PubTrack: A WEB-BASED RESEARCH PUBLICATION MONITORING AND MANAGEMENT SYSTEM

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Chapter 1

THE PROBLEM AND ITS SCOPE

Introduction

Research is a vital aspect of academic activities. Academics, students, and professionals can use research to explore unknown ideas, establish new hypotheses, and contribute to the advancement of human knowledge in a variety of domains. It promotes innovation by encouraging the creation of new technologies, methodologies, and solutions to complicated problems.

Organizations utilize monitoring and evaluation systems to measure, track, and assess project outcomes. Organizations can increase their performance, effectiveness, and project success rates by upgrading their monitoring and assessment processes. Furthermore, several studies demonstrate the importance of information and communication technology systems in monitoring and evaluation tasks (Mleke & Dida, 2020). Monitoring systems are critical components for evaluating programs and procedures, identifying strengths or weaknesses in schools, contributing to decision-making, and carrying out educational management activities at many levels, such as the school, municipal, or federal level (Komar et al., 2019).

Publishing research is an important aspect in academic reputation and career progress. Research publications are the major means of disseminating new knowledge and discoveries throughout the academic community and the general public. Researchers share their results through journals, conferences, and other forums, thereby contributing to a greater

understanding of a specific field. It allows researchers to engage in intellectual discussions with their colleagues. Researchers contribute to continuing discourses in their disciplines by sharing their methodology, findings, and interpretations, shaping the trajectory of academic thinking and inquiry. High-quality research publications boost a university's visibility and reputation, attracting top faculties, researchers, and graduate students. Aspiring academics frequently select colleges known for their research quality, resulting in a positive loop that strengthens the university's academic community. It fosters a collaborative and intellectually engaging environment in which staff and students actively participate in research projects, conferences, and academic discussions.

The importance of research publication monitoring in academics cannot be overstated, as it plays a critical role in improving the efficiency, visibility, and impact of scholarly activity. Academics can gain significantly by methodically tracking and managing research publications. Effective research publication monitoring adds to increased institutional exposure and repute. Monitoring research publications is an important part of efficient academic research administration. It not only helps with individual and institutional evaluations, but it also enriches the broader research ecosystem by promoting an environment of excellence, collaboration, and strategic growth inside academic institutions.

PubTrack: A Web-Based Research Publication Monitoring and Management System supports numerous United Nations Sustainable Development Goals (SDGs). Firstly, it helps to achieve Goal 9 (Industry, Innovation, and Infrastructure) by encouraging technical innovation

in research publication management, which improves the efficiency and accessibility of academic material. This promotes Goal 4 (Quality Education) by making it easier for educators, researchers, and students to access current research, which is critical for increasing knowledge and encouraging learning. Furthermore, PubTrack indirectly contributes to Goal 3 (Good Health and Well-Being) by facilitating the dissemination of medical and scientific research, which is critical for improving healthcare outcomes and boosting well-being worldwide.

PubTrack is a platform designed to streamline the monitoring and management of research publications. This comprehensive toolset includes features for data entry, efficient retrieval, and detailed reporting on all aspects of research publications. It allows researchers to submit their manuscripts directly through the platform, gaining real-time insights into the publication status at every stage of the process. It is a platform that has the ability to track each publication step. From initial manuscript submission to review, approval, and any necessary corrections.

Framework

Input-Output (IPO) Model provides a systematic approach to determining a system's goals and objectives as outputs, as well as how those outputs may be measured to assess process method choices. The input refers to the information that the system processes. The processing step is the set of operations and procedures performed on the input data to get the desired outcome. The output is the outcome of the processed input. This study uses the IPO

(Input-Process-Output) model to identify process steps and explain the system life cycle. It helps in visualizing the complete study process, hence improving the platform's efficiency. (MacCuspie et al., 2014).

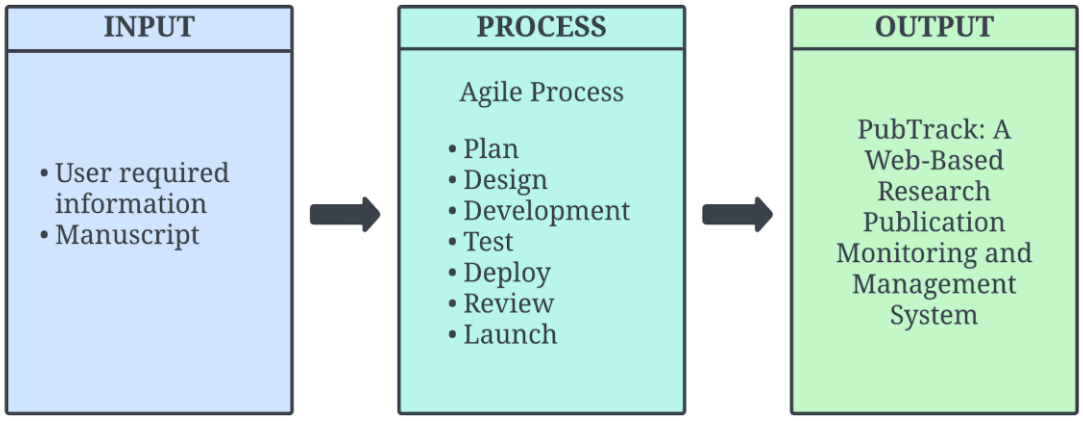

Figure 1. *IPO Model of the Proposed Study*

Figure 1 illustrates how the proposed project is developed—input data such as user required information and manuscript. The developmental process will follow a thorough sequence, beginning with planning and design. Moving on to the development phase, which includes development, integration, testing, and launch. The output of the entire process is the Web-Based Research Publication Monitoring. The IPO model is ideal for PubTrack because it offers an organized, transparent, and communicative framework for comprehending and constructing an effective web-based research publication monitoring and management system. It facilitates systematic analysis, design, implementation, and testing phases essential for such a software system.

Statement of the Problem

This study aims to develop a project that assists the research publication office in efficiently managing researchers' manuscripts and journals and updating its publication status. The study seeks responses to the following issues:

- Reliance on manual processes for manuscript tracking;
- Reliance on third party website for application forms resulting in redirecting to another website for data retrieval of manuscript applications, and
- Difficulties in updating the researchers of the status of their manuscripts.

Objectives of the Study

This study generally aimed to create a research monitoring website to keep track of manuscripts, it sought to:

- To develop a website that would track and monitor a manuscript;
- To create a form within the website to store the data in the database; and
- To create a notification feature to notify the researchers of their manuscript status.

Scope and Delimitations

The study will primarily focus on developing a web-based platform for monitoring and managing research publications, which will include tools for data entry, retrieval, and reporting on research publications. Users of this system will include the Office of the University Research and Coordination, researchers, and peer reviewers. The web-based platform will incorporate email notifications to ensure efficient communication among users.

Significance of the Study

The results of this study can be beneficial to the following:

Research Departments. The website provides a reliable way to keep track of pending publication of studies for the university to monitor researchers' manuscripts.

Research Publication Offices. The website provides a feature for the RPO to process approvals for manuscripts, keeping track of manuscripts that are approved and corrected to be sent back to the researcher, making it more efficient to process publications.

Peer Reviewers. The peer reviewers are able to review the manuscripts to be corrected and inform the RPO for the manuscript to be approved or is corrected.

Researchers. This website provides monitoring of the manuscripts, to see the pending publications, allowing to monitor the researchers status and receive updates from the RPO.

Future Researchers. This study provides valuable information and opportunities to future researchers that will help them explore various aspects of the website.

Output of the Study

The Web-Based Research Publication Monitoring System provides researchers with an easy and user-friendly interface for effortlessly submitting manuscripts, equipped with a real-time progress tracking dashboard. A dynamic and interactive dashboard gives researchers real-time updates on the status of their submitted publications. Users may easily check the status, and view feedback from the initial submission through peer review, and revisions.

Definition of Terms

Journals - a scientific publication that includes articles authored by researchers, professors, and other specialists. Journals concentrate on a certain discipline or field of study.

Manuscript - a handwritten book, document, or piece of music as opposed to a typed or printed one.

Peer Review - the process of someone reading, checking, and providing feedback on anything produced by another scientist or expert working in the same subject area, or a piece of work in which this is done: All of these publications have been published following peer review.

Publication - the creation and publication of a book, journal, piece of music, or other material intended for public sale.

Research - the careful examination and analysis of information and sources in order to establish facts and draw new findings.

Researcher - a person who conducts academic or scientific research.

Chapter 2

REVIEW OF RELATED LITERATURE

Publication Management Systems

As stated by Kaur (2013), publications make scientific material public and allow the rest of the academic community to assess the research's quality. Scholarly journals, professional or trade publications, and popular and general interest magazines are among the numerous sorts of publications. Scientific publications have a distinct character, position, and necessity. Academic publications have a peer review mechanism that ensures uniqueness, applicability, and growth in a certain field of study. There is a rapid online publication procedure that increases publication frequency while decreasing in-process time cost. The number of publications has been one of the performance evaluation values for higher education academics. Over the years, the obligation to publish has expanded to include not only getting published, but also getting published in a high-quality journal, with the quality ranking determined by publication categories (Rahim et al. 2013).

Organizations utilize monitoring and evaluation systems to measure, track, and assess project outcomes. Organizations can increase their performance, effectiveness, and project success rates by upgrading their monitoring and assessment processes. Furthermore, several studies demonstrate the importance of information and communication technology systems in monitoring and evaluation tasks (Mleke & Dida, 2020). Monitoring systems are critical components for evaluating programs and procedures, identifying strengths or weaknesses in

schools, contributing to decision-making, and carrying out educational management activities at many levels, such as the school, municipal, or federal level (Komar et al., 2019).

According to Podalyanchuk (2020), the university's research activity includes numerous characteristics, including a relatively significant number of study areas, a range of methods for publishing scientific results, and the involvement of a large number of staff and even students in the research process. It is understandable that evaluating this process and its outcomes is a challenging assignment at the global and national levels, as well as at the industrial and academic levels. Numerous mechanisms for monitoring research activities have been devised and implemented at the national level. However, such systems are primarily concerned with the institution as a whole or are intended to solve specific tasks, such as selecting research projects, setting funding levels, and so on.

Research Publication Life Cycle

Researchers must monitor information and stay current on research trends. However, as the volume of information and techniques for remaining current increase, researchers find it difficult to consistently monitor and filter scholarly papers. This is especially true for researchers in complicated multidisciplinary disciplines (Vera et al., 2020). According to Podalyanchuk (2020), research is a vital component of academic activities. Evaluating research initiatives requires consideration of both scientific and practical aspects. Currently, research evaluation is largely used to analyze a university's overall activities or to address specific objectives, such as financing research initiatives. Leading universities are typically recognized

for their excellence in research. Furthermore, they may boast of highly competent academic personnel. High research and publication outputs are associated with greater effectiveness as educators. Since universities that strongly engage in research are regarded as superior in important ways to those with lower research outputs, increasing research efficiency is the matter of improving university image, which means better opportunities to attract and retain highly qualified academic staff, facilitate admission, and increase the value of the institution's services.

Peer Review

Peer review is defined as the practice of putting an author's scholarly work, research, or ideas to scrutiny by others who are experts in the same field. Its purpose is to encourage authors to fulfill the established high standards of their discipline and to manage the dissemination of research data so that unfounded claims, undesirable interpretations, or personal opinions are not published without previous expert evaluation (Kelly et al., 2014). Peer review has emerged as a critical component of the academic writing process in scientific circles. It helps to ensure that publications published in scientific journals address important research issues and make reliable findings based on well-executed experiments. Submission of low-quality publications has become more common, and peer review serves as a filter to keep bad work from reaching the scientific community. The primary benefit of a peer review process is that peer-reviewed articles are a reliable form of scientific communication. Because scientific information accumulates and expands on itself, trust is very vital.

Publications serve an important role in spreading scientific information and assessing research quality. The increasing emphasis on high-quality journals highlights the importance of publication categories in assessing academic performance. Peer review, an important step in the academic writing process, ensures the credibility of scientific communication by adhering to established criteria and limiting the dissemination of spurious claims.

Monitoring and evaluation systems are critical for organizations seeking to monitor project outcomes and improve performance. Information and communication technology systems play an important part in these activities. The evaluation of research activities in universities is difficult due to the wide range of study fields, publishing techniques, and participation of various professionals and students. National-level processes exist, but they frequently focus on the institution as a whole or on specific duties like project selection and budget allocation. Overall, effective monitoring and assessment processes improve organizational success and decision-making at all levels.

Chapter 3

MATERIALS AND METHODS

This chapter presents the sequential procedures for developing and designing the Research Publication Monitoring Website. It also presents the methods and procedures in gathering all the necessary information used in the study.

Research Design

Agile software development life cycle is a series of stages and practices that a system goes through. Designed as a guide of the development of software in a flexible manner. The Agile methodology originally developed for software development projects because of its iterative and incremental approach (Brush, 2022).

The Agile Software Development Life Cycle will serve as a reliable framework of the project PubTrack: A Web-Based Research Publication Monitoring and Management System due to its capacity to accommodate change and the necessity for quicker software development. It enables the platform to modify requirements depending on client feedback and continuous testing.

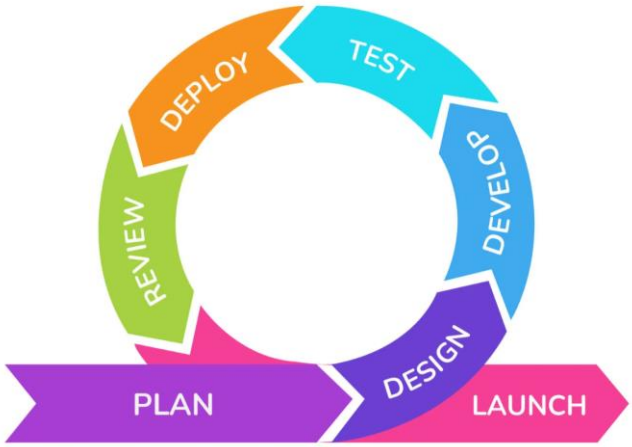

Figure 2. *Agile Software Development Life Cycle Model*

The methodology selected for the study is the Agile Methodology. Initially, the researchers will gather the necessary information, incorporating insights obtained from the conducted interviews. Subsequently, the researchers will formulate a plan for the project design followed by the development process. After the development phase, a testing phase will ensue, during which the researchers will thoroughly assess the application. Deployment and review will follow the testing phase.

Research Setting

The study will be conducted at Liceo de Cagayan University OURC (Office of the University Research and Coordination), a setting carefully chosen for its direct relevance to the study objectives and the ready availability of participants. Liceo de Cagayan University ZOURC provides an ideal environment for implementing and testing the Web-Based Research Publication and Monitoring, as it represents a typical educational institution facing challenges

in manual manuscript monitoring. The selection of this setting ensures that the study's outcomes and insights will be directly applicable and beneficial to the academic community, contributing to the improvement of Research Monitoring in educational contexts.

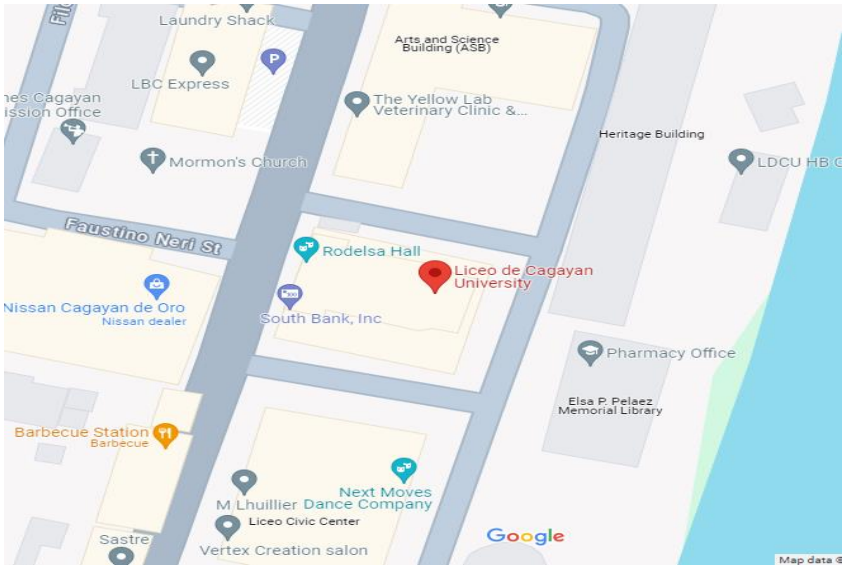

Figure 4. *Location of Liceo de Cagayan University*

Figure 5. *Location of Liceo de Cagayan University*

Research Instruments

In this study, the researchers acquired the necessary information from review of related literature and naturalistic observation of the current process of research publication monitoring. The researchers used the said research instruments as their reference materials to seek answers and understand the gaps in the study.

Data Gathering

For the Research Publication Monitoring Website, a comprehensive data gathering process was undertaken through structured interviews with key stakeholders. The researchers engaged with faculty members and OURC to solicit valuable insights into their specific needs, preferences, and expectations regarding the Web-based Research Publication Monitoring. The interviews were carefully designed to cover a spectrum of topics, including user requirements, desired features, and potential challenges.

System Design

Current System

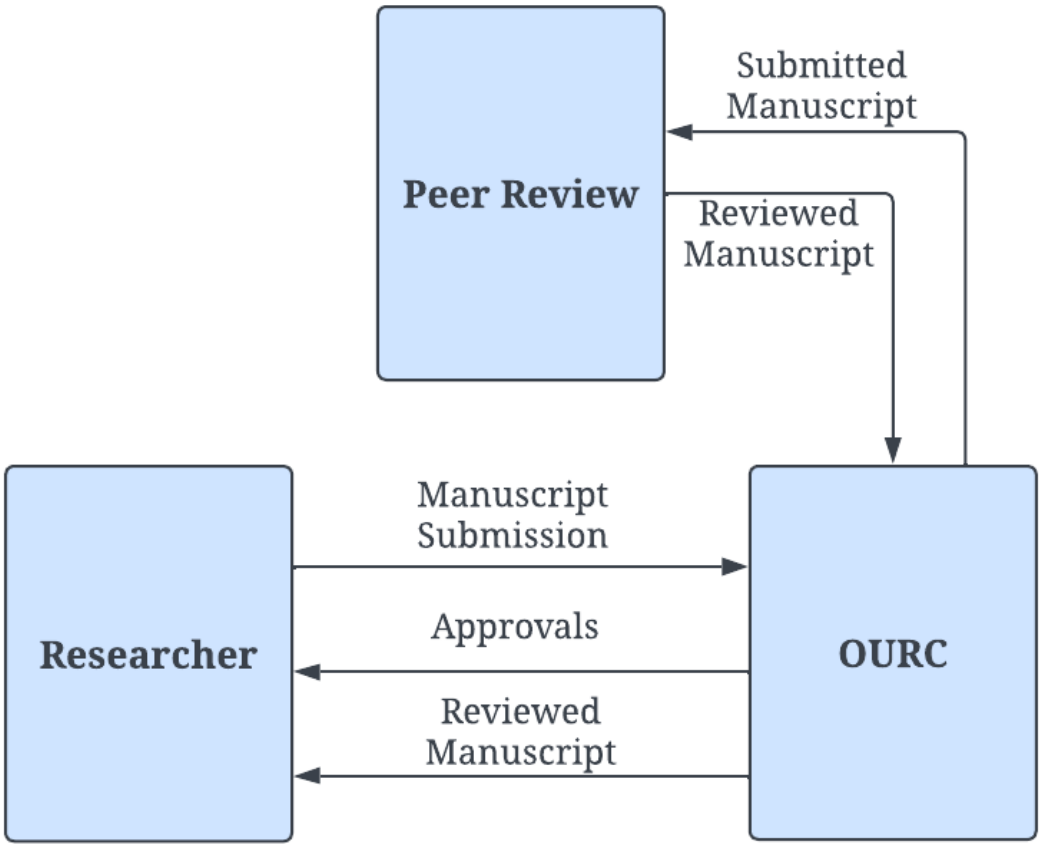

Figure 6. *Diagram of the current system flow*

Narrative description

This figure shows the current process of submitting research papers and manuscripts to the Office of the University Research and Coordination for publication requests. The researcher will send the manuscripts to the Research Publication Office, and the office will

notify the researcher when they are received. The manuscript will subsequently be sent to peer reviewers for review, who will return it to the Research Publication Office with any necessary comments and suggestions. The Research Publication Office will send the reviewed papers to the researcher for modifications, and once revised, they will return it to the Research Publication Office.

Comparative Matrix

A comparison matrix visualizes the similarities and contrasts between products and services, as well as more complex and abstract concepts such as strategies and ideas (Vizzlo, 2024).

Features	Current System	Proposed System
Manuscript Submission	✓	✓
Progress Tracking Dashboard	✗	✓
Feedback Visibility	✗	✓
Peer Review Tracking	✗	✓

Figure 7. *Comparison of the current and proposed system*

Current System Process Flow

Manuscript Submission

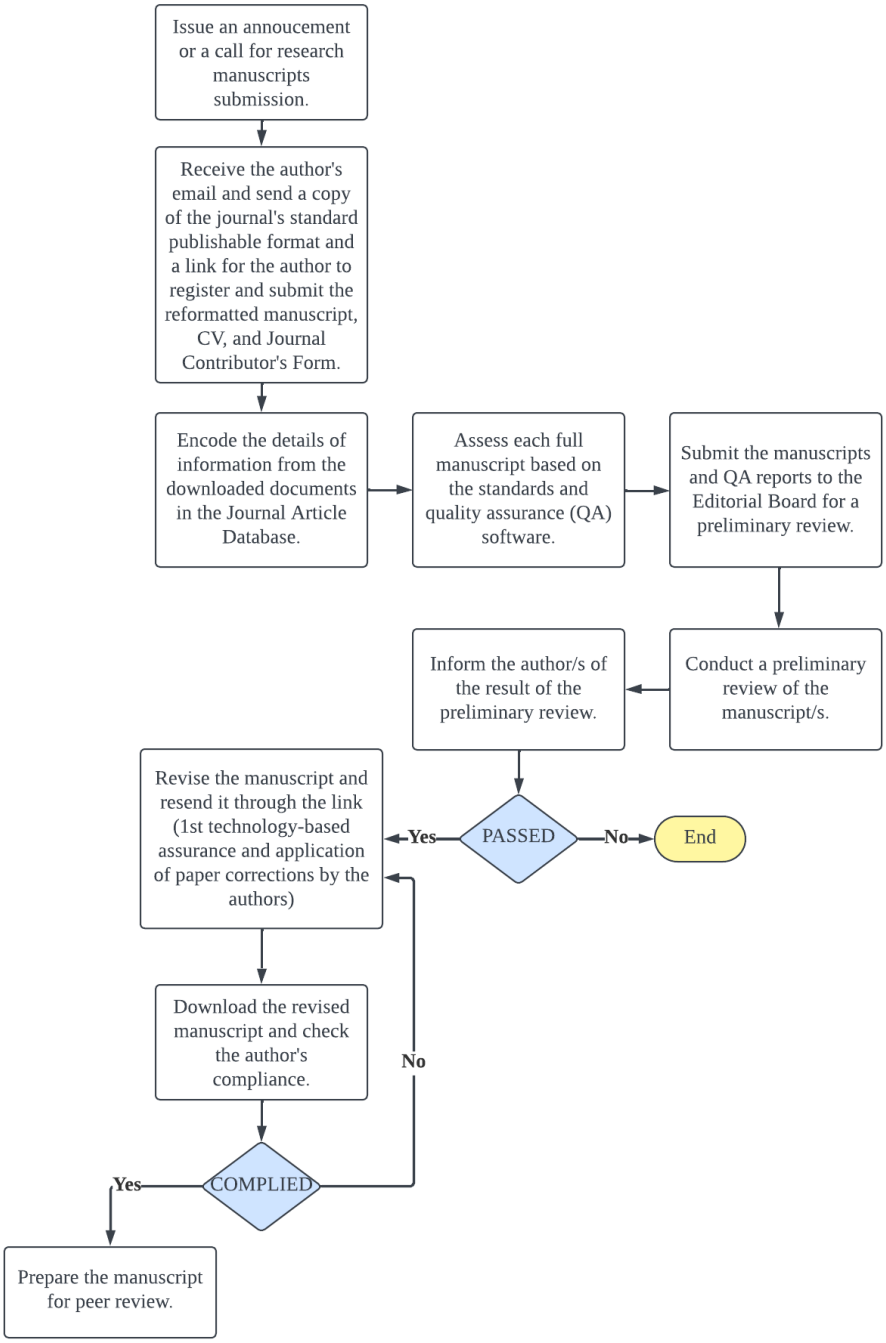

Figure 8. *Current process flow for manuscript submission*

Peer Review

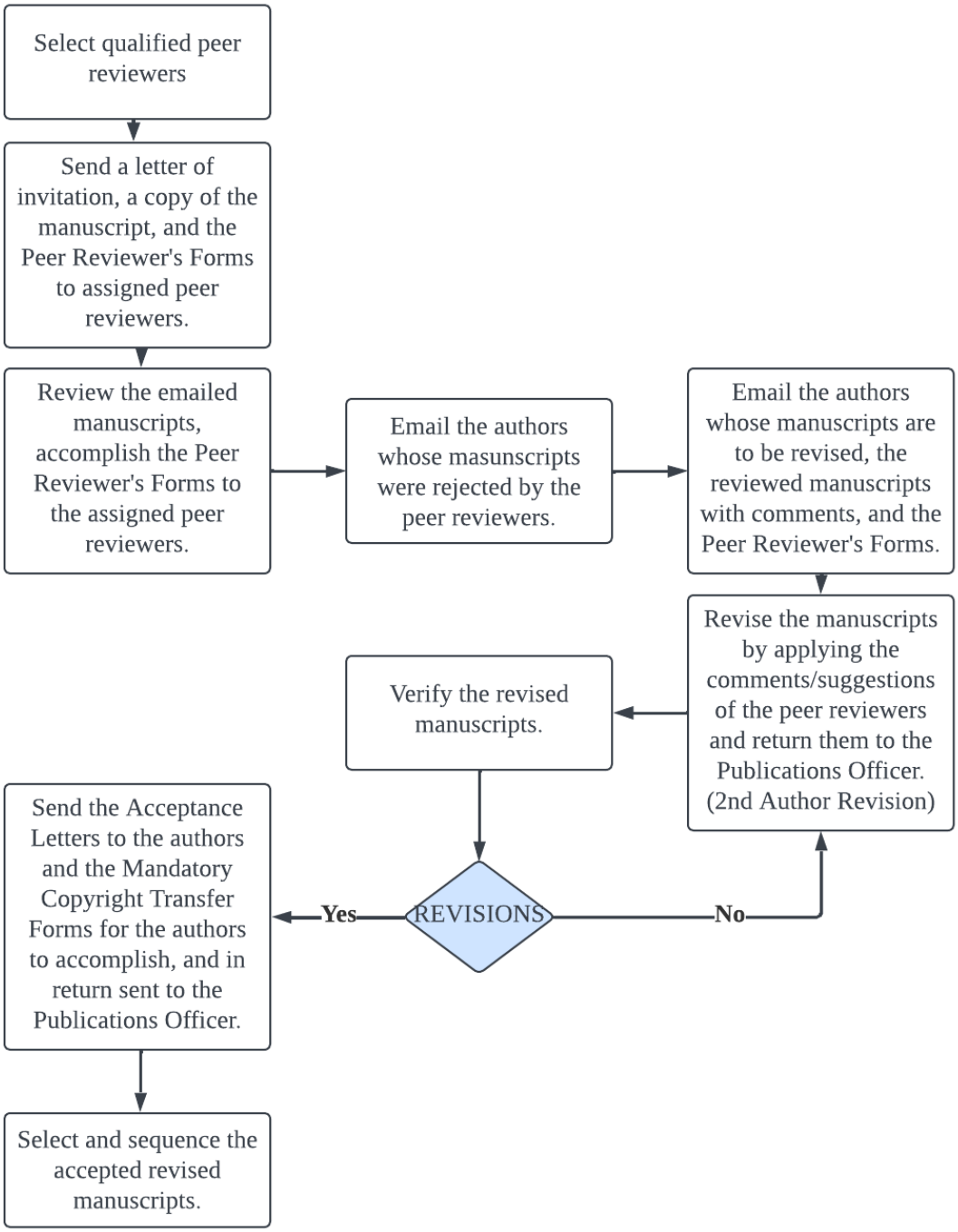

Figure 9. *Current process flow for peer review*

Proposed System

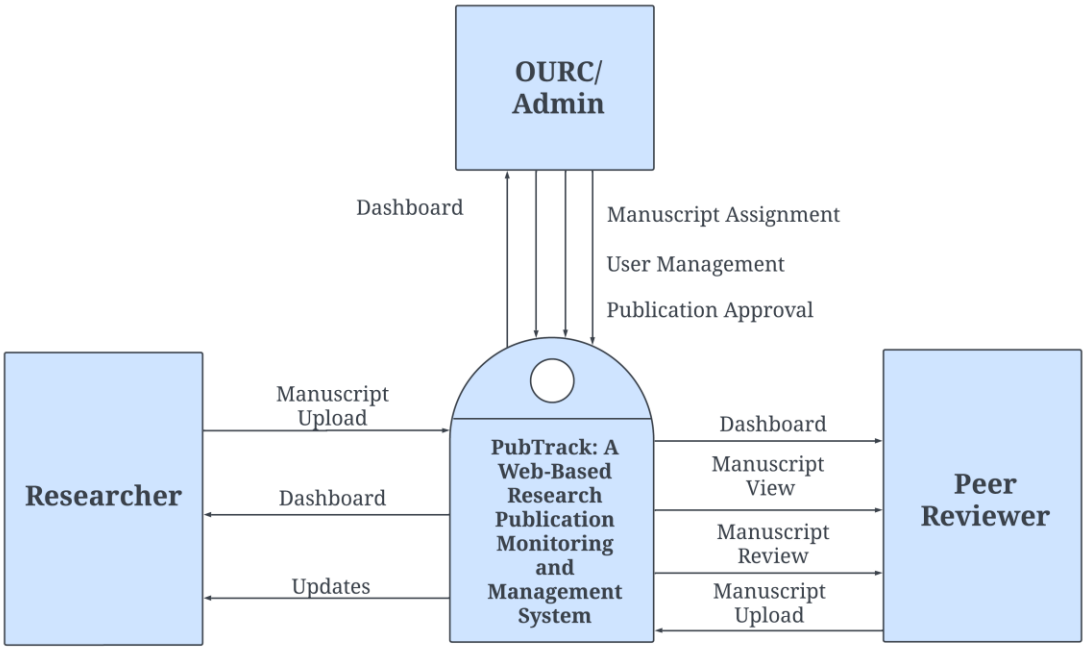

Figure 10. *Context diagram of proposed system*

Narrative Description

The figure shows the proposed system process of the project. The researcher applies for publication approval after uploading the manuscript, researcher clicks on dashboard to show where the manuscript is headed. The proposed system receives the manuscripts and passes it to the OURC. The OURC will view the manuscripts and send updates to the researcher whether it is approved or reviewed. The OURC will then submit the manuscript to the Peer Reviewer for manuscript review. The Peer Reviewer will then submit the reviewed manuscript to OURC after reviewing. The OURC will then send back the review to the Researcher. Upon

receiving comments, the researcher revises the manuscript accordingly and resubmits it for further consideration.

Proposed System Process Flow

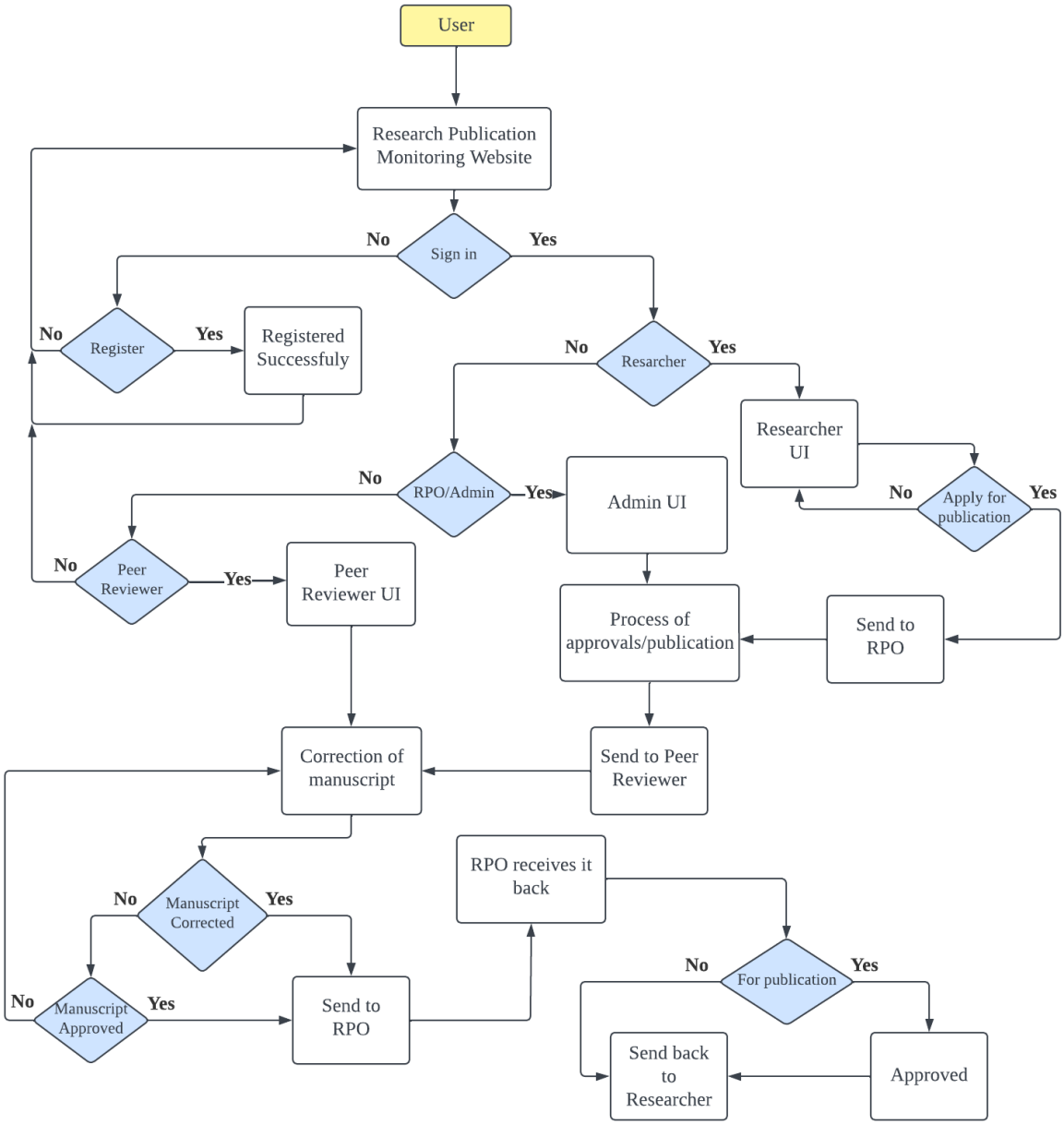

Figure 11. *System process flow of proposed system*

Entity Relationship Diagram

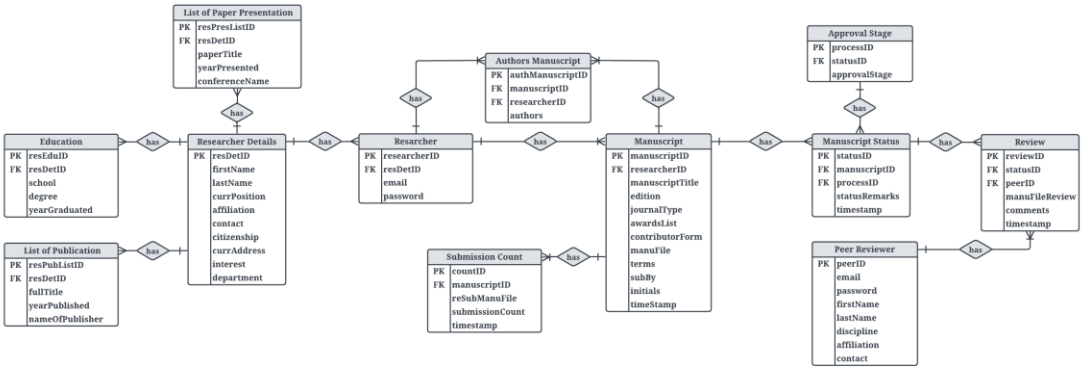

Figure 12. *Entity Relationship Diagram*

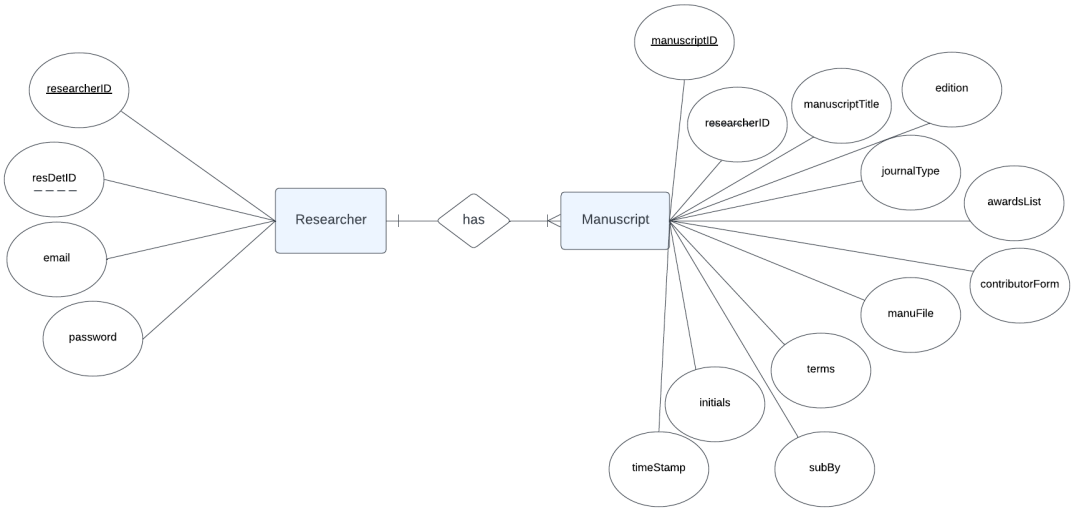

Figure 13. *Researcher to Manuscript Relationship*

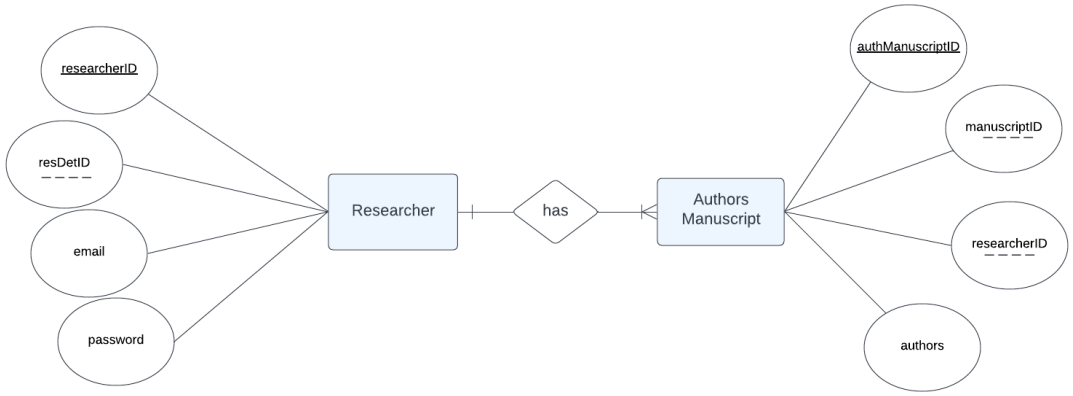

Figure 14. *Researcher to Authors Manuscript Relationship*

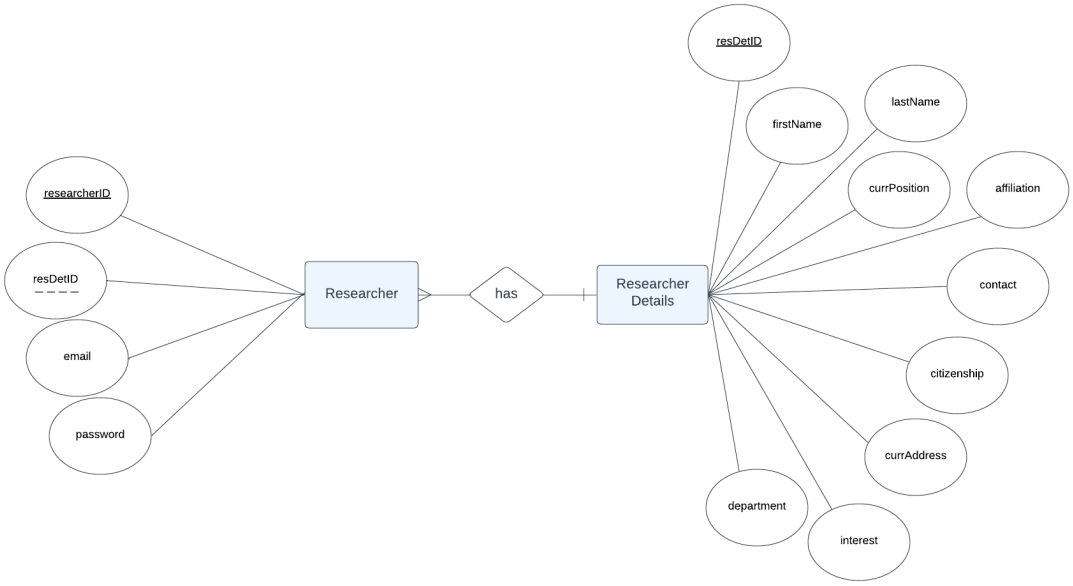

Figure 15. *Researcher to Researcher Details Relationship*

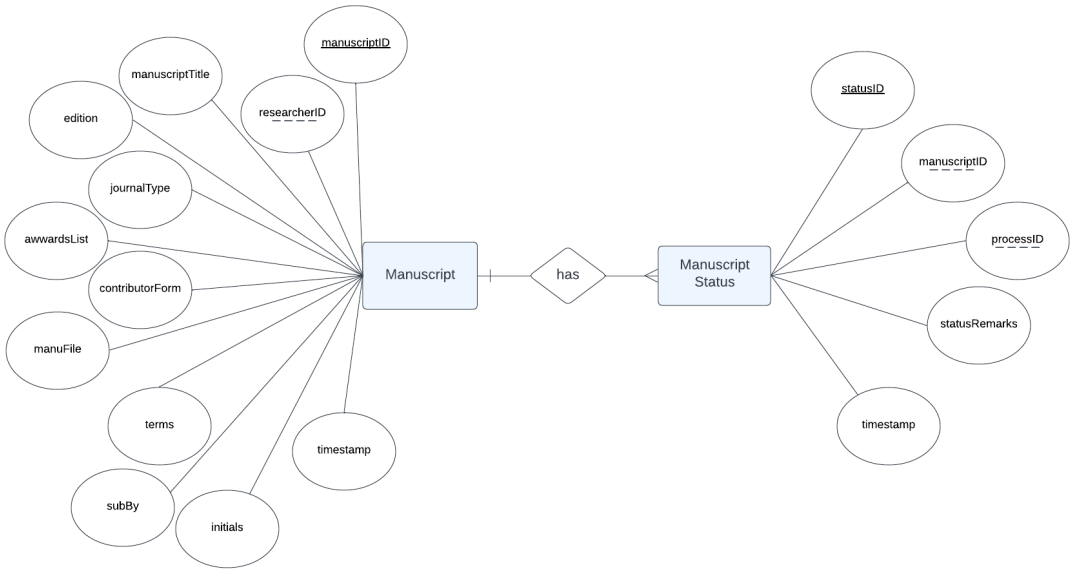

Figure 16. *Manuscript to Manuscript Status Relationship*

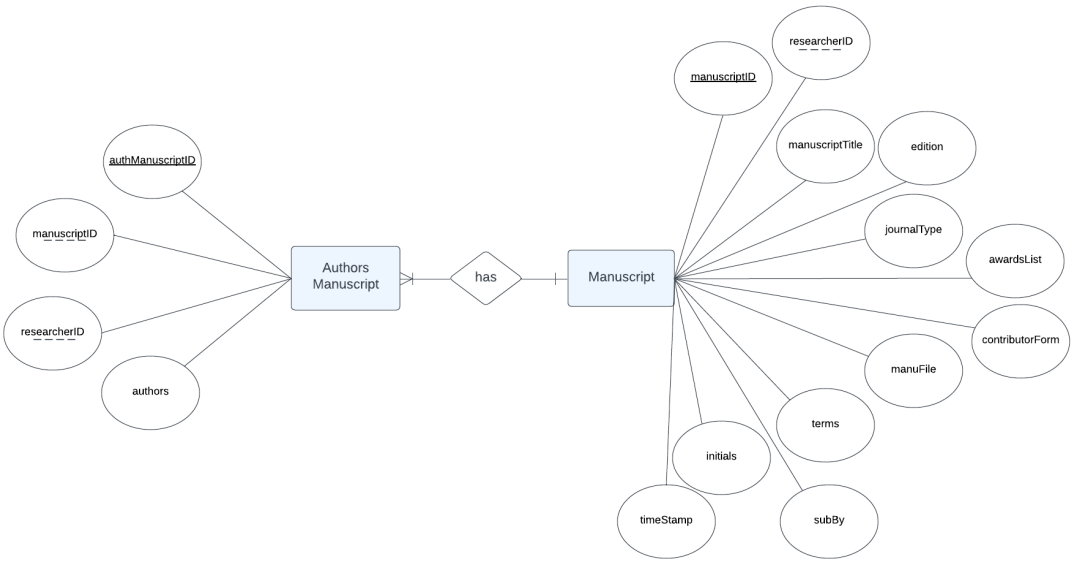

Figure 17. *Authors Manuscript to Manuscript Relationship*

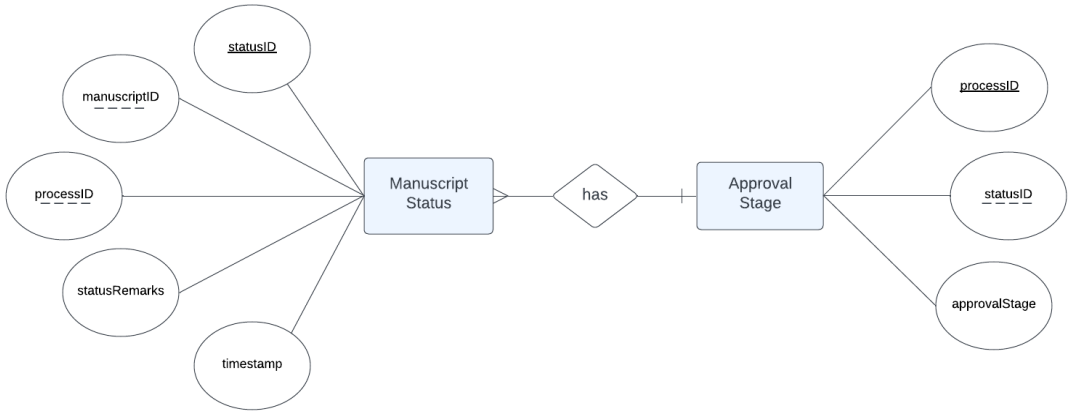

Figure 18. *Manuscript Status to Approval Stage Relationship*

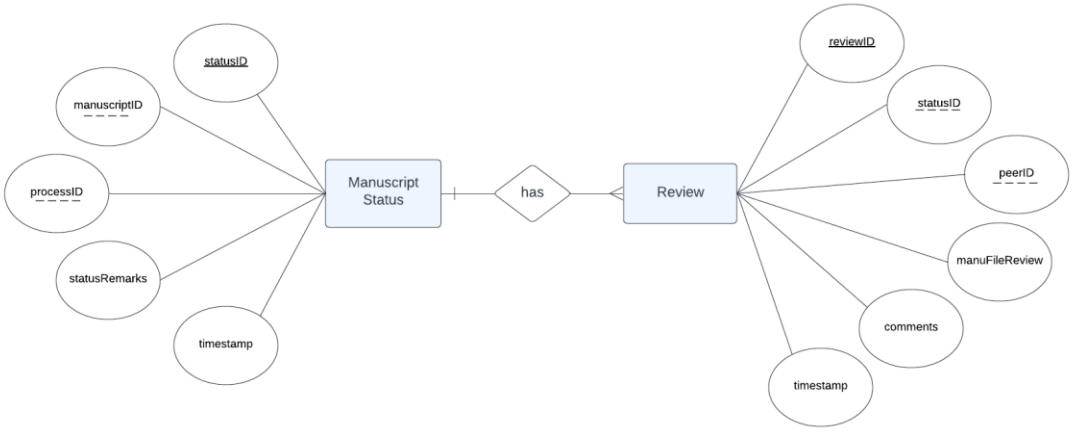

Figure 19. *Manuscript Status to Review Relationship*

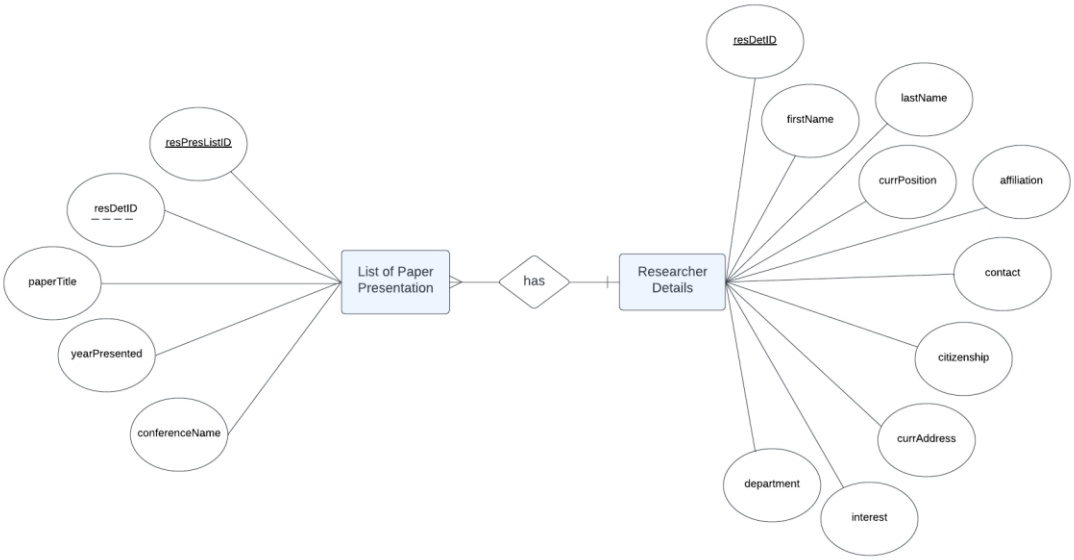

Figure 20. *List of Paper Presentation to Researcher Details Relationship*

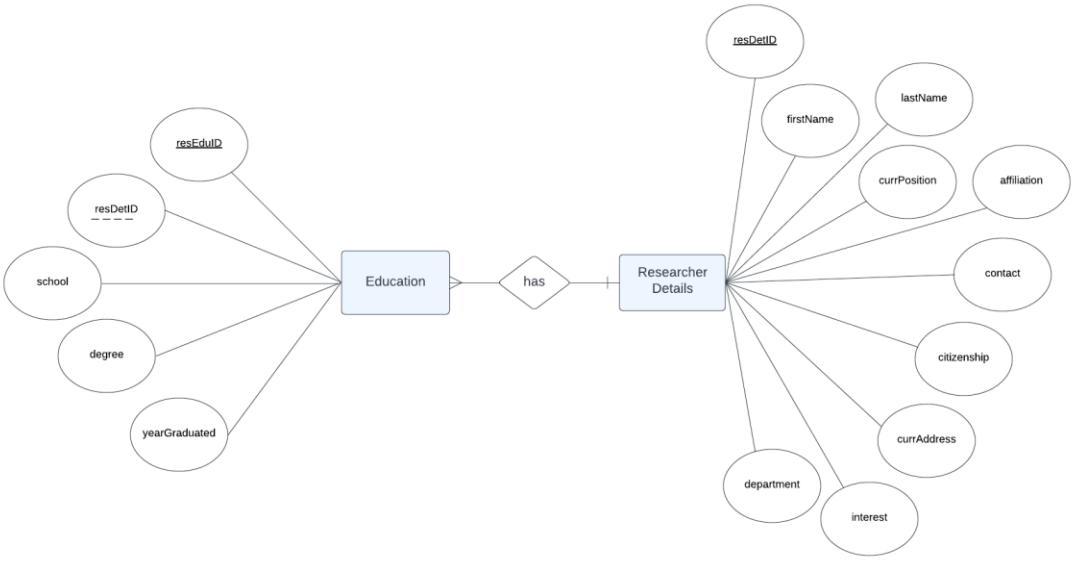

Figure 21. *Education to Researcher Details Relationship*

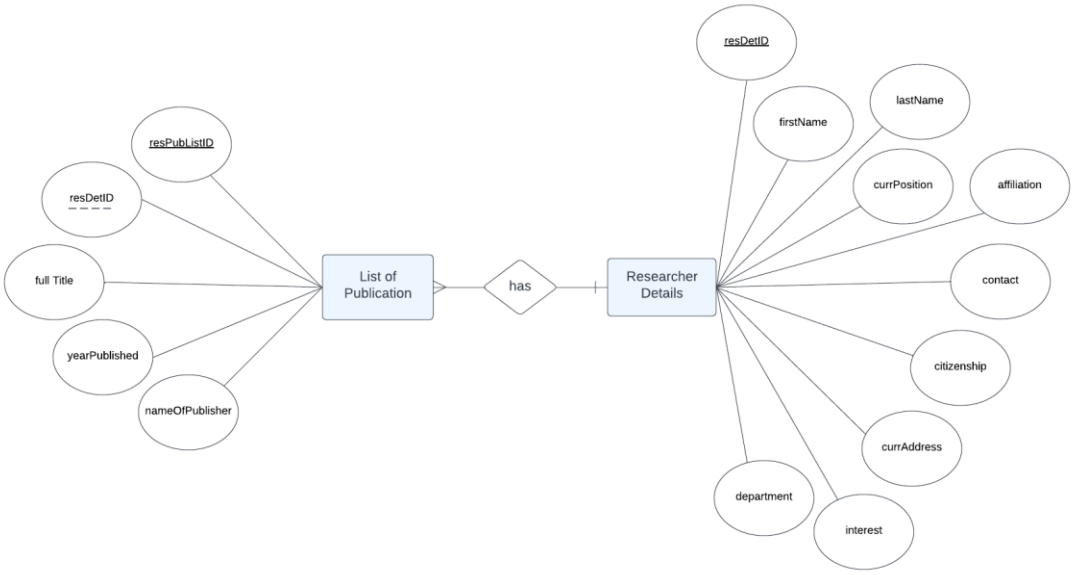

Figure 22. *List of Publication to Researcher Details Relationship*

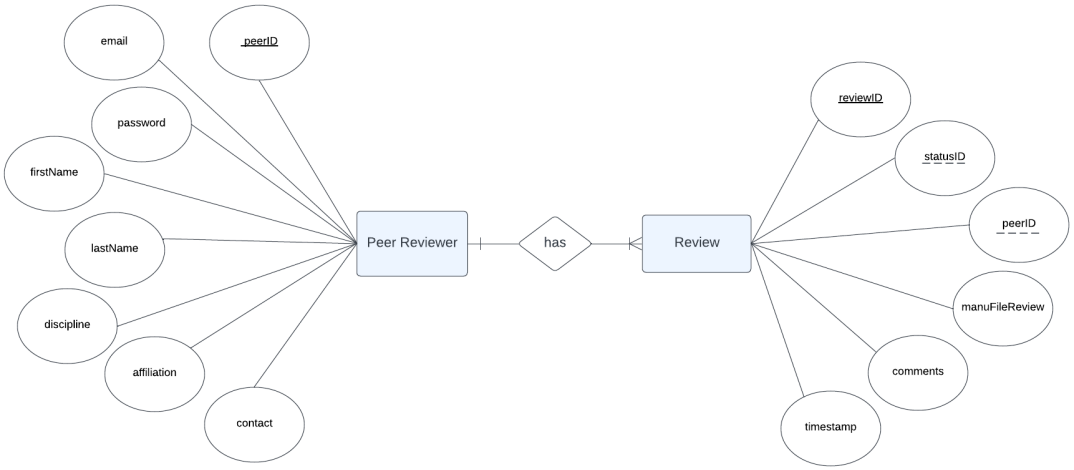

Figure 23. *Peer Reviewer to Review Relationship*

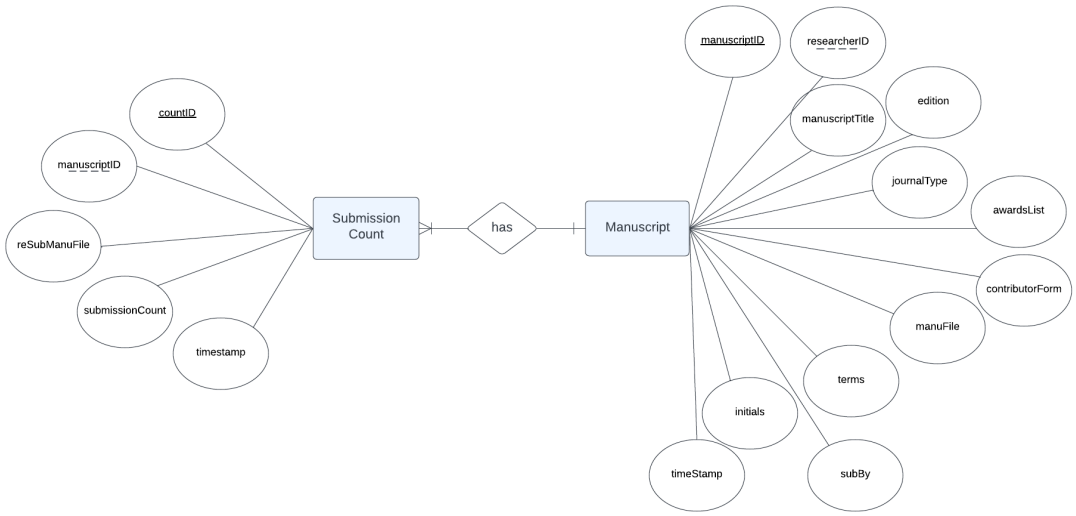

Figure 24. *Submission Count to Manuscript Relationship*

Database Structure

The database structure consists of twelve entities, each with its own set of data properties. The name of the database will be Research Publication Monitoring Website Database.

Table 1. Researcher (*This contains Researcher Information)*

Field Name	Type	Size	Value	Description
researcherID	INT	5	NOT NULL	(PK) Researcher ID
resDetID	INT	5	NOT NULL	(FK) Research Details ID
email	CHAR	40	NOT NULL	email

password	CHAR	40	NOT NULL	password

Table 2. Peer Reviewer (*This contains Peer Reviewer Information)*

Field Name	Type	Size	Value	Description
peerID	INT	5	NOT NULL	(PK) Peer Id
email	CHAR	40	NOT NULL	email
password	CHAR	40	NOT NULL	Password
firstName	CHAR	30	NULL	First Name
lastName	CHAR	30	NULL	Last Name
discipline	CHAR	30	NULL	Discipline
affiliation	CHAR	30	NULL	Organization Affiliation
contact	CHAR	15	NULL	Contact

Table 3. Researcher Details (*This contains Researcher Details Information)*

Field Name	Type	Size	Value	Description
resDetID	INT	5	NOT NULL	(PK) Researcher Details ID
firstName	CHAR	30	NULL	First Name

lastName	CHAR	30	NULL	Last Name
currPosition	CHAR	30	NULL	Current Position
affiliation	CHAR	20	NULL	Organization Affiliation
contact	CHAR	15	NULL	Contact Number
citizenship	CHAR	30	NULL	Citizenship
currAddress	CHAR	80	NULL	Current Address
interest	CHAR	50	NULL	Research Interests
department	CHAR	50	NULL	Department

Table 4. Education (*This contains Education Details Information)*

Field Name	Type	Size	Value	Description
resEduID	INT	5	NOT NULL	(PK) Researcher Education details ID
resDetID	INT	5	NOT NULL	(FK) Researcher Details ID

school	CHAR	40	NULL	School Attended
degree	CHAR	30	NULL	Degree or Other Specialized Education
yearGraduated	CHAR	9	NULL	Year Graduated

Table 5. List of Publication (*This contains List of Publication Information)*

Field Name	Type	Size	Value	Description
resPubListID	INT	5	NOT NULL	(PK) Research Publication List ID
resDetID	INT	5	NOT NULL	(FK) Researcher Details ID
fullTitle	CHAR	60	NULL	Full Title
yearPublished	CHAR	5	NULL	Year Published
nameOfPublisher	CHAR	50	NULL	Name of publisher

Table 6. List of Paper Presentation (*This contains Paper Presentation Information)*

Field Name	Type	Size	Value	Description
resPresListID	CHAR	5	NOT NULL	(PK) Researcher

				Presentation List ID
resDetID	CHAR	5	NOT NULL	(FK) Researcher Details ID
paperTitle	CHAR	60	NULL	Paper Title
yearPresented	CHAR	4	NULL	Year Presented
conferenceName	CHAR	40	NULL	Conference Name

Table 7. Manuscript (*This contains Manuscript Information)*

Field Name	Type	Size	Value	Description
manuscriptID	INT	5	NOT NULL	(PK) Manuscript ID
researcherID	INT	5	NOT NULL	(FK) Researcher ID
manuscriptTitle	CHAR	60	NULL	Manuscript Title
edition	CHAR	4	NULL	Edition
journalType	CHAR	20	NULL	Journal Type
awardsList	CHAR	80	NULL	List of Research Related Awards
contributorForm	FILE		NULL	Contributors Form File
manuFile	FILE		NULL	Manuscript File

terms	CHAR	10	NULL	Terms input
subBy	CHAR	50	NULL	Submitted By
initials	CHAR	10	NULL	Initials
timeStamp	TIME		NOT NULL	Timestamp

Table 8. Authors Manuscript (*This contains Authors Manuscript Information)*

Field Name	Type	Size	Value	Description
authManuscriptID	INT	5	NOT NULL	(PK) Author
manuscriptID	INT	5	NOT NULL	(FK)Manuscript ID
researcherID	INT	5	NOT NULL	Researcher ID
authors	CHAR	120	NULL	Authors

Table 9. Submission Count (*This contains Submission Count Information)*

Field Name	Type	Size	Value	Description
countID	INT	5	NOT NULL	(PK) Submission count ID
manuscriptID	INT	5	NOT NULL	(FK)Manuscript ID
reSubManuFile	FILE		NULL	Resubmission Manuscript File

submissionCount	INT	2	NULL	Submission Count
timestamp	TIME		NOT NULL	Timestamp

Table 10. Manuscript Status (*This contains Manuscript Status Information)*

Field Name	Type	Size	Value	Description
statusID	INT	5	NOT NULL	(PK) Status ID
manuscriptID	INT	5	NOT NULL	(FK) Manuscript ID
processID	INT	5	NOT NULL	(FK) Process ID
statusRemarks	CHAR	15	NULL	Status Remarks
timestamp	TIME		NOT NULL	Timestamp

Table 11. Approval Stage (*This contains Approval Stage Information)*

Field Name	Type	Size	Value	Description
processID	INT	5	NOT NULL	(PK) Process ID
statusID	INT	5	NOT NULL	(FK) Status ID
approvalStage	CHAR	20	NULL	Approval Stage

Table 12. Review (*This contains Review Information)*

Field Name	Type	Size	Value	Description
reviewID	INT	5	NOT NULL	(PK) Review ID
statusID	INT	5	NOT NULL	(FK) Status ID
peerID	INT	5	NOT NULL	(FK) Peer ID
manuFileReview	FILE		NULL	Manuscript Review
comments	CHAR	50	NULL	Comments
timestamp	TIME		NOT NULL	Timestamp

Use Case Diagram

A use case diagram is a dynamic or behavior diagram in UML. Use case diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform (SmartDraw, 2019).

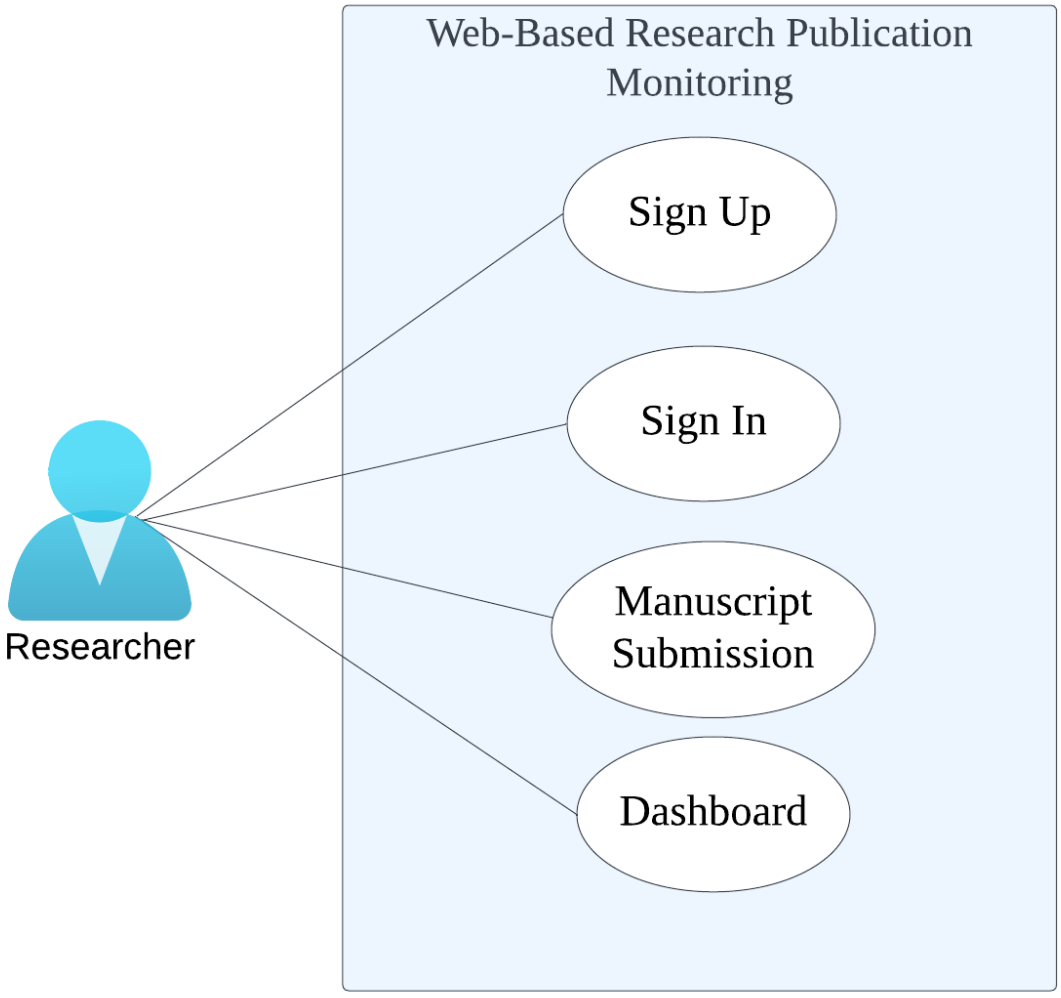

Figure 25. *Use Case Diagram for Researcher*

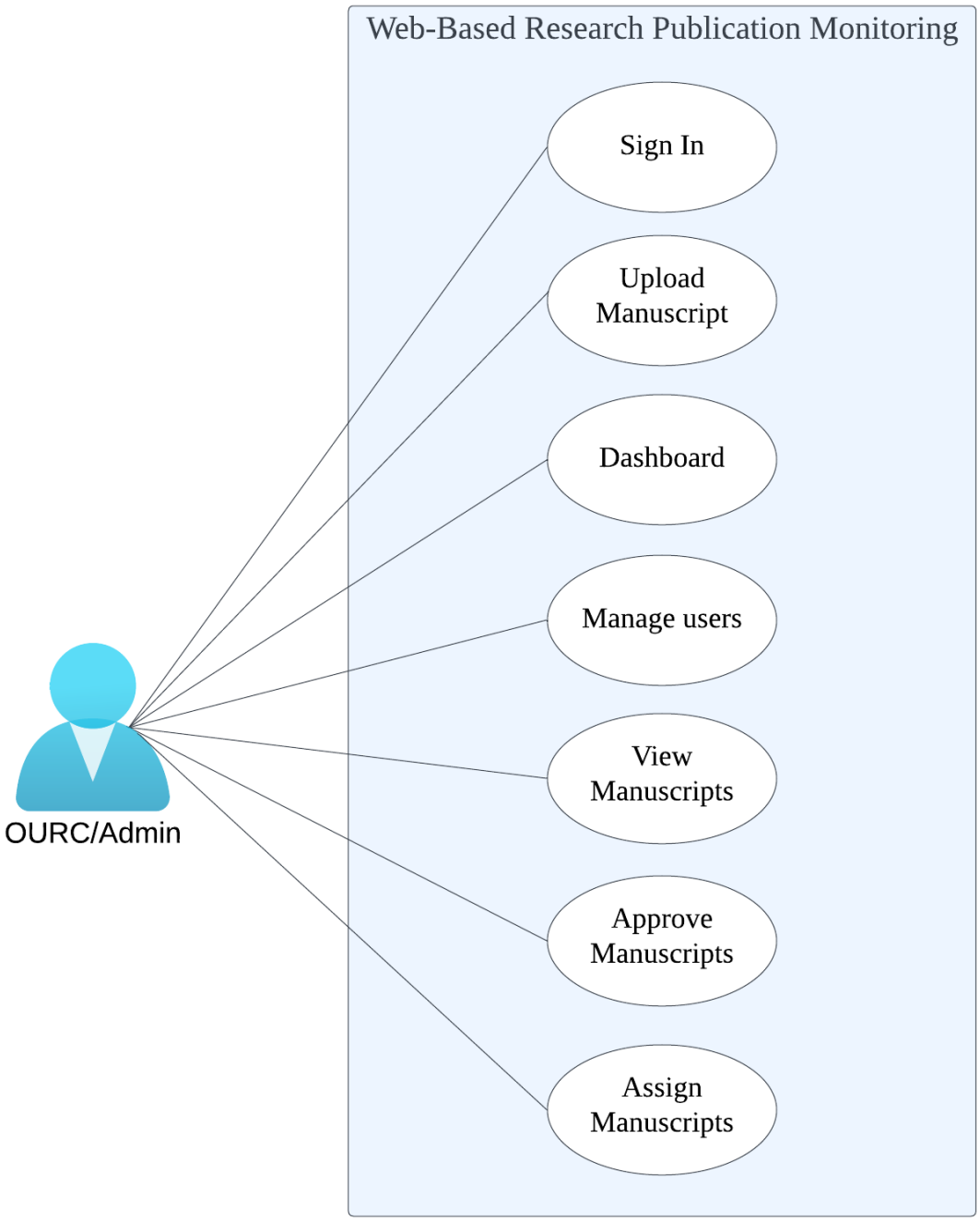

Figure 26. *Use Case Diagram for OURC*

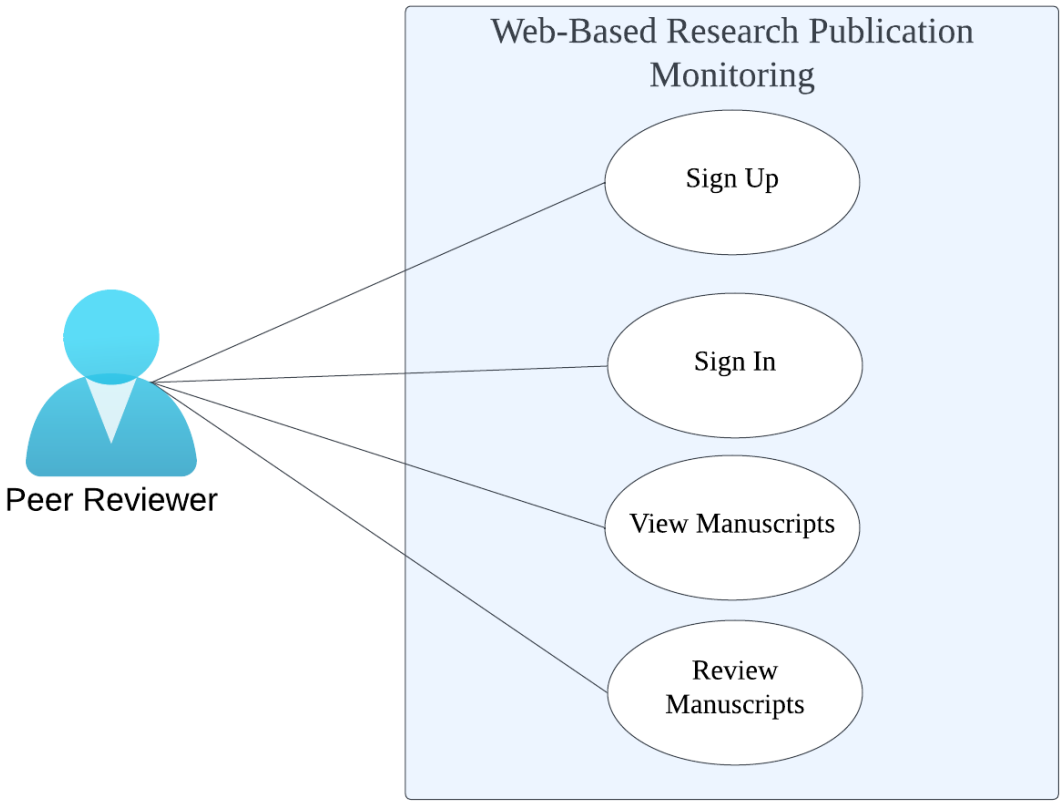

Figure 27. *Use Case Diagram for Peer Reviewer*

Use Case Description

A use case description is a text-based narrative of a functionality consisting of detailed, step-by-step interaction between the actor and the system. It describes the outcomes of an action taken to accomplish a specific goal (BusinessAnalysisDoctor, 2019).

Use Case	Sign Up
Actors	Researcher
Description	This use case demonstrates how researchers register to use the website.
Normal Flow	1. Researcher will click Sign Up. 2. Researcher will fill in the required inputs.
Alternative Flow	If the information required input is not filled out, the missing field will prompt the user for required information.
Pre-condition	Researcher fills out required information.
Post-condition	● Researcher is signed up.
Assumption	Researcher Signs up.

Use Case	Sign In
Actors	Researcher
Description	This use case demonstrates how researchers sign in to use the website.
Normal Flow	1. Researcher enters their email and password. 2. Researcher will click Sign In. 3. The researcher is now signed in successfully to the website.
Alternative Flow	If the researcher’s email and password is invalid, the researcher must enter their valid email and password.
Pre-condition	The researcher must have a registered account.
Post-condition	● If the researcher's sign in access is denied, the system will give the user an error message. ● The researcher has logged in

	successfully.
Assumption	Researcher Signs in.

Use Case	Manuscript Submission
Actors	Researcher
Description	This use case demonstrates how researchers submit manuscripts on the website.
Normal Flow	1. The Researcher fills up and submits the manuscript submission form.
Alternative Flow	It prompts the user to fill out the Researcher details first.
Pre-condition	The Researcher must be registered and filled up the Researcher details.
Post-condition	The researcher has submitted their manuscript for approval.
Assumption	The Researcher submits a manuscript.

Use Case	Dashboard
Actors	Researcher
Description	This use case demonstrates how researchers view the dashboard on the website.
Normal Flow	1. Click dashboard 2. View dashboard for pending approvals and reports.
Alternative Flow	No manuscripts for reports.
Pre-condition	Must have a submitted manuscript.
Post-condition	Dashboard is projecting reports and approvals.
Assumption	There is a manuscript submission.

Use Case	Sign In
Actors	Administrator
Description	This use case demonstrates how the administrator signs in to use the website.

Normal Flow	1. Administrator enters their email and password 2. Administrator will click Sign In 3. The administrator is now signed in to the website.
Alternative Flow	If the Admin's email and password is invalid, the Admin must enter the valid email and password.
Pre-condition	Created a super admin account.
Post-condition	● If the Admin's sign in access is denied, the system will give the user an error message. ● The Admin has signed in successfully.
Assumption	Admin signs in to the website.

Use Case	Manage Users

Actors	Admin
Description	This use case demonstrates how the Admin manages users on the website.
Normal Flow	1. Click manage users. 2. Delete, update, or view user accounts.
Alternative Flow	The Manage Users option is not shown on Peer Reviewer and Researcher accounts.
Pre-condition	Signed in as Admin.
Post-condition	Admin has configured a user.
Assumption	Admin manages users.

Use Case	View Manuscripts
Actors	Administrator
Description	This use case demonstrates how the administrator views manuscripts on the

	website.
Normal Flow	Admin clicks on manuscripts.
Alternative Flow	There are no manuscripts available.
Pre-condition	User must be an Admin.
Post-condition	Admin can see all manuscript submissions from researchers.
Assumption	The Admin views the manuscript.

Use Case	Approve Manuscripts
Actors	Admin
Description	This use case demonstrates how the Admin approves manuscripts on the website.
Normal Flow	The Admin will approve or reject manuscript submissions.
Alternative Flow	There are no manuscript submissions.
Pre-condition	User must be Admin.

Post-condition	• Manuscript successfully approved. • Manuscript rejected.
Assumption	Admin Approves a manuscript.

Use Case	Assign Manuscripts
Actors	Admin
Description	This use case demonstrates how the Admin assign manuscripts on the website.
Normal Flow	The Admin will assign manuscript for reviewing to Peer Reviewer/s
Alternative Flow	There are no manuscript submissions.
Pre-condition	User must be Admin.
Post-condition	Manuscript successfully assigned.
Assumption	Admin assigns a manuscript.

Use Case	Sign Up

Actors	Peer Reviewer
Description	This use case demonstrates how peer reviewers signs up to the website.
Normal Flow	1. Peer Reviewer clicks on Peer Reviewer Sign Up. 2. Peer Reviewer will fill in the required inputs.
Alternative Flow	If the information required input is not filled out, the missing field will prompt the user for required information.
Pre-condition	Peer Reviewer fills out the required inputs.
Post-condition	• Peer Reviewer is Signed up.
Assumption	Peer Reviewer Signs Up.

Use Case	Sign In
Actors	Peer Reviewer
Description	This use case demonstrates how the peer

	reviewer signs in to use the website.
Normal Flow	1. Peer reviewer enters their email and password. 2. Peer reviewer will click Sign In. 3. The peer reviewer is now signed in successfully to the website.
Alternative Flow	If the peer reviewer's email and password is invalid, the peer reviewer must enter the valid email and password.
Pre-condition	The Peer Reviewer must have a registered account.
Post-condition	● If the peer reviewer's sign in access is denied, the system will give the user an error message. ● The peer reviewer has signed in successfully.
Assumption	Peer Reviewer signs in to the website.

Use Case	View Manuscripts
Actors	Peer Reviewer
Description	This use case demonstrates how the peer reviewer views manuscripts on the website.
Normal Flow	1. Click on manuscripts. 2. Pending manuscripts will be shown.
Alternative Flow	No pending manuscripts.
Pre-condition	Must be a Peer Reviewer.
Post-condition	● Peer Reviewers views the manuscript assigned to them.
Assumption	Peer Reviewer views manuscript.

Use Case	Review Manuscripts
Actors	Peer Reviewer
Description	This use case demonstrates how the peer reviewer reviews manuscripts on the website.

Normal Flow	1. The Peer Reviewer receives manuscripts from Admin. 2. Begin correcting or reviewing manuscripts. 3. Send to Admin after correcting or reviewing manuscripts.
Alternative Flow	No manuscript received from Admin.
Pre-condition	Admin must send researchers manuscripts for review.
Post-condition	Manuscript is reviewed or approved for publication.
Assumption	Peer Reviewer reviews manuscripts.

Sequence Diagram

Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focused and they show the order of the interaction visually by using the vertical axis of the diagram to represent time, what messages are sent and when (VisualParadigm, 2019).

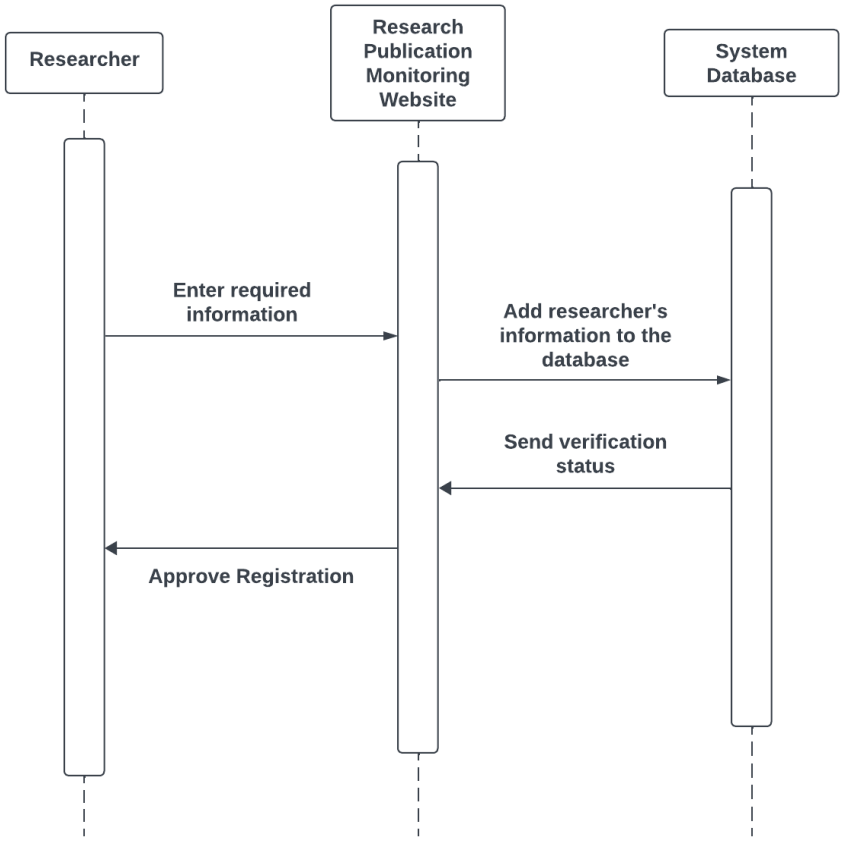

Figure 28. *Sequence Diagram for Register*

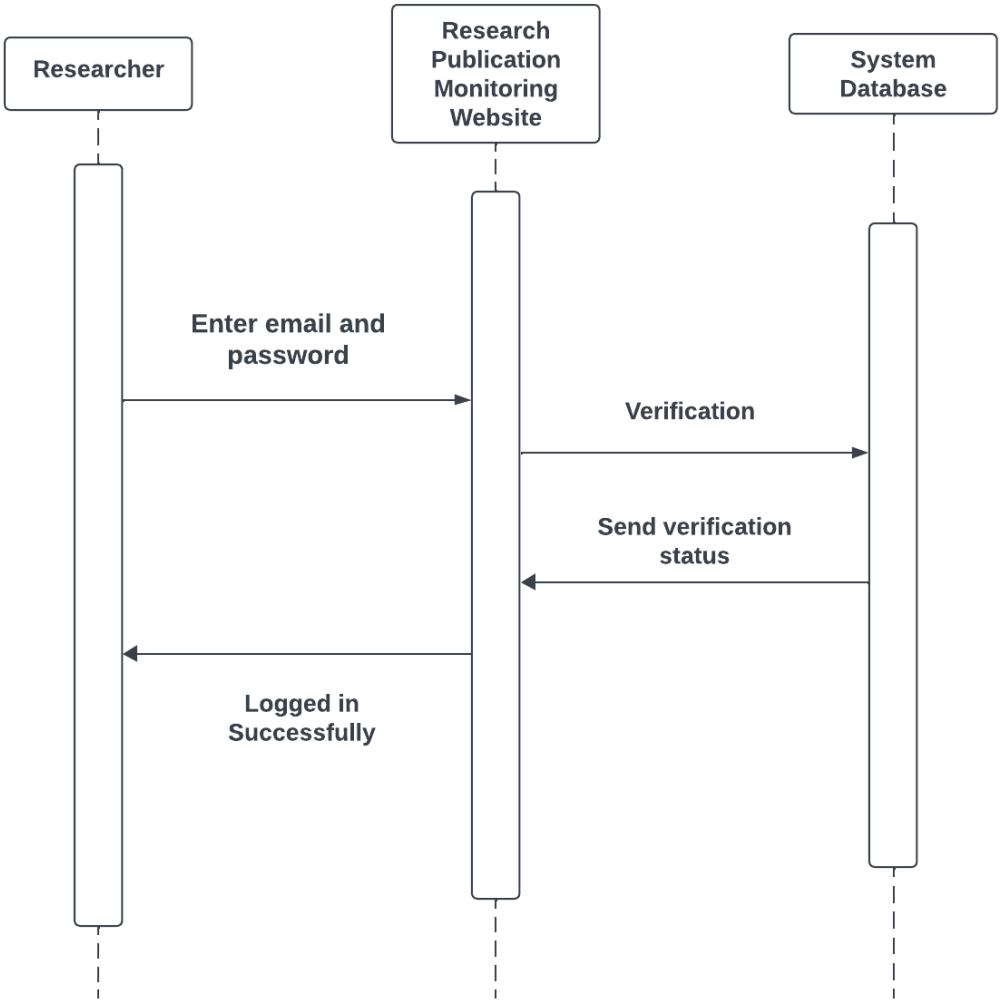

Figure 29. *Sequence Diagram for Login*

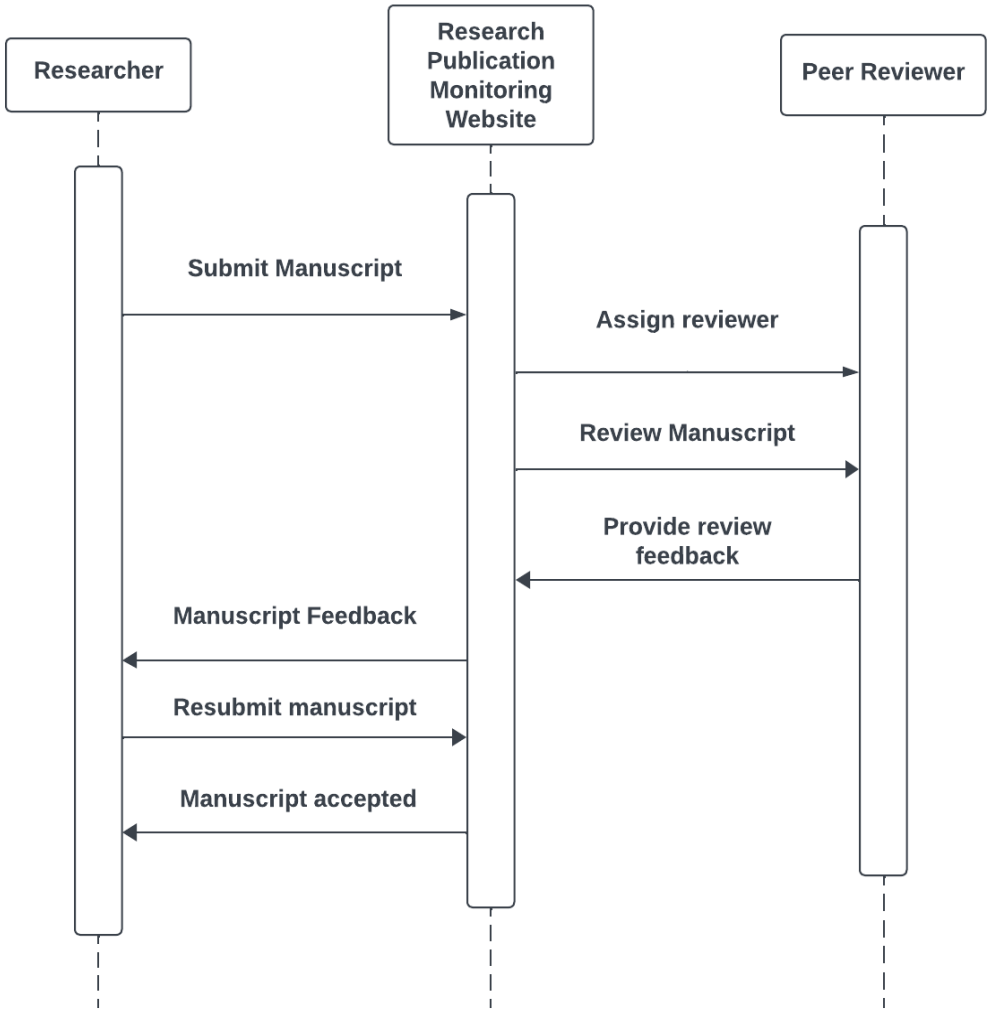

Figure 30. *Sequence Diagram for Upload Manuscript*

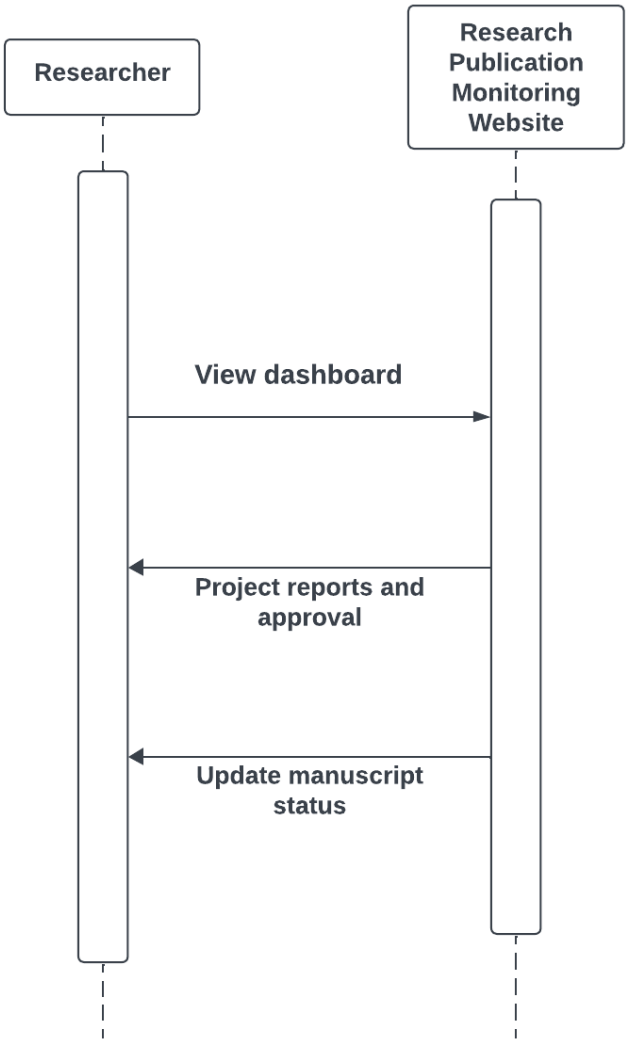

Figure 31. *Sequence Diagram for Dashboard*

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