



NEAR EAST UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

DEPARTMENT OF COMPUTER INFORMATION SYSTEMS

**DESIGNING AND IMPLEMENTING AN ELECTRONIC SCIENTIFIC JOURNAL
MANAGEMENT SYSTEM**

M.Sc. THESIS

Omeed Zeyad TAHA

Nicosia

February, 2022

OMEED - TAHA

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MASTER THESIS

2022

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Nicosia

February, 2022

Approval

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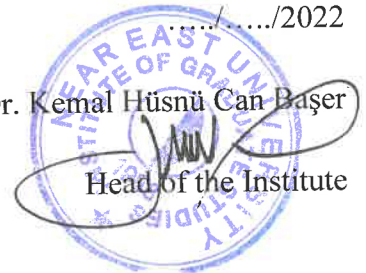
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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

OMEED ZEYAD, TAHA

18/02/2022

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OMEED ZEYAD TAHA

Abstract

Designing and Implementing an Electronic Scientific Journal Management Systems

Taha, Omeed Zeyad

Prof. Dr. Nadire Cavus

MSc, Department of Computer Information Systems

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During the advancement of technology and the Internet in the last few years, people want their papers and research published in online journals instead of in print journals due to cost and availability. The availability of scientific journals on the Internet has led to the development of many journal management systems, which require further development and radical steps. Despite that, the systems that are available now are far from perfect. This research attempts to develop and design an electronic journal management system for universities and academic institutes to fill the gaps open in the currently existing systems and upgrade it as a complex issue solution that must account for a range of variables and aspects in order to be effective. It is a web-based application with PHP is a server-side scripting language based on Laravel Framework, MySQL was used to manipulate the database. It is capable of providing several reviewers at the same time. Also, this system is based on the features related to submitting, reviewing, and publishing a scientific article online. The developed journal management system can give a change to both reviewers and authors can monitor the process of reviewing and publishing additional system documentation online. After the development process, the system was evaluated by users for usability. The result of the usability test indicated that the developed application has acceptable usability. It is hoped the usage of this system will aid in the advancement and extension of science by assisting teaching staff, researchers, and students in achieving their objectives in the simplest manner possible.

Key Words: Electronic journal, journal management system, e-journal, web-based journal, web content management

Öz

Elektronik Bilimsel Dergi Yönetim Sisteminin Tasarlanması ve Uygulanması

Taha, Omeed Zeyad

Prof. Dr. Nadire Cavus

MSc, Department of Computer Information Systems

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Son yıllarda teknolojinin ve internetin gelişmesi sırasında, insanlar makalelerinin ve araştırmalarının maliyet ve bulunabilirlik nedeniyle basılı dergiler yerine çevrimiçi dergilerde yayınlanmasını istemektedir. Bilimsel dergilerin internette bulunması, daha fazla geliştirme ve radikal adımlar gerektiren birçok dergi yönetim sisteminin geliştirilmesine yol açmıştır. Buna rağmen, şu anda mevcut olan sistemler mükemmel olmaktan uzaktır. Bu araştırma, üniversiteler ve akademik enstitüler için mevcut sistemlerde açık olan boşlukları doldurmak için bir elektronik dergi yönetim sistemi geliştirmeye ve tasarlamaya ve etkili olması için bir dizi değişkeni ve yönü hesaba katması gereken karmaşık bir sorun çözümü olarak yükseltmeyi amaçlamaktadır. PHP programlama dili ile yazılmış web tabanlı bir uygulamadır. Laravel Framework tabanlı bir sunucu tarafı betik dilidir. Veritabanını olarak da için MySQL kullanılmıştır. Aynı anda birkaç yorumcu sağlama yeteneğine sahiptir. Ayrıca bu sistem, bilimsel bir makaleyi çevrimiçi olarak gönderme, inceleme ve yayınlama ile ilgili özelliklere dayanmaktadır. Geliştirilen dergi yönetim sistem, hem hakemlere değişiklik verebilir hem de yazarlar ek sistem dokümantasyonunu gözden geçirme ve çevrimiçi yayınlama sürecini izleyebilir. Geliştirme sürecinden sonra sistem kullanıcılar tarafından kullanılabilirlik açısından değerlendirilmiştir. Kullanılabilirlik testinin sonucu, geliştirilen uygulamanın kabul edilebilir kullanılabilirliğe sahip olduğunu göstermiştir. Geliştirilen uygulamanın öğretim elemanlarına, araştırmacılara ve öğrencilere hedeflerine mümkün olan en basit şekilde ulaşmalarında yardımcı olarak bilimin ilerlemesine ve yaygınlaşmasına yardımcı olacağı umuluyor.

Anahtar Kelimeler: Elektronik dergi, dergi yönetim sistemi, e-dergi, web tabanlı dergi, web içerik yönetimi, veritabanı yönetim sistemi

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LIST OF ABBREVIATIONS

API :	Application Programming Interface
ASCII :	American Standard Code for Information Interchange
CPP :	Cloud Publishing Platform
CSS :	Cascading Style Sheets
DBMS :	Database Management System
E-Journal :	Electronic Journal
EJS :	Electronic Journal System
HTML :	Hyper Text Markup Language
HTTP :	Hypertext Transfer Protocol
HTTPS :	Hypertext Transfer Protocol Secure
ICT :	Information and Communication Technology
ISO :	International Standardized Organization
JMS :	Journal Management System
MPA :	Multi-Page Applications
MVC :	Module, View and Controller
PHP :	Hypertext Preprocessor
RAD :	Rapid Application Development
RDBMS :	Relational Database Management System
SPA :	Single-Page Applications
SQL :	Structured Query Language
SSL :	Secure Sockets Layer
UI :	User Interface
URL :	Uniform Resource Locator
WWW :	World Wide Web

CHAPTER 1

INTRODUCTION

This chapter discusses the overview, the problem statement, the introduction to web-based applications, the introduction to electronic journals, the objective of the study, the purpose of the study, the significance of the study, the study's limitations, and the study's duration.

1.1. Overview

The Internet has been the driving factor behind the development of electronic resource collections for books, journals, and compact discs in recent years. Online journals have grown in popularity in recent years, much like many other electronic phenomena (Korra, 2017). The library has added electronic journals, books, databases, reference works, and value-added information portals to its subscription list. Recently, libraries have begun subscribing to e-journals as part of their digital collection (Jones, 2014; Tenopir et al., 2004). Libraries and information services continue to be affected by electronic publishing. In the future, all periodicals should be electronic journals (Cope & Phillips, 2014). The use of electronic journals has been established in academic and private institutions.

Academic communication has traditionally been built on the scholarly publishing system, which includes journals, monographs, and compilations of conference materials. Nowadays, the overwhelming amount of scientific knowledge is disseminated via electronic means. Electronic scientific publication is crucial to modern scientific communication. As a result, the use of information and communication technologies (ICTs) to publish and maintain scholarly articles on the Internet has grown in popularity (Olajide & Adedokun, 2018; Paulina et al., 2019). This type of technology is referred to as the Electronic Journal System (EJS). Supports user registration and submission processes, as well as initial review of manuscripts to ensure they meet editorial requirements; Hiring reviewers, performing double-blind peer review, monitoring the review process, mass editing of manuscripts, editing metadata, preserving text, graphics and videos, creating and publishing collections of articles, long-term storage, collection usage statistics, controlling access and

subscription levels, among other functions. Transferring the publication process to the internet should be done with care, with consideration for individual researchers, scientific organizations, and journal editors. Simultaneously, researchers should be proficient in ICT to conduct effective scientific and educational research.

1.2. Web-Based Technology, Electronic Journals

Nowadays, communication across borders and human interaction with the rest of the globe is easier than ever. With the development of networking and the internet and spreading worldwide in the past few years and the release of web version 2.0, which introduced consumers to a new level of social engagement, new methods to communicate and search for information. web-based technology has caused significant changes to the online information management system and to present it appropriately. The phrase “Web 2.0” was first coined by DiNucci in her study (DiNucci, 1999). Tim O’Reilly later expressed same sentiment during a conference (O’Reilly, 2005). Although the phrase “Web 2.0” has a large number of connotations, it is a more personalized and conversational version of the World Wide Web, as defined by us. It is based on the concept of sharing, communicating, cooperating, and exchanging information and ideas amongst individuals.

Automated management system seems today to be the trend of modern societies to manage tasks instead of traditional methods. It affects the mechanisms to assess complex and time-consuming tasks that have multiple functions and may provide additional work in classic management systems (Abuelrub et al., 2012).

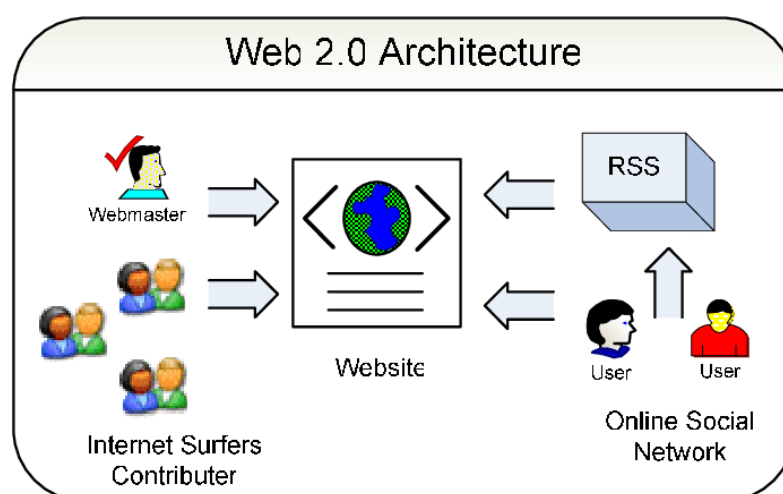


Figure 1.1: Web 2.0 technology architecture (Altaf, 2021)

Historically, scholarly communication was based on the system of printed publications. Today, the majority of scientific materials are distributed electronically. As in Figure 1.2 the architecture of e-journals shown, the electronic journal is the key component of the current paradigm of scientific communication. That's why the universities and academic institutions are gradually transitioning to electronic storage and retrieval methods. Because it supports user registration, submission, and preliminary assessment of articles to ensure they meet editorial standards, review process monitoring, and mass editing of manuscripts (Luparenko, 2020). And it is easier to look for information in electronic databases than in print databases. The evaluation of the World Wide Web (WWW) helped web-based electronic journal projects, and the majority of previous web-based e-journals were American Standard Code for Information (ASCII) text-based, as evidenced by the increased development and consumption of electronic publications.

The word "electronic journal" refers to a publication, often scholarly, that is accessible through a computer and delivered electronically. This distribution can be both offline (through a CD) and online (through the Internet). Online journals are considered to be a useful tool for managing electronic resources (Kodama, 2006). Online journal management systems can send and receive manuscripts over the internet and track papers' submission and publication. It will be a suitable medium of communication between the author, editor, technical committee, editorial board, associate editor, and reviewer (Bhattacharyya et al., 2012). Automatic e-mail notifications will be sent to the author to show the status of any steps and progress from submission to publication stages.

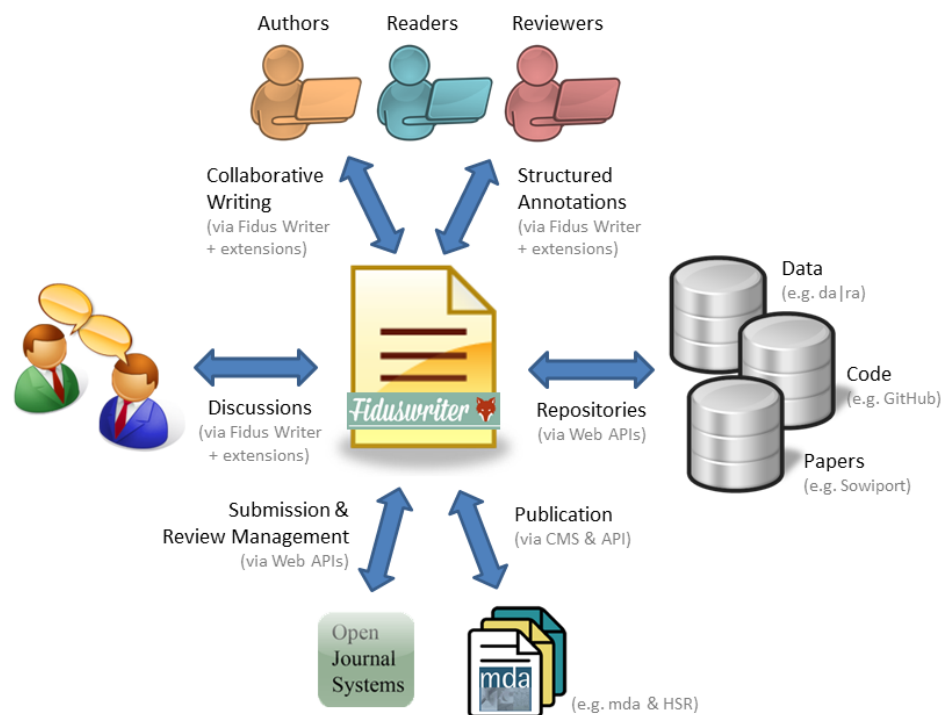


Figure 1.2: Electronic journal system architecture (Sadeghi et al., 2017)

The management of journals is a complicated and time-consuming task, notably without automation (Bogunovic et al., 2003). He stated that printed journals are currently facing challenges by online journals openly, because printed journals require more cost and space than online journals while using a lot of paper against green computers, on the other hand, online electronic journals are the simplest, economical, and consequential. Simultaneously, a maintenance printed journal is very expensive and more complicated than an online journal because it needs physical editing (Bhattacharyya, 2012).

Electronic journals were initially accepted and used more widely among academics in science and engineering (Safley, 2006). This was inevitable: much of the raw materials came from such areas, and academics in the humanities and social sciences were known to be less comfortable with computer technology. Readers, authors, and editors find online journals more satisfying and less complicated to get data and information into them. While it is difficult for them to collect the same data and information in traditional journals, this is not the case when they turn to online journal management systems.

Universities and scientific societies are currently focusing on using a web-based journal management system to improve their academic processes (Kim et al., 2018). The majority of available systems are designed to support a wide variety of organizations, changing their structure is difficult and limited, and you must adapt to these systems (Elizarov et al., 2014); otherwise, when developing a system tailored to a particular organization, the system will adapt to the organization. Many of the systems currently available are open-source, and there is a concern that third parties would change the code and introduce security gaps as a result of the source code is available to everyone (Rodriguez & Gürcay, 2020). It is possible that experts manipulated it and linked it to harmful and malicious files. While these systems are free, it cannot be guaranteed that they will remain free forever. Given that not all systems are free, some of these systems also require a license to function properly. These systems frequently do not work with existing hardware and software, which necessitates additional hardware and supplies necessary for the system to function properly. Another problem with these systems is that they lack technical assistance or lack sufficient resources to guide you (Pambayun, 2021). As a result, you have to pay them a lot of money to receive support.

The future of electronic journal systems (EJS) seems to be in doubt. Internet customization has an impact on changes in the organization, ownership, and use of electronic journal systems (Trajkovski, 2018). While electronic publishing is critical for the rapid dissemination of scientific knowledge, it should not be used as a substitute for print (Satynarayana, 2018). It's not a lethal technology, but an evolutionary development that expands the ways we exchange information and it is easier to look for information in electronic journals than in printed journals. The most effective way to alleviate this worry and anxiety is to design and develop a customized electronic journal system that adheres to the organization's requirements in terms of form, structure, and available hardware and can be changed essentially when needed.

In this research, we will develop a special system for the Near East University that eliminates the above concerns in terms of security and support, to be user-friendly and easy to work on, the user can manage their work easily and with the fewest steps possible, and be beautiful in design and theme so that the user can stay for a long period without getting bored and working fully on mobile phones, tablets, and computers.

1.3. Problem Statement of the Project

The following areas have been researched in part in relation to the electronic scientific journals project's problem statement:

- The difficulties of publishing and editing traditional journals are complicated and related and require a lot of time and cost (Bogunovic et al., 2003; Mumen et al., 2020; Sultana, 2015).
- Available, traditional journals cannot be delivered to any reader anywhere, and their publication is limited (McCabe et al., 2013; Pambayun, 2021; Siddiqui et al., 2019).
- The systems currently available do not fully achieve their goals. They include some complicated steps that often make the work challenging and inappropriate for any research centers or institutes (Elizarov et al., 2014; Mumen et al., 2020).
- The systems currently available are limited to adding and editing features when necessary (Elizarov et al., 2014).

1.4. Aim of the Study

The aim of this research is to develop an electronic journal management system with Laravel frameworks to facilitate the process of managing and publishing scientific journals and develop an automated system that they can use in the easiest way possible and with more user-friendly interfaces.

1.5. Significance of the Study

In the current era, when technology has made great progress, it has become clear that most of the publications are web-based and electronic. This has resulted in universities and research centers moving their services online and avoiding the traditional method. Of course, this requires an e-journal management system to manage this process. This research is developing a modern system that works on all web platforms and can easily be added and modified differently from other systems. The importance of this system is that it is developed specifically for the Near East University and can be added to the property at any time, edited, and easily adapted to any changes. and it puts a focus on speed and security, resulting in a user-friendly system of work.

The most important points for the development of this system are:

- A user can search journal contents pages or full text for articles on a specific topic.
- No need to go to the library to read journal papers.
- articles can be emailed or downloaded for printing.
- Even when the Library is closed, you may access the article you wish to read.
- Hypertext links allow readers to navigate between parts of a journal or article and to relevant online resources.

1.6. The Limitations of the Study

Due to the outbreak of corona disease, I was unable to meet with academics and teachers at Near East University to ascertain their requirements; therefore, this system was designed by evaluating existing systems and identifying their flaws and limitations. The system achieves its score through the use of electronic journals, although each case has some limitations due to its drawback.

- The development period was Jun 25, 2021 - August 30, 2021.
- This study targets the NEU system of electronic journals on the Internet only.
- There were only a few literary materials that could be obtained on this topic.

1.7. Thesis Organization

The remaining chapters of this thesis are organized as follows:

- Chapter 1: It provides an introduction to electronic journal management system and compare it with traditional paper based journals, identifying the problem statements, purpose of the study has been clarified and the limitations of the system has been discussed.
- Chapter 2: It provides a brief background on electronic journals. Then made a comparison between different electronic journal systems. Review of previous work done to improve the online electronic journal system and its impact on the performance of published journals.

- Chapter 3: In this chapter, the development process and frameworks used in this project were discussed theoretically.
- Chapter 4: This chapter the design of the system, the methodology employed, the development process followed, the databases and codes used to create the system.
- Chapter 5: Shows the results of the implemented system and discusses all of its components.
- Chapter 6: Concludes the thesis's work and identifies many future projects that might improve it further.

CHAPTER 2

RELATED STUDIES

This chapter discusses recent research on electronic journals and developments in web-based systems. It gives comparative essential parts based on the research and gradually fills the gaps in the literature.

2.1. Electronic Journal Management System

In Bhattacharyya et al. (2012) have discussed a brief idea of how to improve a web-based journal management system with all probable options in functionality and security. The aim of their paper was to increase the publication time without any assistance deal with the whole distribution measure, in addition to the fact that we are not only moving towards web-based journal frameworks to save money, but we are also likewise making the progress towards the ideal models of green registering. The programming tools that have been used are PHP and MYSQL, in the future, the research paper will focus more to customize the system as user-friendly and the management system will support conferences and workshops.

In the electronic management system (Bogunović et al., 2003) the research paper focused more on reducing the time required for reviewing papers for the submission process in electronic journals. The system has used three-layered data framework design Article arranged (PHP hypertext preprocessor) is utilized as a worker-side scripting language to actualize the business rationale. The database management system was delivered by PostgreSQL; Apache web worker is utilized along with SSL encryption component to give HTML substance to end-client. Developed journal management system aims to automate the survey and distributing measure, in this way decreasing the time from composition accommodation to distributing.

Next in Chang and Kong (2018), Online Journal Management System (OJMS) the project aimed to design and develop the journal submission system and use the submitted data to analyse difficulties that students might face. The system can be effortlessly integrated into the traditional universities curriculum of planning

programming journals, just permitting students to compose the program and get prompt and precise criticism for individual assessment. The project has been developed using PHP and MYSQL.

In Abuelrub et al. (2012) reviewed the main features of a framework to assess the quality of a web-based journal management system, which it is already implemented by many academic institutions or organizations as their peer reviewed journals. This paper investigated the latest assessment techniques, which were utilized in assessing the nature of current existing online Journal Management System (JMS), and proposes an exhaustive structure for surveying the nature of such frameworks. The quality elements of the proposed standards are content administration, organization administrations, User Interface (UI), and help and backing. These measurements along with their thorough pointers and agendas can be utilized to survey the nature of current journal content management frameworks. Besides, the proposed measures can be utilized by architects and designers to make quality journal content administration frameworks that improve the electronic administrations for peer checked on journals. Furthermore, in Côrte-Real and Rocha (2017) study's aim was to develop a web scientific journal management platform which used to analysis various scientific journals management systems platforms and introduce a new platform it is expected as a market arrangement that fills the holes distinguished in the current stages. The primary arrangements offered by this stage depend on highlights concerning the accommodation, audit and online distribution of a logical article. Furthermore, it offers upgraded convenience and creative highlights. An advantage of the platform is that it is free any client can appreciate the entire web Journal highlights without being bound to any installment plan. Next, Jacksi (2015) was about the case study of Online Submission and Peer Review System, the aim of the system was to settle the intricacy of manuscript the executives and reduce the necessary time for the way toward evaluating, moreover it is skilled to construct the establishment for e-journal distributions. The usage and arrangement of this system can improve the position of the college and the standing and the globalization of science and innovation research journals.

In Akpasam (2020) research, the aim of the system is to tackling a large number of the difficulties looked by the current manual and semi-robotized arrangement of journal management and distribution measures. The system was improved using PHP, CSS,

Java Script, HTML, MYSQL, AJAX and was introduced locally using WAMP servers. The system used by students, researchers, writers can get to all the distributed articles from any area on the planet since the framework is an online framework. Also, It gives various advantages which include: Computerization of the submission cycle, audit measure, installment cycle, and distribution measure all with automated assistants mail/SMS. The proposed framework can offer ongoing and error-free administrations regarding composition preparing which isn't accessible in the semi-computerized and manual framework. In Ariffin (2013) study, the usage of E-Journal amongst lecturers at public universities in Malaysia, the aim of this study was to examine how much lecturers use E-Journals for education purpose, and was completed to survey the use of e-journals among training speakers at a state funded college in Malaysia.

The usage of the E-Journal was accomplished the most elevated rate which proposes a high level of recurrence the use of E-Journals for research among instruction teachers, the significant discoveries of the investigation uncovered a positive sign on the use of e-diary where 83.6% liked to utilize e-diary for scholarly purposes contrasted with printed diaries. In Chen et al. (2014) study, the analysis and design of cloud publishing platform and its social networking, the aim is to advance the impact and proficiency of the conventional distributing industry, as a result of Cloud Publishing Platform (CPP) in view of SaaS is proposed. The features of cloud publishing platform compared with traditional e-publishing systems are, it is created and worked by an autonomous SaaS supplier who not just gives important distributing administrations to big business occupants, for example, periodical presses, and a distributing cycle will be set up dependent on CPP and advantage all the partners. Finally, in Cyzyk and Choudhury (2008) study, the survey and evaluation of open source electronic publishing systems, the aim of the study was to offer a high level survey and assessment of open-source electronic distributing frameworks. This study underlined a current assessment of frameworks generally helpful in a non-benefit or educational background. Table 2.1 shows the summary of related reseaches are reviewed in this chapter.

Table 2.1:

Summary of related research studies

Reference	Type of technology	Finding
Bhattacharyya et al. (2012)	PHP, MySQL	The researchers focused on the security and functional aspects, and tried to reduce the time required for publishing.
Bogunović et al. (2003)	PHP, PostgreSQL, SSL encryption mechanism	The researchers in this study placed a lot of importance to publishing and reviewing times and attempted to reduce it.
Chang & Kong (2018)	PHP, MySQL	The project aim was to construct a student journal submission mechanism. With this technology, kids may develop their own programs and receive quick feedback.
Abuelrub et al. (2012)		The researchers in this article perform a comparison of the existing systems and then evaluate them.
Côrte-Real & Rocha (2017)	PHP, MySQL, JavaScript, HTML	In order to solve the gaps identified in the present phases, the objective was to build a web-based scientific journal management platform.
Jacksi (2015)	PHP, HTML5, CSS3, MySQL PHP Extensions: Mcrypt, OpenSSL, Mbstring, Tokenizer	The system was designed to streamline manuscript administration, minimize assessment time, and support electronic journal dissemination.
Akpasam (2020)	PHP, CSS, JavaScript, HTML, MYSQL, AJAX and was hosted locally using WAMP servers.	The system's objective is to address many of the present manual and semi-automated journal management and distribution issues.
Ariffin (2013)		The goal of this study was to evaluate the use of electronic journals among trained speakers at a state-funded institution in Malaysia.
Chen et al. (2014)	Cloud Computer Publishing	In this paper, the researchers attempted to analyze and discuss the benefits of a cloud publishing platform over traditional electronic publishing
Cyzyk & Choudhury (2008)		The study's goal was to survey and evaluate open-source electronic distribution platforms. This study emphasized a current assessment of non-benefit or educational frameworks.

2.2 Summary

There is a gap, particularly in electronic journals, in the literature. A major amount of the systems designed and developed today employ outdated programming languages and frameworks, which slows down their performance and reduces their security in comparison to the Laravel framework that will be used to develop this system. Since the developed systems in literatures are based on classic CSS, they are not compatible with all available browsers and are not compatible with mobile phones and tablets. In comparison to the system we want to design, which is based on the latest version of CSS and includes Bootstrap, our approach resolves these issues.

CHAPTER 3

THEORETICAL FRAMEWORK

This chapter defines the theoretical basis for this study by defining E-Journals, providing an overview of their application, presenting a brief history of E-Journals, discussing the use of e-journals, and discussing the merits of e-journals as the defining definition, domain, Web application development, types of web applications, worldwide use of web applications, and advantages of web applications

3.1 Web Application

Since the inception of the World Wide Web (WWW), web application development has advanced significantly. A web application is a program that is accessible through the Internet and is invoked using a web browser (Jazayeri, 2007). Applications that use HTML-based front-ends benefit from the widespread availability of web browsers, which enables global cross-platform access. Previous web applications were composed of several scripts scattered over numerous files and lacked a consistent architecture. Consolidation of content, formatting informations, and processing methods into a single file. Perhaps as a result of their frequent dispersal, web applications have embraced and incorporated the concept of modular components that can be combined to form more complex systems (Jazayeri, 2007).

Numerous technologies and programming languages are currently utilized to develop web applications, however owing to the way the web applications have evolved and the rapid rate at which it has evolved, these technologies have not had the time to grow and adapt. Many developers attempted to create new and exotic technologies with the primary goal of improving the user experience and assisting developers in developing faster and more powerful online applications. Certain technologies, such as Java applets and Microsoft Silverlight, have played a major part in web development but have experienced a substantial decrease in use in recent years (Pop & Altar, 2014). On the other hand, several technologies, including as JavaScript, Flash, and XML, have grown from simple games into strong and integral components of today's online web applications.

According to Hadley (2006) usually web applications are:

- Based on the web architecture and the existing infrastructure at that time.
- A platform-independent and object-oriented programming language.
- Increased application reusability outside the browser.
- Configuration through other web or desktop apps is enabled.
- Semantic clarity is required in the material (representations) transferred throughout its usage.

Despite significant advancements over the last decade, the fundamental concepts upon which the World Wide Web is based have remained constant as Figure 3.1 illustrates the components of the WWW. The web applications are structured in a client-server form, with servers storing information and clients accessing it, the current web environment displays data to users through HTML and CSS and interacts with them via JavaScript. These technologies are referred to as “Front-End” or “Client-Side”. On the other hand, “Back-End” or “Server-Side” technologies relate to data storage and processing technologies.

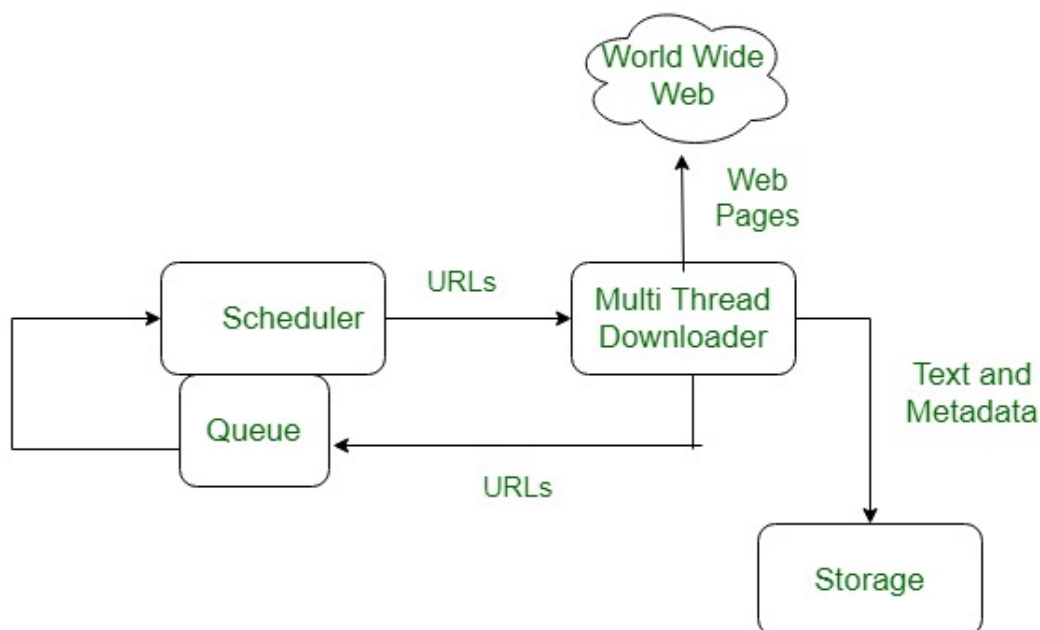


Figure 3.1: WWW Major Functional Components (Singhal, 2021)

The World Wide Web added three essential concepts to client-server computing:

- *Uniform Resource Locator (URL):* A name and reference mechanism for documents; It is also called “link rot” (Ducut et al., 2008).

- *Hyper Text Markup Language (HTML)*: A programming language that supports the creation of documents that contain data and connections to other documents. The HTML is one of the most widely used markup languages. Consists comprises a sequence of tags and the whole contents of the page (Li et al., 2019).
- *HyperText Transfer Protocol (HTTP)*: A protocol that enables client and server computers to interact with one another

3.1.1. Types of Web Applications

Web applications aren't webpages or mobile apps. A web application is a software that runs in a web browser but is saved on a distant server. This website performs specified tasks for the user. A web application is a software program that runs on any browser, unlike a webpage.

- *Static Web Application*: It is the simplest web application kind with little information and action. These web apps generally use CSS and HTML to manage animated material like GIFS and movies.
- *Dynamic Web Application*: It is more technically complicated than the static application. Dynamic web apps are designed to host databases or forums that are constantly updated.
- *Single-Page Applications (SPA)*: They are dynamic online applications that do not require browser reloading.
- *Multi-Page Applications(MPAs)*: They are multi-page web applications. Every time a user sends data to the server, a new page displays in the web browser. It takes time to make a proper web page.
- *Portal Web Apps*: A portal web application has several sections or categories but just one home page. A forum, chat room, email, or even a browser window can be found here.

3.1.2. Advantages of Web-based applications

Web-based applications have the benefit of being cross-platform, allowing for collaborative learning, and hosting larger model libraries or repositories. However, improving web server-client response time, building richer user interfaces, and

improving interoperability remain major issues (Lee et al., 2008). Also, Web applications provide the benefit of centralized control and deployment ease. This allows for faster issue detection and repair (Itahriouan et al., 2014). The benefits of web-based apps are great enough to provide a compelling reason to migrate away from desktops.

3.1.3. Web Application Architecture

Existing terms have taken on new meanings in the digital world of today. Clouds are no longer considered weather phenomenon, cookies have nothing to do with pastry, and the platform is no longer a feature to be sought at a train station. Similarly, architecture is no longer exclusively tied with the building business. When we talk about web application architecture, we're referring to the organization and connectivity of the numerous pieces inside this software product that contribute to its online experience.

Deremuk (2021) explained the structure of web application in detail in Figure 3.2. When a user types a URL into the address bar of a browser, the latter interprets it as a request and, upon selecting a site, seeks access to the information contained inside. The browser sends data to the server, which then sends data back to the browser. The browser then analyzes the information and displays it to the user as a web page. While this process is reasonably simple to explain, it is quite complex to put into practice, as seen by the web application architectural diagram that is included.

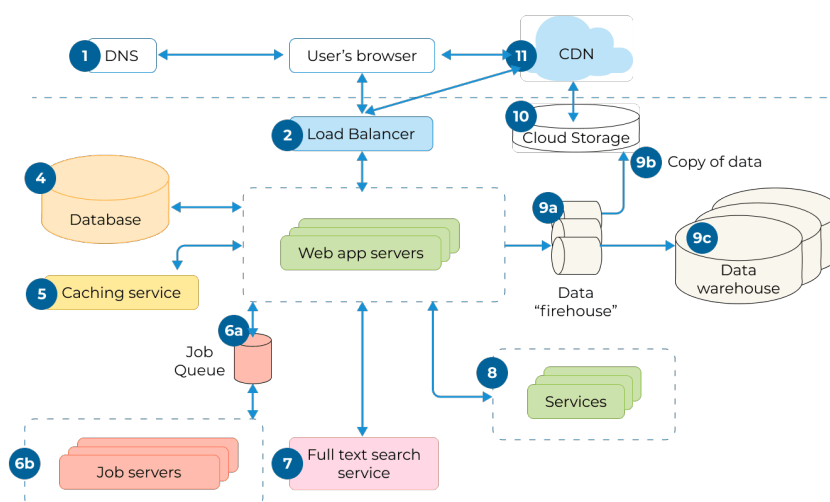


Figure 3.2: Web Application Architecture (Deremuk, 2021)

3.1.4. Principal Components of Web Applications

Principal components of web applications are explained as follows:

- *Database*: It is used to store data for the program. It's usually on a database server. The most frequently used ones utilize SQL to store large amounts of data in tables and rows (like MySQL and PostgreSQL) or collections and documents (like Oracle) (as is the case with MongoDB).
- *Server Infrastructure*: Resources (physical and virtual) that accept and process requests from browsers, parsing the data along the way. The server architecture also runs and processes business logic and stores data in files and databases. AWS, Azure, DigitalOcean, and others are notable examples of infrastructure.
- *Back-End*: The server code, in the form of stored procedures, handles business and transactional logic. It must reply quickly to HTTP requests and provide desired data to the client's browser in order to work successfully.
- *Front-End*: User interface and user experience components are included in this category because they are the aspects that the end user sees and interacts with while using the application. Layouts, alerts, activity monitoring, third-party services, and other visual elements are examples of this type of functionality.
- *Application Programming Interface (API)*: This bridge connects the architecture components (backend, front end, and server). Technicians suggest new APIs. RestAPI is a set of instructions for creating APIs. GraphQL is superior because it provides comprehensive definition of the data in the API, simplifies API evolution, and allows you to take advantage of advanced developer tools.

3.1.5. Web Frameworks

Web framework is a software framework for developing web applications in order to simplify, which include web services, web resources, and web application programming interfaces (GeeksforGeeks, 2020). Frameworks are, in a nutshell, frameworks that assist you in developing your application more quickly and intelligently. Consider a web application or development framework as a pre-built architecture that manages the most repetitive operations and features associated with website development. This means that the web developer will spend the majority of his time dealing with the web framework's various components via code. Web

frameworks provide capabilities such as web caching, authentication and authorisation, database mapping and configuration, and URL mapping.

Laravel is a framework for developing web applications with an expressive, attractive syntax; was founded in 2011 by Taylor Otwell. Like many other recent frameworks, it is following the model–view–controller (MVC) architectural approach. Laravel aims to alleviate development pain points by simplifying typical activities seen in the majority of online applications, like authentication, routing, sessions, caching, and a variety of commonly used components, as well as incredible database migration tools and integrated unit testing support, enabled developers to create advanced systems (Chen et al., 2021). The most significant benefits for web developers that adopt a web framework are that it is open source, efficient, has an excellent level of support, is secure, and provides an integration function.

The proposed system will be designed based on a three-tiered architecture. PHP is used as a server-side scripting language, while MySQL is used as a database management system (DBMS). With an SSL encryption mechanism, the Apache webserver is used to provide end-users with HTML content. The user only needs an internet connection and a web browser to use this system. This e-journal management system is built on the Laravel framework and follows the MVC (Model, View, Controller) paradigm, which separates application components such as data processing, consoles, and user interfaces. As a result of providing access to the model, the model's components are easier to build, test, and maintain. The major goal of working with the Laravel framework is to assist developers in rapidly developing applications. Along with the Laravel framework, this information system was developed utilizing the waterfall method. Figure 3.3 shows how the MVC architecture works.

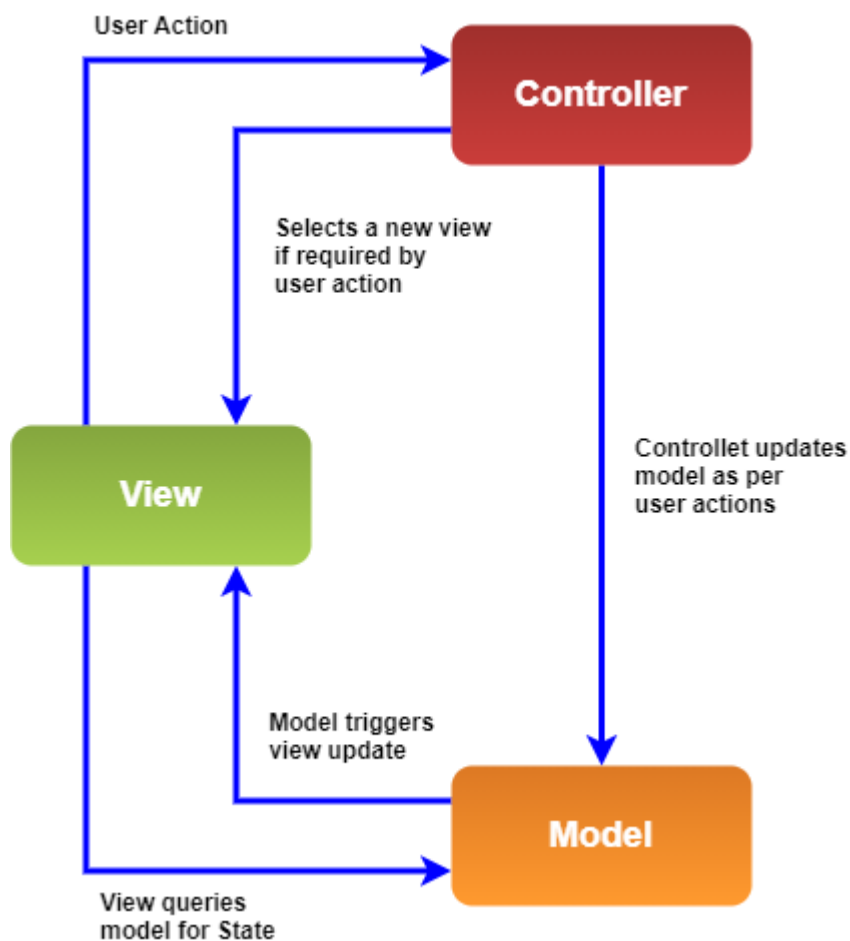


Figure 3.3: The MVC architectures (Selfa et al., 2006)

The development of the electronic journal management system is an attempt to enhance the system's quality and capability to fulfill the needs of electronic publication. This technique is divided into two components: A review stage and an electronic submission. This system aims to meet the needs of authors and editors throughout the process, from the establishment of submission guidelines and proposal writing to the final publishing. The current journal systems are limited to article publication, whereas for the purposed system built on the laravel framework, it is necessary to develop an electronic journal management system capable of managing publication, review, and proofreading process in a single container to maximize the efficiency of data usage.

3.2 Electronic Journals

A journal may be referred to as an online journal if its content is created and saved in electronic form, and if the journal's contents can be scanned and downloaded online

from a database (Ali & Nisha, 2011). Thus, online journals are scholarly publications, which are published on the Internet, and can only be accessed through computer networks and the Internet. According to a review of scientific literature, there is no consensus on the precise naming of the technology used to assist the editing and publishing processes. Scholars use lot of synonymous terms to describe this technology so electronic journals are often referred to interchangeably as electronic journal management systems (Bouchet, 2006), e-journal (Adetomiwa & Okwilagwe, 2018), electronic journal (Garg et al., 2020; Singh et al., 2021), web based journal (Bhattacharyya, 2012), peer-review system (Diciunas et al., 2013; Azadeh et al., 2015) and etc. There are some intrinsic factors that make these terms interrelated or nearly equivalent. With the new developments in technology, it is not easy to draw the differences

In the late 1990s, when a significant amount of e-journals were publicly available, user and use studies of e-journals debuted in the literature (Moghaddam & Talawar, 2008). According to scientific sources and research many definitions have been given to Electronic Journals, we can have the following definitions in summary of the explanations provided in various sources:

Electronic Journal System (EJS) is the software that automates the support and management of the editorial and publishing process of scientific journals. The journal's idea is being reconsidered in light of contemporary computer communication technologies. On the Electronic Information Interchange System (EIES), four e-journal formats are given as different examples of future journal formats that may become popular.

- 1- Scholarly journals or magazines that can be accessed via electronic transmission.
- 2- Serial publications available in digital format.
- 3- A specialized form of electronic document: they have the purpose of providing material for academic research and study.

In the research from Islam et al. (2011), result showed that the majority of electronic journals are utilized for “research purposes” followed by “education” and “current information”. They are, as predicted, less frequently employed for “entertainment

purposes” and “winning rewards”. Also, they stated that the preferred format for electronic journals is PDF. Following that, HTML and MS Word formats are preferred. It should be mentioned that PDF and HTML are the most often used formats for storing complete text. Users appear to have accepted these forms as well.

3.2.1. Types of Electronic Journal Systems

Several academic institutions and publishers have experimented with developing in-house (local) systems to serve their e-journals. These solutions become flexible to the publisher’s particular requirements, adaptable to future process changes, and self-contained. Essentially, the E-Journal applications are divided into three categories based on the level of content e-journal can be classified as:

- Scholarly or research e-journal.
- Popular or general public e-journal.
- Industry or Trade e-journals.

According to LISBDNETWORK (2013) and Satynarayana (2018) studies, the electronic journals are divided into three categories based on availability and pricing e-journals may be categorized as followings:

- *Free electronic journals*: The journals, which are totally free in online. Such as Fulltext Database/ service.
- *Free along with print subscription electronic journals*: The journals, which online access are free and also provide print subscription. i.e. Cambridge University Press, John Hopkins University Press, Oxford University press.
- *Priced electronic journals*: The journals, which are online and priced marginally less than the printed version. i.e. Blackwell, Blackwell Navigator etc.

3.2.2. Security of Online Electronic Journals

Although it is a system for managing electronic journals, it is ultimately a web-based system, and like with any other system, it is vulnerable to assault and hacking by unauthorized individuals. Web application vulnerabilities are security flaws that enable threat actors to modify source code, gain unauthorized access, steal data, or

disrupt a program's regular functioning. By determining the underlying cause of security vulnerabilities, it is possible to apply mitigation mechanisms during the early phases of the SDLC to avoid issues. Additionally, understanding how these threats operate enables the testing of web application security to focus on recognized locations of interest.

The following is a list of the most serious security risks for online apps. Consider the following well-known attack vectors :

- *SQL Injection (SQLi)*: An SQL injection attack succeeds when malicious user input flows into SQL queries without validation. The database trusts the web application and performs all queries. The attacker can alter the SQL query structure and cause inadvertent execution by embedding SQL keywords or operators in user input. SQL injections can result in authentication bypass, data exposure, and even database loss (Li & Xue, 2014).
- *Cross Site Scripting (XSS)*: During the processing of the request, this flow occurs. The user enters data from web pages without verification. Site trust and session hijacking are potential XSS outcomes (Durai & Priyadharsini, 2014) as shown in Figure 3.4.
- *Remote File Inclusion (RFI)*: The successful point of attack and subsequent settlement of the host can be based on the functionality of various programming languages that allow calling code from another site, such as other Internet sites or directories (Robledo, 2008).
- *Cross-Site Request Forgery (CSRF)*: Like XSS, except the attacker creates a faked http request and forces the user to take harmful activity using image tags, XSS, or other tactics (Adhyaru, 2016).

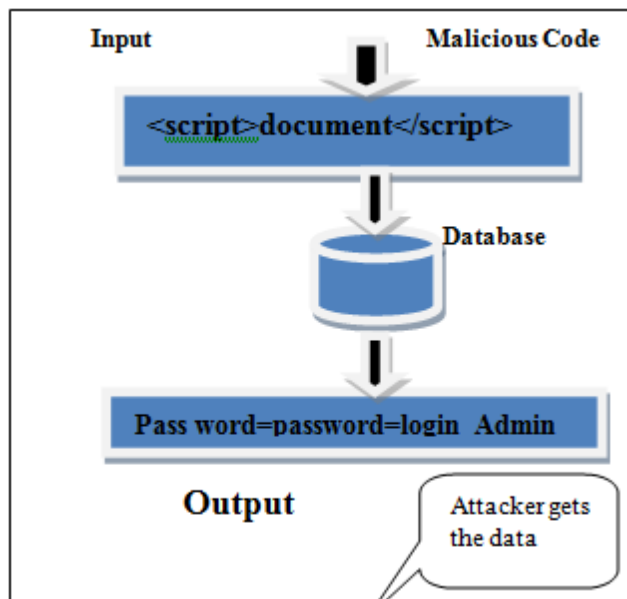


Figure 3.4: Cross site scripting in vulnerability (Durai & Priyadharsini, 2014)

By sanitizing application inputs and outputs and implementing safe coding principles, applications can be protected from the majority of security vulnerabilities. This, however, is not sufficient. As web applications are constantly evolving, security testing must be included at every stage of the development lifecycle in order to detect and debug dangerous code early. Additionally, the majority of online applications rely on third-party open source components that may be susceptible and must be checked on a regular basis. While it may seem self-evident, many online applications lack fundamental access control mechanisms. Developer must ensure that adhere to the following principles (Atashzar et al., 2011; Cairns & Somerfield, 2017; Jalal & Zeb, 2008):

- Enforce strong passwords use secure password recovery, create reasonable rules for password expiration and rotation, and ideally use multi-factor authentication.
- Request re-authentication when sensitive capabilities or transactions are accessed or executed.
- Adhere to the principle of least privilege (POLP) and grant each user just the privileges necessary to carry out their assigned function in the system.
- Apply SSL and encryption to guarantee that passwords and certificates are encrypted at all times, both during storage and transmission.
- If you discover suspicious behavior, monitor user accounts and lock them out or request a password change.

During web application security testing, the following list of non-exhaustive features should be examined. Each of these can result in vulnerabilities, posing severe dangers to all business (Adhyaru, 2016; Durai & Priyadharsini, 2014; Srinath, 2017).

- *Configuration of the application and the server*: Possible flaws include encryption/cryptographic settings, Web server configurations, and so forth.
- *Validation of input and management of errors*: SQL injection, cross site scripting (XSS), and other injection vulnerabilities are caused by insufficient input and output processing.
- *Authentication and maintenance of sessions*: Security vulnerabilities that could lead to user impersonation. In addition, the strength of the credential must be addressed and protected.
- *Authorization*: Test the application's ability to prevent privilege escalation on the vertical and horizontal axes.
- *Logic on the client side*: This type of functionality is becoming more and more common in today's web pages that contain JavaScript, as well as web pages that use other client-side technologies (for example, Silverlight, Flash, Java applets).

3.2.3. Importance to use electronic journal systems

Advances in the field of information technology have had a significant impact on the discipline of information science. As a result of the influence of information and communication technologies, new, reliable and faster methods of information management have been developed; One of them is the electronic journal (Navjyoti & Vasishtha, 2007).

According to Genoni (2007) study, electronic journals provide academic libraries with a plethora of interesting options and possibilities. They each have their own set of perks and downsides. Librarians must be able to recognize and balance the elements that contribute to the success or failure of electronic journals in their libraries. By developing a shared vision for the future of information technology, we can coordinate our efforts to maximize the benefits of modern communications infrastructure.

The adoption of such systems facilitates setup, enhanced functionality, and reduces the expenses associated with publishing a scientific article (Luparenko, 2017). However, in order for the aforementioned e-journal systems to function properly, a database must

be hosted on a web server with constant and uninterrupted Internet connection. This involves the acquisition or rental of a web server from a scientific institution and the engagement of a qualified system administrator. Bazor and Konjevid (2012) performed a user survey at the Roger Boskovic Institute in Zagreb in 2002, and discovered that electronic journals are well accepted and used. Very few respondents to that research felt that e-journals were without faults, and while the majority favored the paper edition when both were available, many utilized both equally.

3.2.4. Advantages of using Electronic Journal Systems

The claims system can be used to overcome the following existing real barriers:

- *Time*: Electronic journals help reduce delays that could arise in the review phase by speeding up the review processes (Manjunatha & Kumar, 2019; Mummen et al., 2020; Satynarayana, 2018).
- *Space*: Electronic journals need much less storage space since there is no need to pile several papers on the shelf. Conserve space when you don't have to care about physical space, as they are able to contain much more knowledge than conventional journals (Bhattacharyya, 2012; Gakibayo et al., 2013; Krishnan, 2019; Satynarayana, 2018).
- *Up-to-date*: Material in electronic journals is usually recent when printing and dissemination delays are not present. Published electronic publications are accessible almost instantly, following acceptance by the peer reviewers (Gakibayo et al., 2013; Thanuskodi, 2011).
- *Analog to Digital*: Computers are used to make more media possible for users to access. Digital content enables various media forms (video, audio, pictures, and text) to be merged and displayed in a comfortable format (Chandrakumar, 2009; Kusuma et al., 2020; Nicholas & Huntington, 2006).
- *Search Technique and Mechanism*: Electronic journals have unique searching capabilities. Words and terms in the database records can be searched and combined with Boolean operators' aid (AND, NOT, OR). Specific periods or years can also be used to extend or restrict the search. Many collections can be searched concurrently, allowing large groups of resources to be accessed automatically (Elizarov et al., 2014; Krishnan, 2019).

- *Economical*: Electronic journals can be delivered more inexpensively than print publications, as the primary expenses of text preparation, review, and other comparable operations are not as capital demanding as printing and distributing physical copies (Bhattacharyya, 2012; Navjyoti & Vasishta, 2007; Krishnan, 2019).
- *Save Digitally*: Electronic journals can be stored in digital format once they are published (Sreekumar and Sunitha, 2009).

Even whether the web platform provides web pages in color, text, and type is simple to interpret for readers.

3.2.5. Limitations of Using Electronic Journal Systems

While there are many benefits, there are certain limitations to e-journal services if we belong to our university. As discussed in researches by Khan and Ahmad (2012); Singh (2013):

- Although it is cost-effective, the initial investment is quite high.
- Inconvenient for continuous reading on a computer screen.
- It gets more and more difficult to organize because different formats have varying pricing systems to choose and use.
- Engaging legal copyright issues.
- E-journals and articles are virtually non-existent in the library.
- Frequently left out of indexing and summarizing services.
- Publishers modify their terms and conditions on a daily basis.
- The potential for data modification by unauthorized individuals.
- Unavailability of archive and backup files.

3.2.6. Purpose of using e-journal

According to Ali and Nisha (2011) research established that the vast majority of researchers rely on electronic publications for their Master's/PhD. studies as shown in Figure 3.5 below which is close to the results in research of Raza and Upadhyay (2006), Moghaddam and Talawar (2008), and Manjunatha and Kumar (2019) which

they also pointed out that electronic journals are often used to meet the scientific research needs by users.

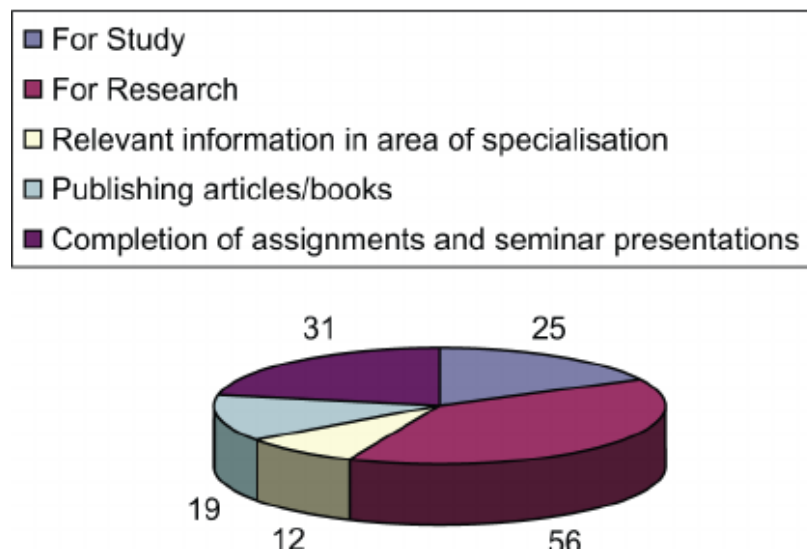


Figure 3.5: Fields of use of Electronic journals (Ali & Nisha, 2011)

The present studies also found a significant relationship between time spent reading online/offline and frequency of use of electronic journals. They discovered that users who download articles are more likely to read the entire text than just a section. The fact that users can access e-journals from their computer or mobile phone at any time seems to be the most enticing aspect.

3.2.7. Access to electronic journals

Access to electronic journals is multi-faceted. Journal selection, communication with publishers/aggregators, making agreements, obtaining and finally granting users access. There are several ways to access electronic journals, most notably (Hansoti et al., 2016; Rich & Rabine, 2001; Rowley, 2000; Swan & Brown, 2004):

1. *Free access for printed subscription:* Access is provided for free when printed. All titles for which the library has a print subscription are available for free.
2. *With a fee:* certain electronic versions of printed journals are available for a fee.

3. *Consortium-based accessing*: Instead of subscribing to journals on a proprietary basis, member organizations can access them online for a fee. Access is calculated based on the total number of journal subscriptions required. In general, the more subscriptions purchased, the lower the cost of access.

4. *Journals with Free Access*: These journals are accessible without the need for a subscription.

3.2.8. Features of Electronic Journals

In comparison to print journals, electronic journals have a number of advantages. Several critical characteristics include the following (Bist, 2005; Navjyoti & Vasishta, 2007):

- Simultaneous access is a powerful feature offered by the e-journal.
- Through the use of appropriate software and browser services, electronic journals are accessible to all users regardless of their geographic location.
- Because it eliminates the need for time-consuming printing and shipping, an e-journal takes less time to produce and disseminate.
- There are no space constraints. i.e., an e-journal may publish more articles than its print equivalent.
- When saved to a CD, it takes up relatively little space.
- Resources, video, interactive, and 3D models are all examples of resources. A free color figure and graphic can be published in an electronic journals.
- If users do not want to subscribe to the full journal, they can read specific articles via pay-per-view, i.e. pay for the articles they want.
- Certain online journals are free to access.
- Electronic journals can be disseminated more inexpensively than print journals, as the major expenses involved with text preparation, revision, and other comparable operations are not as capital-intensive as the costs associated with printing and distributing print copies.
- Dynamic e-journal features include letters to the editor and discussion forums. Some journals provide a forum for readers and writers to discuss each paper. An

item posted online may include a link to easily contact the author or editor via email.

- The electron journal may include hyperlinks to reference papers and other sources of information, such as related journals or websites.
- Electronic journal search is an extremely efficient and rapid process. With each issue of electronic journals, users have the ability to search not only by title, author, and keyword, but also by using boolean operators.
- The electronic journal is never out of stock, and several users may view the same article simultaneously from various devices.
- Statistics on usage can be generated using generally recognized criteria (counter).

CHAPTER 4

SYSTEM DESIGN AND DEVELOPMENT

The following chapters represent the navigation guide for the user of the developed e-journal management system and the data model design and architecture of both clients and server-side applications with a detailed description. Further, it details the application design together with the color scheme.

4.1. System Development Life Cycle

The System Development Life Cycle (SDLC) was used to develop the electronic journal management system. The SDLC is a popular methodology used in project management that describes stages from an initial feasibility study through maintenance of the completed applications. Examples of applied models are Waterfall, Fountain, and Spiral (Pressman, 1987). As shown in Figure 4.1, this approach has six serial processes include requirement analysis, system design, system implementation, system testing, system deployment, and system maintenance.

The Waterfall development methodology has been adopted in research for e-journal management systems because it provides the advantage of identifying and evaluating system requirements long before programming begins and restricting modifications throughout the project (Dennis et al., 2018). In the stages of system planning, system analysis and system design, the e-journal specifications are developed as well as message passing and information flow within each functional unit by referring to the SDLC and from the viewpoint of the system analyst. In the implementation phase, Bootstrap 4, JavaScript and the built-in web front-end tool, is applied to build the user interface. MySQL has been specified as a backend database. In the following sections, the major subsystems and related interface snapshots are covered in detail.

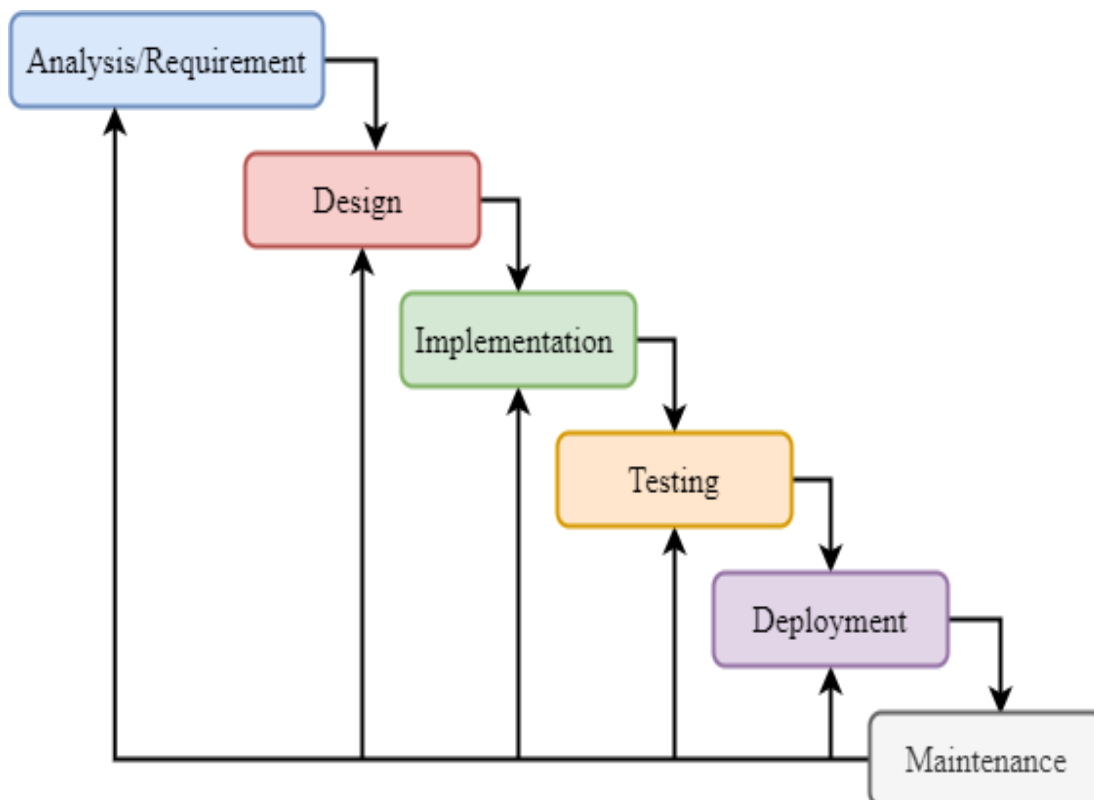


Figure 4.1: Waterfall model phases (Shylesh, 2017)

4.2. Model Used for the Developing of Electronic Journal System

A life cycle model is a representation of a method or framework for the processes and activities that occur during life cycle phases. It shows the elements that are applied and their relationships. The waterfall model also known as the cascade model in the Systems Development Lifecycle (SDLC). The special feature of this model, its steps are sequential (Alshamrani & Bahattab, 2015). Using an Waterfall model such as the SDLC, the approach to implementing each stage of the chosen methodology is to identify a list of the set of activities carried out below and indicate the chosen method used for each stage. With the development of this project, the researcher uses this method because the system will constantly improve to further enhance other transactions in the system. In fact, an electronic journal system will be developed and used. Table 4.1 clarify the phases of software development life cycle phases.

Table 4.1:*Waterfall model phases (Shylesh , 2017)*

Waterfall Phases	Activities Carried out
Analyses/Requirement	Identify the needs of electronic journals. Explore ideas and techniques from related studies.
Design	Software design is produced at this stage based on the requirements specification established in the previous stage, and system design is highly essential and assists in many aspects of projects, such as determining the hardware needed for the project. The system design created at this level acts as the gateway to the following stage.
Implementation	The development team is now using the system design that was provided in the previous stage. The system is separated into modules, which are subsequently implemented one by one. During this stage, the project was coded utilizing PHP programming language as the backend using an object-oriented programming (OOP) technique.
Testing	In this Stage, each of the units developed from the previous stage is tested to determine if it fits the requirements acquired in the first stage and performs as intended.
Deployment	At this phase, the customer receives the system that was developed in previous stages and has been successfully tested.
Maintenance	The maintenance phase is critical because the system supplied to the user may have problems or malfunctions that must be addressed as soon as possible.

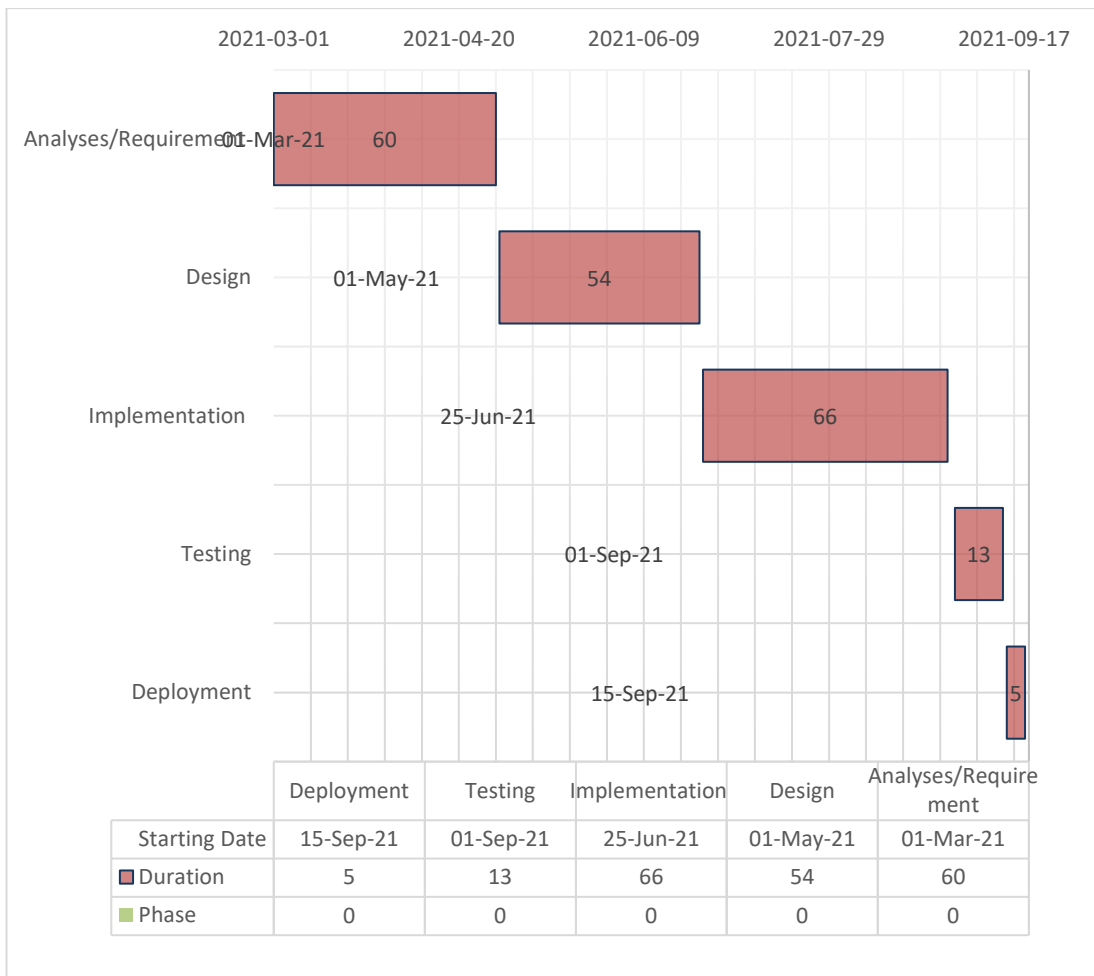


Figure 4.2: Project schedule

The suggested system’s schedule is represented in Figure 4.2, and all phases have been scheduled in accordance with the SDLC's sequence of stages. Times may be adjusted according to the importance of the task within the process and its duration may be extended.

4.3. System Analysis and Requirements

At this stage all the information, data and topics related to the project have been collected from the previous articles in the previous conducted researches. All gaps, conditions and opportunities has been identified and addressed that can be solved in the project. Besides, In addition, preliminary research was conducted to ascertain the statement of the problem, objectives, limitations, and security of the system by focusing on the requirements of faculty staffs and students in educational institutions. Additionally, current technology was studied in order to have a better understanding of how it was applied during project development. After this step was completed, the feasibility report for the full project was acquired. This phase establishes a hierarchy of system functions based on the results of the related studies. The system functions will be presented in ascending order of importance. Techniques for development and planning are also covered during the process. However, as long as the microservices architecture is implemented, there are no specific constraints for the technology used in implementation – it is always subject to change. Besides, the activities included were the identification of the hardware and software requirements in the development system, scope of project, schedule of activities such as gantt chart and the total budget. The result of this phase is a logical system design.

A-Functional requirements (FRs): According to IEEE Standard Glossary of Software Engineering Terminology (1990) functional requirement refers to “a task that the system must be able to perform”. This type of requirement relates to the procedures and functions of the system, as well as what the system aims to achieve. The function of a system or segment is defined by its inputs, outputs, and actions. Below are the requirements for the NEU E-Journal Management System:

- The application shall include a user interface.
- The system shall allow user to login or prompt error based on the login credentials.
- The system shall allow update and retrieval data from the database.
- The system shall allow administrator to keep track of submitted papers, journal management and generate report.
- The user should learn new experience in using the system.

- The user should find the application of the electronic journal system as a publishing center on the Internet
- The Electronic Journal System should be user friendly
- The user must be able to refer and invite friends to use the e-journal system.

B-Non-functional requirements (NFRs): Also known as quality requirements (Heikkila et al., 2015; Inayat et al., 2015; Wagner et al., 2018), These are the qualities that the system should have. Rather than describing what the system has to accomplish and creating procedures, these attributes are used to describe the nature of the system and to evaluate its performance. NFRs are the primary means of reporting quality requirements. Non-functional requirements necessitate that prerequisites be included in the outline. The following Table 4.2 summarizes the basic requirements of the proposed e-journal management system:

Table 4.2

Non- functional requirements and description

Requirements	Description
Security	The system should be secured to avoid unwanted access.
Usability	This electronic journal system should be easy and convenient to use, especially for non-technical users.
Availability	Users should have access to the system at all times.
Performance	This electronic journal system must be established quickly, with the quickest response time possible, and with the greatest efficiency possible.
Reliability	This electronic journal system must be able to reliably complete its tasks in specific situations throughout its lifetime.
Maintainability	This electronic journal system must be flexible enough to be updated and implemented by meeting new requirements

4.5. System Design and Coding

The design stage is that program architecture, which defines its components, theme, and behavior, is established. This stage begins when all the necessities are collected from the analysis phase and then withdrawn from the application architecture. While the analysis step focuses on doing the “right” thing, the design period focuses on doing “things” right (in other words “how” phase). Thus, the design stage determines which programming language, program architecture, construction class, data structure, and many others are used.

The previous stage’s logical model has been evolved into a physical system design. At this phase, the researcher creates a precise need for the system’s development to answer the original problem. Numerous tools and methodologies are available for describing the proposed system’s system design. The following areas are discussed: System components, system architecture, contextual diagram, data flow diagram, entity-relationship diagram, databases, user interface design, and system flow diagram.

4.5.1. Architectural System Design

As shown in figure Figure 4.3 depicts the proposed system architecture. The proposed E-Journal Management System is based on a three-level architecture that divides the program into three levels of logical and physical accounting and standard architecture for customer-service apps. The three data rows are presented, used, and the data array is sometimes called the database class, the data access class, or the end of the return, the processed, saved, and managed by the application. This field is provided by the Database Management System (DBMS). MySQL DBMS is used for this purpose.

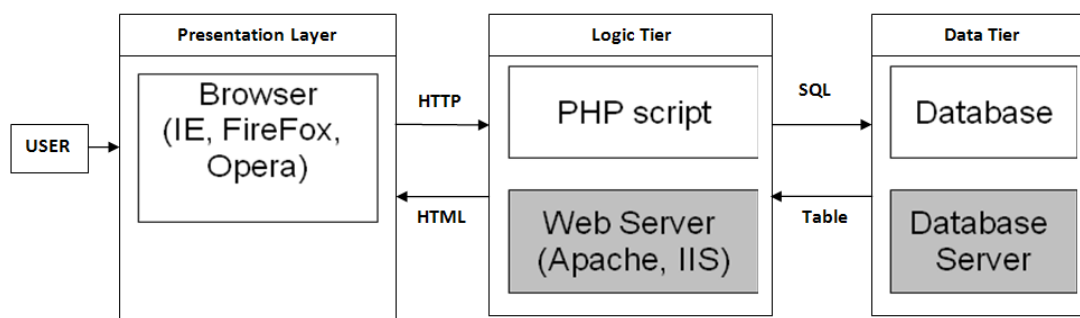


Figure 4.3: Three-Tier Architecture (Tarhini, 2011)

The program list displays the theme between the display and data layers; they are applied by PHP text. PHP is the open-source language for server-side writing (Cavus, 2007). It is widely used and contains rich command library code, which makes it ideal for Web apps also a directed object to take advantage of the controlled object design in advanced scripts.

The presentation tier, user theme, and application connection layer, in which the end-user interacts with the application. The main goal is to display information for and collect data from the user. These high-level levels can run on the browser, such as a desktop or graphic user theme. This user is often a graphic one that can be opened through a browser or web application that shows useful content and information for an end-user. This theme is usually created on Web technology such as HTML5, JavaScript, CSS, or through the popular Web Development Framework, and contacts other classes through API connections.

Session variables must be used because users need to be logged in to the web application. Cookies are usually sent to the user's computer, but some users do not accept cookies. To this end, session variables are used in this system. All session data are stored in the database.

4.5.2 Unified Modeling Language (UML) diagrams

Visualization, definition, generation, and documentation of object-oriented system artifacts that need programming are accomplished through the use of the Unified Modeling Language (UML) (Schmitt, 2003). Figure 4.4 shows the UML diagram of the project.

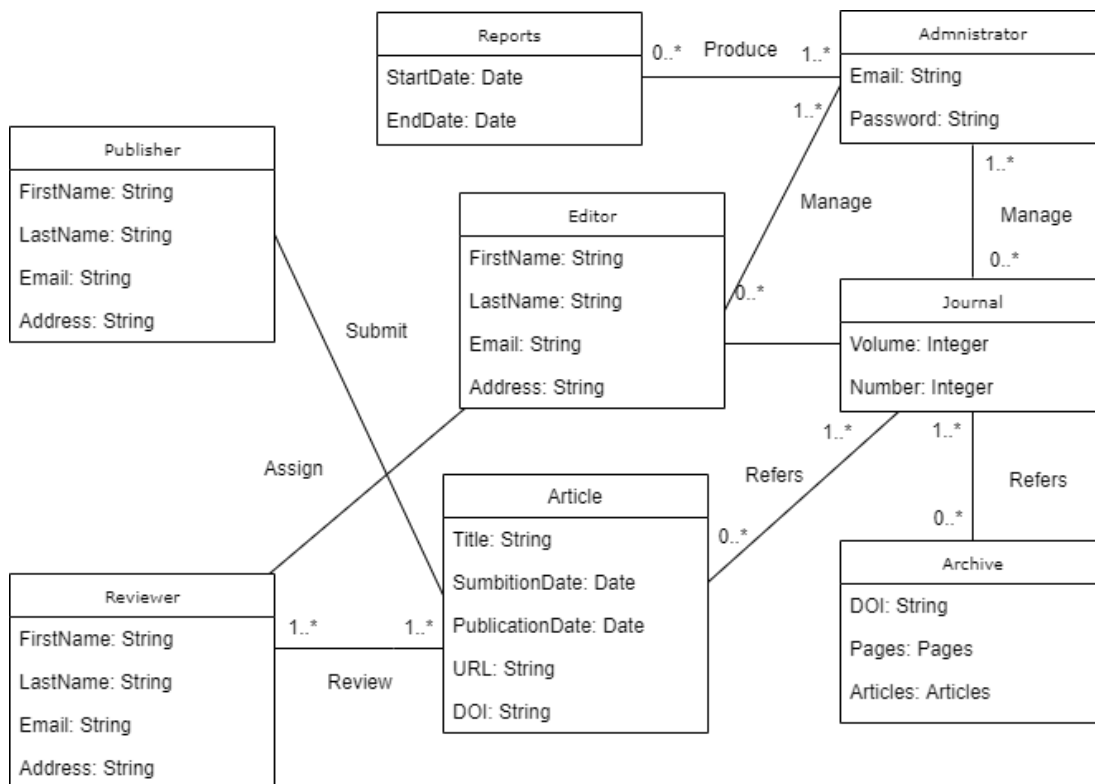


Figure 4.4: UML diagram of the proposed system

Following is a diagram showing the many sorts of relationships between tables, along with the relationship between the primary keys of tables and their foreign keys, as well as what actions are performed on these tables and how they are connected to one another.

4.5.3 Use-Case Diagram

Figure 4.5 shows the Use Case diagram of the project; The login activity is shared between system administrators, editors, reviewers, and authors.

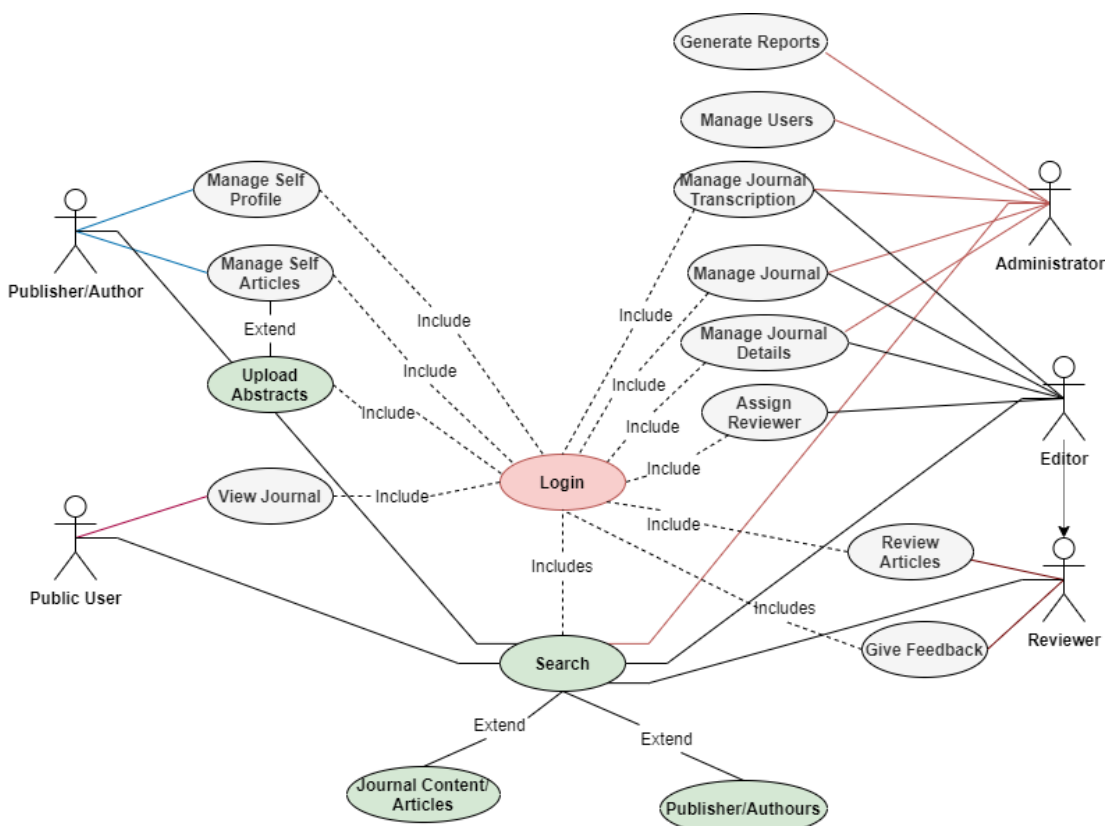


Figure 4.5: Use-case diagram of the system

4.5.4 System E-R Diagram

The entity relationship diagram displays the electronic journal management system's entity model. The entity relationship diagram in the electronic journal management system presents all of the visual tools for the database tables and the relationships between journals, articles, authors, and editors, for example. It makes use of structured data and defines the relationships between structured data sets in order to carry out the activities of the EJM system. The key entities in an EJM system are authors, editors, reviewers, articles, and journals. Figure 4.6 shows the Entity Relationship diagram of the project.

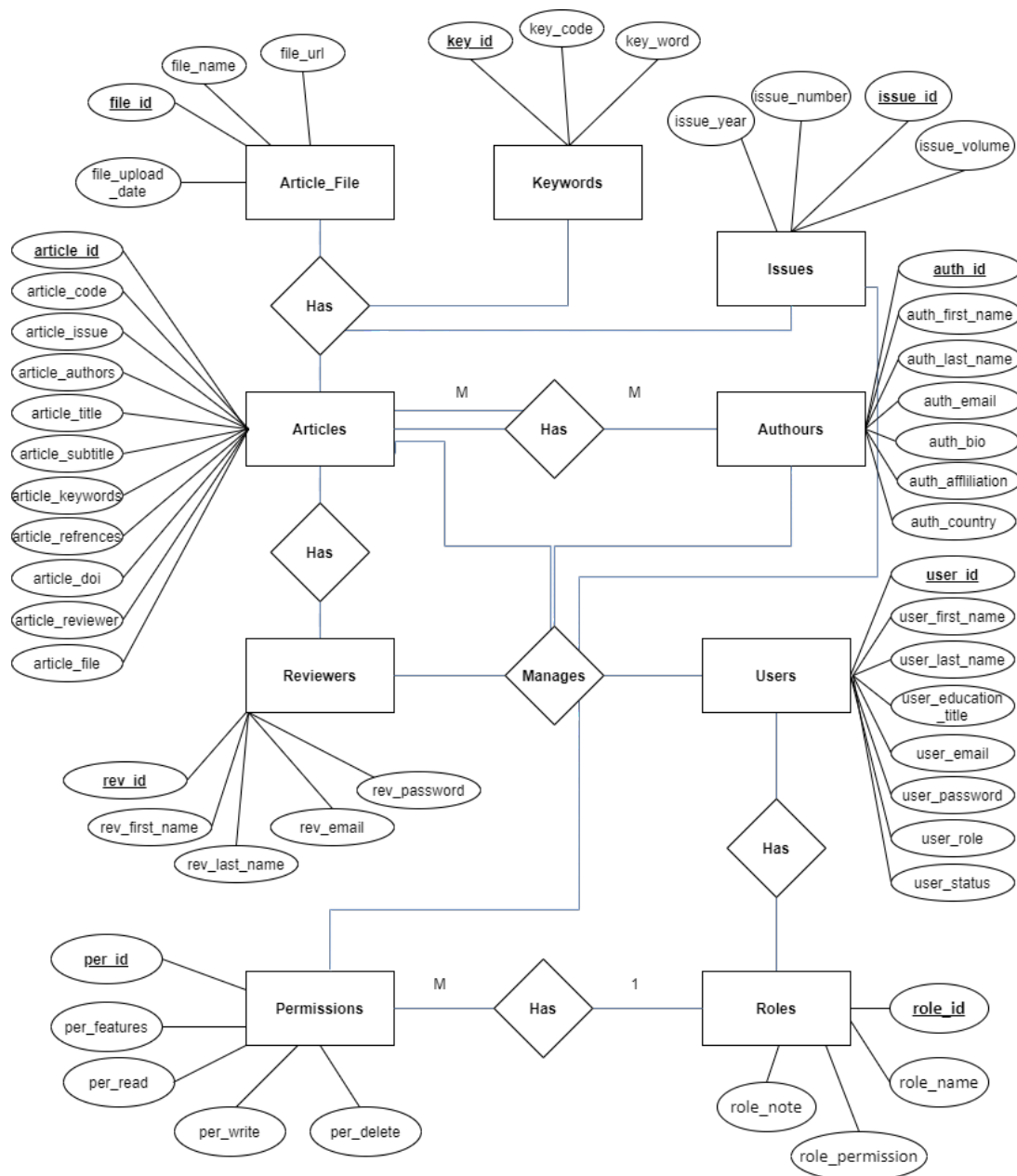


Figure 4.6: System E-R diagram

Electronic Journal Management System entities and their attributes:

- *Authours Entity*: Attributes of Authours are authour_id, authour_name, authour_mobile, authour_email, authour_username, authour_password, authour_address.
- *Articles Entity*: Attributes of Articles are article_id, article_authour, article_registration, article_name, article_type, article_year, article_description

- *Articles File Entity*: Attributes of Article File are article_file_id, article_file_article, article_file_date, article_file_type, article_file_status.
- *Issues Entity*: Attributes of issues are issue_id, issue_year, issue_volume, issue_number, issue_status, issue_publication_date;
- *Editors Entity*: Attributes of Editors are editor_id, editor_first_name, editor_last_name, editor_title, editor_email_address, editor_password, editor_phone_number, editor_role, editor_status, editor_registration_date.
- *Reviewer Entity*: Attributes of Editors are editor_id, editor_first_name, editor_last_name, editor_title, editor_email_address, editor_password, editor_phone_number, editor_role, editor_status, editor_registration_date.
- *Permissions Entity*: Attributes of Permission are permission_id, permission_role, permission_read, permission_write, permission_delete.

5.4.6. Dataflow Diagram

A data flow diagram enables you to view how data flows between components and what happens to them. This is an extremely effective method for identifying unnecessary code and optimizing system efficiency.

Figure 4.7 shows how the electronic journal system is composed of six actors: reviewers , profreads, visitors, administrator, editors and authours.

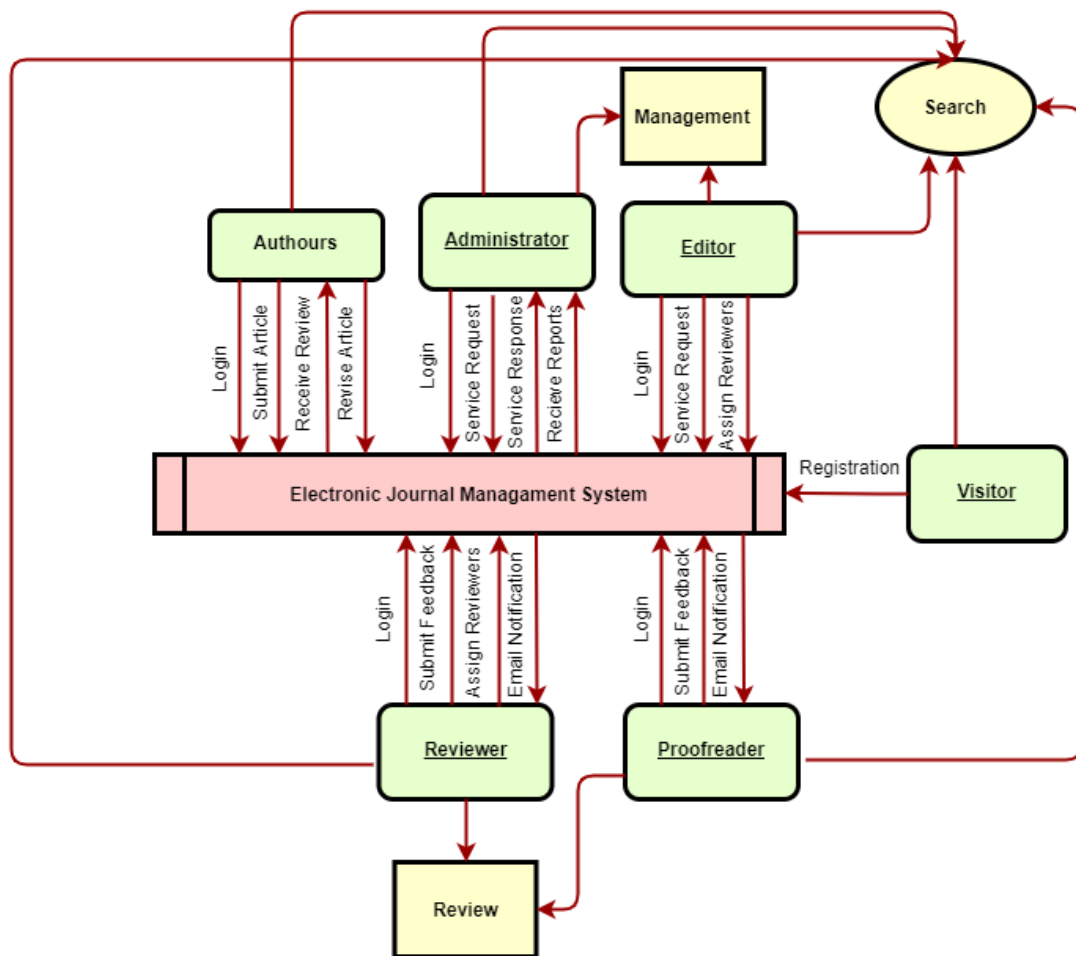


Figure 4.7: Dataflow diagram of the system

Each representative initiates a login procedure to gain access to the system and performs the responsibilities assigned to the user.

The first level of DFD (Level 1) of an electronic journal management system defines how the system is split into subsystems, each of which is responsible for one or more data flows to or from an external agent and which, when combined, offer the functionality required by the management system. Additionally, it outlines the internal data stores for electronic journals, articles, review, proofreading, and publication that must be in place for the e-journal system to operate effectively. Level 1 DFD is a more comprehensive version of Level 1. We'll look at the fundamental functions of electronic journals.

Main functionalities of first level Data Flow Diagram:

1. The journal administrator logs into the system and oversees all of the system's functionality.
2. Journal admin can add, edit, delete and view editors and journals records, user role, and reviewer history.
3. The journal administrator has complete management over all editor, author, and reviewer information, as well as articles and journals.
4. In addition, the journal manager is able to create reports on authors, reviewers, articles, papers and journals.
5. The journal administrator can search editors and authors details and logs
6. The journal administrator can apply a different level of filters to reports, research papers, and articles.

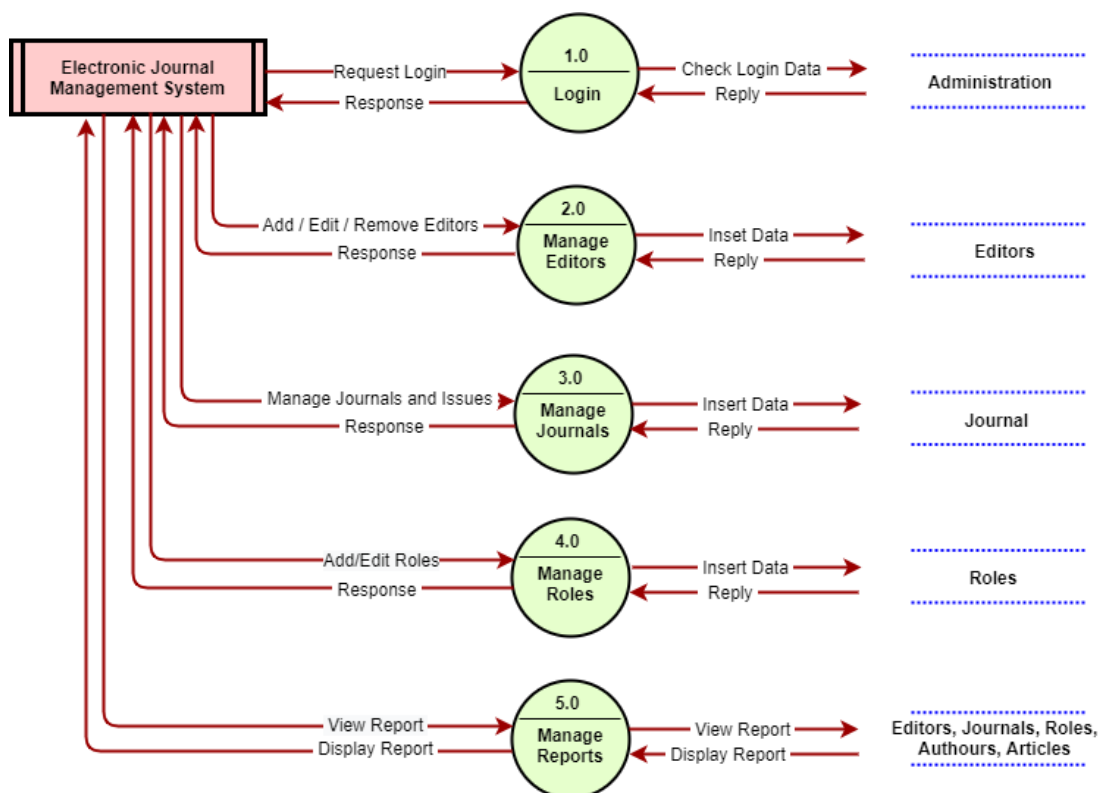


Figure 4.8: Level 1 Data flow diagram of electronic journal management system

This figure shows the key features that the proposed system allows journal administrators to control. Figures 4.9-4.12 show detailed Level 1 DFD of journal management features that the proposed system will build.

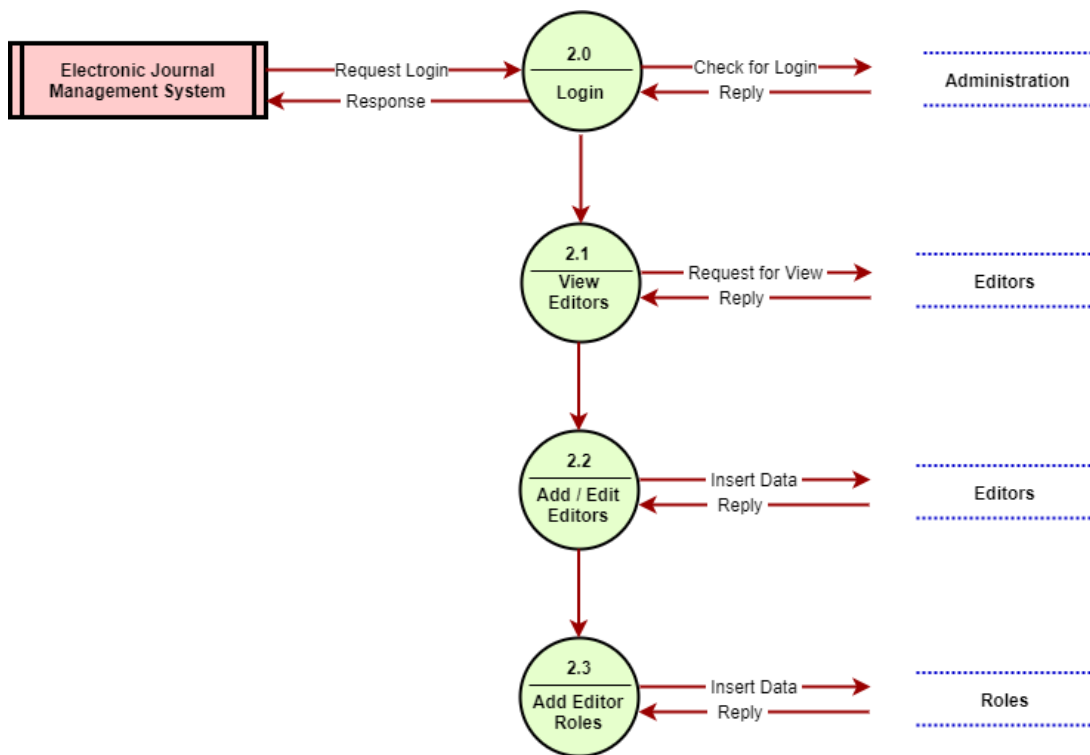


Figure 4.9: Level 1 Data flow diagram of electronic journal management system (Administrator 2.0)

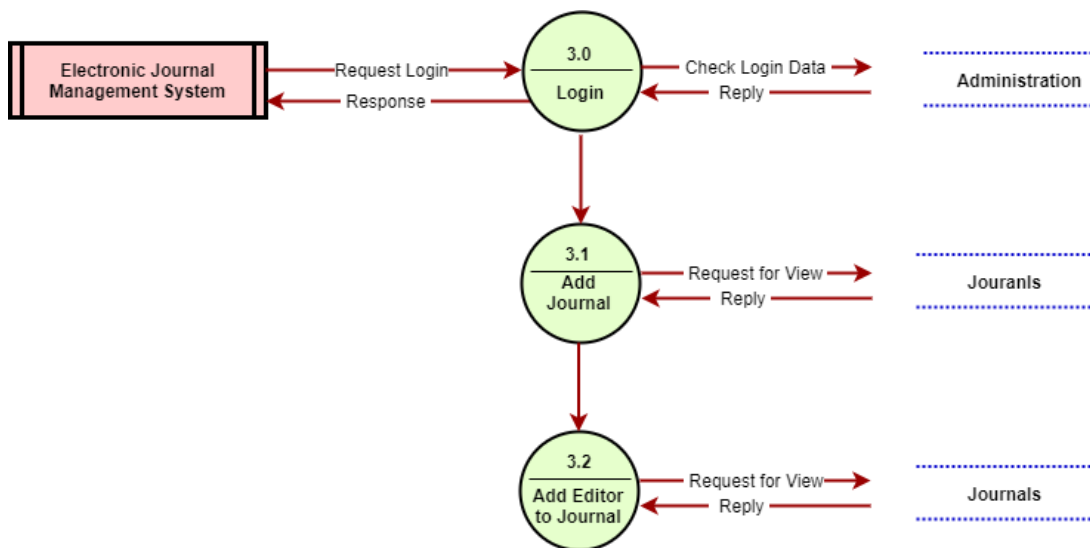


Figure 4.10: Level 1 data flow diagram of electronic journal management system (Administrator 3.0)

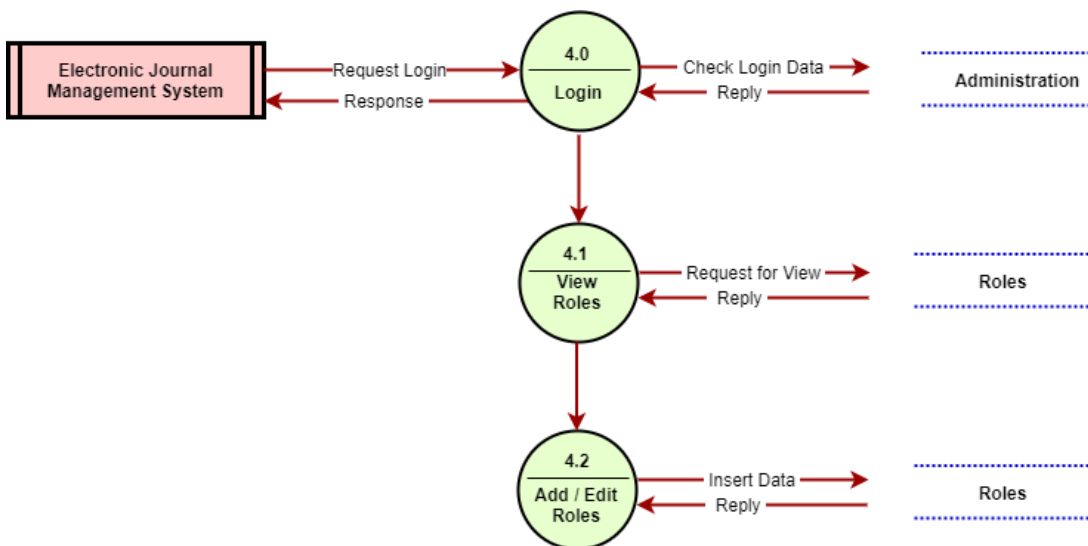


Figure 4.11: Level 1 Data flow diagram of electronic journal management system (Administrator 4.0)

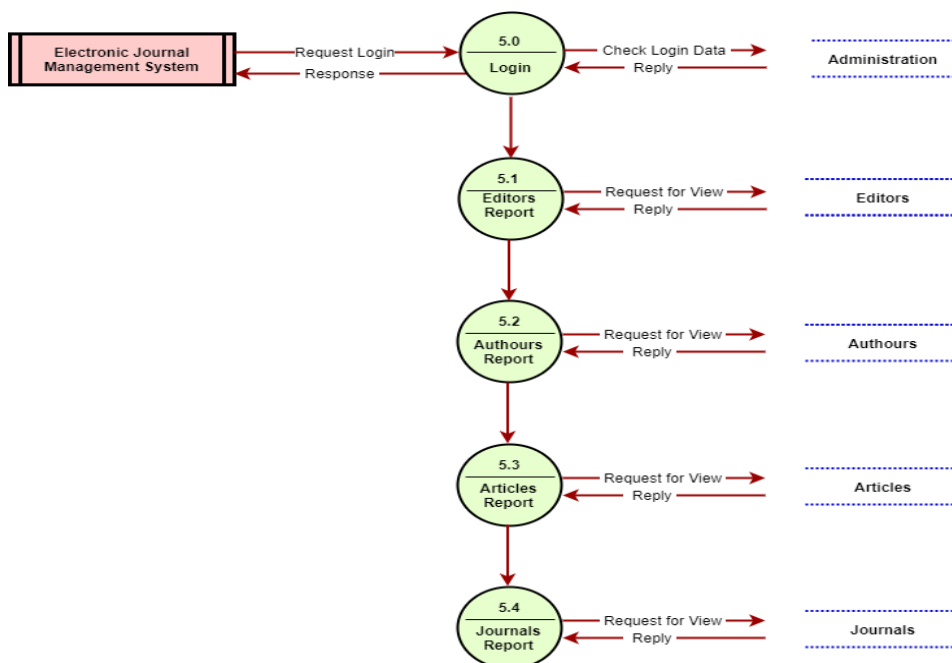


Figure 4.12: Level 1 Data flow diagram of electronic journal management system (Administrator 5.0)

Data Flow Diagram (DFD) for the Level 2 Electronic Journal Management System: DFD Level 2 delves deeper into the Level 1 components of the journal. Additional journal capabilities may be required to gain the necessary level of detail about the journal's performance. The major functions of the second level DFD are as follows:

1. Editor logs into the system and manages some functions of the e-journal management system.
2. Editor has the ability to update and change his or her password, as well as read his or her profile.
3. Editors have access to detailed information on articles, review processes, proofreading, and publishing.
4. Editor can confirm and reject submitted articles based on review comments.
5. Editor can reassign another reviewer to the article.

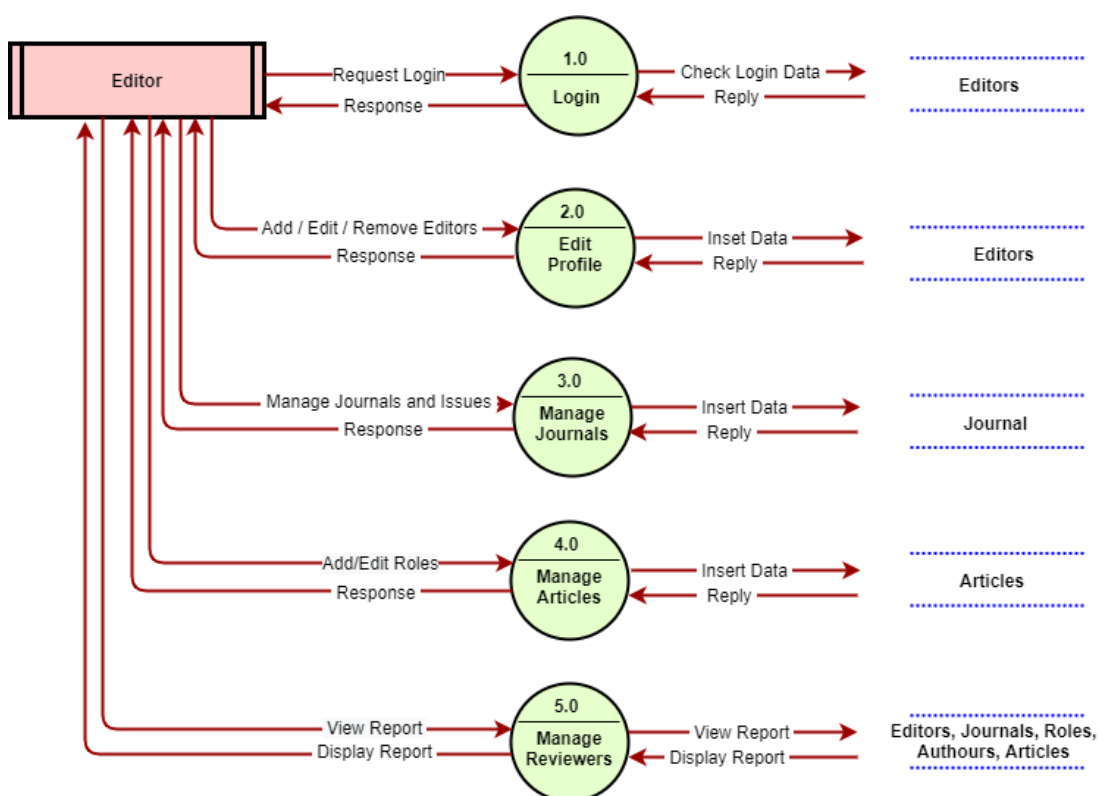


Figure 4.13: Level 2 Data flow diagram of electronic journal management system (Editor)

This figure shows the key features that the proposed system allows journal editor to control. Figures 4.14 – Figure 4.17 show detailed Level 2 DFD of journal management features that the proposed system will build.

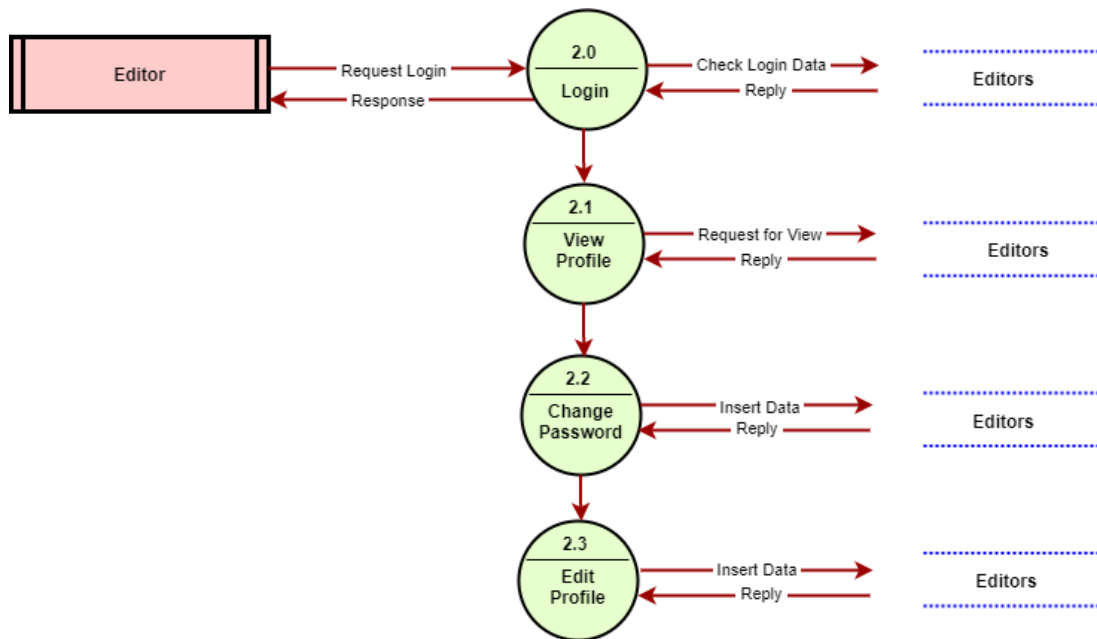


Figure 4.14: Level 2 Data flow diagram of electronic journal management system (Editor 2.0)

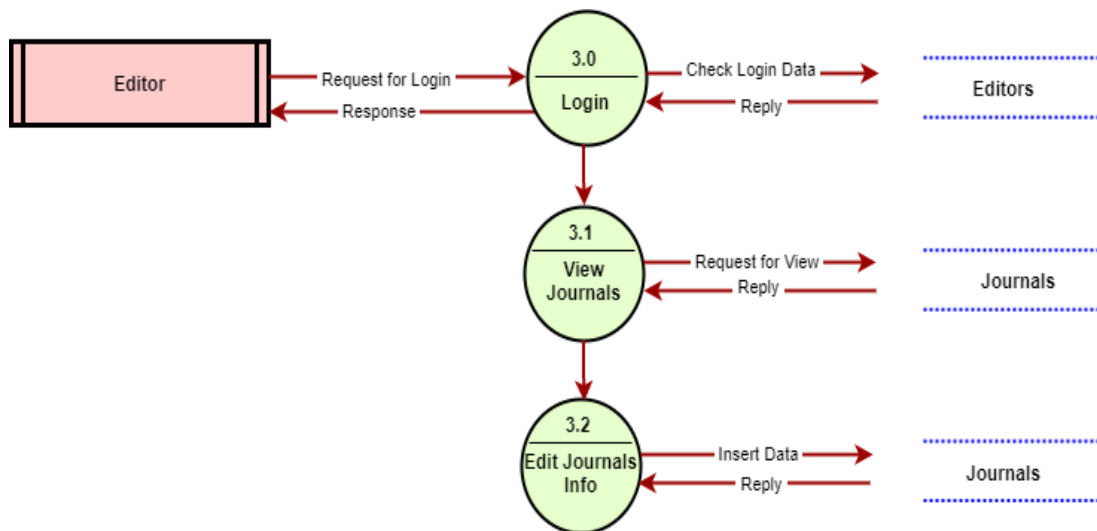


Figure 4.15: Level 2 Data flow diagram of electronic journal management system (Editor 3.0)

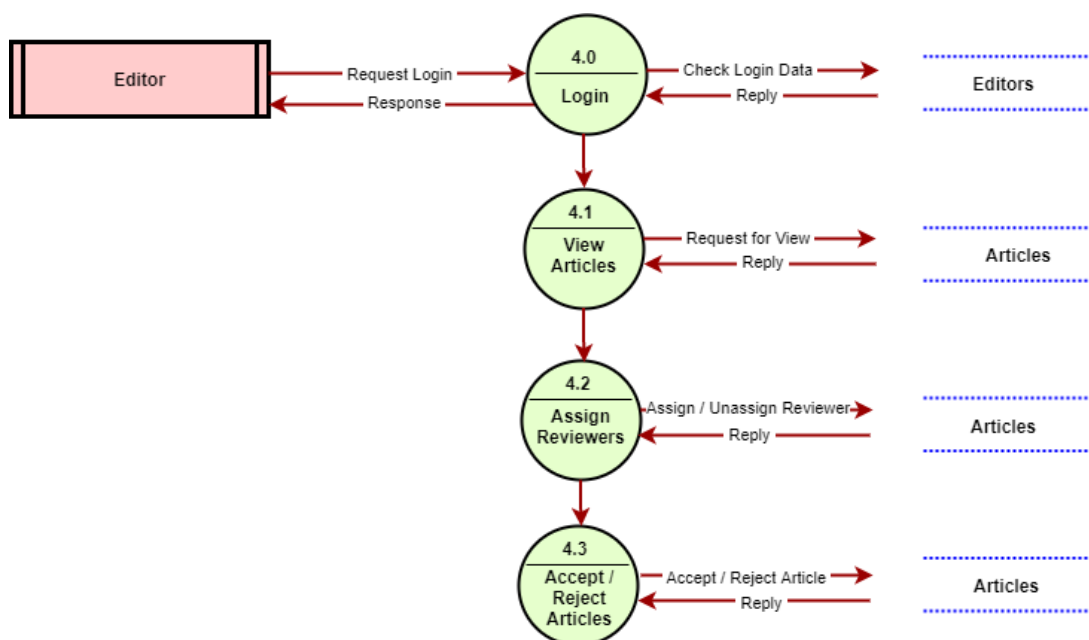


Figure 4.16: Level 2 Data flow diagram of electronic journal management system (Editor 4.0)

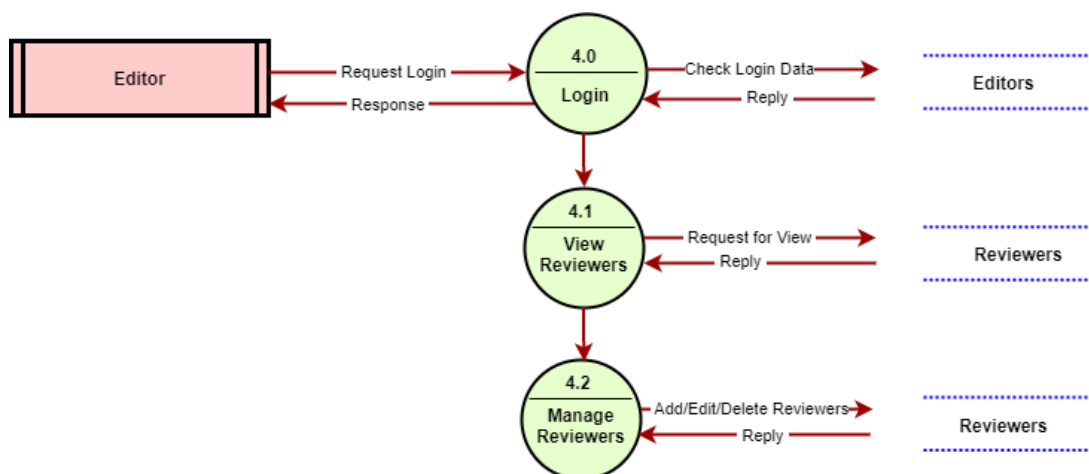


Figure 4.17: Level 2 Data flow diagram of electronic journal management system (Editor 5.0)

The major functions of the second level DFD are as follows:

1. Reviewer logs into the system and manages some functions of the e-journal management system.
2. Reviewer has the ability to update and change his or her password, as well as read his or her profile.

3. Reviewer has the ability to take notes and give feedbacks, as well as send them back to the author for editing.
4. Reviewer can accept and reject submitted articles.

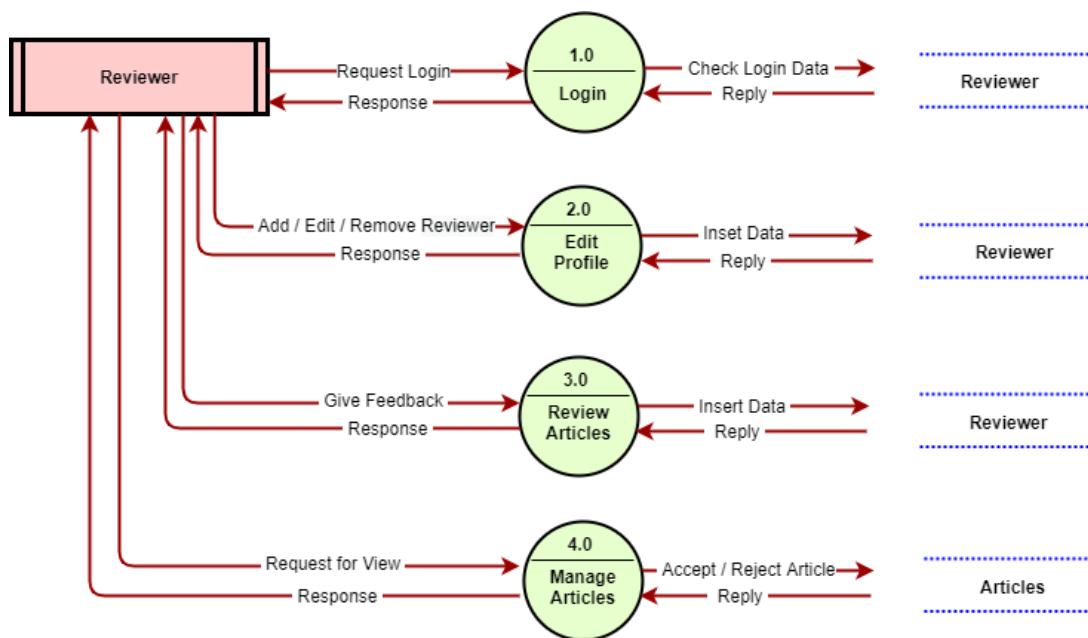


Figure 4.18: Level 2 Data flow diagram of electronic journal management system (Reviewer)

This figure shows the key features that the proposed system allows journal editor to control. Figures 4.19-Figure 4.21 show detailed Level 2 DFD of journal management features that the proposed system will build.

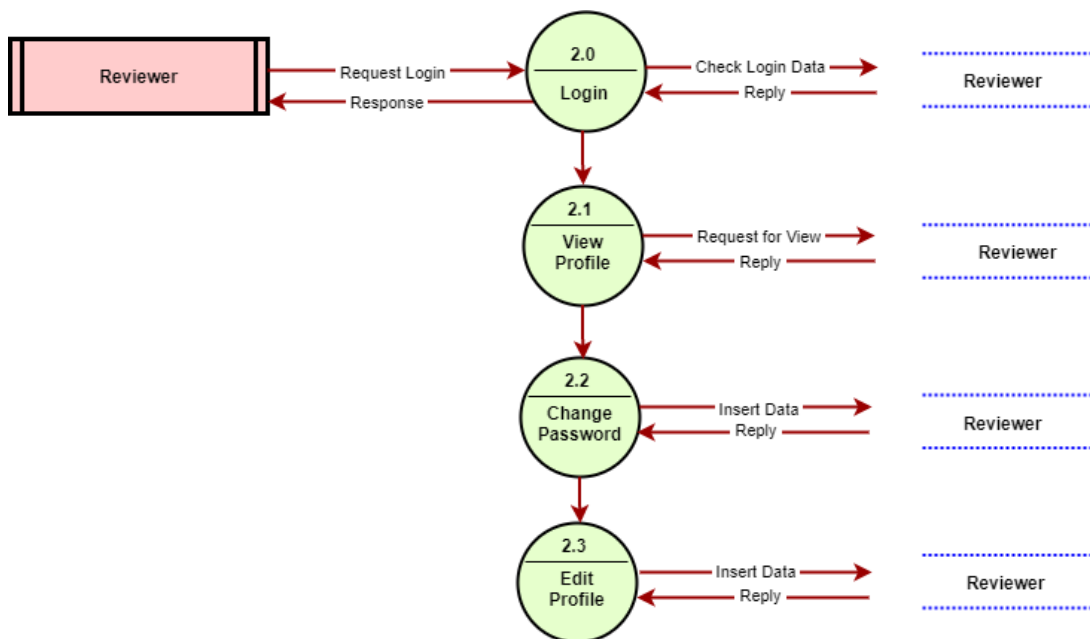


Figure 4.19: Level 2 Data flow diagram of electronic journal management system (Reviewer 2.0)

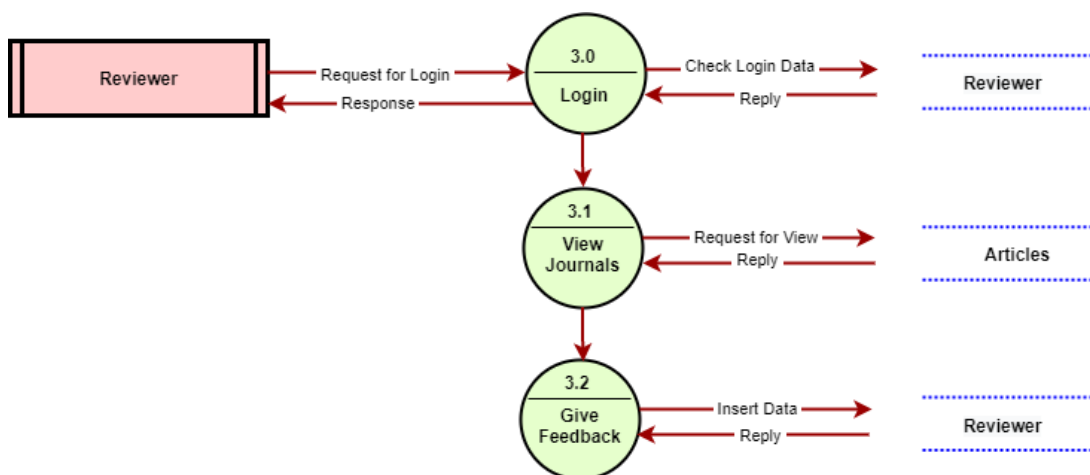


Figure 4.20: Level 2 Data flow diagram of electronic journal management system (Reviewer 3.0)

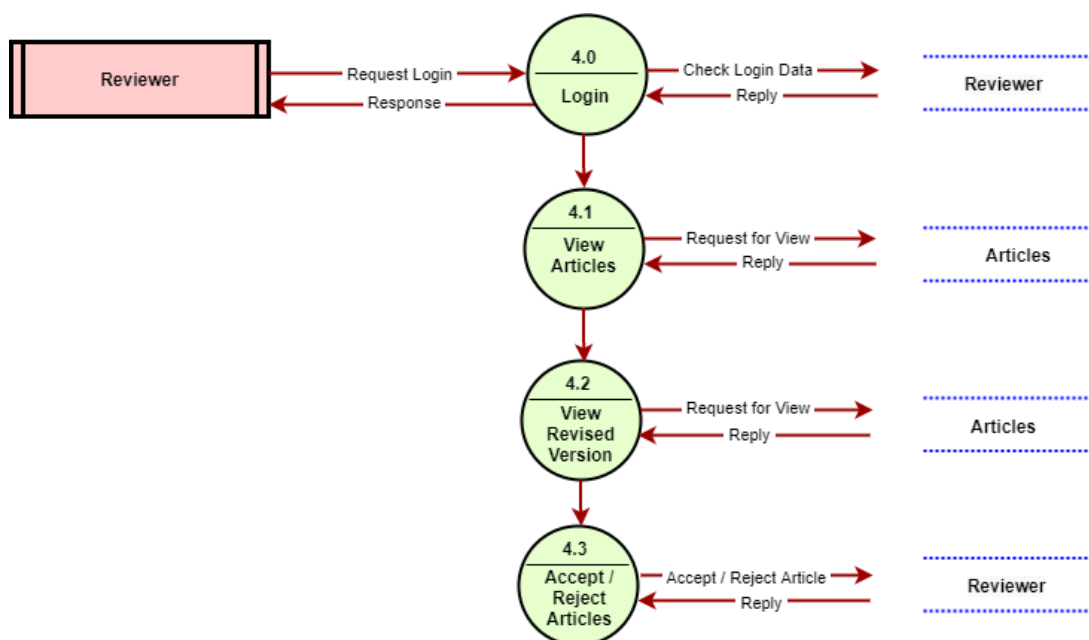


Figure 4.21: Level 2 Data flow diagram of electronic journal management system (Reviewer 4.0)

4.5.5 System Flowcharts

Flowchart is a diagram that may represent the flow in the design or system technique logically. Knowing a researcher's flowchart is also important for understanding embedded system programming. A program flow diagram shows how program functions are implemented. The flowchart helps the programmer to visualize the flow of a program before beginning to code it (Calinao et al., 2021). The system may result in disorganized procedures and program flow if the flow chart is missing information. Figure 4.22 and Figure 4.23 shows the developed system flowchart.

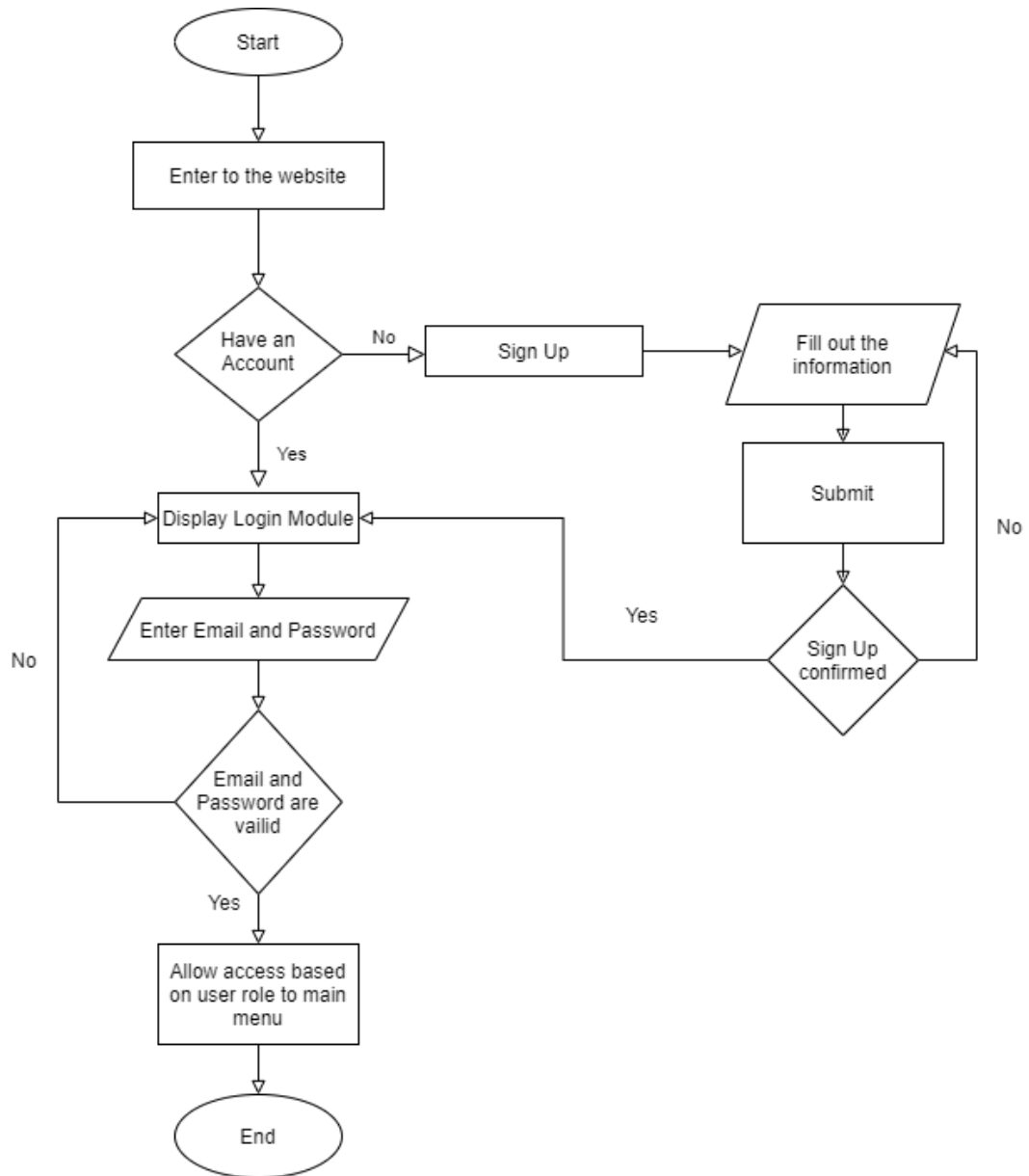


Figure 4.22: Login module flowchart

Flow of Proceedings:

Basic Flow

- The system will prompt the user for his or her login and password.
- The user logs in with his or her username and password.
- The system verifies the user name and password entered.
- The user is logged into the system.
- To greet the user, the system will show a message.

- The system will record the login information in the database's log table, including the date, time, and device used to log in.
- The system will grant access to the website to the user based on the user's permissions.

Alternate Flow

- The system will prompt the user for his or her login and password.
- The user logs in with his or her username and password.
- The system verifies the user name and password entered.
- An incorrect username or password has been entered; an error message has been displayed.
- If the user has an account, the system will prompt them to provide a valid username and password. Alternatively, register a new account if one does not already exist.
- The user clicks the register button.
- The user fills in all the required information requested by the system.
- The user clicks the register button and submits the form.
- The system replies by sending an email to the user with a confirmation link.
- The user clicks the confirmation link from the email.
- The system returns a successful message.
- The system will prompt the user for his or her login and password.
- The user logs in with his or her username and password.
- The system verifies the user name and password entered.
- The user is logged into the system.
- To greet the user, the system will show a message.
- The system will record the login information in the database's log table, including the date, time, and device used to log in.
- The system will grant access to the website to the user based on the user's permissions.

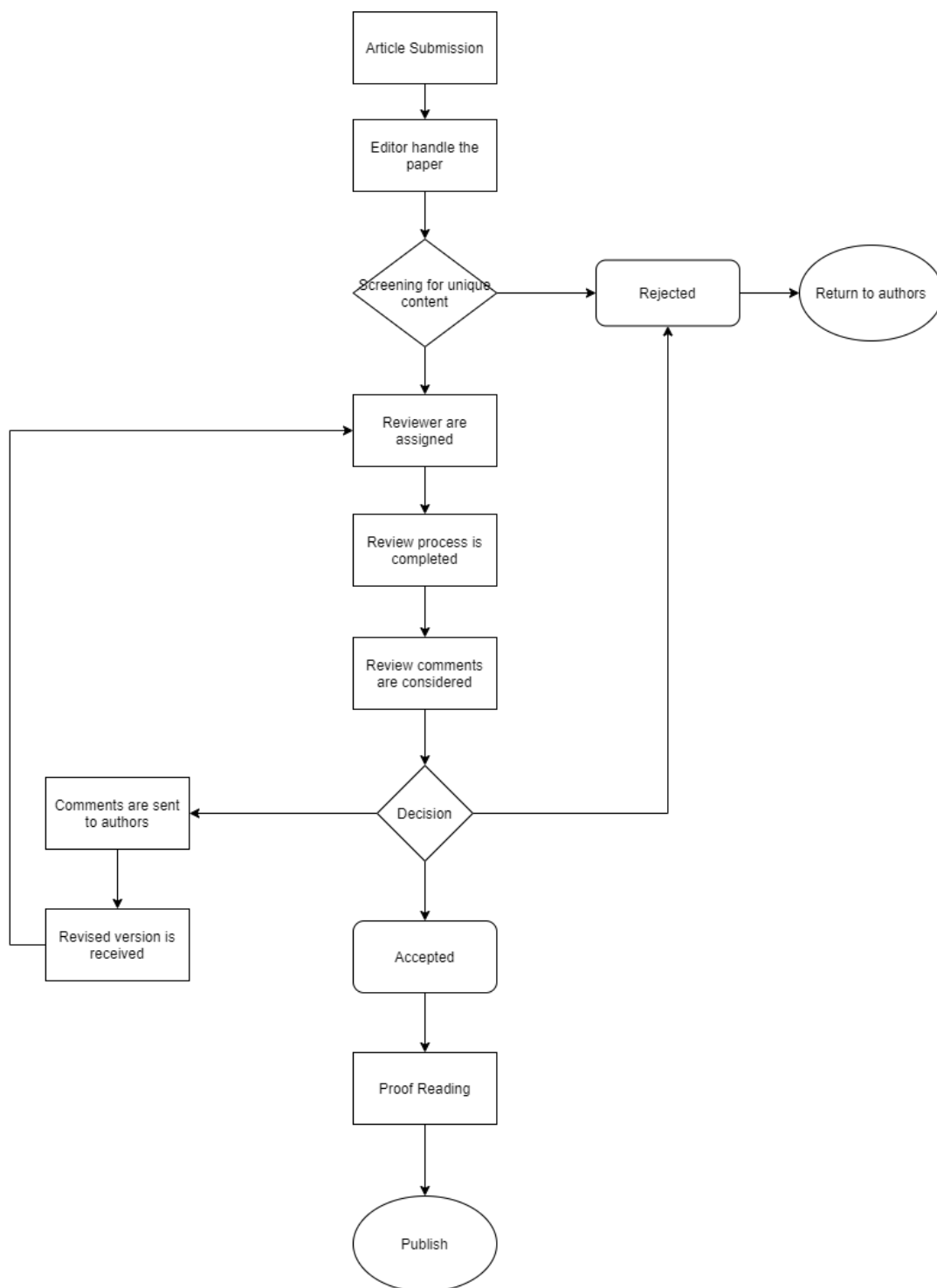


Figure 4.23: Article submission flowchart

4.5.6. Project Database

To create the project database, PHPMyAdmin must be installed on the server, from the local computer, it can be simply accessed through <http://localhost/phpmyadmin>. After login to the PHPMyAdmin Panel in the left side there is a New button as shown in Figure 4.24.

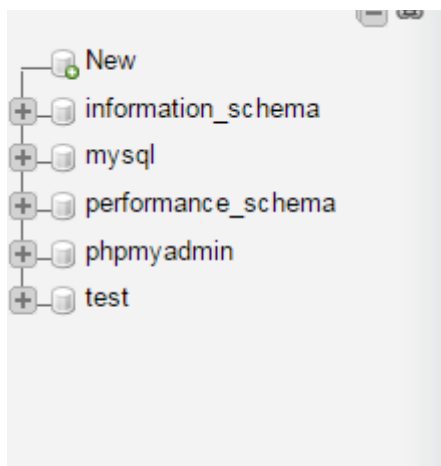


Figure 4.24: PHPMyAdmin databases menu

After clicking on the New button, in the new window, the database name should be written and selecting Collation as `utf8_general_ci` to allow using Unicode characters in the Database records then click on the Create Button and database will be created.



Figure 4.25: Create new database

4.5.7. Project Tables

As shown in Figure 4.6; It should be noted that the electronic journal management system database has teen tables, with the following specific connections between them:

- Each entity is identified by a primary key and a set of unique keys.

- Between users, roles, articles, categories, pages, editors, and issues, one-to-one and one-to-many relationships are enabled.
- All entities' articles and pages have been normalized, and record duplication has been minimized.
- Indexing added to all electronic journal management system tables to speed up query processing.

System database includes teen tables as they are given below:

- The settings table stores data and information about the system, as well as how to display information. It also stores the contact information, and a variety of other items.

Table 4.3.

Site settings table

Name	Type	Null	Extra	Index
sett_id	int(11)	No	AUTO_INCREMENT	Primary
sett_site_title	varchar(150)	No		
sett_site_description	TEXT	No		
sett_email	varchar(100)	No		
sett_phone	varchar(50)	No		
sett_logo	varchar(100)	No		
sett_banner	varchar(100)	No		
sett_guest_view	int(11)	No		
sett_last_update	DATE	No		
sett_updated_by	Int(11)	No		

Table 4.3 above is a user table, and includes all system information, which can be changed dynamically instead of statically.

Table 4.4*User table*

Name	Type	Null	Extra	Index
user_id	int(11)	No	AUTO_INCREMENT	Primary
user_first_name	varchar(100)	No		
user_last_name	varchar(100)	No		
user_education_title	varchar(50)	No		
user_email	varchar(255)	No		
user_password	varchar(150)	No		
user_role	int(11)	No		
user_status	int(11)	No		
user_registration_date	DATE	No		

Table 4.4 above that is a user table, which stores information on the profile of a user. This table will include information on all users who have been added to the system by the administrator or who have been registered in the system according to their role.

Table 4.5*User roles table*

Name	Type	Null	Extra	Index
role_id	INT(11)	No	AUTO_INCREMENT	Primary
role_name	varchar(100)	No		
role_permissions	varchar(100)	No		
role_note	Text	Yes		

Table 4.5 above that is a user roles table, which stores all of the information on the roles and how they operate in this and other locations.

Table 4.6*Pages table*

Name	Type	Null	Extra	Index
page_id	INT(11)	No	AUTO_INCREMENT	Primary
page_title	varchar(100)	No		
page_content	varchar(100)	No		
page_url	varchar(50)	No		
page_status	varchar(255)	No		
page_created_date	DATE	No		
page_created_by	INT(11)	No		
page_edited_date	DATE	YES		
page_edited_by	INT(11)	YES		

Table 4.4 above that is a user roles table, The pages table saves all pages of issue added by editors. This table will contain all the data for these issue pages.

The table of the issues will store all versions introduced by the editor. this table contains all information about the issues.

Table 4.7*Issues table*

Name	Type	Null	Extra	Index
issue_id	INT(11)	No	AUTO_INCREMENT	Primary
issue_volume	INT(11)	No		
issue_number	INT(11)	No		
issue_year	varchar(20)	No		
user_email	varchar(255)	No		
issue_title	varchar(150)	No		
issue_description	varchar(150)	No		
issue_image	varchar(150)	No		
issue_url	varchar(255)	No		

issue_date	DATE	No	
issue_doi	varchar(150)	No	
issue_status	INT(11)	No	Default Value (0)
issue_created_date	DATE	No	
issue_created_by	INT(11)	No	
issue_edited_date	DATE	Yes	
issue_edited_by	INT(11)	Yes	

Table 4.4 above that is a user roles table, The table of the issues will store all versions introduced by the editor. this table contains all information about the issues

Table 4.8

Articles table

Name	Type	Null	Extra	Index
article_id	INT(11)	No	AUTO_INCREMENT	Primary
article_code	varchar(25)	No		
article_issue	INT(11)	No		
article_authors	INT(11)	No		
article_title	varchar(255)	No		
article_subtitle	varchar(255)	No		
article_abstract	TEXT	No		
article_keywords	INT(11)	No		
article_references	INT(11)	No		
article_doi	varchar(255)	No		
article_files	INT(11)	No		
article_submit_date	DATE	No		

Table 4.4 above that is a user roles table. The articles table keeps record of all articles submitted to the system by authors. This table will contain all of these articles' data.

Table 4.9*Article files table*

Name	Type	Null	Extra	Index
file_id	INT(11)	No	AUTO_INCREMENT	Primary
file_code	varchar(20)	No		
file_url	varchar(50)	No		
file_uploaded_date	varchar(20)	No		

Table 4.4 above that is a user roles table. The article files table saves all url of article files submitted to the system by authors. This table will contain all the data for these article files.

Table 4.10*Administrator table*

Name	Type	Null	Extra	Index
admin_id	int(11)	No	AUTO_INCREMENT	Primary
admin_first_name	varchar(100)	No		
admin_last_name	varchar(50)	No		
admin_email	varchar(50)	No		
admin_recovery_email	varchar(50)	No		
admin_password	varchar(50)	No		
admin_phone	varchar(18)	No		
admin_status	int(11)	No		
admin_added_date	DATE	No		

Table 4.4 above that is a user roles table. The administration table stores information on the profile of the e-journal manager. This database will include the names of all e-journal managers who will be responsible for the system's administration.

Table 4.11*Article categories table*

Name	Type	Null	Extra	Index
category_id	INT(11)	No	AUTO_INCREMENT	Primary
category_code	varchar(20)	No		
category_name	varchar(150)			
category_description	varchar(255)			
category_url	varchar(50)	No		

Table 4.4 above that is a user roles table. The category table contains all of the categories that the system will provide. This table will contain all of these categories' data.

4.6. Development Tools

The following tools were used in developing the proposed system: Microsoft Visual Code 2021 Version 1.53 Editor, the Bootstrap 4 framework has been used for building a responsive web interface. AMPP Server is the server and database management system that efficiently manages large amounts of data and distributes useful features, data protection and application performance integrated. PHP 8 is the programming language in which the system was written to make the proposed system a web application. The following software is also used as a front-end to develop the system: CSS3, jQuery, HTML 5, recent versions of Google Chrome, and Windows 10 operating system.

4.7. System Testing

The software is debugged and tested to correct errors or interface flows before it is actually deployed. Free from error is a necessary testing to find errors that may occur as in the language error, logic errors and error analysis program. After codifying the whole programs of the system, a test plan was developed and run on a given set of test data. The system was evaluated to determine the system performance and to ensure all requirements accomplished. The researcher use the following terms to

describe testing: system testing, functional testing, performance testing, load testing, and compatibility testing.

4.7.1. Function Testing

In order to have a better understanding of the risk component of the software and to be able to respond to the appropriate action or remedy to a problem recognized by the researcher and registrar staff, the researcher/developer has tested modules, subprograms, and other associated system operations.

4.7.2. Performance Testing

During Loading and Compatibility Testing, the researcher does some testing and observation of the system's actual performance. This stage involved real-time observation and processing.

4.7.3. Load Testing

This testing step involves scanning real-world documents and entering data into the system. The researcher examined how the system works before and during data communication and storage or preservation in the system.

4.7.4. Compatibility Testing

In order to prevent computer hacking and virus assaults, the researcher tested the compatibility of hardware components including scanners used to scan paper documents and the server computer that serves as the system controller. Only the user's network credentials are protected by system security measures. A computer test of consumers' data processing activity and compliance can be used to learn more about their habits.

4.7.5. System Testing

Data quality, processing time, and the overall performance of the system were tested at this phase. Researcher assisted in developing and implementing software engineering techniques and methodologies in the testing and quality assurance process by passing several of the above-mentioned phases, such as performance, loading and functionality.

4.7.6. BlackBox Testing

A group of 3 experts in the field of cyber security tested the system and attempted to identify and eliminate as many flaws as possible; A group of testers, including university faculty members and lecturers in Erbil, tested the system's functionality, reliability, load and stability, and performance. The testing process tends to know the following points: Table 4.12 shows the result of system blackbox testing.

- 1) Error or unavailable function
- 2) Interface errors
- 3) Security of the system
- 4) Errors on data structure and access of database
- 5) Performance errors
- 6) Error in initialization and termination

Table 4.12*System testing results*

#	Test Case Description	Scenario	Result	Test Status
1	Log in to the system using the correct existing username and password.	Fill the login form correctly and click “Login” button.	Successfully logged in and the page is redirected to the dashboard page.	PASS
2	Log in to the system using the incorrect username or password.	Fill the login form correctly and click “Login” button.	No login with wrong password, user cannot login - wrong user name and password error message.	PASS
3	Testing submitting forms with correct file formats.	Select the correct file type with doc or docs extension, upload it, and submit the form.	The file is successfully uploaded, and a success message is being shown.	PASS
4	Testing submitting forms with incorrect file formats.	Select the incorrect file type, upload it, and submit the form.	The submission will be denied and the user will be prompted to re-upload it.	PASS
5	Write an abstract over 500 words.	Write an abstract over 500 words.	A warning message appears to user.	PASS
6	Process of Updating Data.	Perform data updates.	Data Updated Successfully.	PASS
7	Process of Displaying Data.	Fetch and display data from the database to a web page.	The data is displayed.	PASS
8	Download Reviews.	Download and Print the submitted file by reviewrs.	File downloaded based on authour choice (PDF or Word).	PASS
9	Download Papers.	Download and Print the submitted file by author.	File downloaded based on reviewer choice (PDF or Word).	PASS
10	Export PDF file.	Converting submitted file to PDF then Download it.	PDF file downloaded.	PASS
11	Process Print Report.	Display report.	The report data is displayed.	PASS
12	Logout Process.	Delete user session and redirect to the dashboard page.	Successfully logged out from the dashboard and the page is redirected to the login page.	PASS

Secure access to information systems has been receiving a lot of attention lately. SSL encryption is used to protect passwords. The state of the system fluctuates according to the activity and function of the current user. Available functions are determined by the current user's role. A user assigned to a position is not authorized to run scripts that are prohibited for users assigned to other roles. To prevent users from posing a direct threat to the integrity of the database, all user data is quoted before it is combined into an SQL query. Naturally, the server on which the program is running must be secure in order for the web application to be secure as well. As much as possible, the user interface has been simplified. This is critical for authors and reviewers who may be inexperienced in working with the application's core components and may not have time to read lengthy documentation. Authors should provide validated paper source files to facilitate publication. The PDF document is created using these source files, ensuring that the print has a uniform appearance.

4.8 System Operation and Maintenance

After testing phase, minor refinement was done to integrate corrections of bugs and the user's feedback which was focused mainly on fine-tuning of system, configuring, installing and usability issues. It must meet the scope of any future enhancement, future functionality and any other added functional features to cope up with the latest future needs.

Several phases were completed during system maintenance, with some of them requiring fundamental skills and knowledge, such as PHP programming abilities, networking abilities, database management system abilities, and design abilities.

CHAPTER 5

IMPLEMENTATION OF THE SYSTEM

During this stage, the conceptual design is transformed into a functional system. The implementation phase is responsible for the development, installation and operation of the electronic journal management system. Upon completion of the implementation stage, the result is evaluated according to the list of requirements drawn up at the plan and analysis phases. They are also rated based on designs. This stage is accomplished when all requirements are fulfilled and when the outcome matches the design.

5.1. Server-Side Implementation

Hypertext Transfer Protocol (HTTP) It is an application layer protocol for transferring data among connected devices to a network and operating on top of other network protocol pile layers by sending HTTP requests and receiving HTTP Responses. Web browsers use to connect with web servers. The HTTP client sends a request to the server as a request style. All HTTP requests made on the Internet carry a series of encrypted data holding different types of information with it. The HTTP sample request contains a kind of style, URI, and protocol version, followed by an answer such as MIME that requests an editor, client data, and body potential content through the TCP/IP link. The HTTP server responds to a status bar, including a version of the protocol, pass, or error code, followed by a MIME-like response that contains server details, entity identification info., and potential entity and object details.

Many large websites use server-side libraries to dynamically access different data as requested, mostly retrieved in the server's stored database and sent to the client for display as HTML and JavaScript code as shown in Figure 5.1. Also, the most important feature of the server-side libraries is that it helps developers to configure the content of your website for individual users. Dynamic platforms can highlight the most important content based on user interests and habits. This could also make websites easier to use with storing personal information. It will also allow users to communicate and receive notifications and updates through e-mail or other channels. All these functions allow users to interact even deeper.

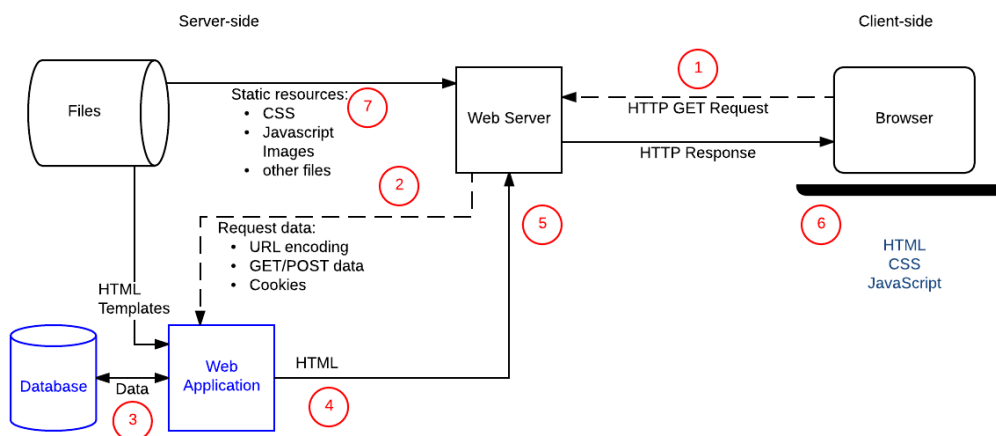


Figure 5.1: Server-Side diagram

5.1.1. Web Server

The web server is the one that handles the request from the browser. The choice of such servers depends on many factors. For this work, their capacities of handling concurrent requests and freedom of choice in the platform they run are the ones considered. It is the apache web server that is selected. The apache web server is free, open-source software. It has the capability of running on different platforms.

When developing this system, it relied on the use of XAMPP, which is an open-source application that stands for MySQL (M), Apache (A), cross-platform (X), Perl (P), and PHP (P). And it is useful for the management of the database.

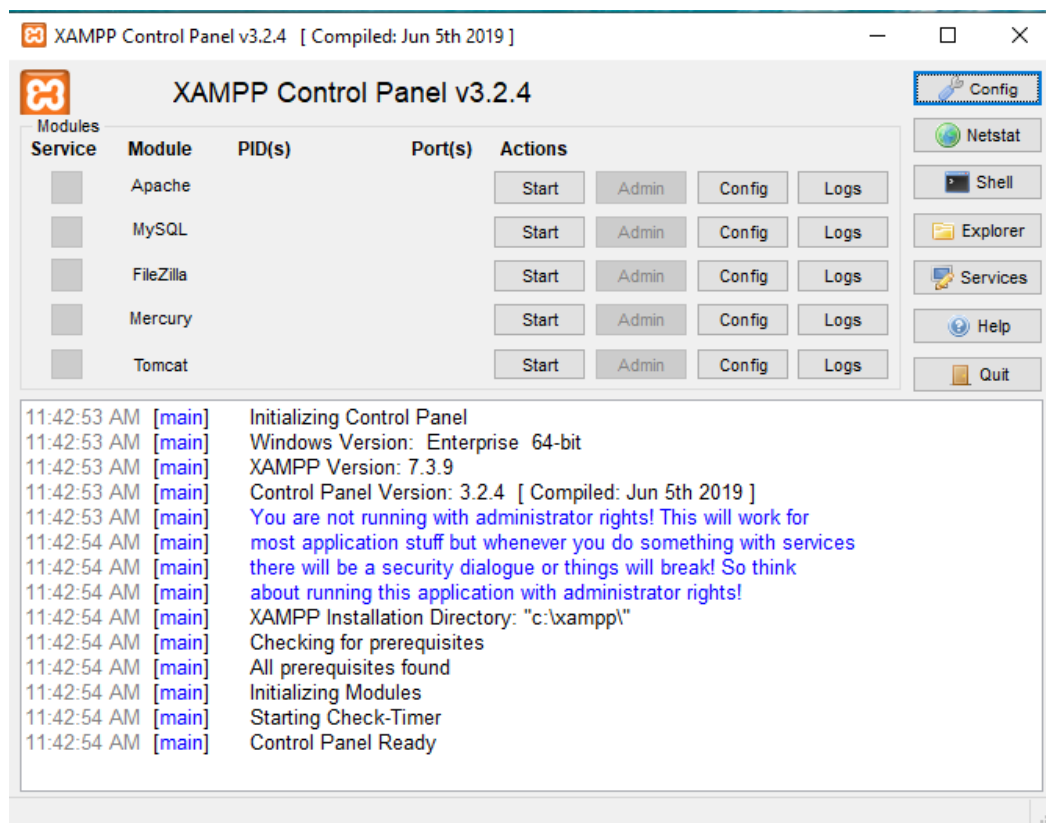


Figure 5.2: XAMPP Application main interface

Using XAMPP, the PHPMyAdmin database management system can be benefited to manage the database. Once the Start button beside MySQL and PHP is clicked, as shown in Figure 5.2, the server will be operating. It can be accessed by the top through typing a private IP address in the web browser, the default IP address for accessing XAMPP services is <http://172.0.0.1>, or simply it can be accessed via <http://localhost/>.

5.1.2. Database

A database is a permanent place to save data for secure and efficient retrieval. The database helps us to permanently build and store records. It helps one to retrieve previously generated data, update current data, or erase existing data (Wolf & Henley, 2017). The databases have an organized set of records, usually stored digitally in computer storage. Technically, a database is managed by a DBMS (Oracle, 2021). The DBMS and Data together form a relational structure called a database system, or merely a Database (DB). The most common database types are structured as columns

and rows in the series tables to be easily accessible, to make processing and querying of data-efficient, managed, modified, updated, controlled, and organized.

5.1.2.1. MySQL

MySQL is a connected base management system (RDBMS). It uses a structural query language (SQL) and can be run on Windows and Linux forums (Kofler, 2004). MySQL is a mixture of DB server and command-line customer (Christudas, 2019). As soon as the server started in the background, the client software is used to write SQL sentences and send them to the server to apply. The installation method for MySQL depends on the operating system you are running on. One or more objects called tables are contained in a relational database structure. Data or information for the database is turned on this table. Tables are differently selected by their names and include columns and rows. Columns contain column names, data types, and other features. Rows contain records for columns.

5.1.2.2. The Facilities of MySQL

MySQL is a relational DBMS (Database Management System) with all the features necessary to develop and use a database application. The facilities it offers can be found on most modern relational DBMS and all versions of MySQL:

- Tables are where all the data is stored. They are usually linked by relationships.
- Queries are the way you extract data from the database
- Forms are the method used for the input and display of database data.
- Reports are used to display nicely formatted data on paper

5.1.2.3. Structured Query Language

SQL is a data sublanguage and is a powerful tool for interacting with a linked database managed by the Relational Database Management System (RDBMS) (Lemahieu et al., 2019). IBM's SQL began development in the 1970s, with Oracle playing a significant role. This finally resulted in the formation of the widely utilized ANSI SQL standard, which is now used. SQL enables users to create complicated and powerful queries in

a simple manner, allowing for thorough data analysis utilizing simple syntax and content (Lembo, 2020).

5.1.3. PHP

In web development, the Hypertext Preprocessor (PHP) is a server-side scripting language that may be used to construct dynamic web pages. PHP is free and open-source software (Powers, 2010). PHP scripts are encased between the `PHP>` and `/PHP>` tags, which allows developers to embed PHP code into HTML pages without affecting the appearance of the page. A number of built-in functions allow for quick evolution that is compatible with a wide range of database management systems (Ahmad et al., 2020). PHP code execution takes place on the server. The “.php” file extension is used to identify PHP files.

5.1.3.1. PHP and Database Connection

the eighth version of PHP supports two different ways to connect and interact with a MySQL database: MySQL Optimization (MySQLi) and PHP Data Objects (PDO). Which one to choose is critical, as both are incompatible with one another. They cannot be used simultaneously in the same database connection. In addition, it is important to distinguish MySQLi from the original MySQL extension, which is no longer supported. The only difference between the MySQLi function names is the inclusion of the letter *i* (Powers, 2021); however, since the order of the parameters is usually different, changing an older script requires more than just adding an *i* after the function name.

5.1.3.2. Laravel Framework

A framework is a solution to a problem that is based on a fundamental conceptual structure that is based on the complexity of the issues at hand. The framework already has a collection of structural notions that can aid in issue solving. Laravel is a PHP framework that, using the “Artisan” command line tool, facilitates the building of MVC (Model-Controller-View)-based websites. Laravel is encapsulated and installed

via the command prompt using a package. Laravel is widely regarded as the best programming tool for creating dynamic and intuitive PHP-based websites (Amini et al., 2021). Typically, frameworks include a variety of elements that aid in the development of a system, such as standard code, best practices, design patterns, and common functionalities. By leveraging the framework's numerous capabilities, the application development process may be expedited. Typically, frameworks employ the Model View Controller or MVC pattern, which is a technique for decoupling data (Model), interface design (View), and functionality (Controller).

Laravel's installer is used to create a new Laravel project from scratch. A table representing this blog post was built in MySQL to generate the blog entry form. The framework's scaffolding tools are used to generate the PHP model and console classes from this data. Manually built and blogged presentations using the framework's template engine. Due to the fact that the standard PHP implementation had reached its limit, an implementation was invoked to handle input validation, sanitization, and security.

5.1.3.3. Sessions

A session is a way to store data in variables that can be accessed across many pages. Unlike cookies, session data is stored on the server rather than the user's device. In a session-based system, each user is recognized by a unique number called the session ID, which is randomly generated by the PHP engine. This unique session identifier is used to associate user information on the server, such as usernames, email addresses, and phone number.

The proposed system uses the session in the login page and those pages that require a login to verify whether the client has logged into the system or not. When a user attempts to log in to the user panel via the login page, the system checks if the user's username (or e-mail) and password are stored in the database table. If the database table contains user information, the PHP engine will create sessions and set values from the database. The user will then be redirected to the user panel. If users try to access the user panel without logging in for the first time, the system will send them to the login page after verifying the login session. After clicking the logout button, the

user is sent to `logout.php`, which is coded to terminate the user's session on the server and redirect to the login page.

5.1.3.4. Forms

A variety of visual user theme components, such as Insert Box, check box radio button, etc. are included in the HTML tag form. User input is collected and sent to the web server for processing using web forms, which are used to collect and submit user input. The form is specified by the Elements `<form> ... / form>`. In addition to GUI elements that use the form element as input. Figure 5.3 clarify how the PHP forms work

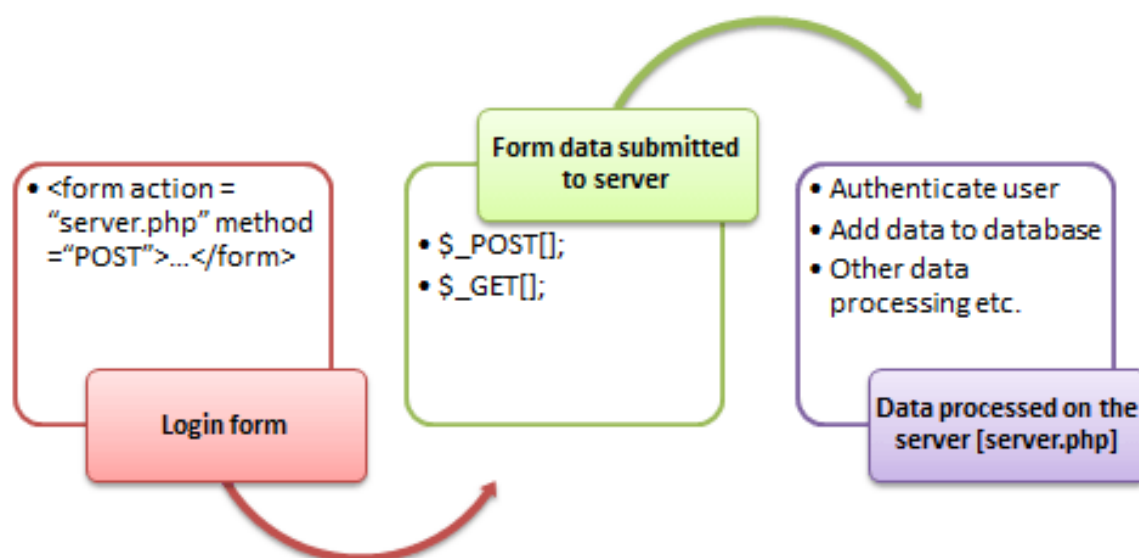


Figure 5.3: PHP forms workflow

5.1.5. E-Mails

Today, e-mail is one of the most pervasive Internet-based services. It enables users to exchange E-mail messages within and beyond the local area network. Every day, practically all firms utilize email as a means of communication between managers, workers, customers, and partners in order to improve information flow and conduct business that involves contact with individuals outside the organization or from various geographical locations. Email is a convenient, fast and secure means of communication to occur quickly, reliably, efficient, and easily (Kumar et al., 2021). The Simple Mail Transfer Protocol (SMTP) is a protocol for sending and receiving email over the Internet (Sureswaran et al., 2009).

5.1.5.1. SMTP mail

The Simple Mail Transfer Protocol (SMTP) has established a robust and efficient foundation for message transfer agents' relay functions. The SMTP envelope is simple and is transmitted in the form of a sequence of SMTP protocol modules: it contains the originator address (to which error reports should be forwarded); The mode of delivery (for example, distribution to recipient mailboxes); The address or addresses of one or more recipients. SMTP is a client/server protocol that initiates when a client on a local network wishes to send an email message to an address outside the local network via the local email server, or when email messages are moved between hosts on the same network.

5.2. Client-Side Implementation

Client-side programming is written using HTML, CSS, and JavaScript languages that run within a web browser and have little to no access to the primary operating system. The architecture of the client-side user interface is shown in Figure 5.4.

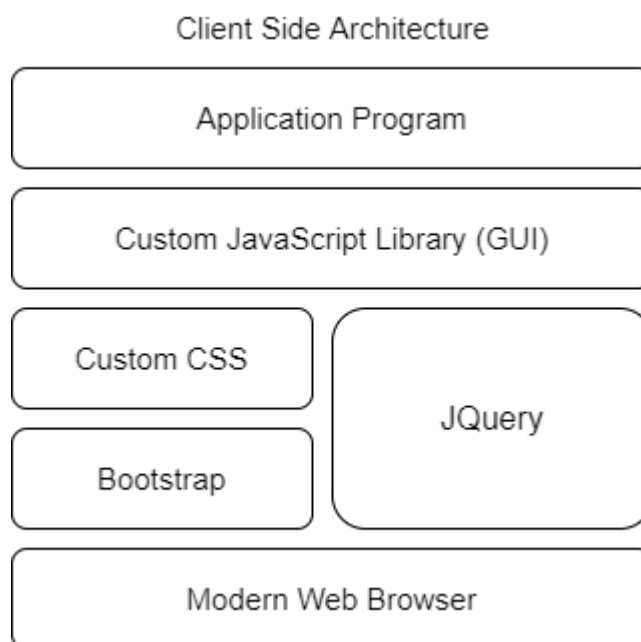


Figure 5.4: Architecture of client side

The proposed system is designed to be implemented in a web application format for the purpose of performing online tasks. Since it is cross-platform, it is compatible with

any operating system (OS) or device as long as the browser is compatible. Since all users have access to the same version, compatibility issues are eliminated. Since the online application is not placed on the hard drive, storage barriers are eliminated. To achieve this, it is planned to build the web system interface using CSS3 web frameworks and Bootstrap 4.0. With the Bootstrap library, the web theme will adapt to the size of the media used to access the web theme by automatically adjusting the size of its content. This response enables this web theme to work well with user-generated content.

5.2.1. Cascading Style Sheets

Cascading Style Sheets (CSS) defines how HTML components are displayed on the browser screen; it may also be used to manage the layout of many web pages concurrently (Attardi, 2020). Style Sheet is a CSS file, and external style sheets are stored in. CSS documents. CSS enables the management of text color, font style, paragraph spacing, the size and arrangement of columns, the usage of background pictures or colors, layout designs, and display changes for various devices and screen sizes, among other things. CSS may be written in three distinct ways inside the source code of a program. The first way is to use HTML properties to incorporate inline writing (Ashley, 2020). Another technique is to include CSS in the HEAD section using `<style>` tags, as illustrated below. Last method is to utilize external files with the CSS code stored within and called from an HTML page.

5.2.2. Bootstrap

Bootstrap is a CSS framework that is used to create responsive web pages that look great on all platforms and are compatible with all major web browsers, mobile browsers, and tablets. It offers margins, padding, and alignment for HTML components, among other things (Ouellette, 2017). Developers may further change the look of their content by using Bootstrap's provided CSS classes. The layout component is the most visible component of Bootstrap, since it influences the whole web page. The primary formatting component is referred to as a "container", since it contains all other elements. Once the container is in place, additional Bootstrap layout

components define rows and columns to create the CSS fixable layout. As seen in Figure 5.5, Bootstrap comes with its own pre-defined grid system.

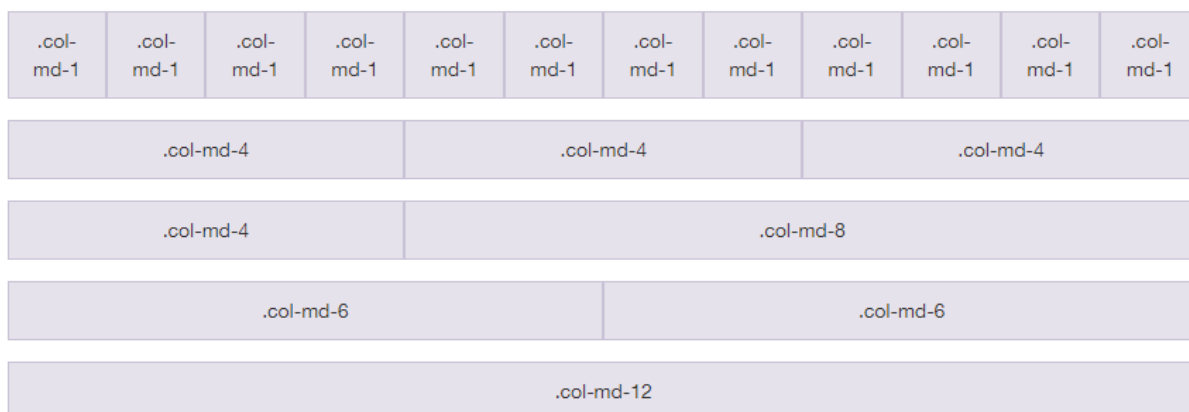


Figure 5.5: Bootstrap grid system

Additionally, Bootstrap includes its own icon sets that are accessible as open source. This contributes to the system's design and makes it simple to locate components inside the homepage.

5.2.3. JavaScript

JavaScript is a scripting language for web applications that enables the interactive nature of web pages. It is able to update and modify both HTML and CSS. It is able to calculate, process and verify data. JavaScript includes interactive components that keep the user interested. The HTML page must contain or reference JS code in order for the browser to execute it.

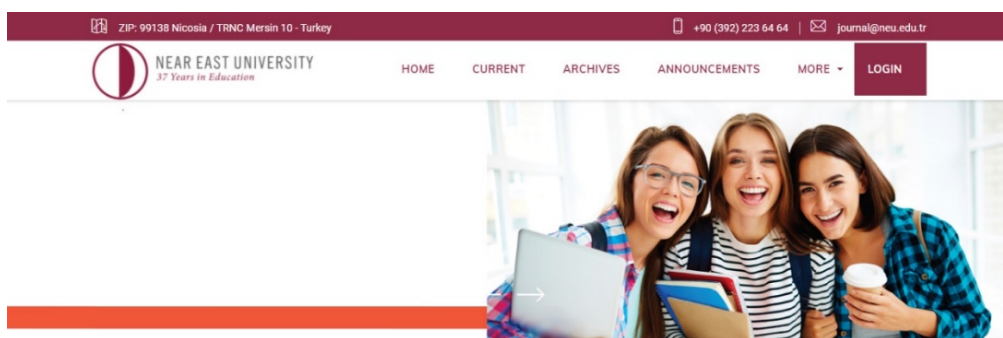


Figure 5.6: Main page slide show

The most often used applications of JS are to interact with pictures, such as zooming in/out, sliding images, and creating animations. The main page slider, as seen in Figure 5.6, is built using JavaScript code. Additionally, the page loading animation is created using JS code.

5.2.4. JQuery

JQuery is a cross-platform and JavaScript library built to make HTML client-side scripting as simple as possible. It facilitates development in JavaScript due to the speed and efficiency of jQuery. With a hosted library link from Google, it's easy to include it in the project. A large number of JQuery extensions are used and implemented in this system, including the confirmation message box, sweet alert, and modals, among others.

5.3. System Functionality

A variety of distinct functional modules have been created for use within a journal publication. This section contains a detailed explanation of the modules that were produced. Except for the paperwork module, each module requires a username and password to be accessed.

5.3.1. New Paper Submission

This module enables the submission of new articles. Three phases comprise the procedure for submitting a new paper. The authors begin by giving background information on the paper, including the title, abstract, and keywords. The following step is to offer personal information about the book. Finally, the virgin paper was transferred by the scribes. Emails are promptly sent to the article's relevant authors, along with the article's account and password. Each author receives unique data. When an author uploads another work, he or she can utilize the author's ID to access previously hidden personal information.

5.3.2. Revised Paper Submission

To connect into the system and check the status of a paper, the paper login and password are utilized. This area allows for the submission of revised papers and source

files for approved articles. Additionally, the authors' chip permits them to alter their own personal data. Additionally, here is the location where publications will be made available for author review.

5.3.3. Administrator

The admin form is used to manage basic material. The content of the pre-selected email can be converted if necessary. Numerous HTML pages have their contents fetched from the database, allowing the administrator to easily change them to their specifications. All personally identifiable information about logged-in users can be changed or amended. Additional database items, such as the sheet's potential classes, can be modified. Additionally, the administrator has the authority to appoint or remove editorial staff members, such as the editor-in-chief or associate editors.

5.3.4. Editor in Chief

The Editor in chief is in charge of the journal and can reject it. The editor can sort the reviewers by skill or name. The editor may also verify how often the reviewer was requested to review and the final revision. The recommendation assignment employs an email form. A text can be added before sending the automatically produced email. Add new reviewers and remind those that are overdue. In case of a dispute, the editor may read articles for other editors. The editor endorses all publications. Journal workflow management EIC rcg - the disputed document. Selection of editors for recent presentation papers. This is done via an email notification form.

The chief editor also manages (editing, viewing, adding people). Instead of an editor, the Editor in chief might designate proofreaders or remind them. With review, you may produce a report with each paper's chronology. The Editor in chief can also accept, reject, or send an article back to the writers for evaluation. The teacher must accept accepted papers. Selects papers from the published list. The Editor in chief may refuse access to the newspaper if the editor has a conflict of interest. Usually, this happens when the editor is also a researcher. Each editor's sheet count can be locked by the Editor in chief. This data helps the editing staff work more efficiently.

5.3.4 Editor

Each new research publication has an editor who oversees the review process and makes comments on study revisions. Submitted manuscripts that do not meet the journal's criteria or editorial guidelines may be rejected without consideration. The editor can search the reviewers' list by specialty or by name. The editor may also check how often a reviewer was requested to study submissions and when the most recent review was made. An email notification form automates the reference assignment process. Customize an auto-generated email by adding text before sending it. The editor can add more reviewers and notify reviewers about overdue articles. In case of a conflict, the editor might examine other editors' articles. The editor then offers a suggestion for. The entire journal management procedure. In conjunction with the foregoing publication, EIC.

5.3.5. Reviewer

After logging in to the online portal, the reviewer should go to the review panel section. Among the items included in the scholarly review are an evaluation of the paper (general, case study, etc.), a recommendation (accept, reject, etc.), an evaluation summary (good, fair, etc.), a comment for the authors, and a confidential note for the working editor. The assignment may be rejected by the reviewer. Choosing the decline option will send an email form to the reviewer, where they will be asked to explain why they cannot serve as reviewers for that particular paper. In addition, the reviewer may make suggestions to other reviewers for alternative names. The use of anonymous review ensures that the method is fair.

5.3.6. Lector

Prior to submission, the author's revised paper must pass a lectoring procedure to ensure that the English is proper. The reading process begins in earnest after the teacher downloads the paper and makes the necessary language and linguistic modifications. The master then uploads the prior version to the system, where it may be retrieved and processed further.

5.4. Application User Interface

The developed Electronic Journal Management System is a responsive web application that will work in every modern browser, including the mobile browser. Here are some examples of user interface design.

5.4.1. Home Page

When the system starts, it firstly shows the home page. The homepage includes a main slideshow and also contains some other page links, announcements in the middle of the page in addition to the latest issue of published scientific journals available on the homepage; underneath it, all these articles are organized into a table with the article title and author name. as shown below in Figure 5.7:



Figure 5.7: Home page of the system

5.4.2. Current Page

To see the journal's most recent issue, it can be done by clicking on the "Current" option in the main menu on the top bar, as shown in Figure 5.8 below.

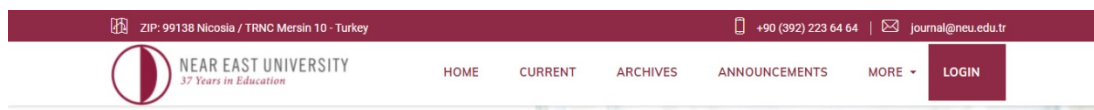


Figure 5.8: System top bar main menu

The current page contains the journal's latest issue with the issue details, below with articles, authors name, and the option to download the paper as PDF files. As shown in Figure 5.9 below.

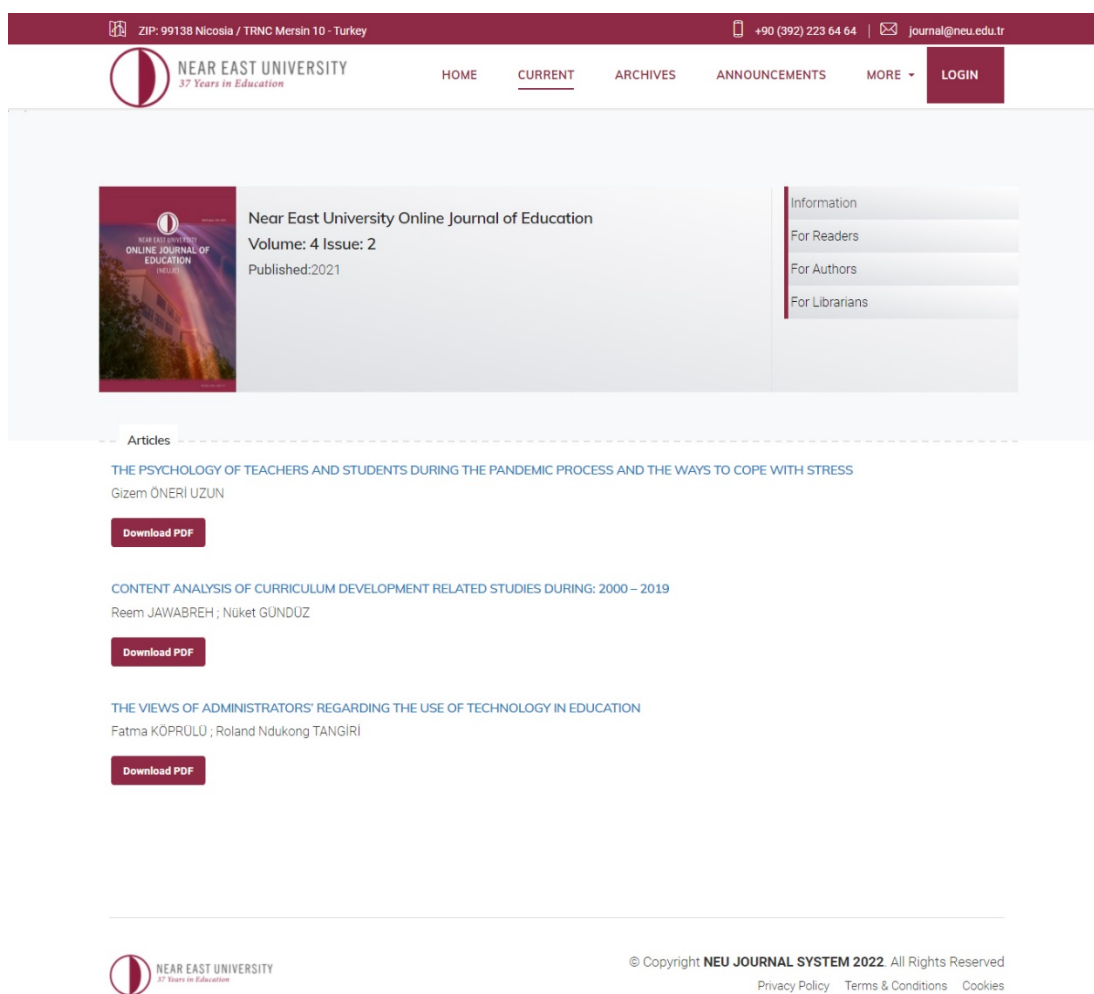


Figure 5.9: Current journal issue page

5.4.3. Archives page

The archive page displays all published or previous journal issues on the system in a grid format, as shown in Figure 5.10.

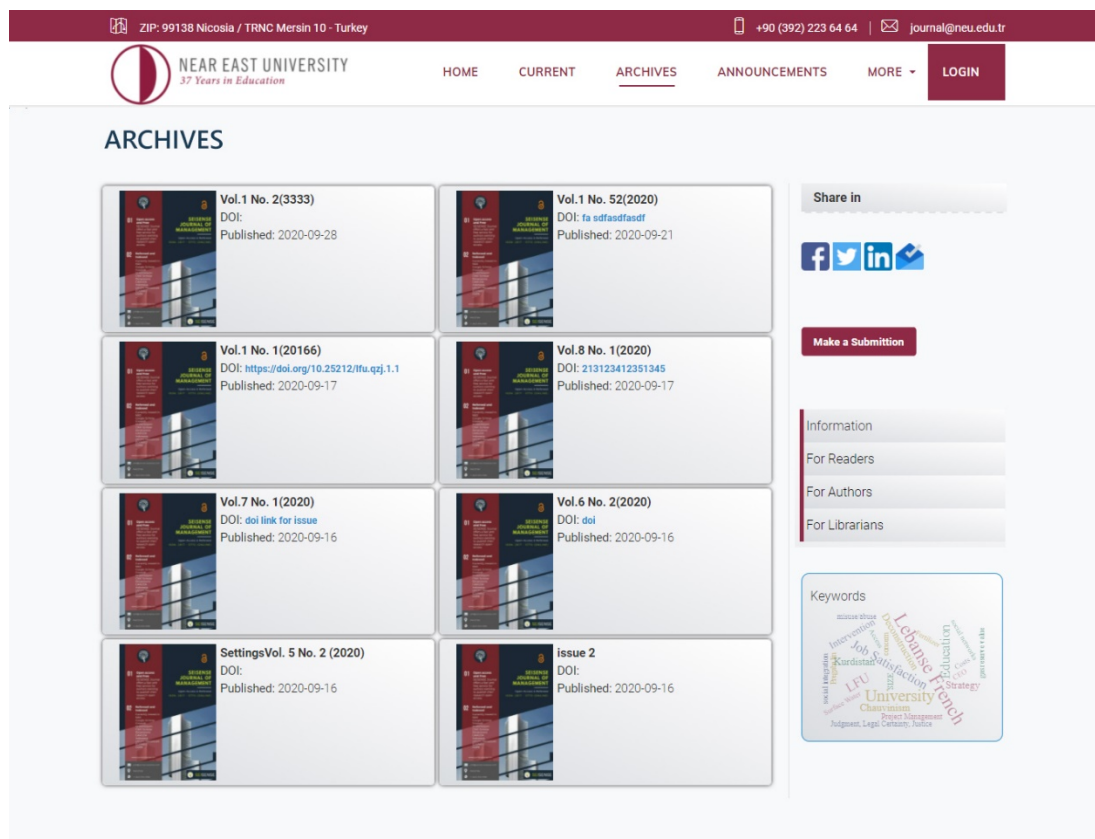


Figure 5.10: Archive page

5.4.4. Guidelines Page

The journal guide and all the user information about the style, types of acceptable articles, publishing fees, and privacy of the journal are clarified on this page. As shown in Figure 5.11.

The screenshot displays the 'Guidelines Page' of the NEU Journal System 2022. The header includes the university's name, 'NEAR EAST UNIVERSITY 37 Years in Education', and navigation links: HOME, CURRENT, ARCHIVES, ANNOUNCEMENTS, MORE, and LOGIN. Contact information is provided: ZIP: 99138 Nicosia / TRNC Mersin 10 - Turkey, phone: +90 (392) 223 64 64, and email: journal@neu.edu.tr.

The main content area is divided into several sections:

- Submissions:** A button to 'Login or Register to make a submission.'
- Submission Preparation Checklist:** A list of requirements for authors, such as 'The submission has not been previously published...' and 'The submission file is in OpenOffice, Microsoft Word, or RTF document file format.'
- Author Guidelines:** A section for authors interested in submitting, with links for 'Articles in English', 'Articles in Turkish', and 'Articles in Arabic', each with 'PDF Format' and 'Word Format' options. A contact email 'dergi@neu.edu.tr' is provided.
- Articles:** A section for the 'Section default policy.'
- Privacy Statement:** A section stating that user information will be used exclusively for the journal's purposes.

A right sidebar contains social media sharing icons (Facebook, Twitter, LinkedIn, Email) and a 'Make a Submission' button. Below the sharing icons are links for 'Information', 'For Readers', 'For Authors', and 'For Librarians'.

Figure 5.11: Journal guide page

5.4.5. About Page

About page Information about the journal's history, goals, and projects is presented to users. The user becomes more explicit about the type of journal and what this journal is most interested in. the about page interface is shown in Figure 5.12. The administrator and editors in the administrator panel can modify this page. This dynamic page's data will be retrieved and shown directly from databases.

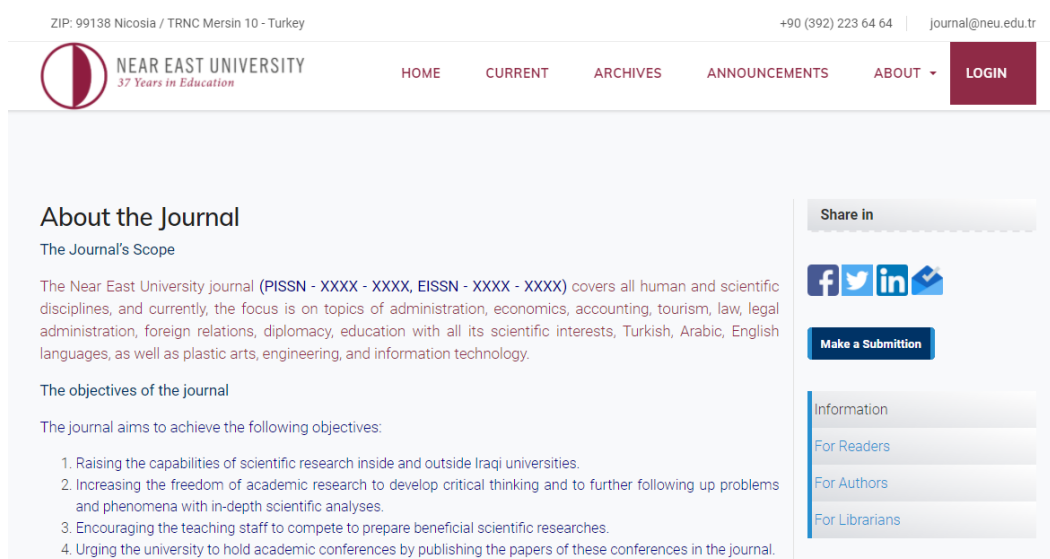


Figure 5.12: Journal about page

5.4.6. Contact Page

The contact page contains information about the phone, email, and journal location. So that the visitor, upon entering the system, can easily communicate with the journal board of directors. Figure 5.13 shown the journal contact page. As same as about page the administrator and editors can modify this page. the data of this page will be retrieved and shown directly from databases.

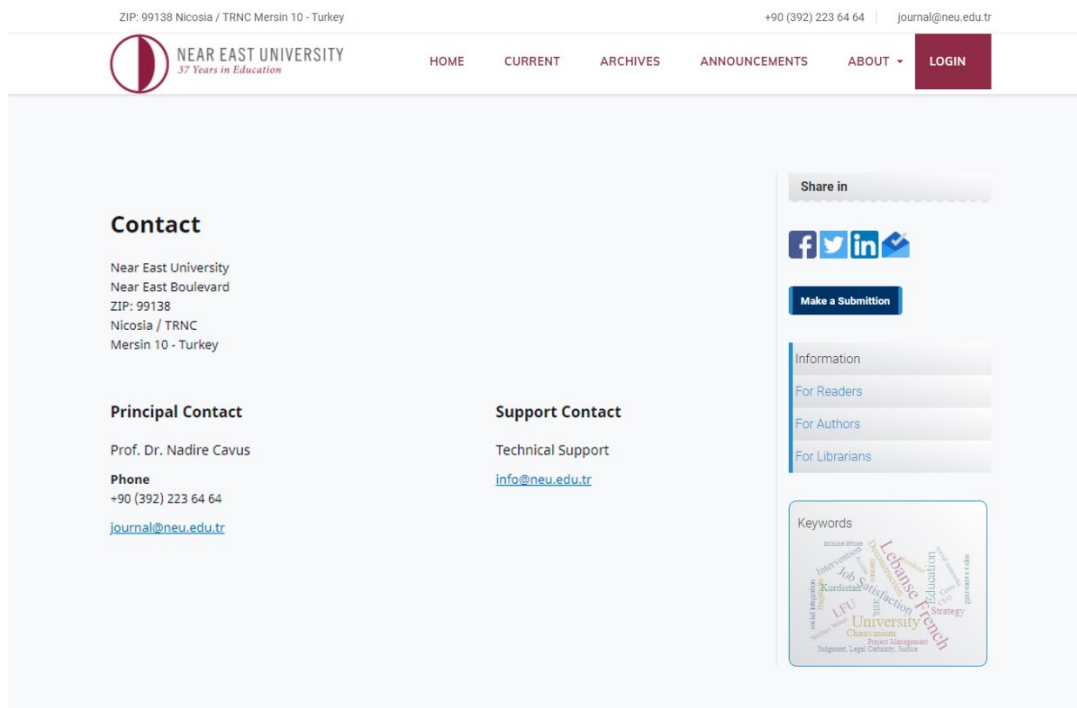
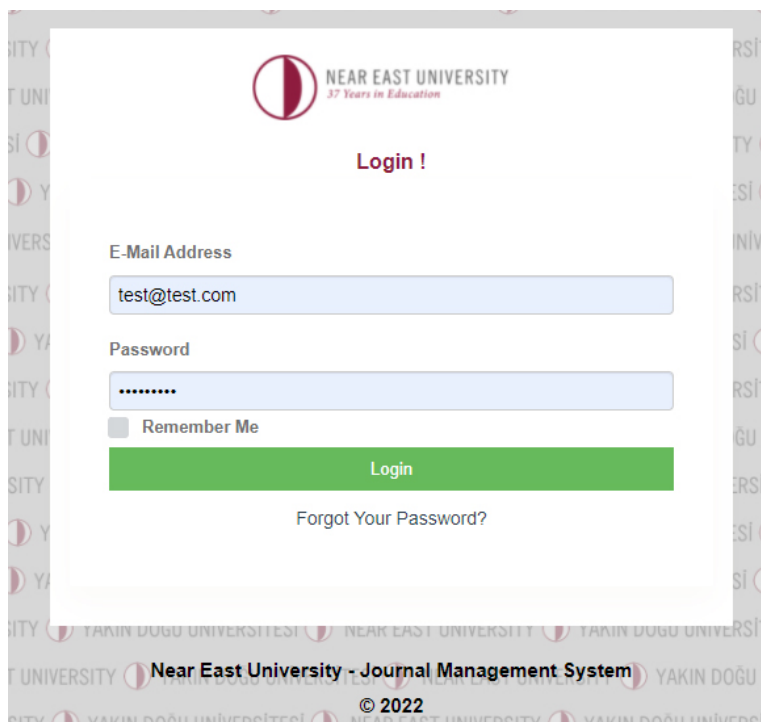


Figure 5.13: Journal contact page

5.4.7. Login Page

When the user wants to log in to the account panel, he must log in through the login page; as Figure 5.14 shows below, the login pages appear in two fields: an email and the other is password.



NEAR EAST UNIVERSITY
37 Years in Education

Login !

E-Mail Address
test@test.com

Password
.....

Remember Me

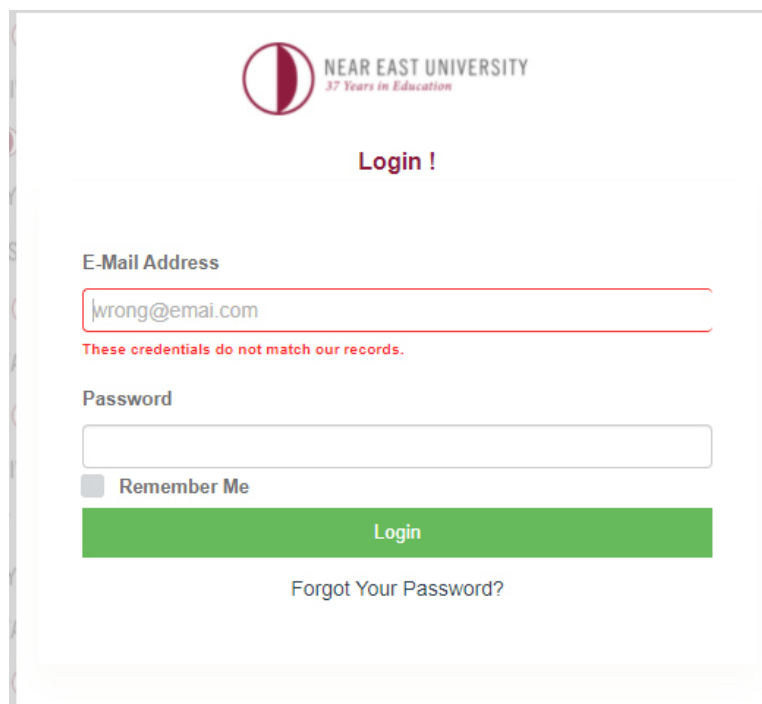
Login

[Forgot Your Password?](#)

Near East University - Journal Management System
© 2022

Figure 5.14: Login page of the system

The database controls those fields, so whenever the user enters false information, the wrong message will appear, as shown in Figure 5.15



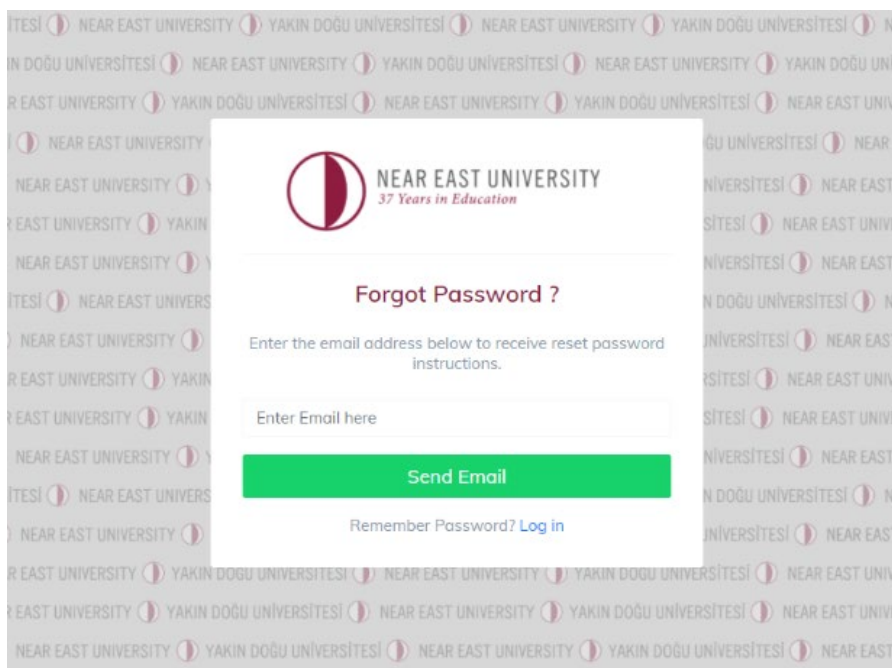
The screenshot shows the login interface for Near East University. At the top, the university's logo and name are displayed. Below the logo, the text "NEAR EAST UNIVERSITY" and "37 Years in Education" is visible. The main heading is "Login!". There are two input fields: "E-Mail Address" and "Password". The "E-Mail Address" field contains the text "wrong@email.com" and is highlighted with a red border. Below this field, a red error message reads "These credentials do not match our records.". The "Password" field is empty. Below the password field is a checkbox labeled "Remember Me" which is currently unchecked. A green "Login" button is positioned below the "Remember Me" checkbox. At the bottom of the form, there is a link that says "Forgot Your Password?".

Figure 5.15: Login wrong message

Otherwise, the system will automatically transfer them to their account panel if the user has valid information and account.

5.4.8. Forget password page

If the user forgets their password, they can recover it through the “Forgot Password” option; And this is by typing the email with which the account was created as shown in Figure 5.16, then he/she gets a link via this link that can put a new password for his/her account



NEAR EAST UNIVERSITY
37 Years in Education

Forgot Password ?

Enter the email address below to receive reset password instructions.

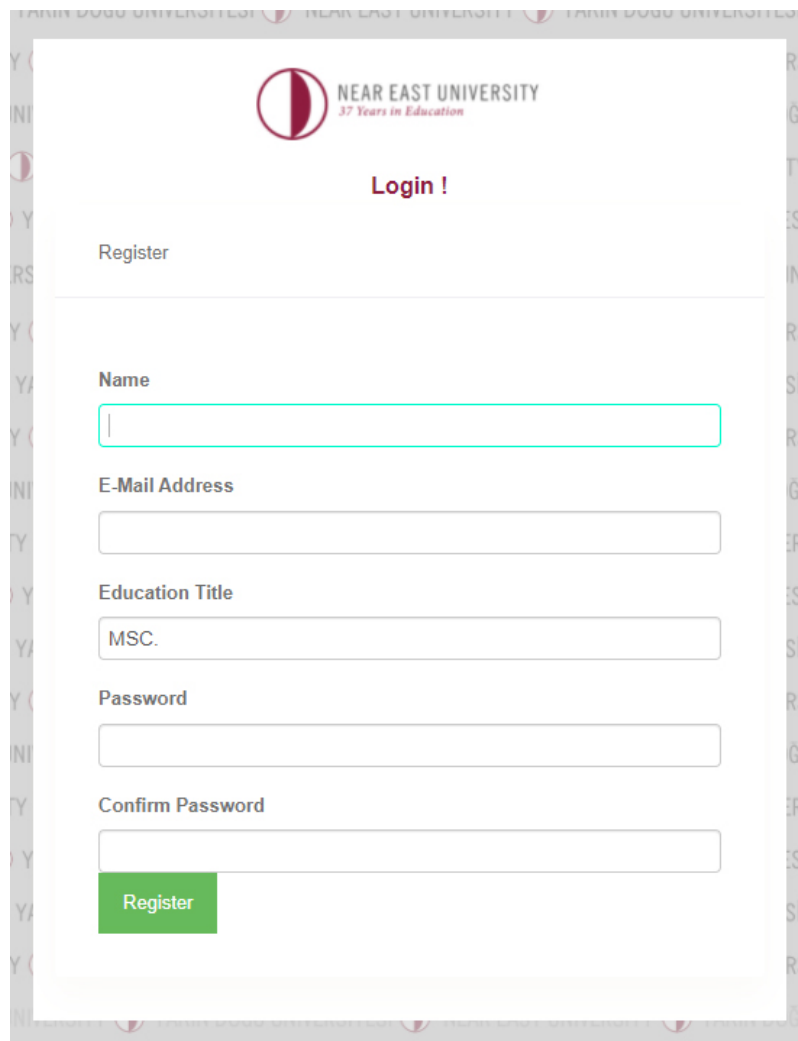
[Send Email](#)

Remember Password? [Log in](#)

Figure 5.16: Forget password page

5.4.9. New User Registration Page

For the author to publish and submit the articles in this system, he/she must first register and create a new account if he/she does not have an account, Registration in this system is straightforward only a few steps, and the demands are apparent and straightforward as is shown in Figure 5.17.



The image shows a registration page for Near East University. At the top, there is a logo consisting of a red circle with a white vertical line through it, followed by the text "NEAR EAST UNIVERSITY" and "37 Years in Education" in a smaller font. Below the logo, the text "Login !" is displayed in red. Underneath, there is a link for "Register". The main registration form contains several input fields: "Name" (empty), "E-Mail Address" (empty), "Education Title" (containing "MSC."), "Password" (empty), and "Confirm Password" (empty). At the bottom of the form is a green button labeled "Register".

Figure 5.17: Registration page of the system

After the user enters the personal information and clicks the “Register” button, the system will check the data if it is not missing, and the account will be successfully created. An email message with the activation link will be sent to the user’s email to activate the new account.

6.4.10. User Panel Dashboard

After the user successfully enters his name and password, the first page that appears is the dashboard page, which displays the notifications, user settings, system modules, and the user’s statistics in an easy and simple manner. As shown in Figure 5.18 below:

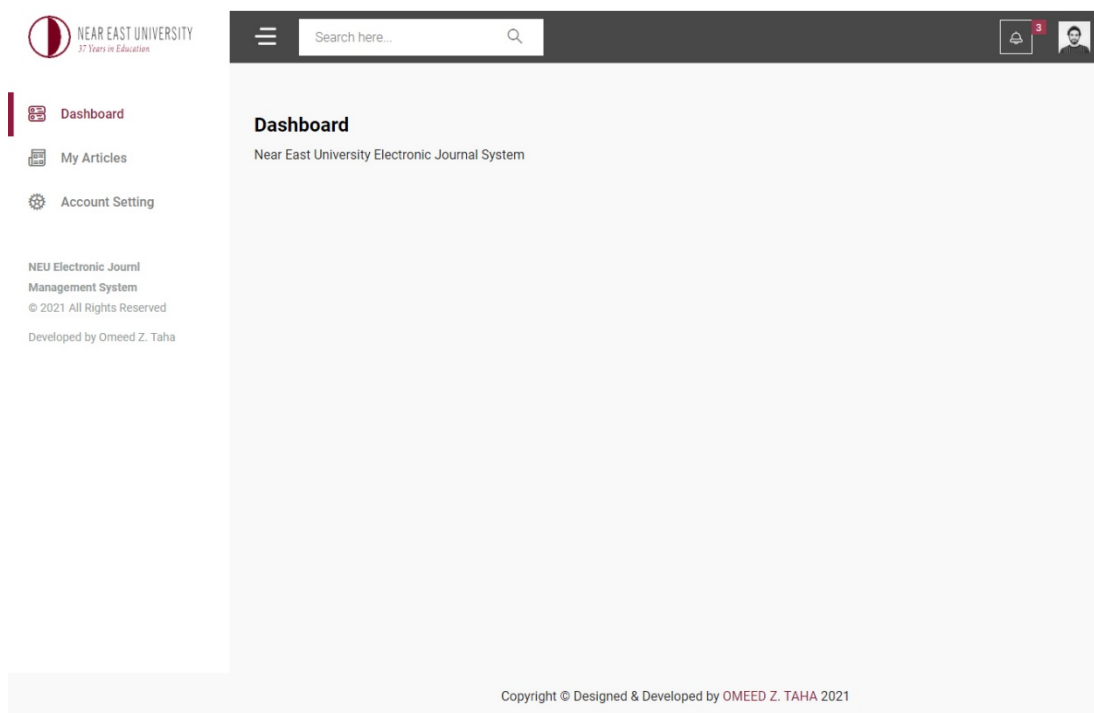


Figure 5.18: The user panel dashboard

5.4.11. Submitting an Article

To submit an article, the user must log in to his system and click “New Submission” in the right panel, then open a new page as is shown in Figure 5.19, In the first step, the user must choose the type of component he wants to submit, Then the user must upload a file from inside his computer, if he needs to change the file name, he can type a new name in the third field and rename the uploaded file to that name. Then click on the next button required.

Figure 5.19: The first step to submit an article

After the file has been uploaded, a new page will be opened as is shown in Figure 5.20 that the user must fill the fields on this page correctly. User must type article title and article subtitle if available and the article abstract must be copied and pasted in abstract field.



The screenshot shows a web form titled "Submit Article". At the top, there are navigation links: "Start" and "Enter Metadata". Below these are three main input sections:

- Title:** A single-line text input field.
- Subtitle:** A single-line text input field.
- Abstract:** A rich text editor area with a menu bar containing "File", "Edit", "View", "Insert", "Format", and "Table". Below the menu is a toolbar with a grid icon and a dropdown arrow. The main area is a large text box for pasting the abstract.

 At the bottom right of the form, it says "POWERED BY TINY".

Figure 5.20: The second step to submit an article

The authors must be added to the article by clicking on the “Add author” option in a gray area. As shown in Figure 5.21.



The screenshot shows a gray panel titled "List of Authors" with a "POWERED BY TINY" logo in the top right. The panel contains a table with one row of author information and an "Add Author" button in the top right corner.

List of Authors			Add Author
Ziryan, Taha	ziryantaha@gmail.com	Author	-

Figure 5.21: The third step to submit an article

After clicking on the option “Add author”, a new window will appear as shown in Figure 5.22, and the user will have to fill in this information about the author in order to add it to the article.

Add New Author ✕



First Name	Last Name
<input type="text"/>	<input type="text"/>
E-Mail	Country
<input type="text"/>	<input type="text"/>
User Details	
Homepage(url)	ORCID ID
<input type="text"/>	<input type="text"/>
Affiliation	
<input type="text"/>	
Bio Statement (e.g., department and rank)	
<div style="border: 1px solid #ccc; padding: 5px;"><p>File Edit View Insert Format Table</p><p> ▼</p><div style="height: 100px;"></div><p style="text-align: right;">POWERED BY TINY </p></div>	

Figure 5.22: The fourth step to submit an article

After filling in the author information, you should click on the “Save Change” button, then the author window will disappear and you will go back to the article information as shown in Figure 5.23. after filling in keyword fields and references. to save author data clicking on the “complete” button required.

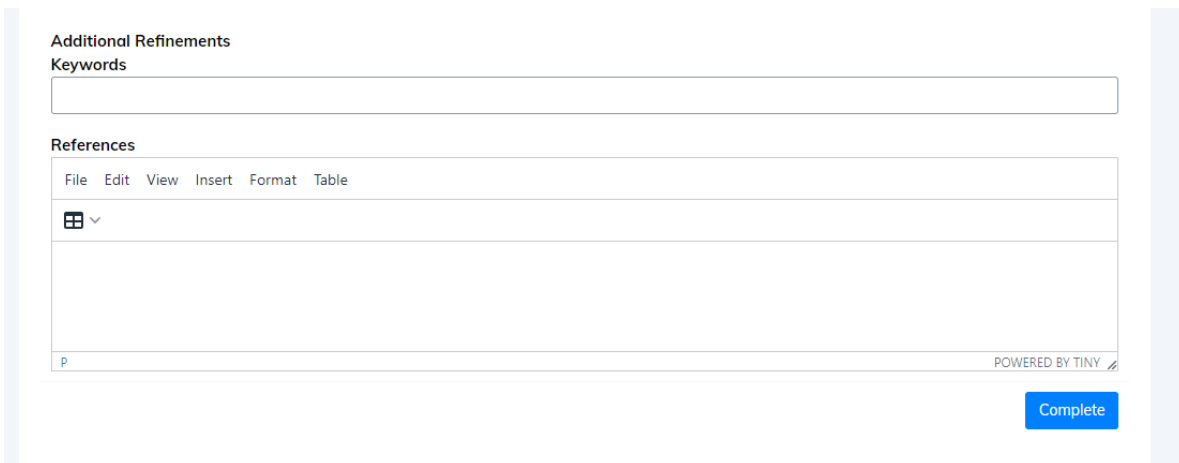


Figure 5.23: The fifth step to submit an article

5.4.12. Editor Panel Dashboard

When the Editor enters the system, it will also have a menu that is different from the normal user (author), Editor menu include issues, authors, reviewers, and submitted articles. As shown in Figure 5.24.

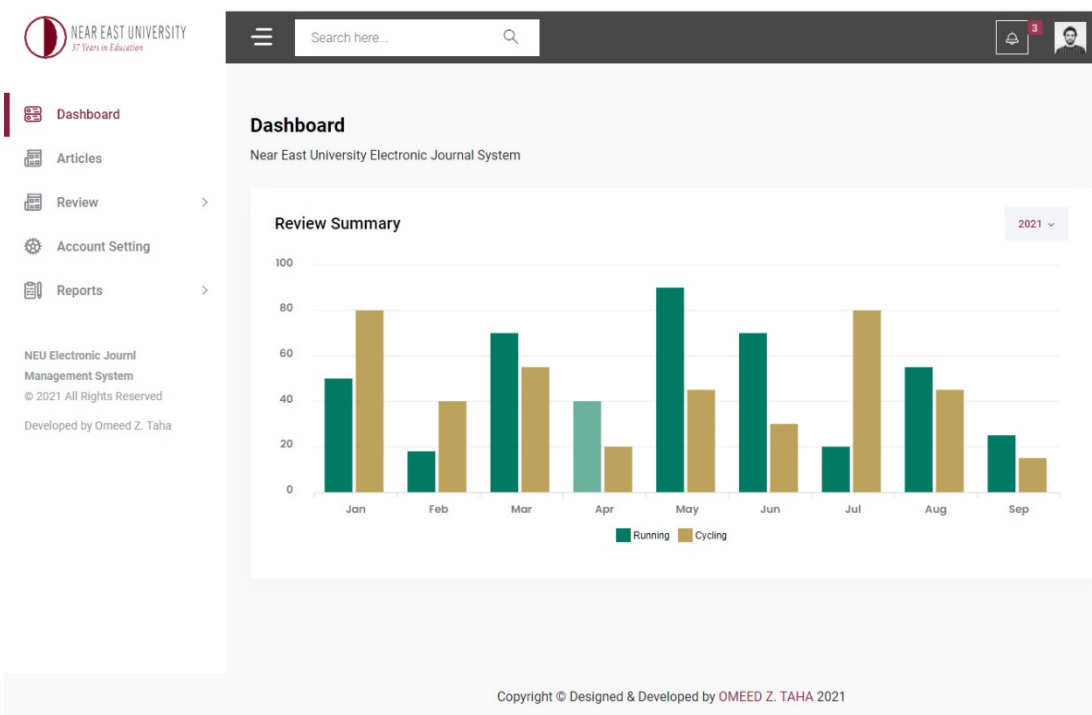


Figure 5.24: The editor panel main menu

5.4.13. Administrator Panel Dashboard

The Administrator panel has the same editors feature and interface, only a few more features and options that can generate reports, edit users information, manage permissions and role, and can also edit system configuration information. Figure 5.25 shows the Admin panel menu.

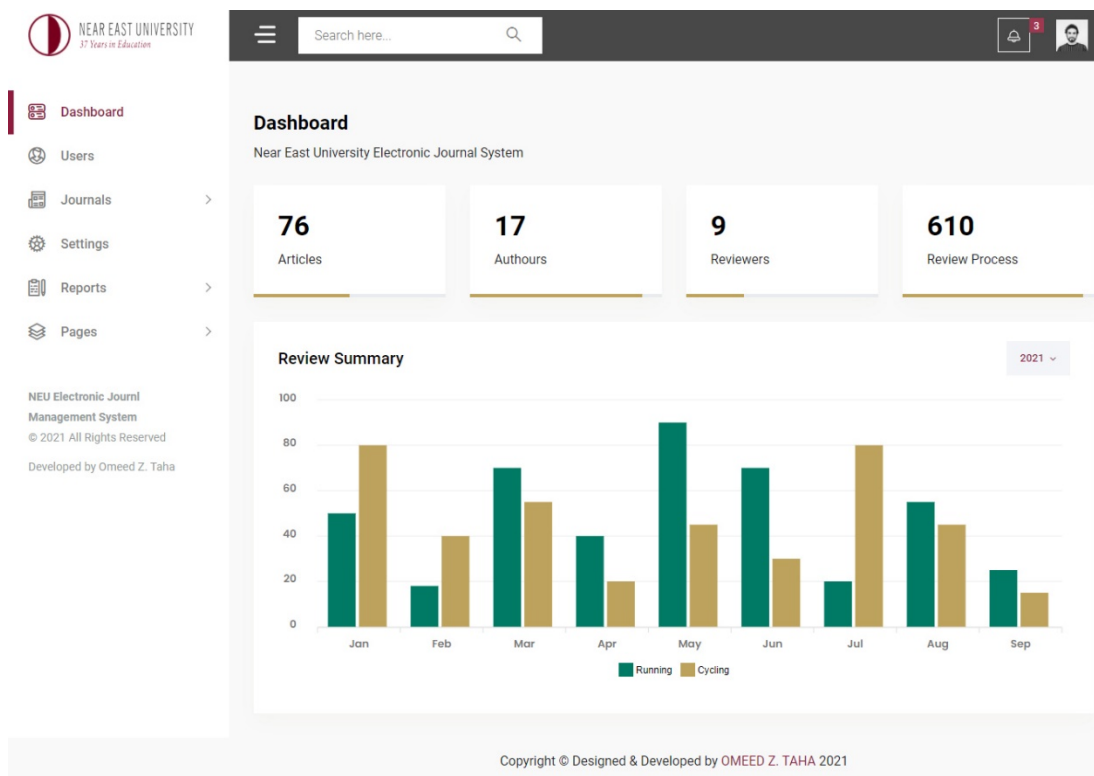


Figure 5.25: The admin panel dashboard

5.5. User's Opinions Towards the Developed System

This section presents the results of a usability test conducted on ten participants by an academic staff member and an information technology expert at one of Iraq's universities. The system was installed on a local server, and participants used various components of the system for five days under various accounts and roles. Testing is carried out to ensure that the system has been implemented based on the required functions and also to evaluate whether the system is usable or not. The main features reviewed for the test are system interface, system security, ease of use, time consumption, user experience, relevance of information provided by the program and other related variables. To evaluate the system's usability, the Nielsen Heuristic was used which outlines 10 universal principles of user interface design.

The testers were initially questioned about their prior experience working on such a system, and then about their work. The following questions were asked: Have you previously worked for an electronic journal? If you answered yes, did you work as an author, editor, or administrator? Then, based on their work and experience, they each obtained an account with the same role and authority as the one on which they actually worked to conduct the test in professional way. Because this test was conducted by academic staff at a university with its own electronic journal, we were able to more easily identify all user levels and each user could test the section on which he or she had worked based on their experience. The Table 5.1 below presents the result of the test as carried out by the users.

Table 5.1:

Usability test result

Heuristics	Users									
	A	B	C	D	E	F	G	H	I	J
Visibility of system status	3	4	4	3	5	4	5	4	4	4
Match between system and the real world	4	5	5	4	4	3	4	5	4	5
User control and freedom	5	5	4	5	4	4	4	5	3	4
Consistency and standards	4	3	3	4	4	3	3	3	4	5
Preventing errors	4	4	5	5	5	4	4	3	5	3
Recognition rather than recall	3	3	5	4	4	3	5	4	4	3
Flexibility and efficiency of use	5	5	4	4	5	4	4	4	4	5
Aesthetic and minimalist design	3	4	5	5	4	5	4	4	4	4
Help users recognize, diagnose, and recover from errors	4	4	3	4	5	4	4	4	4	4
Help and documentation	4	5	4	5	5	4	5	5	4	3
Average	3.90	4.20	4.20	4.30	4.50	3.80	4.20	4.10	4.00	4.00
Overall average	4.12									

Based on the result above, the average score of the usability of the application is calculated. The testers had several options, It consisted of five numerical alternatives presented to the user in the form of numbers, beginning with 1, which represented "Strongly Disagree", 2 represented "Disagree", 3 represented "Neutral", 4 represented "Agree", and ending with 5, which represented "Strongly Agree". To arrive at the final conclusion, the overall average was taken. It turned out that the application scored 4.12 out of 5.00 which is equivalent to 82.4%. This result indicated that the application has a high usability (Sauro, 2011).

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

This chapter concludes the research by presenting the work completed on the developed system, explaining the results and summarizing the main points of the study. It makes recommendations based on the results of the developed system and the achievement of the set goal of the system, as well as discussing future development.

6.1 Conclusion

The Internet has fuelled the expansion of electronic book, journal, and CD collections. In recent years, online journals have gained prominence. A new collection of e-journals, e-books, databases, reference works, and web sites Libraries increasingly subscribe to e-journals for their digital collections. It continues to affect libraries and information services. No more paper publishing. Electronic journals are being used in academia and business. Journals, monographs, and conference proceedings have traditionally been used for scholarly communication. Science nowadays is mostly transmitted electronically. Electronic publication is essential in modern science. Making scientific articles available online has becoming more popular as a result. This is how the Electronic Journal System works (EJS). Manuscripts are reviewed for editorial requirements, hired reviewers, double-blind peer review is conducted, and metadata is edited and preserved. When publishing online, we must consider people, scientific organizations, and journal editors.

Managing a journal is demanding and time consuming. Educational institutions can deliver better, quicker, and cheaper services via e-journal management systems. Using such a system will improve publishing frequency and efficiency. Print journals demand greater physical resources to manage and publish. But e-magazines are the most controllable and cost effective. This study was conducted by reviewing issues raised in similar studies discovered by researchers, considering a variety of factors. Everything went smoothly, and the system was implemented as expected. So the educational institution can stop printing paper periodicals. In the end, the system must be fine-tuned for the study's aim was achieved, as was the capacity to use the integrated electronic journal management system in the simplest and most direct manner possible at any time and from any location on the world. Additionally, the case

study demonstrated that the integrated app is enjoyable and straightforward to use. The findings of the electronic journal management system design indicate that the design can be used to aid in the development process of the electronic journal management system for managing online publishing. The design has the potential to overcome and overcome the drawbacks of the electronic journal system.

6.1. Recommendations

The usage of this system will aid in the advancement and extension of science at University by assisting teaching staff, researchers, and students in achieving their objectives in the simplest manner possible.

The system can be enhanced in future researches as follows:

- Conferences and seminars can be added to augment the publication's size.
- Additional fonts, colors, and words can be added to the system to aid users with reading.
- The developed electronic journal management system can be tested with faculty members in different universities.
- Additional languages can be added to the system and make it multi language.

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[ry/links/600a9297a6fdccdc86fef47/A-Time-Saving-MVC-based-Automated-Journal-Management-System-for-Academia-and-Industry.pdf](https://www.researchgate.net/publication/350687619_RELEVANCE_OF_ELECTRONIC_JOURNAL_DATABASES_IN_LIFE_SCIENCES_ASTUDYOF_KURUKSHETRAUNIVERSITY/links/6083e3d9907def667bbdfc8d/RELEVANCE-OF-ELECTRONIC-JOURNAL-DATABASES-IN-LIFE-SCIENCES-ASTUDYOF-KURUKSHETRAUNIVERSITY.pdf)

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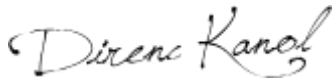
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Appendices**Appendix A****ETHICAL APPROVAL LETTER**

28.01.2022

Dear Omeed Zeyad Taha

Your project "**Designing And Implementing An Electronic Scientific Journal Management System** " has been evaluated. Since only secondary data will be used the project it does not need to go through the ethics committee. You can start your research on the condition that you will use only secondary data.



Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.

Appendix B

TURNITIN SIMILARITY REPORT

MSc Thesis

by Omeed Zeyad Taha

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**NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
DEPARTMENT OF COMPUTER INFORMATION SYSTEMS**

**DESIGNING AND IMPLEMENTING AN ELECTRONIC SCIENTIFIC JOURNAL
MANAGEMENT SYSTEM**

M.Sc. THESIS

Omeed Zeyad TAHA

**Supervisor
Prof. Dr. Nadire CAVUS**

**Nicosia
January, 2022**

MSc Thesis

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Sector", Journal of Computing Research and Innovation, 2018

Publication

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Appendix C

SOURCE CODE FOR IMPORTANT SYSTEM COMPONENTS

The source code provided here is not for the entire program; Instead, it is a subset of the application's most important functions. The source code for each feature is indicated by a note that precedes the first line of code.

.env file

```
APP_NAME=Laravel
APP_ENV=local
APP_KEY=base64:Z9k+Ao0BWojFnDTah7nRPkkVi59k3WgMQ+DW8dGNag=
APP_DEBUG=true
APP_URL=http://localhost

LOG_CHANNEL=stack
LOG_DEPRECATIONS_CHANNEL=null
LOG_LEVEL=debug

DB_CONNECTION=mysql
DB_HOST=localhost
DB_PORT=3306
DB_DATABASE=jms
DB_USERNAME=root
DB_PASSWORD=

BROADCAST_DRIVER=log
CACHE_DRIVER=file
FILESYSTEM_DRIVER=local
QUEUE_CONNECTION=sync
SESSION_DRIVER=file
SESSION_LIFETIME=120

MEMCACHED_HOST=127.0.0.1

REDIS_HOST=127.0.0.1
REDIS_PASSWORD=null
REDIS_PORT=6379

MAIL_MAILER=smtp
MAIL_HOST=mailhog
MAIL_PORT=1025
MAIL_USERNAME=null
MAIL_PASSWORD=null
MAIL_ENCRYPTION=null
MAIL_FROM_ADDRESS=null
MAIL_FROM_NAME="{APP_NAME}"
```

```
AWS_ACCESS_KEY_ID=  
AWS_SECRET_ACCESS_KEY=  
AWS_DEFAULT_REGION=us-east-1  
AWS_BUCKET=  
AWS_USE_PATH_STYLE_ENDPOINT=false
```

```
PUSHER_APP_ID=  
PUSHER_APP_KEY=  
PUSHER_APP_SECRET=  
PUSHER_APP_CLUSTER=mt1
```

```
MIX_PUSHER_APP_KEY="{PUSHER_APP_KEY}"  
MIX_PUSHER_APP_CLUSTER="{PUSHER_APP_CLUSTER}"
```

Router/web.php

```
<?php
```

```
use Illuminate\Support\Facades\Route;
```

```
use App\Http\Controllers;
```

```
use Illuminate\Support\Facades\Auth;
```

```
Route::get('/', function () {
```

```
    return view('panels/home');
```

```
});
```

```
Route::get('/home', function () {
```

```
    return view('panels/home');
```

```
});
```

```
Route::get('/current', function () {
```

```
    return view('panels/current');
```

```
});
```

```
Route::get('/archives', function () {
```

```
    return view('panels/archives');
```

```
});
```

```
Route::get('/about', function () {
```

```
    return view('panels/about');
```

```
});
```

```
Route::get('/submissions', function () {
```

```
    return view('panels/submissions');
```

```
});
```

```
Route::get('/editorialteam', function () {
```

```
        return view('panels/editorialteam');
    });
Route::get('/contact', function () {
    return view('panels/contact');
});
Route::get('/privacy', function () {
    return view('panels/privacy');
});
Route::get('/conditions', function () {
    return view('panels/conditions');
});
Route::get('/cookies', function () {
    return view('panels/cookies');
});
Route::get('/announcements', function () {
    return view('panels/announcements');
});

Route::post('user/update', 'AdminController@settings');

Route::group(['prefix'=>'admin','middleware'=>'auth'],function(){

    Route::get('/', 'AdminController@index');
    Route::get('/settings', 'AdminController@settings');
    Route::get('/journals', 'JournalController@journals');
    Route::get('/issues', 'JournalController@issues');
    Route::get('/papers', 'JournalController@papers');
```

```

Route::get('/review', 'JournalController@review');

Route::get('/users', 'AdminController@users');

Route::get('/delete-user/{input}', [AdminController::Class, 'deleteSelectedUser']);

Route::get('/edit-user/{input}', [AdminController::Class, 'editUser']);

Route::post('/adduser', [AdminController::Class, 'addUser'])->name('admin.addUser');

Route::get('/page/about', [AdminController::Class, 'getAbout'])->name('admin.getAbout');

Route::get('/page/announcement', 'PageController@getAnnouncement')-
>name('admin.getAnnouncement');

Route::get('/page/submissions', 'PageController@getSubmissions')-
>name('admin.getSubmissions');

Route::get('/page/editorial', 'PageController@getEditorial')->name('admin.getEditorial');

Route::get('/page/privacy', 'PageController@getPrivacy')->name('admin.getPrivacy');

Route::get('/page/contact', 'PageController@getContact')->name('admin.getContact');

Route::get('/user/{input}', 'AdminController@FindUser');

});

Route::group(['prefix'=>'editor', 'middleware'=>'auth'], function(){

Route::get('/', 'EditorController@index');

Route::get('/settings', 'EditorController@settings');

Route::get('/journals', 'EditorController@journals');

Route::get('/issues', 'EditorController@issues');

Route::get('/papers', 'EditorController@papers');

Route::get('/review', 'EditorController@review');

Route::get('/users', 'EditorController@users');

Route::get('/profile', 'EditorController@profile');

Route::get('/notification', 'EditorController@notification');

Route::post('/assignpaper', [EditorController::Class, 'assignpaper'])-
>name('authour.assignpaper');

```



```
Route::post('/revisepaper',[EditorController::Class,'revisepaper'])-
>name('authour.revisepaper');
```

```
Route::post('/editpaper',[EditorController::Class,'editpaper'])-
>name('authour.editpaper');
```

```
Route::get('/deletepaper',[EditorController::Class,'deletepaper'])-
>name('authour.deletepaper');
```

```
});
```

```
Route::group(['prefix'=>'authour','middleware'=>'auth'],function(){
```

```
Route::get('/', 'AuthourController@index');
```

```
Route::get('/papers', 'AuthourController@papers');
```

```
Route::get('/review', 'AuthourController@review');
```

```
Route::get('/profile', 'AuthourController@profile');
```

```
Route::get('/notification', 'AuthourController@notification');
```

```
Route::post('/addpaper',[AuthourController::Class,'addpaper'])-
>name('authour.addpaper');
```

```
Route::post('/revisepaper',[AuthourController::Class,'revisepaper'])-
>name('authour.revisepaper');
```

```
Route::post('/editpaper',[AuthourController::Class,'editpaper'])-
>name('authour.editpaper');
```

```
Route::get('/deletepaper',[AuthourController::Class,'deletepaper'])-
>name('authour.deletepaper');
```

```
});
```

```
Auth::routes();
```

```
Route::get('/home', function () {
```

```
return view('panels/home');
```

name('home');

```
$router->group(['prefix' => 'articles'], function() use ($router) {  
    $router->get('/', [  
        'uses' => 'ArticleController@index',  
        'as' => 'permissionlist',  
        'permission' => 'admin',  
    ]);  
  
    $router->get('/reporting', [  
        'uses' => 'ArticleController@reporting',  
        'as' => 'permissionlist',  
        'permission' => 'admin',  
    ]);  
  
    $router->get('/reporting/downloadExcel/{type}', [  
        'uses' => 'ArticleController@reportingdownloadExcel',  
        'as' => 'permissionlist',  
        'permission' => 'admin',  
    ]);  
  
    $router->post('/ajaxlist', [  
        'uses' => 'ArticleController@ajaxlist',  
        'as' => 'permissionlist',  
        'permission' => 'editor',  
    ]);  
  
    $router->get('addnew/{article_id?}', [  
        'uses' => 'ArticleController@addnew',  
        'as' => 'permissionlist',  
        'permission' => 'admin',  
    ]);  
});
```

```
'uses' => 'ArticleController@addnew',  
'as' => 'addnew',  
'permission' => 'editor'  
]);
```

```
$router->get('details/{article_id?}', [  
    'uses' => 'ArticleController@requestDetail',  
    'as' => 'addnew',  
    'permission' => 'editor'  
]);
```

```
$router->post('addnewajax', [  
    'uses' => 'ArticleController@addnewajax',  
    'as' => 'addnewajax',  
    'permission' => 'editor'  
]);
```

```
$router->post('approved-article', [  
    'uses' => 'ArticleController@approvedArticle',  
    'as' => 'addnewajax',  
    'permission' => 'editor'  
]);
```

```
$router->post('received-article', [  
    'uses' => 'ArticleController@receivedArticle',  
    'as' => 'addnewajax',  
    'permission' => 'editor'
```

```
]);
```

```
$router->post('canceled-article', [  
    'uses' => 'ArticleController@canceledArticle',  
    'as' => 'addnewajax',  
    'permission' => 'editor'  
]);
```

```
$router->post('delete-article', [  
    'uses' => 'ArticleController@deleteSelected',  
    'as' => 'addnewajax',  
    'permission' => 'editor'  
]);
```

```
$router->post('updateInfo', [  
    'uses' => 'ArticleController@updateInfo',  
    'as' => 'addnewajax',  
    'permission' => 'editor'  
]);
```

```
$router->post('rejected-article', [  
    'uses' => 'ArticleController@rejectedArticle',  
    'as' => 'addnewajax',  
    'permission' => 'editor'  
]);
```

```
$router->get('pdfview/{request_id}', ['uses' => "PurchaseRequestController@pdfview"]);
```

```

    $router->get('downloadExcel/{type?}', ['uses' =>
"PurchaseRequestController@downloadExcel"]);

    $router->get('downloadSelectedArticles', ['uses' =>
"PurchaseRequestController@downloadSelectedArticles"]);

    $router->get('downloadSelectedPDFArticles', ['uses' =>
"PurchaseRequestController@downloadSelectedPDFArticles"]);

});

$router->group(['prefix' => 'journals'], function() use ($router) {

    $router->get('/', [

        'uses' => 'JournalsController@index',

        'as' => 'permissionlist',

        'permission' => 'admin',

    ]);

    $router->get('addnew/{article_id?}', [

        'uses' => 'JournalsController@addnew',

        'as' => 'addnew',

        'permission' => 'admin'

    ]);

    $router->get('details/{article_id?}', [

        'uses' => 'JournalsController@requestDetail',

        'as' => 'addnew',

        'permission' => 'admin'

    ]);

    $router->post('addnewajax', [

        'uses' => 'JournalsController@addnewajax',

```

```
'as' => 'addnewajax',
'permission' => 'admin'
]);

$route->post('delete-article', [
    'uses' => 'JournalsController@deleteSelected',
    'as' => 'addnewajax',
    'permission' => 'admin'
]);

$route->post('updateInfo', [
    'uses' => 'JournalsController@updateInfo',
    'as' => 'addnewajax',
    'permission' => 'admin'
]);
});

$route->group(['prefix' => 'issues'], function() use ($router) {
    $router->get('/', [
        'uses' => 'IssuesController@index',
        'as' => 'permissionlist',
        'permission' => 'admin',
    ]);

    $router->get('addnew/{article_id?}', [
        'uses' => 'IssuesController@addnew',
        'as' => 'addnew',
```

```
        'permission' => 'admin'
    });

    $router->get('details/{article_id?}', [
        'uses' => 'IssuesController@requestDetail',
        'as' => 'addnew',
        'permission' => 'admin'
    ]);

    $router->post('addnewajax', [
        'uses' => 'IssuesController@addnewajax',
        'as' => 'addnewajax',
        'permission' => 'admin'
    ]);

    $router->post('delete-article', [
        'uses' => 'IssuesController@deleteSelected',
        'as' => 'addnewajax',
        'permission' => 'admin'
    ]);

    $router->post('updateInfo', [
        'uses' => 'IssuesController@updateInfo',
        'as' => 'addnewajax',
        'permission' => 'admin'
    ]);
});
```

```
$router->group(['prefix' => 'pages'], function() use ($router) {  
  
    $router->get('/', [  
        'uses' => 'PagesController@index',  
        'as' => 'permissionlist',  
        'permission' => 'admin',  
    ]);  
  
    $router->get('addnew/{article_id?}', [  
        'uses' => 'PagesController@addnew',  
        'as' => 'addnew',  
        'permission' => 'admin'  
    ]);  
  
    $router->get('details/{article_id?}', [  
        'uses' => 'PagesController@requestDetail',  
        'as' => 'addnew',  
        'permission' => 'admin'  
    ]);  
  
    $router->post('addnewajax', [  
        'uses' => 'PagesController@addnewajax',  
        'as' => 'addnewajax',  
        'permission' => 'admin'  
    ]);  
  
    $router->post('delete-article', [  

```



```
'uses' => 'PagesController@deleteSelected',  
'as' => 'addnewajax',  
'permission' => 'admin'  
]);  
  
$router->post('updateInfo', [  
    'uses' => 'PagesController@updateInfo',  
    'as' => 'addnewajax',  
    'permission' => 'admin'  
]);  
});
```

Layout/Dashboard.blade.php

```

<!DOCTYPE html>
<html lang="en">

<meta http-equiv="content-type" content="text/html; charset=UTF-8" />
<head>
  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Near East University - Journal</title>

  <meta name="description" content="Some description for the page"/>
  <link rel="shortcut icon" href="{{asset('images/dashboard/')}}" />

  <link href="{{asset('css/dashboard/bootstrap-select.min.css')}}"
rel="stylesheet" type="text/css"/>
  <link href="{{asset('css/dashboard/jqvmmap.min.css')}}" rel="stylesheet"
type="text/css"/>
  <link href="{{asset('css/dashboard/chartist.min.css')}}" rel="stylesheet"
type="text/css"/>
  <link href="{{asset('css/dashboard/bootstrap-datetimepicker.min.css')}}"
rel="stylesheet" type="text/css"/>
  <link
href="{{asset('js/dashboard/vendor/datatables/css/jquery.dataTables.min.css')}}"
rel="stylesheet" type="text/css"/>

  <link href="{{asset('css/dashboard/style.css')}}" rel="stylesheet"
type="text/css"/>
  <link
href="https://fonts.googleapis.com/css2?family=Poppins:wght@100;200;300;400;500;600;
700;800;900&family=Roboto:wght@100;300;400;500;700;900&display=swap"
rel="stylesheet" type="text/css"/>

  @yield('skins')

</head>

<body>

  <div id="preloader">
    <div class="sk-three-bounce">
      <div class="sk-child sk-bounce1"></div>
      <div class="sk-child sk-bounce2"></div>
      <div class="sk-child sk-bounce3"></div>
    </div>
  </div>

```

```

<div id="main-wrapper">

  <div class="nav-header">
    <a href="index-2.html" class="brand-logo">
      
      
      

    </a>

    <div class="nav-control">
      <div class="hamburger">
        <span class="line"></span><span class="line"></span><span
class="line"></span>
      </div>
    </div>
  </div>

  <div class="header">
    <div class="header-content">
      <nav class="navbar navbar-expand">
        <div class="collapse navbar-collapse justify-content-between">
          <div class="header-left">
            <div class="dashboard_bar">
              <div class="input-group search-area d-lg-inline-flex d-none">
                <input type="text" class="form-control" placeholder="Search here...">
                <div class="input-group-append">
                  <span class="input-group-text"><a href="javascript:void(0)"><i
class="flaticon-381-search-2"></i></a></span>
                </div>
              </div>
            </div>
          </div>
          <div class="header-right">
            <ul class="navbar-nav header-right">
              <li class="nav-item dropdown notification_dropdown">
                <a class="nav-link ai-icon" href="javascript:void(0)" role="button" data-
toggle="dropdown">
                  <svg width="28" height="28" viewBox="0 0 28 28" fill="none"
xmlns="http://www.w3.org/2000/svg">
                    <path d="M22.75 15.8385V13.0463C22.7471 10.8855 21.9385
8.80353 20.4821 7.20735C19.0258 5.61116 17.0264 4.61555 14.875
4.41516V2.625C14.875 2.39294 14.7828 2.17038 14.6187 2.00628C14.4546 1.84219
14.2321 1.75 14 1.75C13.7679 1.75 13.5454 1.84219 13.3813 2.00628C13.2172 2.17038

```

13.125 2.39294 13.125 2.625V4.41534C10.9736 4.61572 8.97429 5.61131 7.51794
7.20746C6.06159 8.80361 5.25291 10.8855 5.25 13.0463V15.8383C4.26257 16.0412
3.37529 16.5784 2.73774 17.3593C2.10019 18.1401 1.75134 19.1169 1.75 20.125C1.75076
20.821 2.02757 21.4882 2.51969 21.9803C3.01181 22.4724 3.67904 22.7492 4.375
22.75H9.71346C9.91521 23.738 10.452 24.6259 11.2331 25.2636C12.0142 25.9013
12.9916 26.2497 14 26.2497C15.0084 26.2497 15.9858 25.9013 16.7669 25.2636C17.548
24.6259 18.0848 23.738 18.2865 22.75H23.625C24.321 22.7492 24.9882 22.4724 25.4803
21.9803C25.9724 21.4882 26.2492 20.821 26.25 20.125C26.2486 19.117 25.8998 18.1402
25.2622 17.3594C24.6247 16.5786 23.7374 16.0414 22.75 15.8385ZM7 13.0463C7.00232
11.2113 7.73226 9.45223 9.02974 8.15474C10.3272 6.85726 12.0863 6.12732 13.9212
6.125H14.0788C15.9137 6.12732 17.6728 6.85726 18.9703 8.15474C20.2677 9.45223
20.9977 11.2113 21 13.0463V15.75H7V13.0463ZM14 24.5C13.4589 24.4983 12.9316
24.3292 12.4905 24.0159C12.0493 23.7026 11.716 23.2604 11.5363
22.75H16.4637C16.284 23.2604 15.9507 23.7026 15.5095 24.0159C15.0684 24.3292
14.5411 24.4983 14 24.5ZM23.625 21H4.375C4.14298 20.9999 3.9205 20.9076 3.75644
20.7436C3.59237 20.5795 3.50014 20.357 3.5 20.125C3.50076 19.429 3.77757 18.7618
4.26969 18.2697C4.76181 17.7776 5.42904 17.5008 6.125 17.5H21.875C22.571 17.5008
23.2382 17.7776 23.7303 18.2697C24.2224 18.7618 24.4992 19.429 24.5 20.125C24.4999
20.357 24.4076 20.5795 24.2436 20.7436C24.0795 20.9076 23.857 20.9999 23.625 21Z"
fill="#ffffff"/>

</svg>

3

<div class="dropdown-menu dropdown-menu-right">

<div id="DZ_W_Notification1" class="widget-media dz-scroll p-3

height380">

<ul class="timeline">

<div class="timeline-panel">

<div class="media mr-2">

</div>

<div class="media-body">

<h6 class="mb-1">Dr sultads Send you Photo</h6>

<small class="d-block">29 July 2020 - 02:26 PM</small>

</div>

</div>

<div class="timeline-panel">

<div class="media mr-2 media-info">

KG

</div>

<div class="media-body">

<h6 class="mb-1">Resport created successfully</h6>

<small class="d-block">29 July 2020 - 02:26 PM</small>

</div>

</div>

<div class="timeline-panel">

```

        <div class="media mr-2 media-success">
            <i class="fa fa-home"></i>
        </div>
        <div class="media-body">
            <h6 class="mb-1">Reminder : Treatment Time!</h6>
            <small class="d-block">29 July 2020 - 02:26 PM</small>
        </div>
    </div>
</li>
<li>
    <div class="timeline-panel">
        <div class="media mr-2">
            
        </div>
        <div class="media-body">
            <h6 class="mb-1">Dr sultads Send you Photo</h6>
            <small class="d-block">29 July 2020 - 02:26 PM</small>
        </div>
    </div>
</li>
<li>
    <div class="timeline-panel">
        <div class="media mr-2 media-danger">
            KG
        </div>
        <div class="media-body">
            <h6 class="mb-1">Resport created successfully</h6>
            <small class="d-block">29 July 2020 - 02:26 PM</small>
        </div>
    </div>
</li>
<li>
    <div class="timeline-panel">
        <div class="media mr-2 media-primary">
            <i class="fa fa-home"></i>
        </div>
        <div class="media-body">
            <h6 class="mb-1">Reminder : Treatment Time!</h6>
            <small class="d-block">29 July 2020 - 02:26 PM</small>
        </div>
    </div>
</li>
</ul>
</div>
<a class="all-notification" href="javascript:void(0)">See all notifications
<i class="ti-arrow-right"></i></a>
</div>
</li>

<li class="nav-item dropdown header-profile">

```

```

        <a class="nav-link" href="javascript:void(0)" role="button" data-
toggle="dropdown">

        </a>
        <div class="dropdown-menu dropdown-menu-right">
            <a href="app-profile.html" class="dropdown-item ai-icon">
                <svg id="icon-user1" xmlns="http://www.w3.org/2000/svg"
class="text-primary" width="18" height="18" viewBox="0 0 24 24" fill="none"
stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-
linejoin="round"><path d="M20 21v-2a4 4 0 0 0 0-4H8a4 4 0 0 0 0-4 4v2"></path><circle
cx="12" cy="7" r="4"></circle></svg>
                <span class="ml-2">Profile </span>
            </a>
            <a href="email-inbox.html" class="dropdown-item ai-icon">
                <svg id="icon-inbox" xmlns="http://www.w3.org/2000/svg"
class="text-success" width="18" height="18" viewBox="0 0 24 24" fill="none"
stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-
linejoin="round"><path d="M4 4h16c1.1 0 2 .9 2 2v12c0 1.1-.9 2-2 2H4c-1.1 0-2-.9-2-
2V6c0-1.1-.9-2 2-2z"></path><polyline points="22,6 12,13 2,6"></polyline></svg>
                <span class="ml-2">Inbox </span>
            </a>
            <a href="{{ route('logout') }}" class="dropdown-item ai-
icon" onclick="event.preventDefault(); document.getElementById('logout-
form').submit();">
                <svg id="icon-logout" xmlns="http://www.w3.org/2000/svg"
class="text-danger" width="18" height="18" viewBox="0 0 24 24" fill="none"
stroke="currentColor" stroke-width="2" stroke-linecap="round" stroke-
linejoin="round"><path d="M9 21H5a2 2 0 0 1-2-2V5a2 2 0 0 1 2-2h4"></path><polyline
points="16 17 21 12 16 7"></polyline><line x1="21" y1="12" x2="9" y2="12"></line></svg>
                <span class="ml-2">Logout </span>
                <form id="logout-form" action="{{ route('logout') }}" method="POST"
class="d-none">
                    @csrf
                </form>
            </a>
        </div>
    </li>
</ul>
</div>
</nav>
</div>
</div>
\
<div class="deznav">
    <div class="deznav-scroll">
        <ul class="metismenu" id="menu">
            <li><a href="{{ url('admin') }}" class="ai-icon" aria-expanded="false">
                <i class="flaticon-381-networking"></i>
                <span class="nav-text">Dashboard</span>
            </a>

```

```

</li>
<li><a href="{{ url('admin/users') }}" class="ai-icon" aria-expanded="false">
  <i class="flaticon-381-user"></i>
  <span class="nav-text">Users</span>
</a>
</li>
<li>
  <a class="has-arrow ai-icon" href="javascript:void()" aria-expanded="false">
    <i class="flaticon-381-newspaper"></i>
    <span class="nav-text">Journals</span>
  </a>
  <ul aria-expanded="false">
    <li><a href="{{ url('admin/journals') }}">Journals</a></li>
    <li><a href="{{ url('admin/issues') }}">Issues</a></li>
    <li><a href="{{ url('admin/papers') }}">Papers</a></li>
    <li><a href="{{ url('admin/review') }}">Review Process</a></li>
  </ul>
</li>
<li><a href="{{ url('admin/settings') }}" class="ai-icon" aria-expanded="false">
  <i class="flaticon-381-settings-2"></i>
  <span class="nav-text">Settings</span>
</a>
</li>
<li>
  <a class="has-arrow ai-icon" href="javascript:void()" aria-expanded="false">
    <i class="flaticon-381-notepad"></i>
    <span class="nav-text">Reports</span>
  </a>
  <ul aria-expanded="false">
    <li><a href="form-element.html">Form Elements</a></li>
    <li><a href="form-wizard.html">Wizard</a></li>
    <li><a href="form-editor-summernote.html">Summernote</a></li>
    <li><a href="form-pickers.html">Pickers</a></li>
    <li><a href="form-validation-jquery.html">Jquery Validate</a></li>
  </ul>
</li>
<li>
  <a class="has-arrow ai-icon" href="javascript:void()" aria-expanded="false">
    <i class="flaticon-381-layer-1"></i>
    <span class="nav-text">Pages</span>
  </a>
  <ul aria-expanded="false">
    <li><a href="{{ url('admin/page/about') }}">About Journal</a></li>
    <li><a href="{{ url('admin/page/announcement')
}}">Announcement</a></li>
    <li><a href="{{ url('admin/page/submissions') }}">Submissions</a></li>
    <li><a href="{{ url('admin/page/editorial') }}">Editorial Team</a></li>
    <li><a href="{{ url('admin/page/privacy') }}">Privacy Statement</a></li>
    <li><a href="{{ url('admin/page/contact') }}">contact</a></li>
  </ul>
</li>
</ul>

```

```

        <div class="copyright">
            <p><strong>NEU Electronic Journal Management System</strong> © 2021 All
Rights Reserved</p>
            <p>Developed by Omeed Z. Taha</p>
        </div>
    </div>
</div>

<div class="content-body">

    @yield('container')

</div>

<div class="footer">
<div class="copyright">
    <p>Copyright © Designed & Developed by <a
href="mailto:umed_sherwani@yahoo.com" target="_blank">OMEED Z. TAHA</a>
2021</p>
</div>
</div>

</div>

    <script src="{{asset('js/dashboard/vendor/global/global.min.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/bootstrap-select/dist/js/bootstrap-
select.min.js')}}" type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/chart.js/Chart.bundle.min.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/apexchart/apexchart.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/bootstrap-
datetimepicker/js/moment.js')}}" type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/bootstrap-datetimepicker/js/bootstrap-
datetimepicker.min.js')}}" type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/peity/jquery.peity.min.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/vendor/apexchart/apexchart.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/dashboard/dashboard-1.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/custom.min.js')}}"
type="text/javascript"></script>
    <script
src="{{asset('js/dashboard/vendor/datatables/js/jquery.dataTables.min.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/plugins-init/datatables.init.js')}}"
type="text/javascript"></script>
    <script src="{{asset('js/dashboard/deznav-init.js')}}"
type="text/javascript"></script>

```



```
        @yield('scripts')
</body>

</html>
```

Config/params.php

```
<?php

return [
    //'paginate' => 10,
    'noReplyEmail' => "no-reply@test.com",
    'upload_theme_path' => 'public/themes',
    'upload_theme_views_path' => 'resources/views/themes',

    'user_image' => array(
        'base_path' => 'public/uploads/user/',
        'path' => 'public/uploads/user',
        'sizes' => "400x400,100x100,200x200,800x800",
        'mimes' => array('image/jpeg', 'image/jpg', 'image/png'),
    ),

    'post_documents' => array(
        'base_path' => 'public/uploads/documents/',
        'path' => 'public/uploads/documents/',
        'mimes' => array('image/jpeg', 'image/jpg', 'image/png'),
    ),

    'currencies' => [
        '1' => 'USD',
        '2' => 'Iraqi Dinar'
    ],

    'activity_operation' => [
        '1' => 'Program',
        '2' => 'Operation'
    ],

    'pr_status' => [
        0=>'Pending',
        1=> 'Approved',
        2=> 'Rejected',
        3 => 'Canceled',
        4 => 'Proceed',
        5 => 'Closed',
        6 => 'Expired',
        7 => 'Holded',
        8 => 'Published',
        9 => 'Unpublished'
    ],

    'pr_status_color' => [
        0 => 'warning',
        1 => 'success',
        2 => 'danger',
        3 => 'danger',
        4 => 'info',
```

```
5 => 'info',
6 => 'danger',
7 => 'warning',
8 => 'success',
9 => 'dark'
],

'user_status' => [
  0 => 'Unauthorized',
  1 => 'Administrator',
  2 => 'Editor',
  3 => 'Reviewer',
  4 => 'Proofreader',
  5 => 'Authour'
],

'user_status_color' => [
  0 => 'dark',
  1 => 'success',
  2 => 'danger',
  3 => 'warning',
  4 => 'info',
  5 => 'info'
],

];
```