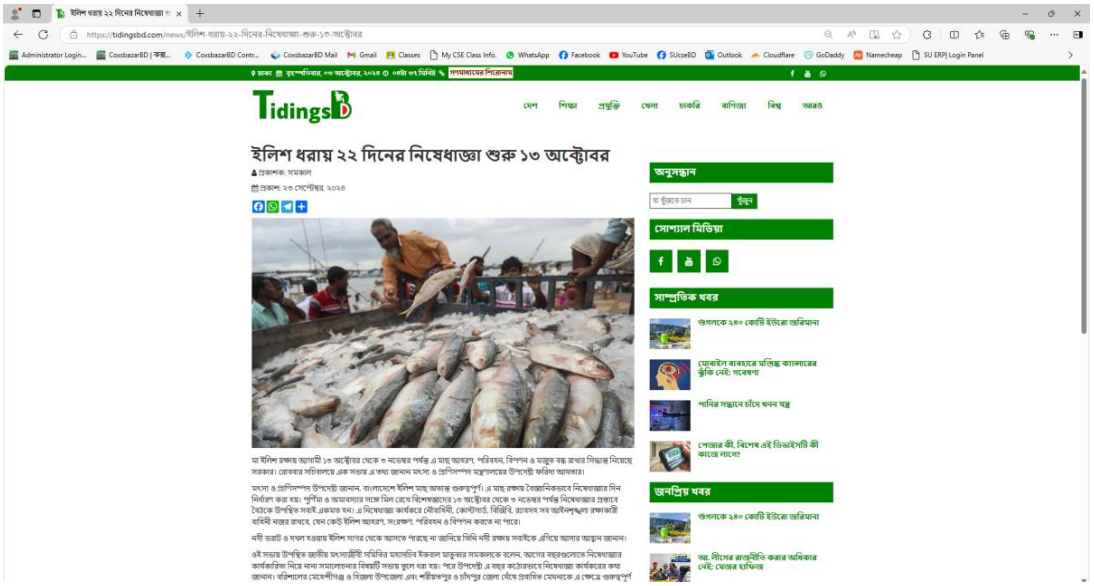


Fig. 5.31: News Details Page

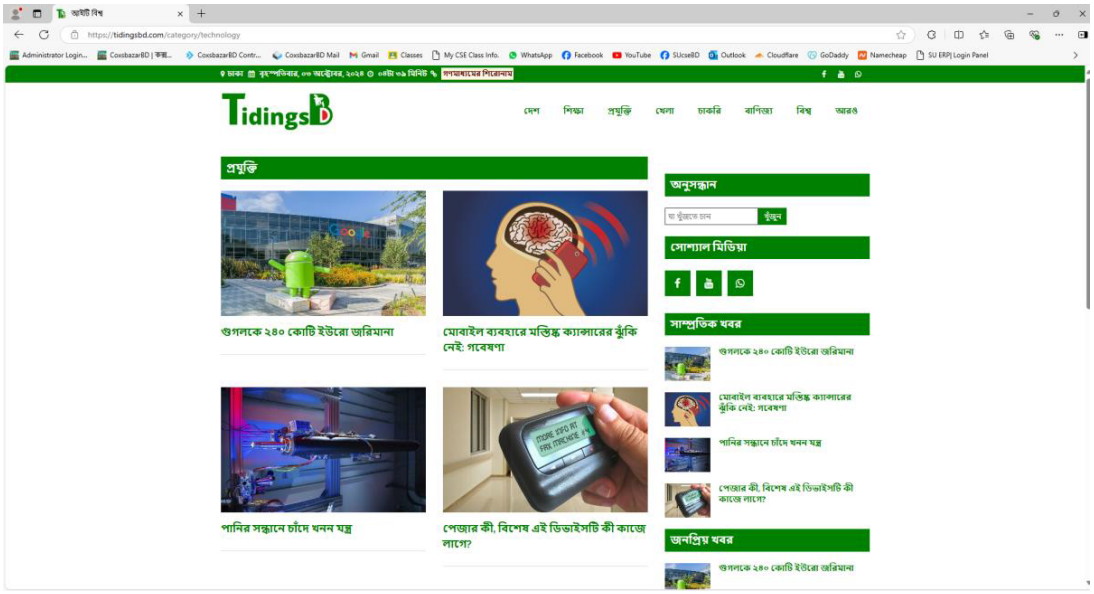


Fig. 5.32: Technology Category News Page

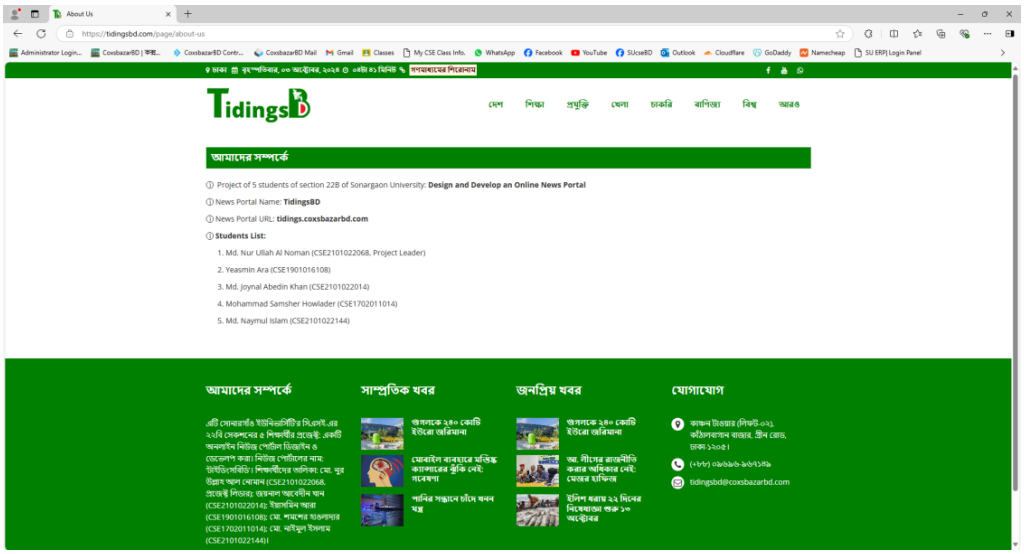


Fig. 5.33: About Us Page

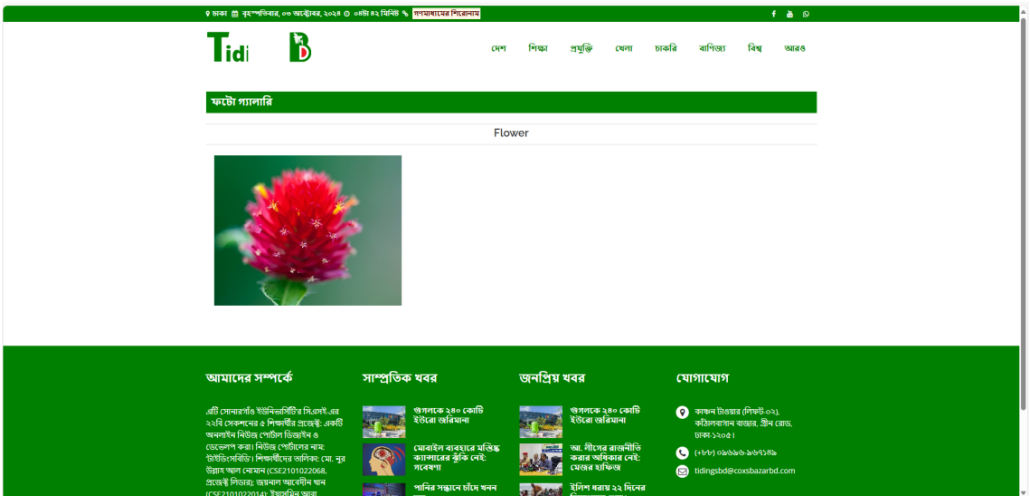


Fig. 5.34: Photo Gallery Page



Fig. 5.35: Video Gallery Page

5.4 RSS Feed Integration

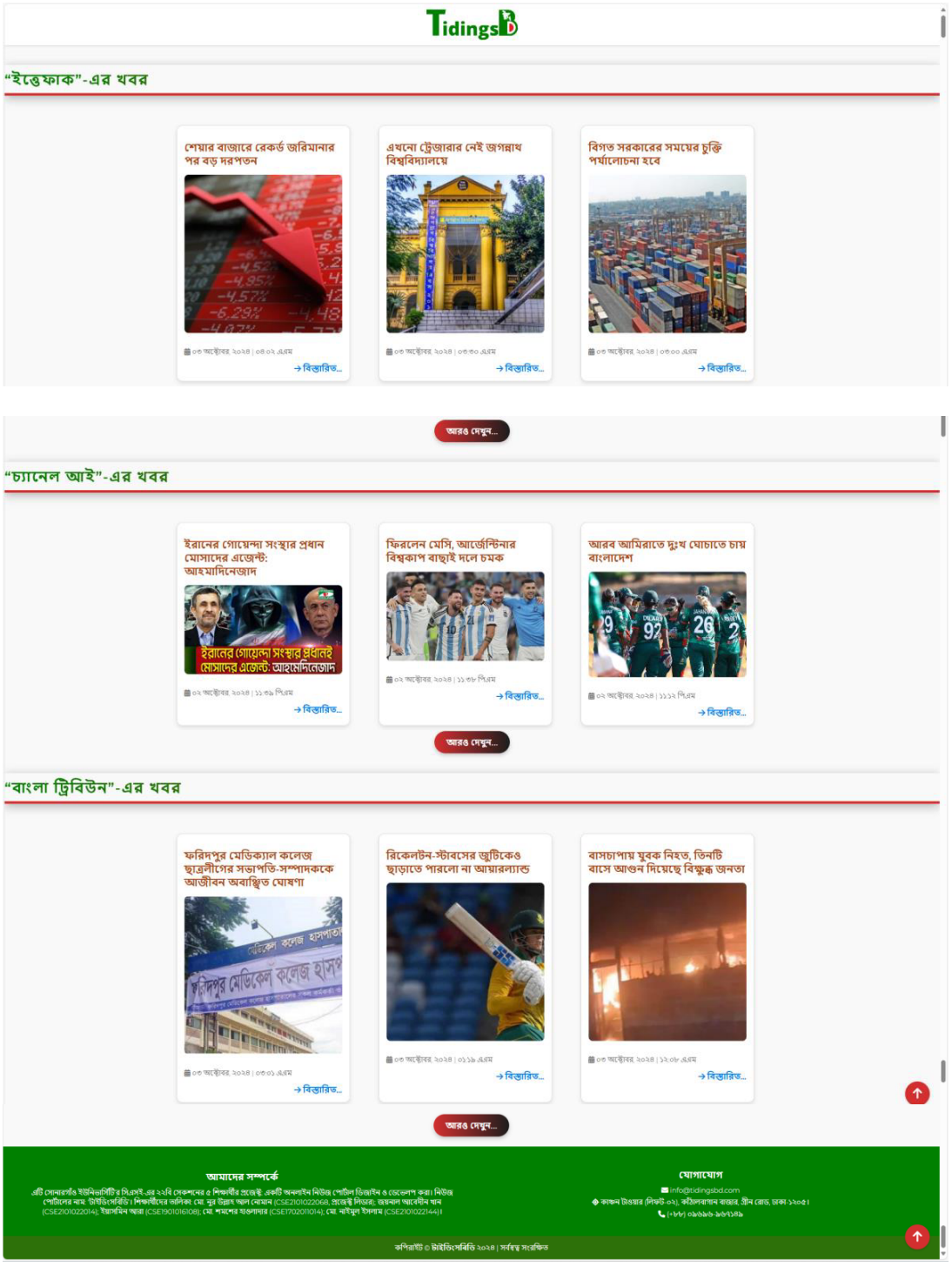


Fig. 5.36: Home Page of Media Headlines via RSS Feed Integration

CHAPTER 6

CONCLUSION, LIMITATIONS AND FUTURE WORKS

6.1 Conclusion

Successfully designed and developed a content management system (CMS) for a web-based news platform, which was published at the domain www.tidingsbd.com. The system features an administrator panel that allows for streamlined content management, including user controls, customization of settings like the logo, homepage, and layout, and comprehensive tools for managing news categories, photo and video galleries, social media integration, and subscribers.

Additionally, the project expanded to include a separate webpage that utilizes PHP to gather and display RSS feed information from various Bangladeshi media outlets, offering users a consolidated view of media headlines with the ability to navigate directly to original news articles for further reading.

The development process incorporated a wide range of technologies such as PHP, MySQL, XML, HTML, CSS, JavaScript, jQuery, Ajax, and JSON, supported by tools like XAMPP, Visual Studio Code, and Notepad++. It also involved hosting and domain services through Namecheap.

This project aimed to create a dynamic, user-friendly news platform, and the final product meets the objective of offering a comprehensive, modern solution for managing and displaying news content online.

6.2 Limitations

1. **Media Connection Limitations:** Some major media outlets in Bangladesh do not support RSS feeds, hindering connections.
2. **RSS Feed Issues:** Due to server limitations on www.tidingsbd.com, RSS feeds are not functioning; they are instead linked to my other website: www.tidingsbd.coxsbazarbd.com/media-headlines
3. **Email Subscription:** The email subscription option is currently not functioning.
4. **Email Verification:** Email verification is not operational at this time.
5. **Limited Scalability:** May struggle with high traffic.
6. **PHP Dependency:** Built solely on PHP, limiting language options.
7. **Security Risks:** Potential security vulnerabilities remain.
8. **Maintenance Needs:** Requires ongoing updates and maintenance.
9. **Device Compatibility:** Features may not function well on all devices.

6.3 Future Works

- **Email Subscription:** Currently, the email subscription option is not functioning, but it will be available in future updates.
- **Email Verification:** Email verification is not operational at this time and will be implemented later to enhance user account security.
- **Related News System:** The related news feature has not yet been developed and is planned for future updates to improve content discovery.
- **Mobile Application Development:** Create mobile apps for Android and iOS to increase accessibility for users.
- **Real-Time Notifications:** Implement push notifications for breaking news to keep users informed instantly.
- **Social Media Integration:** Enable automatic posting of new articles to social media platforms for increased visibility.
- **User Interaction and Engagement:** Allow users to create accounts, save articles, and interact through ratings and comments.
- **Enhanced RSS Integration:** Allow user customization of RSS feed preferences.
- **Multilingual Support:** Offer content in multiple languages to reach a broader audience.

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[6] Ma, Dan. "Use of RSS feeds to push online content to users." Decision Support Systems 54.1 (2012): 740-749.