

CSE 402: Project and Thesis Sessional

HSTU in Journal and Research

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CERTIFICATE

This is to certify that the work entitled “HSTU in Journal and Research” by Md. Oyathinur Zaman, Md. Nafis Sadik Haque and Most. Umme Salma Arju has been carried out under our supervision. To the best of our knowledge, this work is an original one and was not submitted anywhere for a diploma or a degree

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DECLARATION

The work entitled “HSTU in Journal and Research” has been carried out in the Department of Computer Science and Engineering, Hajee Mohammad Danesh Science and Technology University is original and conforms to the regulations of this University.

We understand the University’s policy on plagiarism and declare that no part of this project has been copied from other sources or been previously submitted elsewhere for the award of any degree or diploma.

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Abstract

The “HSTU in Journal and Research” is a web-based project for Hajee Mohammad Danesh Science and Technology University (HSTU) that aims to make the journal and research publishing and reviewing process more convenient. The platform serves as a user-friendly interface for researchers, and scientists to publish, access, and review scholarly articles. With a focus on fostering collaboration and transparency within the academic community, the website integrates advanced features to streamline the submission, peer review, and publication workflows. Key features of the platform include a robust submission system, providing authors with an intuitive interface to submit their research articles. The peer review process is facilitated through a dynamic and transparent system, allowing reviewers to provide constructive feedback efficiently. Additionally, an interactive user interface allows researchers to engage in scholarly discussions, enhancing the overall academic discourse. The project emphasizes the incorporation of modern technologies to ensure scalability, security, and user satisfaction. The website employs a responsive design, making it accessible across various devices, and integrates state-of-the-art encryption protocols to safeguard user data and intellectual property. Furthermore, the implementation of a user-friendly dashboard enhances the overall user experience, providing authors, reviewers, and editors with a centralized hub for managing their submissions and reviews. The impact of the website is expected to extend beyond traditional academic publishing models by promoting access to knowledge and facilitating global collaboration. By addressing existing challenges in the peer review process, the platform aims to contribute to the acceleration of scientific discovery and innovation. This project report provides a detailed overview of the development process, the challenges faced, and the outcomes achieved. Through the creation of this innovative journal and research publishing platform, we aspire to contribute to the advancement of academic discourse and the dissemination of knowledge on a global scale.

1 Introduction

1.1 Introduction

In the rapidly evolving landscape of academia, the dissemination of research findings plays a pivotal role in advancing knowledge and fostering innovation. Traditional journal publishing models often face challenges related to accessibility, transparency, and efficiency. The “HSTU in Journal and Research” project introduces a novel solution—a dynamic and user-centric website dedicated to journal and research publishing and reviewing. This platform seeks to revolutionize the scholarly communication process by leveraging technology to streamline submission, peer review, and publication workflows, ultimately enhancing the global exchange of academic knowledge.

1.2 Motivation

The motivation behind this project stems from the need to address the limitations of existing academic publishing models. Many researchers encounter obstacles in navigating complex submission processes, while the peer review system often lacks transparency and efficiency. Additionally, the rising demand for proper access and collaborative research underscores the necessity for a modern, accessible platform that encourages global scholarly engagement. The motivation to create this website is rooted in the aspiration to bridge these gaps, fostering a more inclusive, efficient, and transparent environment for researchers to share their work.

1.3 Problem Statement

The contemporary state of academy publishing grapples with multifaceted challenges, ranging from the intricacies of submission processes to the lack of agility in handling the burgeoning volume of research output. The opacity of peer review practices further exacerbates credibility concerns within scholarly publications. The “HSTU in Journal and Research” project identifies these challenges as opportunities for improvement and addresses them by developing a sophisticated website that simplifies the submission process, enhances the transparency of peer review, and champions a collaborative approach to research dissemination. By scrutinizing the existing pitfalls within academic publishing, this initiative aims to contribute to the creation of a

more robust and efficient ecosystem that fosters collaboration, credibility, and accessibility in the dissemination of scholarly knowledge.

1.4 Objective

The primary objective of the “HSTU in Journal and Research” project is to conceive, design, develop, and implement an innovative website dedicated to journal and research publishing and reviewing. The overarching goals encompass a holistic transformation of the academic publishing paradigm, aiming to create a user-centric platform that seamlessly integrates with the needs of authors, reviewers, and readers.

1. **Streamlining the Submission Process:** This involves crafting an intuitive and user-friendly interface that empowers authorsto seamlessly submit their research articles, thereby reducing barriers to entry and enhancing the overall submission experience.
2. **Enhancing Peer Review Transparency:** The project envisions creating a dynamic peer review system that not only fosters efficiency but also promotes transparency and constructive feedback, elevating the credibility of scholarly contributions within a collaborative academic environment.
3. **Improving Accessibility and Collaboration:** Implementing features

2 Literature Review

2.1 Introduction

The evolution of scholarly communication and academic publishing has undergone significant transformations in response to the dynamic landscape of technological advancements and changing research paradigms. This literature review delves into key facets of the existing academic publishing ecosystem, identifying challenges, innovations, and trends that provide the backdrop for the development of our innovative journal and publishing platform.

2.2 Related Work

Traditional Publishing Models:

Historically, academic publishing has been dominated by traditional models, characterized by lengthy submission processes, opaque peer review practices, and limited accessibility. These models, while foundational, have faced criticism for their inefficiency and lack of transparency.

Digital Platforms and Collaboration:

Emerging digital platforms have played a crucial role in reshaping the landscape of academic publishing. Online platforms have facilitated global collaboration, allowing researchers connect and share findings across geographical boundaries. Collaborative tools have also emerged to streamline the research process, emphasizing the importance of community-driven knowledge creation.

Peer Review Innovations:

Recent years have witnessed various innovations in peer review methodologies. From open peer review to post-publications peer review, these approaches aim to enhance transparency, accountability, and constructive feedback in the evaluation of scholarly work.

Technological Integration:

The integration of advanced technologies including artificial intelligence and machine learning, has the potential to revolutionize academic publishing. Automated submission systems, plagiarism detection tools, and personalized recommendation systems are among the technological advancements contributing to a more efficient and user-friendly publishing experience.

2.3 Conclusion

As we navigate through the diverse literature surrounding academic publishing, it becomes evident that traditional models are undergoing a transformation spurred by the advent of digital technologies and changing scholarly practices. The limitations of existing systems, such as inefficiencies in submission processes and transparency issues in peer review, necessitate innovative solutions. Our project, in response to the gaps identified in the literature, aims to leverage technology to streamline submission and review processes, enhance transparency, and foster global collaboration. By building upon the foundation laid by previous initiatives and addressing the evolving needs of the academic community, our platform aspires to contribute to the ongoing evolution of scholarly communication.

3 Requirement Analysis

3.1 Introduction

Requirement analysis is a crucial step in both journal publication and research project development. It involves identifying and documenting the needs and objectives of the stakeholders involved, as well as defining the scope, constraints, and success criteria for the project. The requirement analysis of a journal encompasses a multifaceted examination of diverse elements, ranging from the identification of target audiences to the delineation of editorial policies and technological infrastructure. By embarking on this analytical journey, journal founders and stakeholders can align their aspirations with practical realities, ensuring that the journal not only meets scholarly standards but also resonates with the needs of its intended readership. Requirement analysis in research represents a critical juncture wherein investigators meticulously delineate the contours of their study, identifying research questions, objectives, and methodological approaches. By undertaking this introspective exploration, researchers not only clarify the rationale behind their investigation but also anticipate potential challenges and resource constraints that may shape the trajectory of their inquiry.

3.2 Feasibility Study

The feasibility study for HSTU journal and research project assesses the practicality and viability of undertaking such endeavors. Below are key components of a feasibility study for both a journal and a research project:

Market Analysis (Journal):

- *Identify the target audience for the journals.*
- Assess the demand for journals in the specific field or niche.
- Analyze competitors and similar journals.
- Evaluate the potential for attracting quality submissions and readership.
-

Research Gap Identification (Research):

- Identify gap in existing literature or knowledge that the research aims to address.
- Assess the relevance and significance of the research topic.
- Determine if there is enough existing research to build upon or if further exploration is warranted.

Resource Analysis:

- Evaluate the availability of resources such as funding, personnel, equipment, and data.

- Estimate the financial resources required to establish and maintain the journal or conduct the research.
- Determine if resources are adequate to support the project's goals and objectives.

Technical Feasibility:

- Access the technical requirements for journal publication or research, including software, hardware, and infrastructure.
- Determine if the necessary technology and expertise are available or can be acquired within the project's constraints.

Legal and Regulatory Considerations:

- Identify any legal or regulatory requirements related to journal publication or research, such as copyright, intellectual property rights, ethics approvals, and data protection laws.
- Ensure compliance with relevant regulations and obtain necessary approvals.

Timeline and Schedule:

- Develop a realistic timeline for establishing the journal or completing the research project.
- Identify key milestones and critical path activities.
- Assess the feasibility of meeting deadlines based on available resources and constraints.

Risk Assessment:

- Identify potential risks and obstacles that could affect the success of the journal or research project.
- Assess the likelihood and impact of each risk.
- Develop mitigation strategies to address identified risks.

Financial Analysis:

- Estimate the costs of journal publication or research, including startup costs, ongoing expenses, and potential revenue streams.
- Conduct a cost-benefit analysis to determine if the project is financially viable.
- Explore funding opportunities and potential sources of revenue.

Sustainability and Long-Term Viability:

- Evaluate the sustainability of the journal or research project beyond the initial phase.
- Assess factors such as funding sustainability, scalability, and potential for growth.
- Identify strategies for ensuring the long-term viability of the project.

Stakeholder Analysis:

- Identify stakeholders and assess their level of support and involvement in the project.
- Consider interests and expectations of stakeholders and their impact on project feasibility.
- Engage stakeholders in the feasibility study process to gather input and address concerns.

By conducting a comprehensive feasibility study, researchers and journal publishers can make informed decisions about whether to proceed with their projects and identify potential challenges and opportunities for success.

3.3 Requirement Engineering:

Requirement engineering refers to the process of defining, documenting, and maintaining requirements in the engineering design process. Requirements Engineering Process consists of the following main activities:

- i Requirements elicitation and analysis
- ii Requirements specification
- iii Requirements validation

Requirements Elicitation and Analysis:

This is the process of deriving the system requirements through observation of existing systems, discussions with potential users task analysis, and so on. The techniques used for requirements elicitation include interviewing, task cards, prototyping, etc.

Requirement specification:

Requirement specification is the activity of translating the information gathered during requirements analysis into a document that defines a set of requirements. Two types of requirements may be included in this document. User requirements are abstract statements of the system requirements for the customer and end-user of the system. System requirements are a more detailed description of the functionality to be provided.

Requirement validation:

This activity checks the requirements for realism, consistency, and completeness. During this process, errors in the requirements document are inevitably discovered. It must then be modified to correct these problems.

3.4. Conclusion:

For journals, requirement analysis ensures that the publication aligns with the interests and preferences of authors, editors, reviewers, and readers, thereby enhancing its relevance, quality, and impact within the scholarly community. By defining clear objectives, scope, and functional requirements, stakeholders can establish editorial policies, technological infrastructure, and publication processes that streamline workflows and foster a conducive environment for knowledge dissemination and academic discourse.

Similarly, in research projects, requirement analysis serves as a roadmap for designing and executing studies that address significant gaps in knowledge, advance theoretical understanding, or address practical challenges. Through a comprehensive examination of research questions, objectives, methodologies, and resource constraints, researchers can develop robust research proposals, secure funding, and execute studies that yield meaningful insights and contribute to the advancement of their respective fields.

4 Methodology

4.1 Introduction

In this chapter, we aim to provide an overview of the methodology, tools and technologies used in the development of “HSTU in Research and Journal Project”. The purpose is to detail the various software development methods, tools, programming languages, frameworks, libraries, and other technologies that were utilized in the project. Our aim is to provide an understanding of the technology stack used and the reasons behind the choices made.

The project “HSTU in Research and Journal Project” is a university research paper management software with many small modules. To meet the project requirements, we carefully selected and adopted a range of tools and technologies that would enable us to achieve our goals efficiently and effectively. This report will provide a detailed analysis of methods, each tool and technology used, its purpose, and how it was integrated into the project.

After confirming that the application will be possible to develop financially and technically, we perform several actions to implement it.

The project “HSTU in Research and Journal Project” at Hajee Mohammad Danesh Science and Technology University (HSTU) is a multidimensional and dynamic undertaking that requires a systematic and well-structured approach. The methodology for this project plays a central role in guiding the research, planning, and implementation processes. It provides the framework for how data will be collected, analyzed, and transformed into actionable insights and tangible outcomes.

As we embark on the journey toward a HSTU Research and Journal, the methodology employed is designed to be both comprehensive and adaptable. It recognizes the diversity of factors at play and ensures that the unique needs and challenges of HSTU research platforms are taken into account.

In the project we have four separate modules: Author module, Editor Module, Reviewer Module and Publisher Module. In the author module, the author can submit a paper for publishing, can see what he need to do for make the paper absolutely right, can see the number of submitted paper and the paper status.

In the editor module, the editor can see the number of paper which are submitted for publishing in the journal, editor can check it, add comment or upload the modified file after adding

necessary comments in the file. Editor can also send it for revision or deleted the file. Another role for the editor, they can assign reviewer for reviewing the paper. Editor also can see the reviewed file after the reviewer review.

The reviewers are only assign for reviewing the paper, adding there comments, or changes need to submit the paper. If the paper is well for submitting, then they can mark it ready for submission.

The publisher has many roles to play in the system, publisher can publish the paper and take effective decision for the paper.

4.2 Entity Relationship (ER) Model

The ER model uses a collection of entities and relationships among these entities. An Entity is an object in the real world that is distinguishable from other objects. The ER diagram of “HSTU in Journal and Research” is shown below:

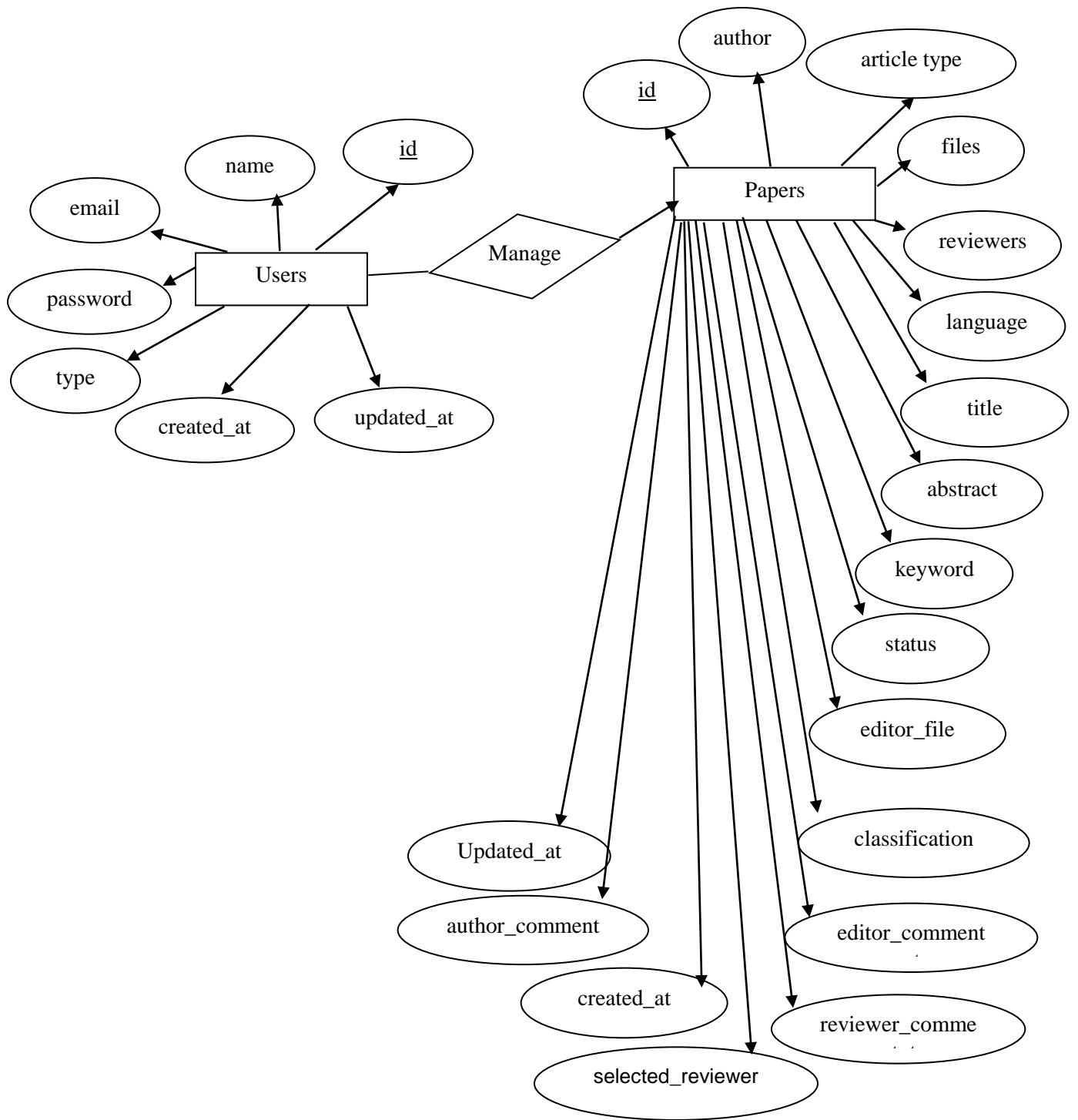


Fig-4.2: Entity Relationship Diagram

4.3 Schema Diagram

A database schema, along with primary key and foreign key constraints are depicted in the schema diagram. Fig-4.3 shown HSTU Journal and Research schema diagram ,which is shown below:

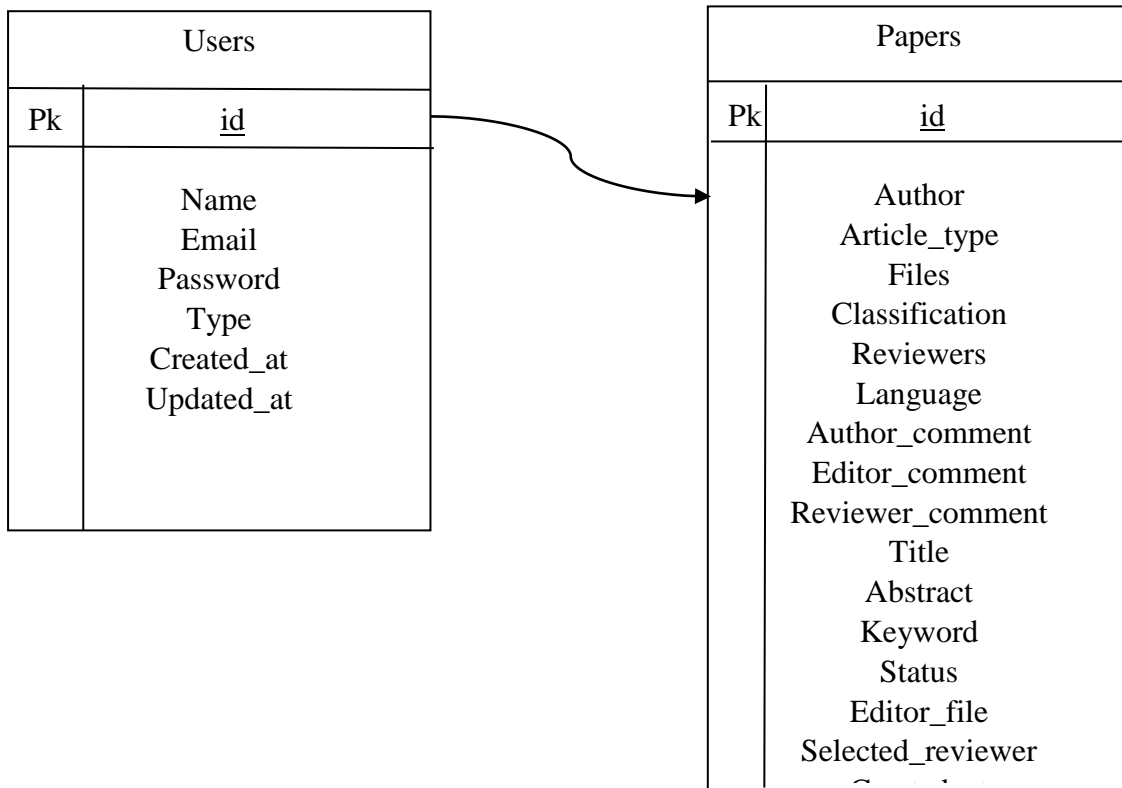


Fig-4.3: Schema Diagram

4.4 Use Case Diagram

A Use Case Diagram is used to represent the dynamic behavior of a system. It encapsulates the system's functionality by incorporating use cases, actors, and their relationships. It models the tasks, services, and functions required by a system or subsystem of an application. Use case diagram of “HSTU in Journal and Research” is shown below:

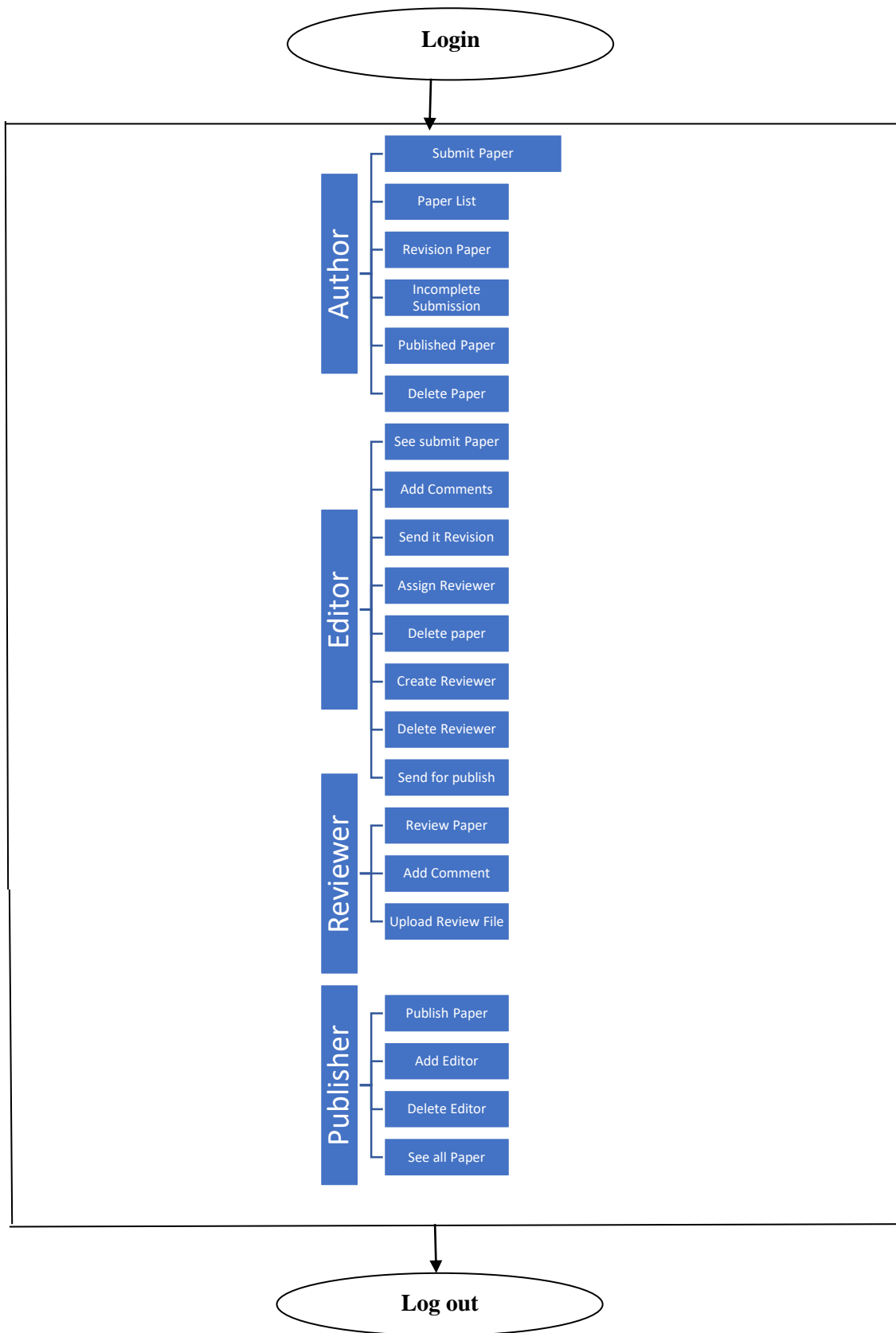


Fig-4.4: Use Case Diagram

6 Conclusion

In conclusion, journals and research play vital roles in advancing knowledge, fostering innovation, and addressing societal challenges. Journals serve as platforms for the dissemination of scholarly work, facilitating the exchange of ideas and discoveries among researchers, practitioners, and the public. Meanwhile, research serves as the foundation upon which new insights, technologies, and solutions are built, driving progress across various fields and disciplines.

6.1 Limitations

There are some limitations in our project HSTU journal and research.

1. **Email Failure:** This time the journal didn't work for real time email communication, because we didn't get server, so we didn't do this module.
2. **Publisher Account:** This time publisher account didn't work because the work is not complete yet.

6.2 Future goal

We provide some future-oriented goals that such journals might aim for:

1. **Enhancing Quality and Rigor:** Improving our journal UX design for easily understandable.
2. **Increasing Security:** Journal security will be great in the future. A mobile OTP login system and end-to-end encryption will be added and email verification will be add.
3. **Payment System:** A worldwide payment system will be added for sending and receiving payments for paper and reviewer honorarium
4. **Rest work:** Publisher account and editor account will be modified.

6.3 Conclusion

In summary, while journals and research websites serve as invaluable resources for scholars, practitioners, and the public, it is essential to approach them critically and thoughtfully, recognizing their strengths and limitations. By fostering a culture of transparency, collaboration, and accountability, journals and research endeavors can continue to fulfill their mission of advancing knowledge and promoting the greater good for society.

