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Software Requirements Specification (SRS)

The Pillar E-Publication Website

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AN SRS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR **WS101: WEB SYSTEMS AND TECHNOLOGIES**

Table of Contents

Section 1: Introduction

1.1. Purpose

The Pillar E-Publication Website is a web application designed to serve as a supplement to The Pillar's main platform on Facebook. While Facebook remains the primary space for quick updates and community interaction, this website will act as a centralized**,** organized hub for all published content. It allows editorial staff to post and manage news, editorials, announcements, comics, and multimedia, while providing readers with an easy way to browse and access past issues online.

1.2. Intended Audience

The primary audience for this system is The Pillar's editorial staff, including section heads, advisers, and writers who will perform publishing and content management tasks. The secondary audience includes students, faculty, alumni, and other readers who wish to view articles and digital content. Content will be available in English and Filipino, and the site will be optimized for mobile-first access.

1.3. Scope of the System

In Scope for Current Development:

- Content sections for:
    - News
    - Feature
    - Opinion
    - Sci-Tech
    - Photos
    - Cartoons and Comics
    - Videos
    - Editorial
- A working Content Management System (CMS) for editorial staff
- Search and filtering features for readers
- A digital archive for past issues/magazines
- Integration of multimedia content (images, embedded videos)
- Two primary user roles: Admin (editorial staff) and Viewer (readers)
- Deployment to a live hosting service

Future Enhancements (Out of Scope):

- User accounts and comment sections for readers
- Advanced role-based permissions within the CMS (e.g., cartoonist head can only post cartoon articles)
- Advanced analytics and reporting dashboards

By the end of development, the goal is to have all article types implemented, a fully functional CMS, and the system deployed to a hosting platform for live use.

1.4. Definitions and Acronyms

Term/Abbreviation	**Explanation**
SRS	Software Requirements Specification
CMS	Content Management System
UI	User Interface
UX	User Experience
ERD	Entity-Relationship Diagram
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair

Section 2: Overall Description

2.1. System Context and Overview

Prior to this project, an older website for "The Pillar" was developed but was not maintained and is not inaccessible. Due to the lack of maintenance and documentation, this project is being developed as a completely new, standalone system. It will serve as the official, persistent digital archive and publication platform for the organization, addressing the need for a more structured and permanent home for their content than social media can provide.

2.2. User Needs

The system is designed to address the needs of two distinct user groups. Firstly, The Pillar's editorial staff requires a secure and intuitive platform to publish, categorize, edit, and manage all official content, thereby eliminating dependency on a single social media platform and providing greater organizational control. Secondly, the readership, which includes students, faculty, and alumni, needs a simple, accessible, and searchable repository to find and read current and past publications without the inconvenience of scrolling through a social media feed.

2.3. Assumptions, Dependencies, and Limitations

Assumptions

The project proceeds under the assumption that The Pillar Editorial Board will provide regular feedback and the necessary content for publication. It is also assumed that stable internet access will be consistently available for both the development team and the end-users.

Dependencies

The system's development is dependent on a specific technology stack, including HTML/CSS/JavaScript for the frontend, a Spring Boot (Java) backend, and a PostgreSQL database. For deployment, the project will rely on third-party cloud hosting providers like Heroku or Vercel, with costs offset by the GitHub Student Developer Pack. Furthermore, the project's success is contingent on the availability of the BSIT 3-A Development Team to fulfill all necessary development, design, and administration roles.

Limitations (Constraints)

The project is bound by several constraints. A strict timeline requires completion within the current academic semester, by December 2025. The project must also operate within a limited student budget, necessitating the use of open-source technologies and free services to minimize costs. Consequently, the technology stack is limited to the agreed-upon open-source tools. Finally, the website must be developed in adherence with basic web accessibility guidelines.

Section 3: System Features and Requirements

3.1. Functional Requirements

The system shall:

- Allow authorized editorial staff to create, edit, and delete articles across various categories (News, Feature, Opinion, Sci-Tech, Photos, Cartoons, Videos, Editorial)
- Provide a Content Management System (CMS) for managing all website content
- Allow readers to search for articles by keywords, categories, and publication dates
- Support the upload and embedding of multimedia, including images and videos, within articles
- Maintain a digital archive of past magazine issues for public access

Section 4: Non-Functional Requirements

4.1. Performance

The system is required to be highly performant. API responses must be delivered in under 500ms during normal load conditions, and core content pages are expected to fully load for users within 3 seconds on a standard internet connection.

4.2. Security

Security is a critical requirement. The system will feature robust authentication and authorization mechanisms to control access to the Content Management System. All sensitive data will be encrypted both in transit (using TLS 1.2+) and at rest. To ensure ongoing security, the system will be monitored for suspicious activity, with audit trails of all content changes being maintained. Proactive measures will be implemented to protect against common web vulnerabilities,

including SQL injection, Cross-Site Scripting (XSS), and Cross-Site Request Forgery (CSRF)

4.3. Availability/Reliability

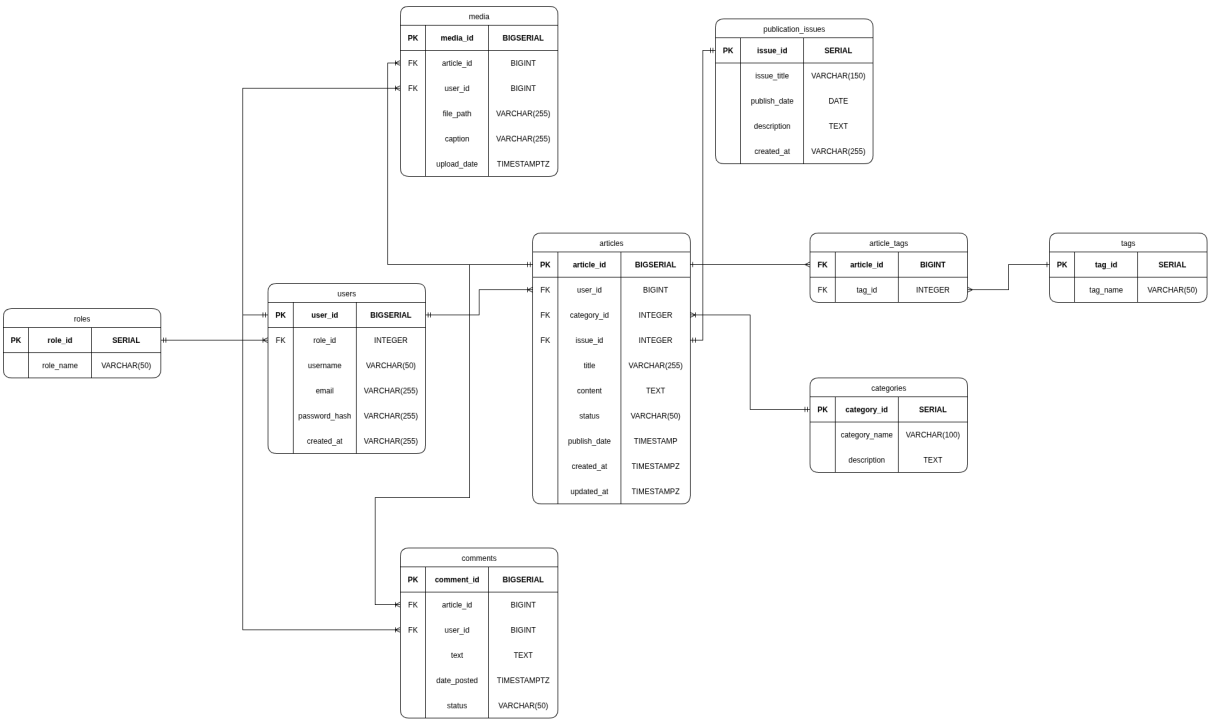
The system is expected to be highly available and reliable, targeting a monthly uptime of 95% in its first few months of deployment. In the event of a critical failure, the Mean Time to Repair (MTTR) is expected to be under 12 hours. The system is designed for stability, with a projected Mean Time Between Failures (MTBF) goal of more than 30 days.

4.4. Data Integrity

To ensure data integrity, the system will implement strict data validation for all user inputs within the CMS to maintain high data quality. Content will be protected from unauthorized access, modification, or deletion through a role-based access control system. Furthermore, a secure backup and recovery mechanism will be maintained for all website content.

Section 5: Data Requirements

5.1. Entity-Relationship Diagram (ERD)



5.2. Data Description

The system’s database is designed to manage users, content, and their interrelationships. Each table serves a distinct purpose in the content lifecycle, from creation to publication and reader interaction.

Users and Roles Table

These tables handle user management and permissions. The roles table defines different access levels (e.g., 'Admin', 'Editor', 'Writer'), while the users table stores the credentials and details for each member of the editorial staff, assigning them a specific role.

Articles Table

This is the central table for all written content. Each record represents a single article and stores its title, body content, publication status, and creation/update timestamps. It connects to the users table to identify the author and to the categories table for classification.

Categories Table

This table acts as a lookup for the different sections of the publication, such as 'News', 'Opinion', or 'Feature', allowing for organized browsing.

Publication Issues Table

This table groups individual articles into a collective issue or edition (e.g., "October 2025 Issue"), giving structure to the digital archive.

Tags and article_tags Table

To facilitate powerful searching and content discovery, a many-to-many relationship is established between articles and tags. The tags table stores a list of keywords, and the article_tags junction table links them to the relevant articles.

Media Table

This table manages all multimedia files, such as images and videos. It stores the file path and metadata, and links each file to the article it belongs to and the user who uploaded it.

Comments Table (future feature)

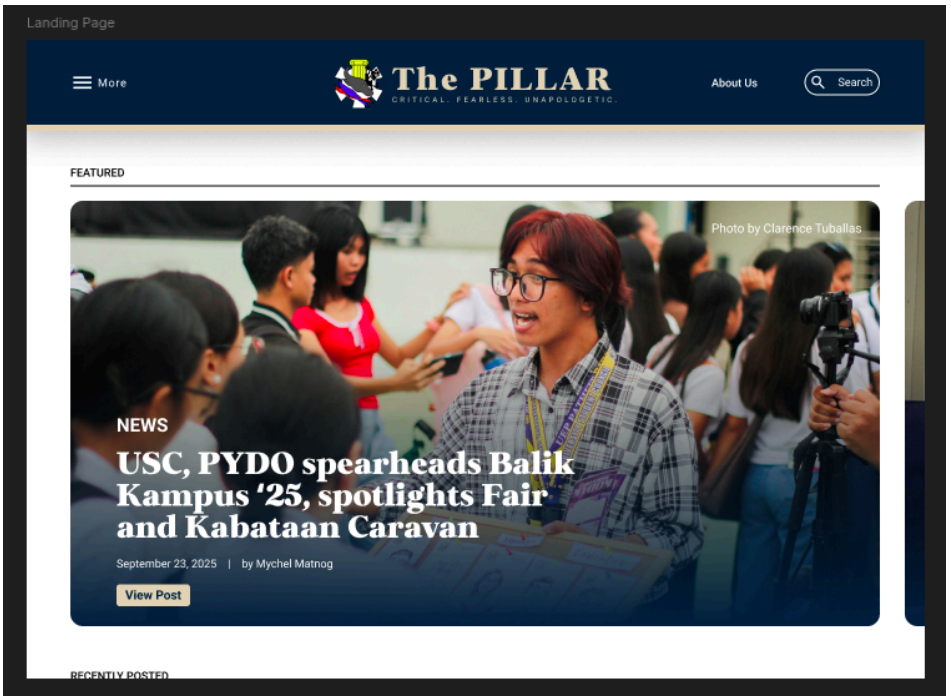
This table captures reader engagement by storing comments on articles. Each comment is linked to the corresponding article and the user who posted it, and includes a status for moderation purposes.

Section 6: Initial UI/UX Design

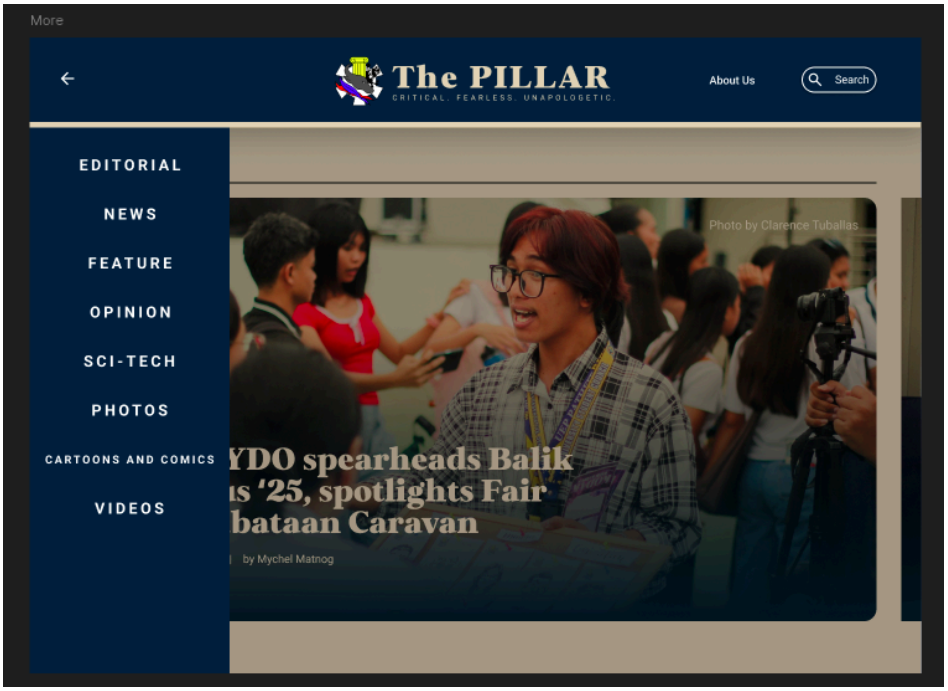
The initial UI/UX design mockups and prototypes were developed using Figma. These designs focus on creating a clean, intuitive, and mobile-first interface for both readers and the editorial staff using the CMS.

The complete, interactive prototype with scrollable content can be accessed by clicking here.

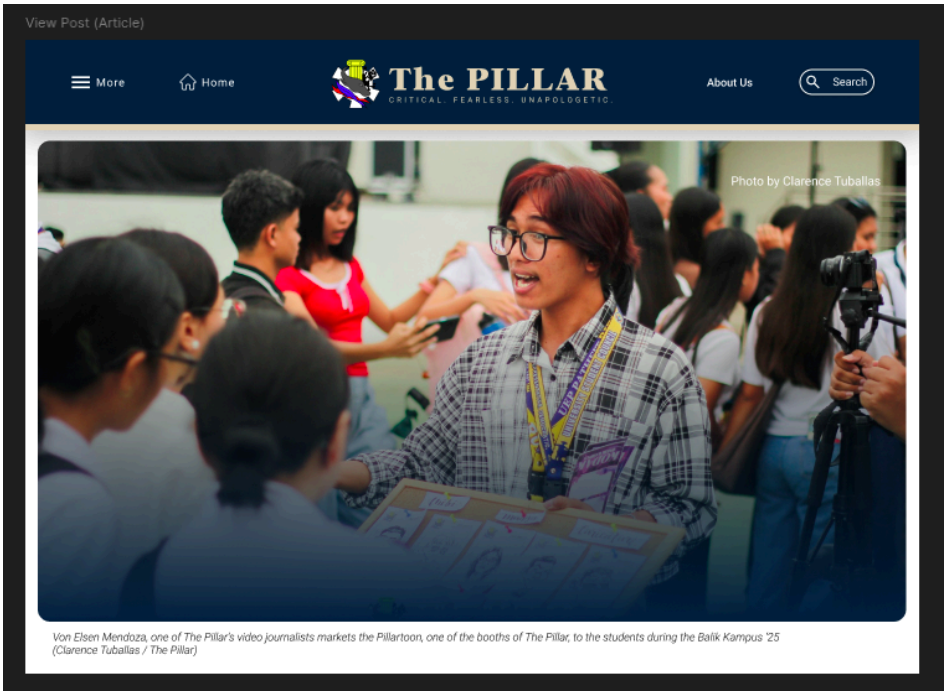
Design Previews:



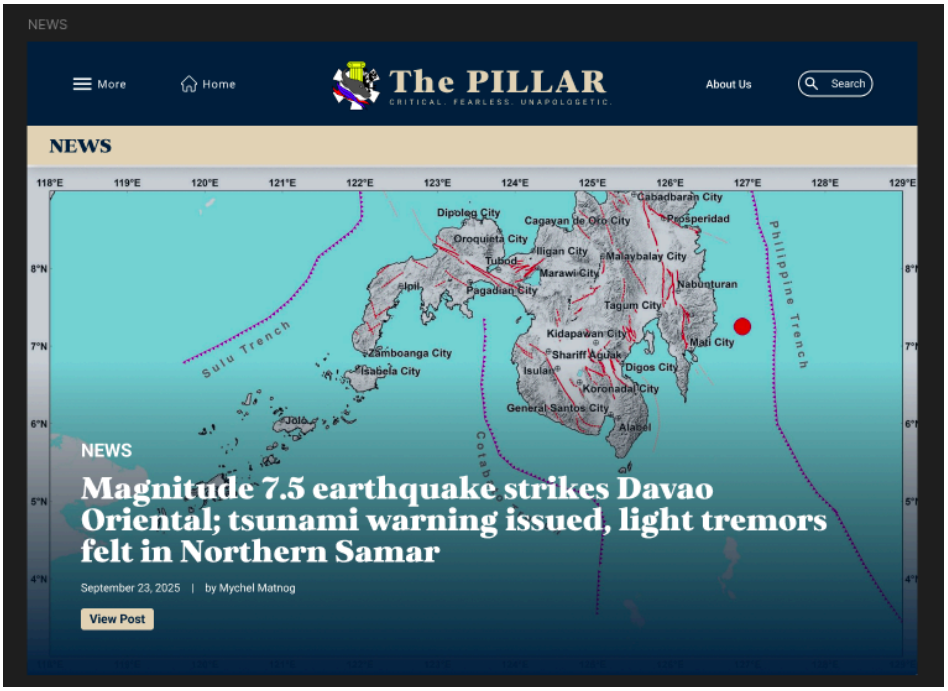
Landing Page: *The main entry point of the website, featuring the latest top story*



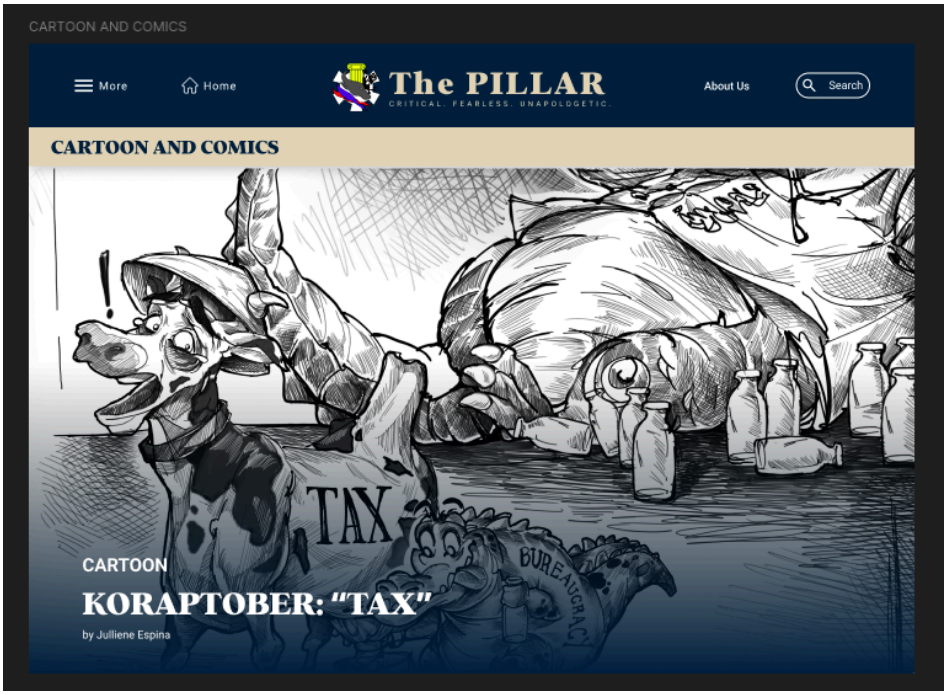
Navigation Menu: *The expanded "More" menu showing all content sections*



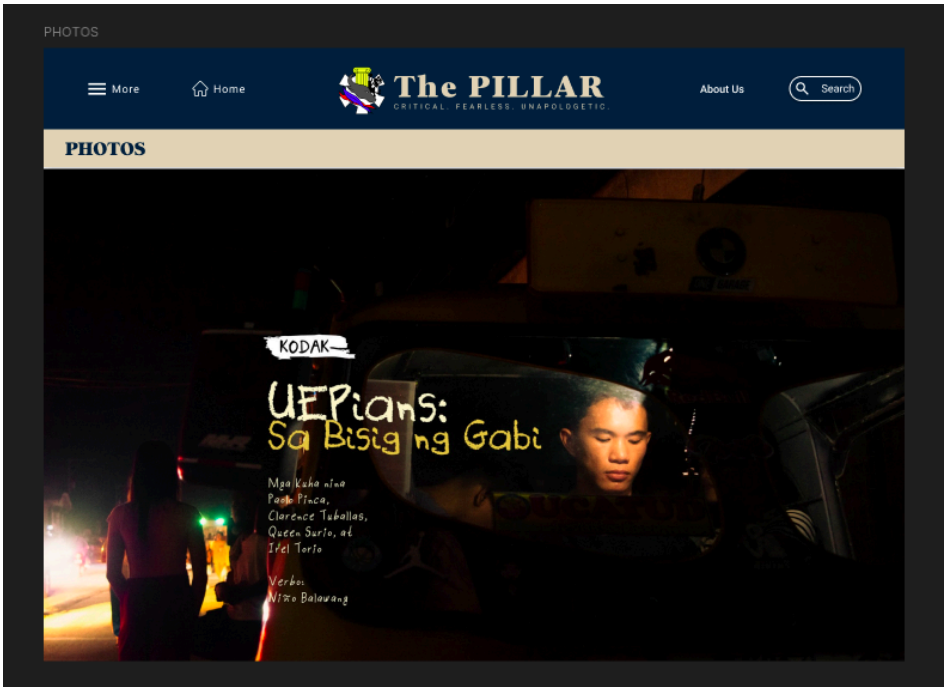
Article View: *The layout for a single news article*
PS. Check the Prototype to see more



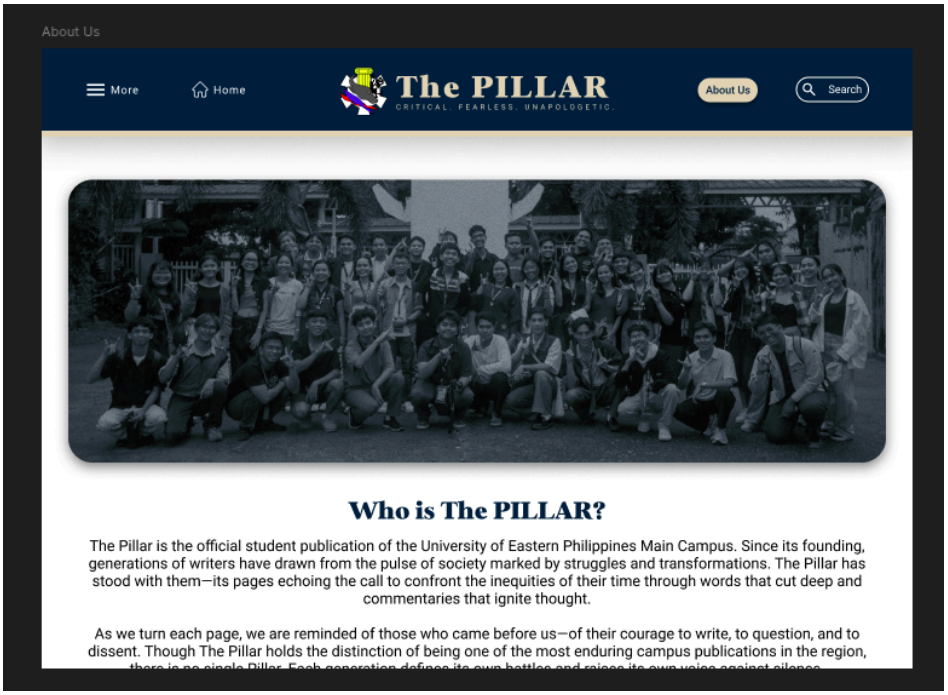
News Section: *A view of the main news category page*



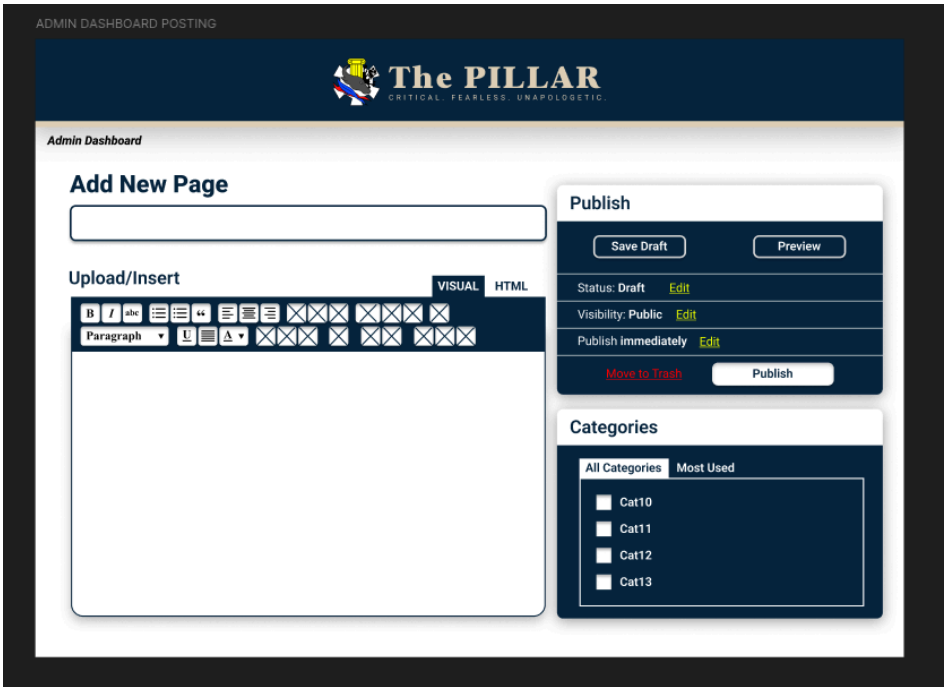
Cartoon and Comics Section: *A view of the cartoons and comics category page*



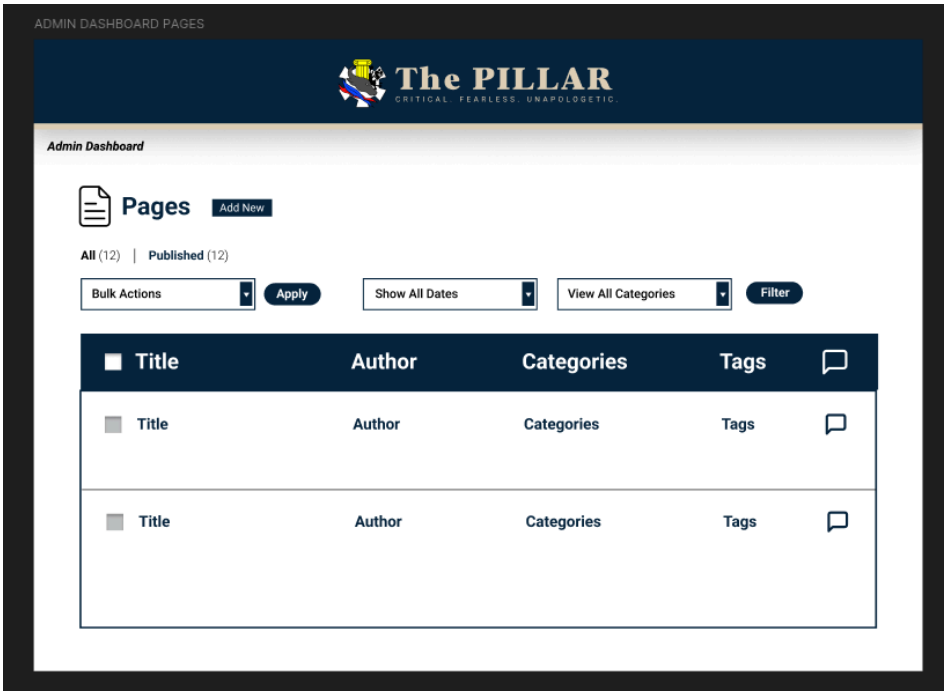
Photos Section: *The dedicated page for photojournalism*



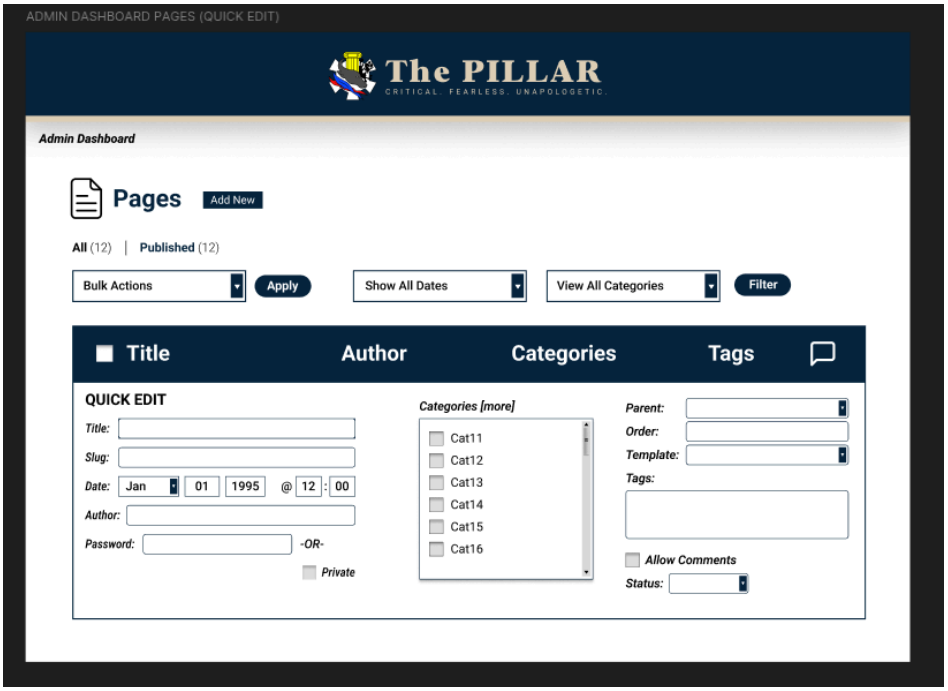
About Us Page: *The page providing information about The Pillar*



Post New Article: *Admin page for posting a new article*



Article View: *Admin page for viewing all articles posted*



***Edit Article**: Admin page for editing an article*