

SU Digital Repository: A Digital Archive for Silliman University Academic Papers

A Capstone Project presented to the faculty of the College of Computer Studies
Silliman University

In partial fulfillment of the
requirements for the degree of
Bachelor of Science in Information Technology

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Chapter 1:

Introduction and Background of the Study

1.1 Introduction

It is challenging for students to grasp new concepts that will change our world as most of the concepts that are thought of have already been accomplished. The challenges of making an academic paper, thesis, or capstone project are quite a task to overcome, but finding a close reference on what idea you have come up with is also another task to accomplish. Nowadays, students look for ways to find resources faster and more conveniently. Luckily for the current generation, they are able to do exactly just that.

The previous generation has significantly relied on physical libraries to look for references they may need to write an academic paper. However, technology is growing fast and evolving throughout the years; also adding on the current situation regarding COVID-19 and the new norms that had taken shape in modern society (which include limited access to physical libraries and classrooms, places for gathering in general) — with the convenience of the Internet, more and more students and faculty prefer to take advantage of said technologies that are offered because searching for something on the internet has become as fast as the blink of an eye, especially when it comes to accessing academic material. Whereas going to a traditional library would require students to physically visit a library, take a longer time to search for relevant materials (Searching for the right section in the directory, walking to said section, and taking the time to find the relevant books or materials), and borrow the materials, only for them to be able to hold materials for a short amount of time.

This is where a digital repository comes in. Digital repositories are systems that manage, store, preserve, and allow access to digitized information. Since repositories are online, they meet the growing demand for materials to be easy to find and easy to access. [1] More and more universities and organizations not only in the Philippines but also overseas have digital repositories because they are easier to manage and help to keep students' papers for a longer amount of time.

The Silliman University Digital Repository will be an online resource that primarily houses a collection of outstanding theses, capstone research, and final requirement documents submitted by Silliman University students. It will incorporate elements and final requirement pieces from all of the University's colleges, institutes, and schools. While the Silliman Library has a dedicated section for Academic Materials such as these, students are not allowed to take them out of the campus and can only be borrowed and read within the school library. This online repository would make it easier for Sillimanians to access the previous years' papers, as it can be accessed anywhere with an internet connection, and because it is a free service for Sillimanian Students and Sillimanian faculty and staff.

1.2 Objectives of the Study

The objective is to develop a digital repository in Silliman that will be a database focused on providing easier access to resources that hold final requirements in undergraduate courses such as Capstones and Theses papers for the Sillimanian student body and faculty members. The website will aid academic and research practices for students, where students can obtain knowledge beyond the four walls of their classrooms.

1.3 Scope and Limitations

Scope

The contents that will be included in the repository are documentation of final requirements in undergraduate courses (e.g. Capstone Project, Theses papers, etc.). The digital repository will be a web application and will be used specifically by the students and faculty of Silliman University.

The web application will have seven main features. First, a Restriction on Copying Text feature where all files will be PDFs that consist of PNG versions of the document to prevent users from highlighting and copying words from the document. This is to help prevent plagiarism and protect the author's works. Second, a Keyword Search and Filter Engine where users will be able to search papers by keyword and will be able to filter results by Type of Paper, College, or Author. Third, a Categorization of Output feature where users will be able to search papers that are categorized by the following: Type of Paper, College, or Author.

Fourth, the Submission of Academic Materials where users will be able to submit their academic materials to the Digital Repository for digital safekeeping and for students and faculty of Silliman to read. Fifth, a Bookmark feature where users will be able to bookmark their favorite papers for easier access and convenience. Sixth, Pre-Formatted Citation feature where users can find a list of pre-formatted citations (e.g. APA, MLA, IEEE) which includes the name of the paper, the name of the author, information where it came from, the date it was published, and the date it was accessed for a selected paper. And lastly, a Statistical Analytics Reports feature where admins will be able to generate and view statistical reports on the number of submissions per month/year and the number of topics based on keywords.

Limitations

The SU Digital Repository will not be open to the public and can only be accessed by students and faculty of Silliman University. All papers may be viewed in full but cannot be downloaded. The SU Digital Repository will be limited to a web application that will require an Internet connection to access the academic materials.

1.4 Significance of the Study

Significance to Authors:

- Authors will be able to share their works and keep their work in a secure location for a long period of time.

Significance to Users

- The current and the most efficient method for searching for reliable resources for students taking on research and thesis is searching for the sources online. The construction of a Digital Repository helps to strengthen the student body's research capacity as a tool for community development as they will have easier access to accurate and verified academic documents.

Significance to Client (SUSG Research Committee):

- The SU Digital Repository is significant because it has the potential to be the University's top auxiliary resource for secure, accurate, and verified material that is simple for students to use as a tool to support and enhance their research abilities and instill a deep respect for the arts and culture, ultimately contributing to nation-building, which is ultimately one of SUSG Research Committee's purpose.

1.5 Definition of Terms

Table 1 - Definition of Terms

TERMS	DEFINITION
SU Digital Repository	A web application that hosts a well-organized and maintained collection of academic papers submitted by Silliman students for easy consultation and use.
Academic Materials/Documents/Papers	Specifically documents of final requirements in undergraduate courses. (e.g. Capstones, Theses papers produced by Sillimanians)
Digital Archive	An online platform for storing digital resources for safekeeping.

Chapter 2:

Review of Related Literature and Systems

2.1 Review of Related Literature

Data banks are a new form of information storage that allows users to store, create, edit and share their data in the cloud. It is simple to obtain files from other internet users, and these services make it simple to distribute them. Data banks are gaining popularity because they make it simple for consumers to maintain track of their personal information. They are also becoming a key tool for businesses since they help them to boost production and efficiency [2]. This would be the main goal of the SU Digital Repository to make students and faculty find information and sources much easier and faster.

According to Hannah Diane in February 2022, there are many instances where companies need to store data for a number of years in advance. It can be challenging to remember all the different data points for each account and their corresponding individual contacts. With things like marketing lists, database management, and customer service, it is important to have a database bank that keeps your information in one place so you don't have to go through reams of paper or resort to hard-to-find spreadsheets[2].

Aside from making it easier for students to find the resources they need, a Databank can keep everything organized and up to date in just one place.

For clarification, databank and database are quite similar. The difference is, that a database is a collection of tables that is used to capture and analyze data from users or applications, whereas a databank is a repository that will keep data safe in the long term. It's a large repository of computer data on a particular topic, sometimes formed from more than one Database, and accessible by many users[3].

Systems such as UP's Digital Archive, the database that holds a number of papers belonging to different categories such as Personal Papers, Presidential Papers, Theses and Dissertations, University Records, and UPIANA[6]. This will also hold true with the Silliman Academic digital repository, however, some features shown in UP's databank will be excluded in this project. One of the reasons why a databank or a digital archive would be helpful to Silliman University is because it would give librarians greater insight into research trends and highlight which titles are most influencing emerging scholarship at any one time[4].

According to Charlesworth Author Services, the availability of an internal infrastructure for maintaining and organizing digital content is becoming increasingly crucial, as the expense of obtaining and preserving physical copies of books, journals, and student submissions is a hardship for most institutions. There is simply a limited amount of room available within colleges, namely in libraries, to keep such a large volume of written literature[5].

2.2 Review of Related Systems

UP Diliman Digital Archives

The UP Diliman Digital Archives is the official Institutional Repository of the University of the Philippines Diliman. It is hosted and maintained by the University Library, University of the Philippines Diliman. The database holds a number of papers belonging to different categories such as Personal Papers, Presidential Papers, Theses and Dissertations, University Records, and UPIANA. Students are able to upload their own works for a wider reach of audiences while the copyright of the author and the University is protected. As of now, there are over 3,000 papers altogether that are available for the public to view. [6]

De Lasalle Medical and Health Science Institute “GreenPrints”

GreenPrints, the institution's repository, stores electronic research outputs, publications, creative works, learning objects, institutional records, and other knowledge assets of De La Salle Medical and Health Sciences Institute students, professors, and staff. The platform acts as a source of inspiration for those both inside and outside of the DLSMHSI community. It also contributes to the Institute's goals of responsible environmental stewardship by offering paperless access, storage, and administration of its holdings via electronic methods. The repository is accessible to both students of De La Salle and the general public. [7]

The University of Hong Kong "The HKU Scholars Hub"

The HKU Scholars Hub is the University of Hong Kong's current research information system (CRIS). It seeks to promote chances for collaboration as well as increase the exposure of HKU authors and their research. It is an important tool for HKU's Knowledge Exchange, one of the three pillars of the university's goal for the years 2016 to 2025. The Hub collects, maintains, and disseminates HKU's intellectual output in digital form. It allows open access to academic materials such as HKU theses and postprint, according to the publisher's policy. [8]

University of Cambridge "Apollo"

Apollo is the name of the institutional repository at the University of Cambridge. It was established in 2003 as a service to publicize, keep, and preserve the research findings of the University. The repository contains a variety of research outputs, including publications, conference proceedings, theses, various forms of research data, presentations, and more. Apollo is managed by the Open Research Systems group, which is a division of Digital Initiatives and is located in the Cambridge University Library. The University Library's Open Research teams are in charge of overseeing and selecting the data that may be found on Apollo. [9]

MERLOT

The MERLOT collection houses a wide array of discipline-specific learning materials, learning exercises, and Content Builder webpages. All materials are for the purpose of enhancing the teaching experience with learning materials. Members of the MERLOT community have contributed over 91,000 materials in 22 different material type categories, in which the materials were authored by the members themselves or have found useful materials and wanted to share them with the community.

Chapter 3:

Methodology

3.1 Conceptual Framework

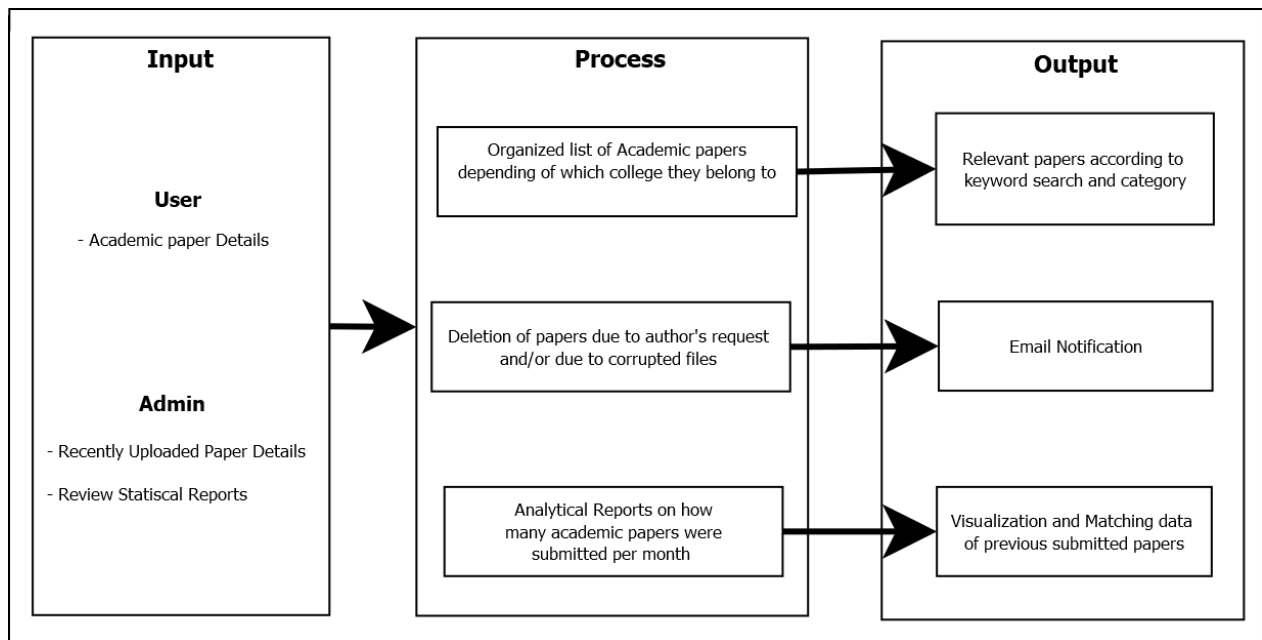


Figure 1. Conceptual Framework

Figure 1 shows the conceptual framework being utilized for the data collection of the current project. When the user searches for an academic paper the digital repository will give a list of papers that are relevant to the keywords searched by the user. The admin will be maintaining the papers stored in the digital repository. When an author requests for their paper to be removed for any reason, the admin will handle the task and a notification will be sent to the user via email about the deletion of the paper. The admin will be able to see the monthly reports generated by the digital repository to see how many papers have been submitted on a monthly basis.

3.2 List and Description of the Stakeholders of the System

Authors:

- Students who submitted their academic materials to the SU Digital Repository.

Users:

- The people who can access the SU Digital Repository, which includes Sillimanian students, Teachers, and Faculty.

Clients:

- The people involved in the handling of the SU Digital Repository website app after development.

3.3 Software Development Model

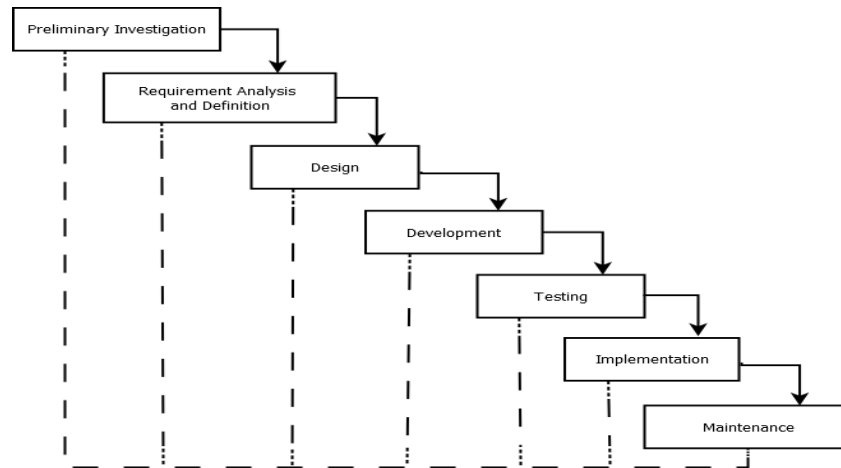


Figure 2. Waterfall Model

The software development activity is separated into phases in this paradigm, and each phase consists of a succession of activities with various objectives. In waterfall development, one step begins only when the preceding phase is finished. Because of this, each step of the waterfall model is extremely precise and clearly defined. The waterfall model is so named because the phases descend from a higher level to a lower one, much like a waterfall.

The SU Digital Repository function module shall be developed sequentially and will go forward and backward between sequences if needed, much like a waterfall model. And thus, suitable to represent the progress of the website development. The process is as follows: The preliminary investigation determines the main functionalities that the SU Digital Repository requires. Requirement Analysis consists of capturing requirements and brainstorming to understand these requirements. Development and testing include designing and implementing different function models of the SU Digital Repository to the system and unit testing. The system will then be implemented to see if all requirements are met. Lastly, feedback will be received and the system shall proceed to maintenance.

3.4 Minimum Hardware and Software Requirements

Table 2. Minimum Hardware Requirements during Development

Monitor	13” Monitor or bigger with VGA
Microprocessor	Intel I3 4th Gen
RAM	4GB
Internet	Required

Table 3. Minimum Software Requirements during Development

Internet Browser	Any Browser will do
VS Code	Version 2019 or later
MySQL	Updated version in their website
Hostinger	Updated version in their website
Laravel	Version 9
Dia or Microsoft Visio	Version 2014
Figma	Updated version in their website
uizard	Updated version in their website

Table 4. Minimum Software Requirements during Implementation

Internet Browser	Any Browser will do
VS Code	Version 2019 or later
MySQL	Updated version in their website
Hostinger	Updated version in their website
Laravel	Version 9
Dia or Microsoft Visio	Version 2014
Figma	Updated version in their website
uizard	Updated version in their website

3.5 Project Timeframe/Timeline/Schedule

Table 5. Project Schedule

Main Activity	Activity ID	Specific Activity	Predecessor	Duration (Weeks)
Preliminary Investigation				
	A	Conduct Research	None	1
	B	Organize user requirements	None	1
Requirements Analysis				
	C	Create minimum hardware and software specifications	A,B	1
	D	Create WBS and Project Timeline (Gantt Chart)	C	1
	E	Create User and System Requirements	C	1
	F	Create System Flow Diagram/System Model	C	1
Design				
	G	Create User Interface Design (Wireframes)	D,E,F	1
	H	Create Data Flow Diagram/State Diagram	G	1
	I	Create Database Design	G	1
Development				
	J	Develop Website application	I	13

Testing				
	K	Perform Unit and Integration Testing	J	1
	L	Perform System Testing	K	1
	M	Perform Parallel and Acceptance Testing	L	1
Implementation				
	N	Deliver complete Website	M	1
Maintenance				
	O	Check for new user requirements	N	1

Table 5 shows the project schedule for the development of the Silliman University Digital Repository.

3.5.1 Gantt chart

Figure 3. Gantt Chart

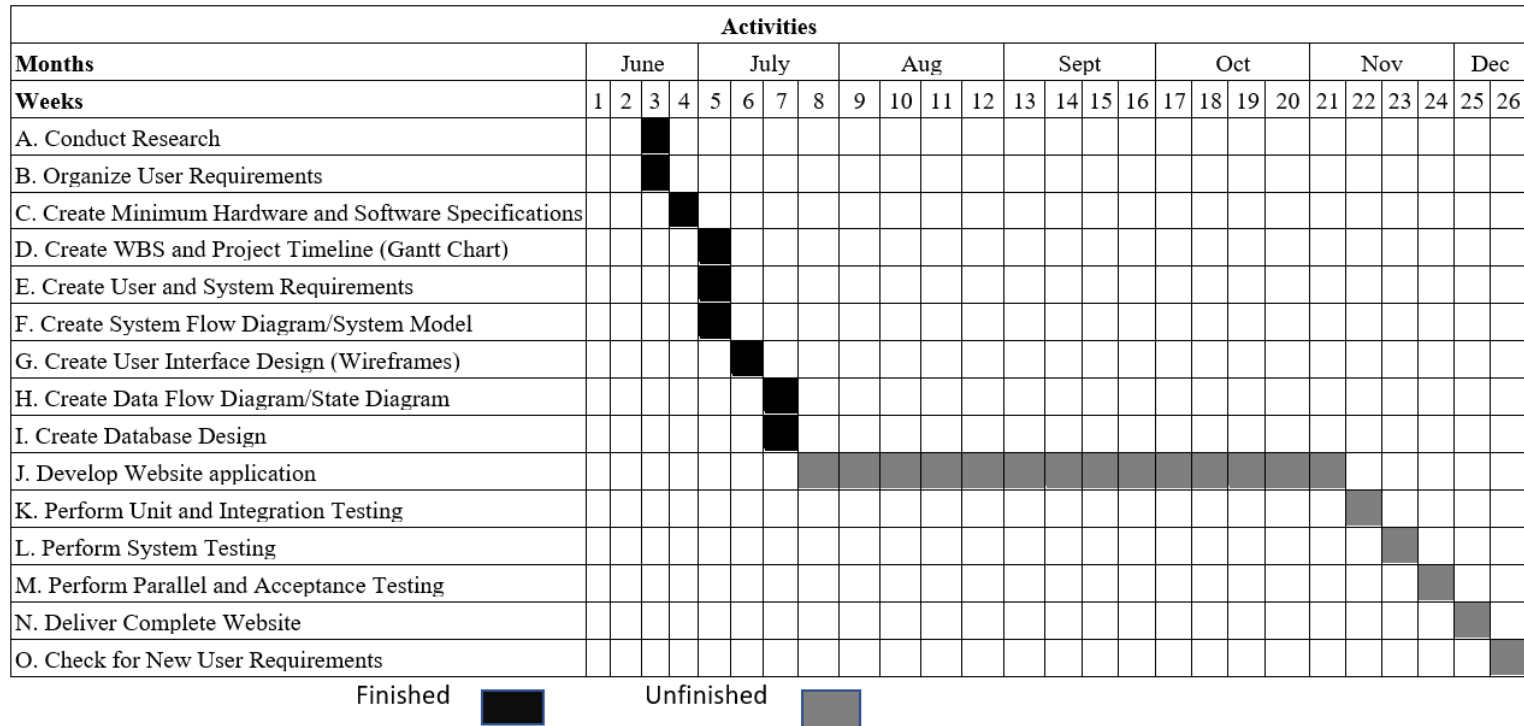


Figure 3 tells us how long the development process will take on developing the entire project for now, we have completed the database design and will start developing the website application and will be finished in the first week of November, testing will be conducted as soon as the website application is finished being developed and the whole project will be completed by the 2nd week of December.

3.5.2 Pert chart

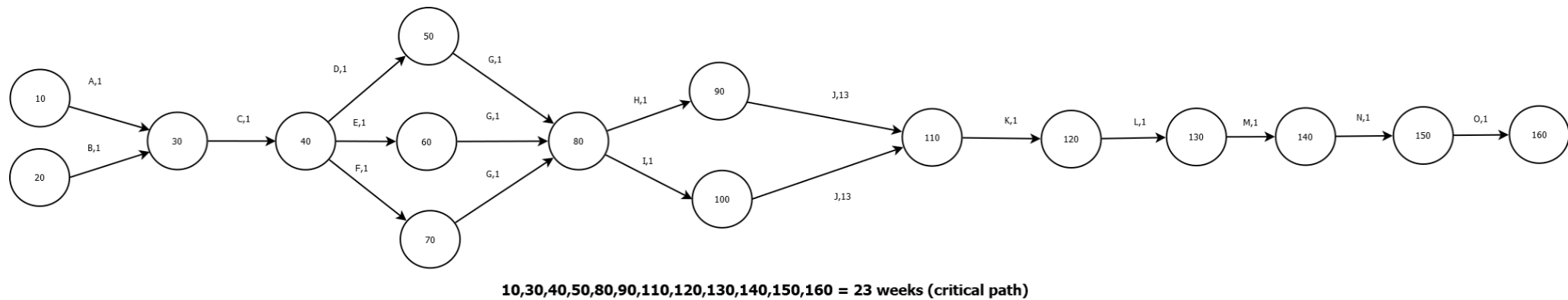


Figure 4. Pert Chart

Figure 4 tells us how many weeks will take on developing the entire project and it will take about 23 weeks to complete the entire project.

3.6 Testing & Deployment Plan

Testers & Testing Process

- Early testing of different function modules of the SU Digital Repository shall be done in increments during the development by the developers of the web application.
- Once all modules have been tested and incorporated into the website application as a whole, initial testing of the system shall also be conducted by the development team.
- After initial testing for its main functionality has been completed and passed, the developers and relevant parties/clients will test the system and see if the system has fulfilled all specifications of the website.
- Feedback is collected after the tests and maintenance of the system shall follow in order to further improve the website.

During and after the development of the website application, the testers may test the system wherever they are situated as the website application may be accessed anywhere online via the internet. The most important goal of testing is to ensure that all bugs are fixed and the modules of the system are functioning as they should, on or before the date schedule. Ensuring the quality of the system is also important in order to satisfy the needs of the client. Testing the system in stressful situations and unlikely scenarios also helps to find out how the system behaves in unusual circumstances and ensures the goal of having a stable and reliable system. The system will be estimated to be finished by the middle of November and testing will commence in the later weeks.

3.7 Ethical Considerations

The Silliman University Digital Repository will have members assigned by the Silliman University Research Committee to be the admins of the Digital repository. The admins will be maintaining the information inside the Digital Repository and will be given a user manual on how to use and maintain the Digital Repository. Only a "Super Admin" will be able to grant an admin role to a regular user.

A user will have to disclose their full name, Silliman University gmail account, the name of the college they are attending, and will be required to provide a password in order to register for an account on the Silliman University Digital Repository. Any personal information provided by the users will be kept confidential to ensure their privacy.

The Digital Repository will implement features that prevent "copy and pasting" to prevent acts of plagiarism by users who use the site and protect the author's copyright. The documents are also non-downloadable in order to protect the integrity of all documents that have been uploaded to the webapp.

Chapter 4:

Analysis, Design & Development

4.1 Analysis

4.1.1 Work Breakdown Structure

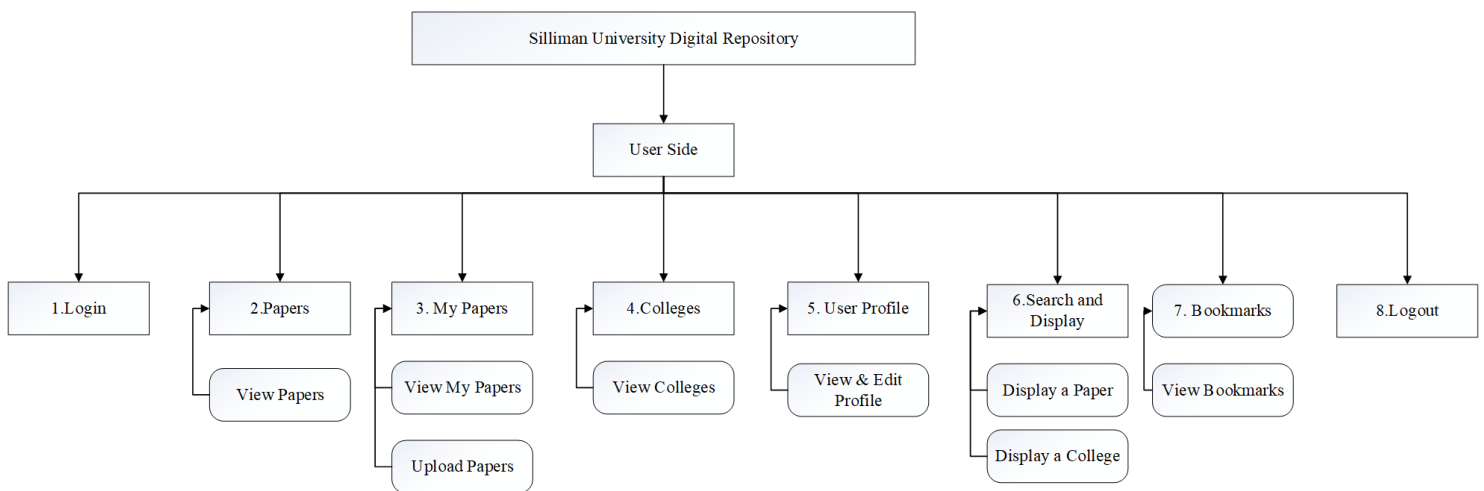


Figure 5. Work Breakdown Structure (user side)

Figure 5. Show the work breakdown structure on the user side of the digital repository. Module one is the login module where users will login to the system. Module two will be the papers module in which users can view all papers in the digital repository. Module three shows the “My papers” module where the user can see their submitted papers as well as upload papers in the digital repository. Module four is the “colleges” module where the user can see the colleges that have academic papers in the digital repository. Module five will be the user profile in which the user can edit his/her password and profile picture. Module six is the search and display of the digital repository, users can see the submitted papers from other colleges stored in the digital repository. Module eight is the logout module.

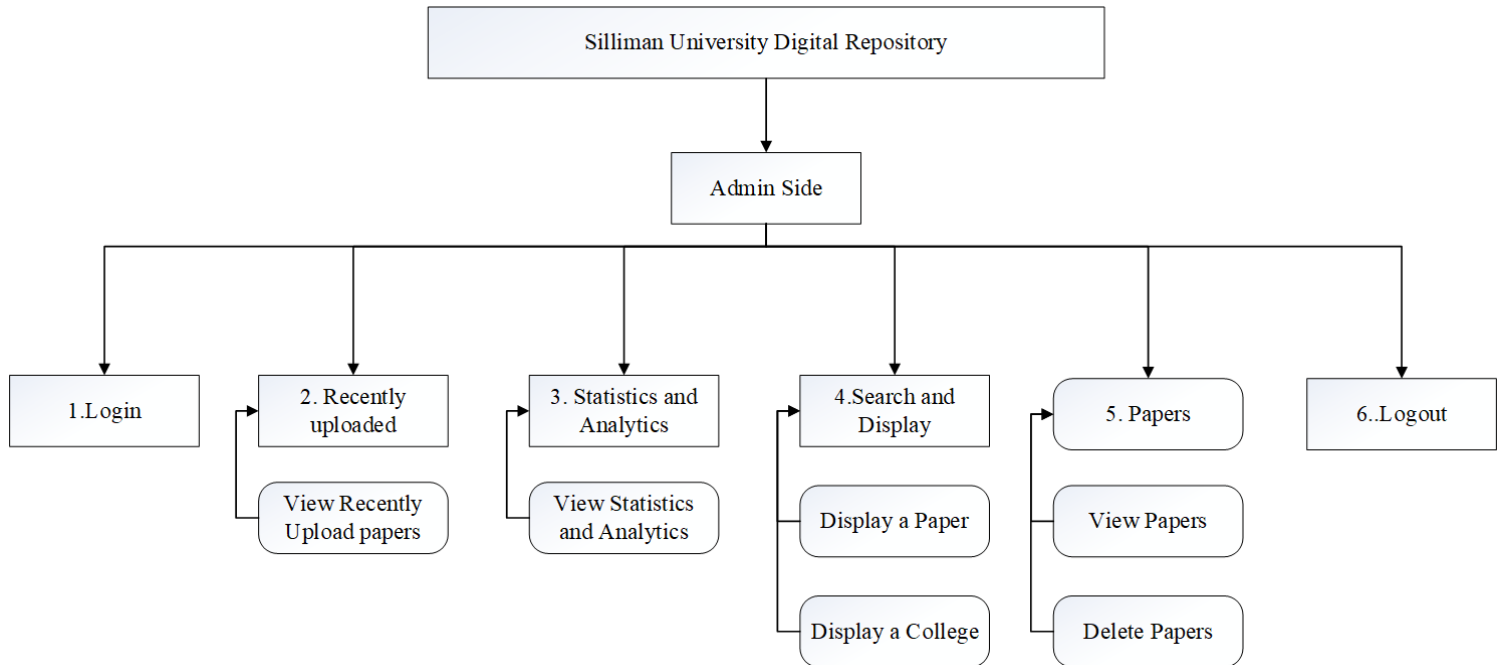


Figure 6. Work Breakdown Structure (admin side)

Figure 6. Shows the work breakdown structure on the admin side of the digital repository. The first module will allow admins to login to the digital repository. The second module shows the recently uploaded papers where admins will be able to view papers that have been uploaded on that particular day. Module three will show the statistics and analytics, in which the admin/s can view the monthly submissions of users in the digital repository. Module four is the search and display in which the module is also similar to the user side. Admins are allowed to view the papers stored in the digital repository. Module five is the papers module in which the admins can view and delete per authors request, or due a corrupted file format from the submission of the user. Lastly, module six is the logout module.

4.1.2 Functional & Non-functional Requirements Analysis and Specifications

User Requirements

Functional Requirements:

UR1: The user shall be able to log in using their Silliman University Gmail account.

UR2: The user shall be able to search for academic papers using keywords.

UR3: The user shall be able to filter searches according to research interest.

UR4: The user shall be able to view academic materials in full.

UR5: The user shall be able to bookmark papers.

UR6: The user shall be able to view pre-formatted citations of a specific paper.

UR7: The user shall be able to upload their academic materials to the repository.

UR8: The admin user shall be able to view and check if the academic document file submissions are corrupted.

UR9: The admin user shall be able to view and delete corrupted files from the website.

UR10: The admin user shall be able to notify the author if corrupted file submissions are deleted.

UR11: The admin user shall be able to view statistical reports on the number of submissions per month/year and the number of topics based on keywords.

System Requirements

Functional Requirements:

SR1: The website application shall allow the user to log in using their Silliman University Gmail account.

SR2: The website application shall allow the user to search for academic papers using keywords.

SR3: The website application shall allow the user to filter searches according to research interest.

SR4: The website application shall be able to display the academic materials in full.

SR5: The website application shall allow the user to bookmark papers.

SR6: The website application shall be able to provide pre-formatted citations for a specific paper.

SR7: The website application shall allow the user to upload their academic materials to the repository.

SR8: The website application shall allow the admin user to view and check if the academic document file submissions are corrupted or not.

SR9: The website application shall allow the admin user to view and delete corrupted files from the website.

SR10: The website application shall allow the admin user to notify the author if corrupted file submissions are deleted.

SR11: The website application shall allow the admin user to view statistical reports on the number of submissions per month/year and the number of topics based on keywords.

Non-functional Requirements:

System:

SRN1: The website application shall be able to run on a device that supports website browsers.

SRN2: The website application shall require the user to have an internet connection to access the repository.

SRN3: The website application shall be accessible to the user anytime.

SRN4: The website application shall require the user to have a Silliman Gmail account to log into the repository.

User:

URN1: The user shall be able to access the repository with a device that supports website browsers.

URN2: The user shall need an internet connection to access the repository.

URN3: The user shall be able to access the repository anytime as long as they are connected to a stable internet connection.

URN4: The user shall need a Silliman Gmail account to log into the repository.

4.2 Design

4.2.1 Data Flow Diagram

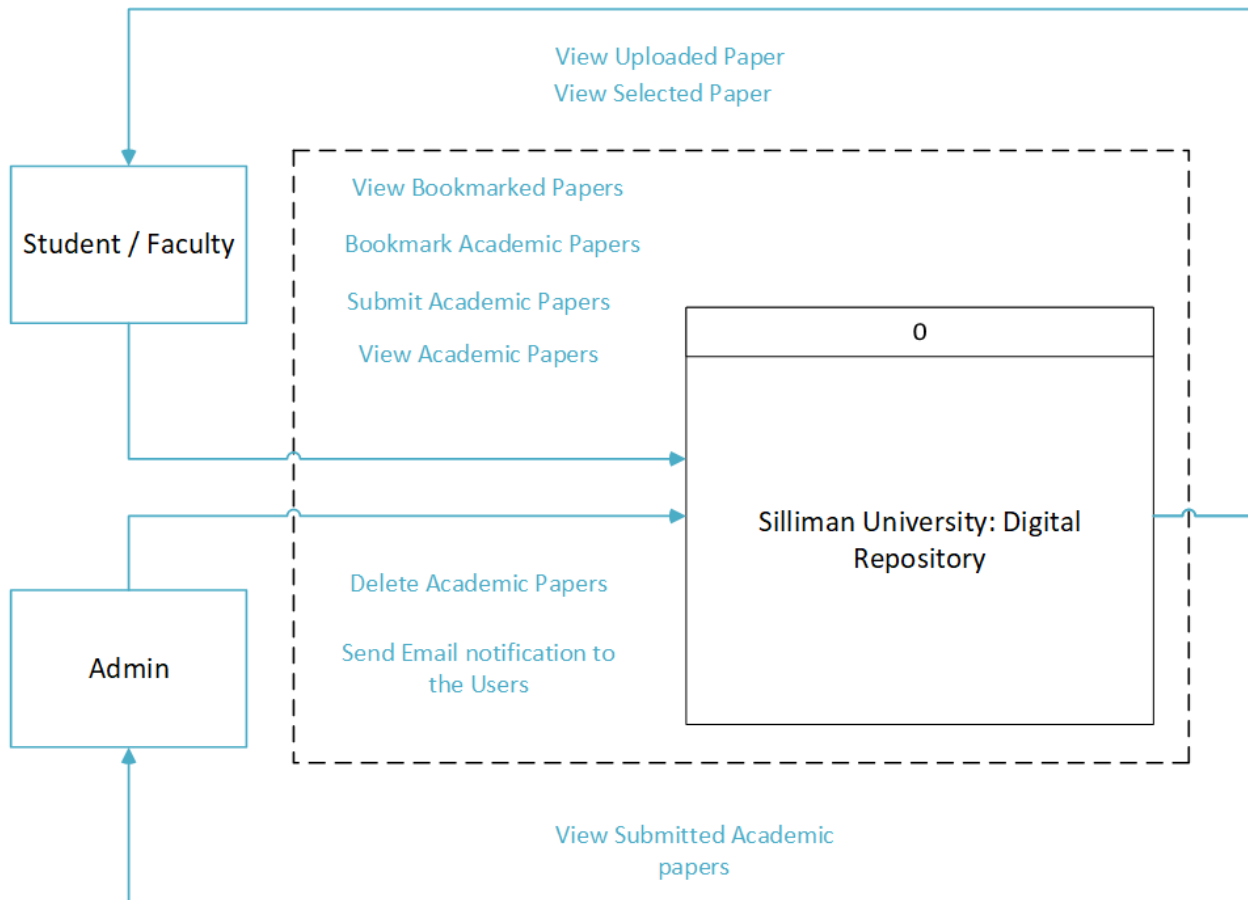


Figure 7. Data Flow Diagram

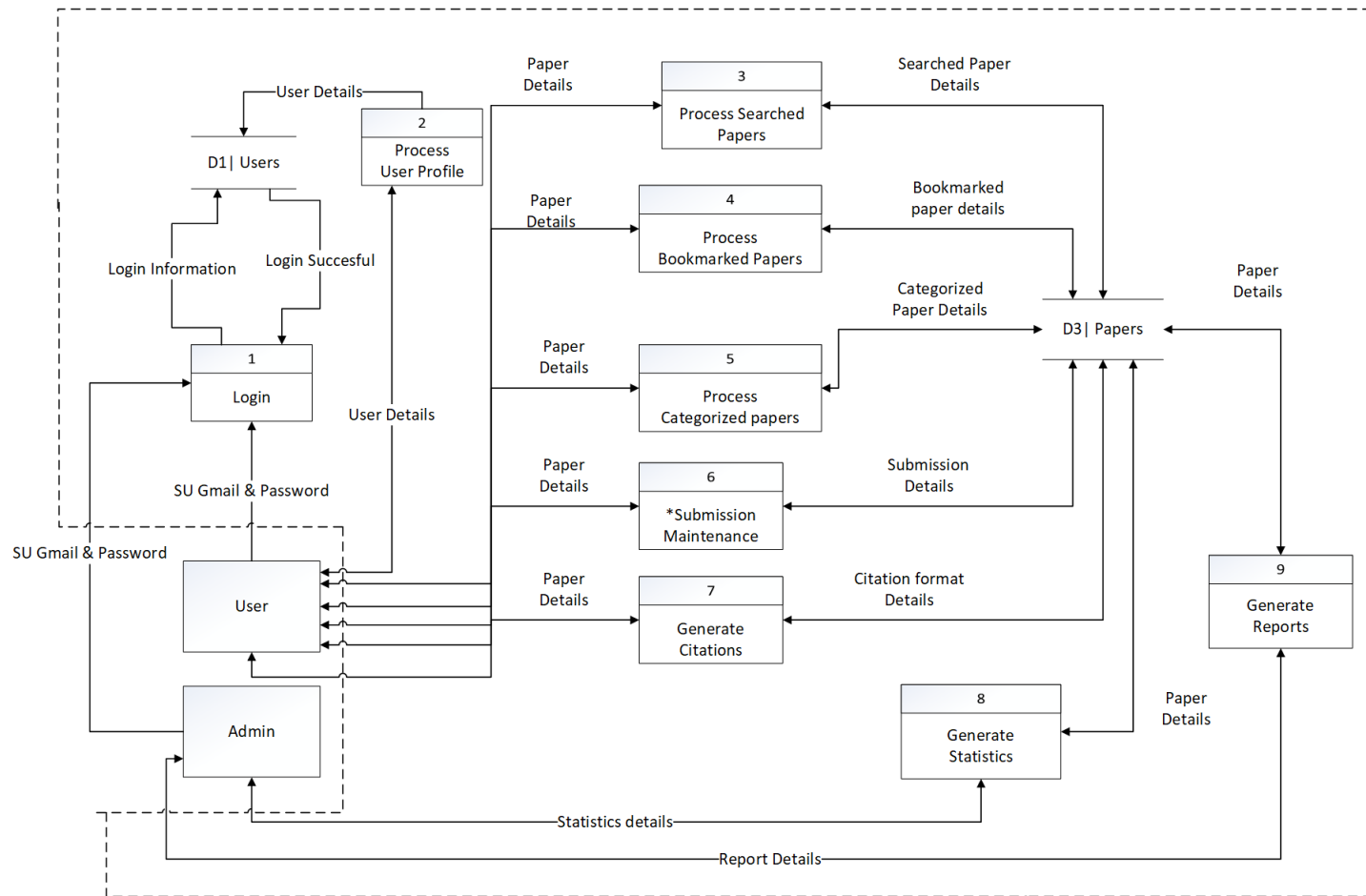


Figure 8. Top Level Diagram

Figure 8 shows the detailed view of the processes in the digital repository, process 6 has an asterisk because the maintenance portion of their paper will only be affected by the author submitting the paper and will not be able to tamper with other authors' paper inside the digital repository.

4.2.2 The Database Design

4.2.2.1 Conceptual Database Model/Diagram

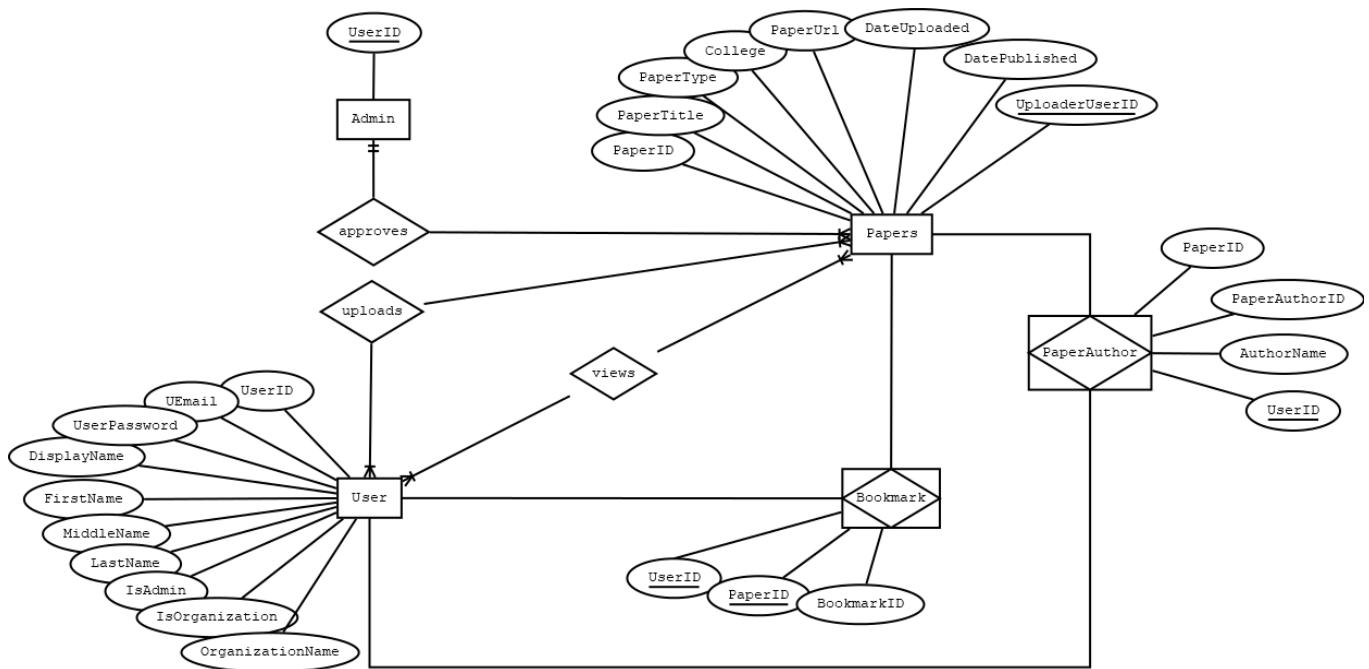


Figure 9. Entity Relationship Diagram

Business Rules

The following are the Business Rules that serve as the basis for the project's ERD:

1. Each Admin can add one or more papers
2. Each paper can be added by only one admin
3. An Admin can approve one or more papers
4. A paper can be approved by one Admin
5. A user can upload one or more papers
6. A paper can be uploaded by one or more users
7. A user can view one or more papers
8. A paper can be viewed by one or more users

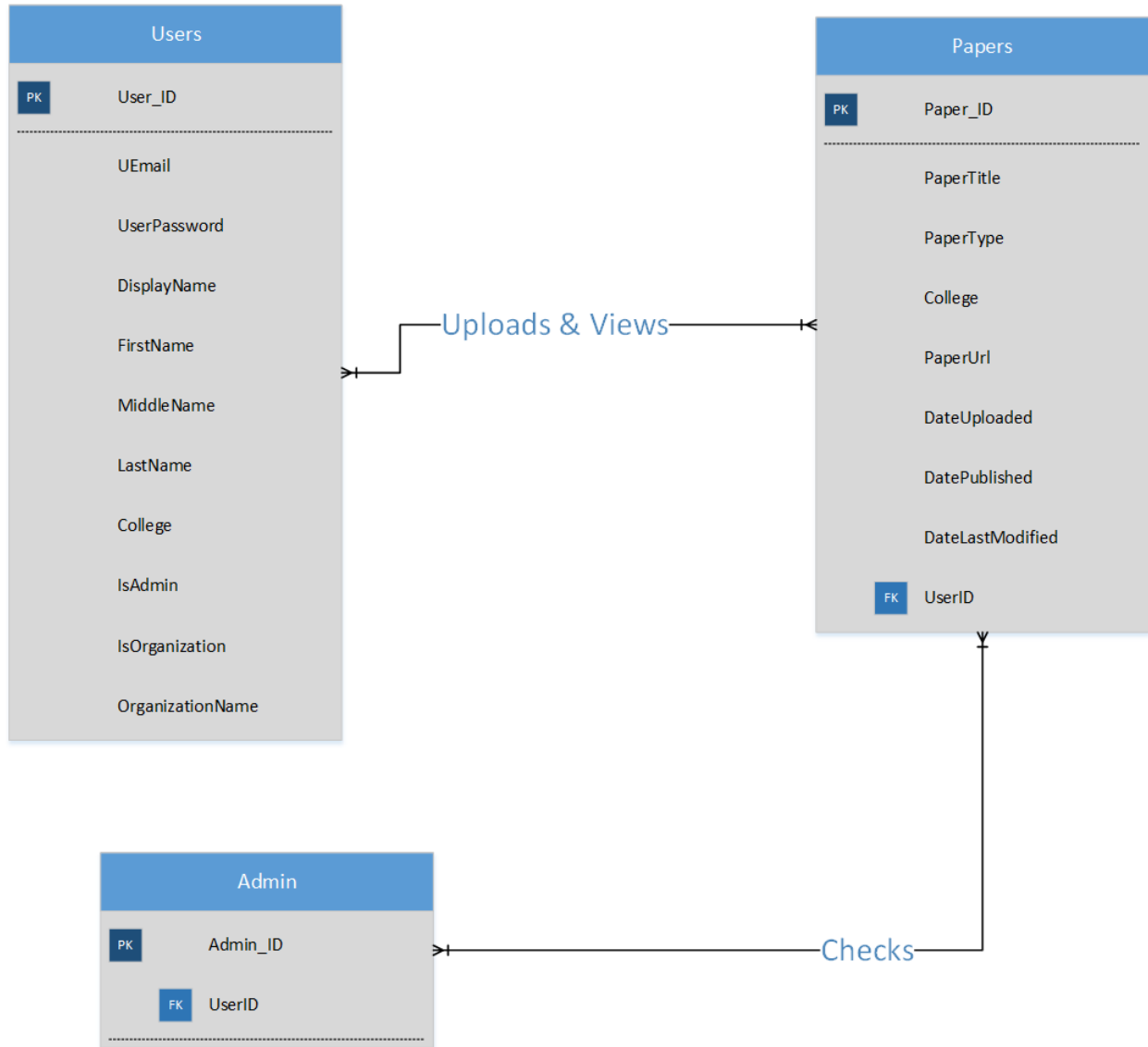


Figure 10. Conceptual Database Model

4.2.2.2 State Diagram

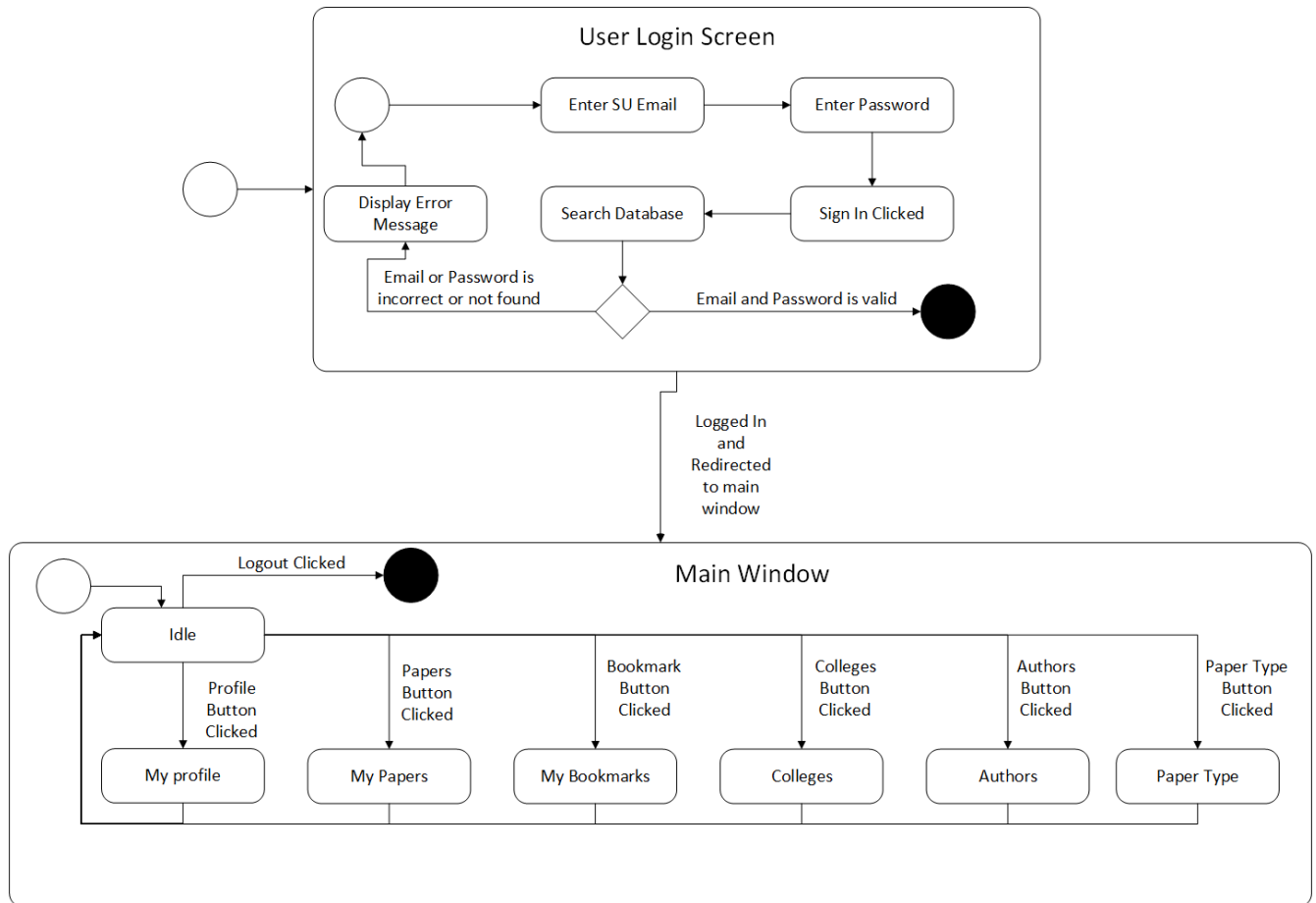


Figure 11 User Login State Diagram

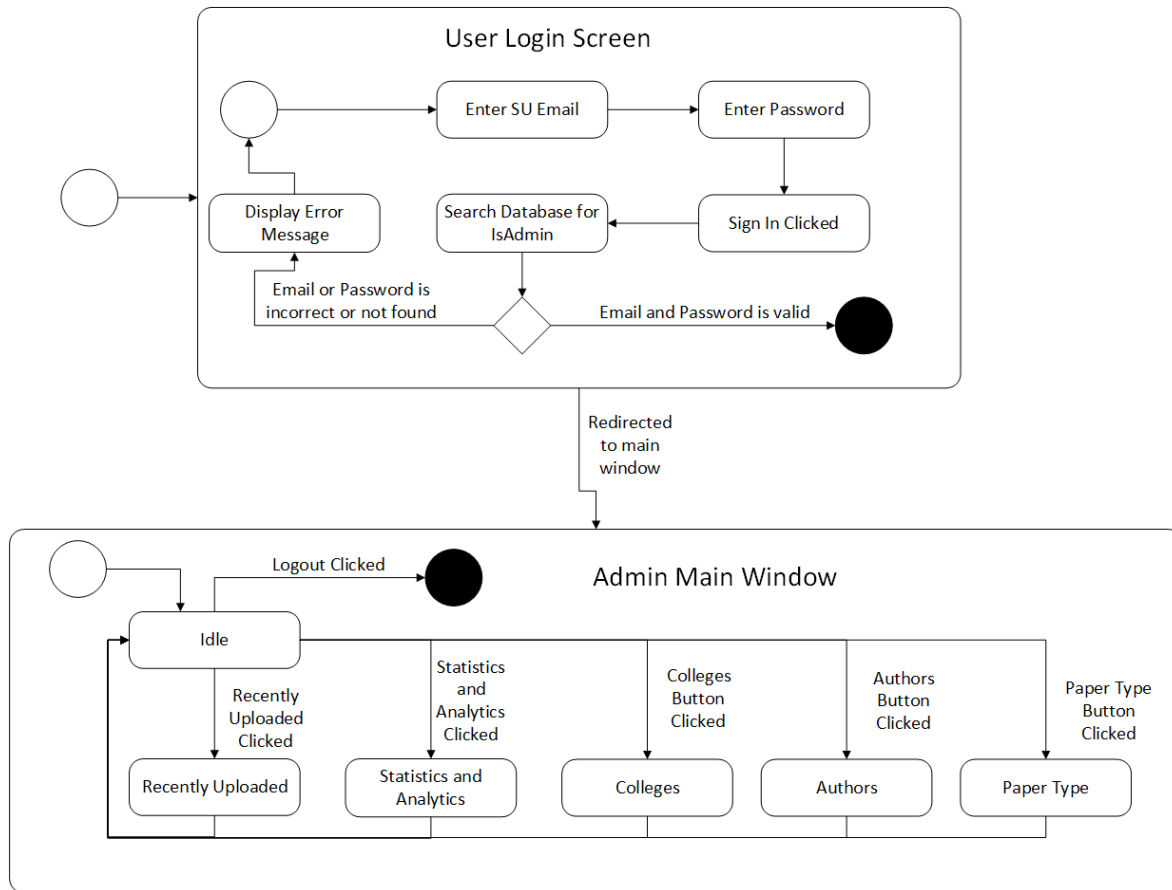


Figure 12. Admin Login State Diagram

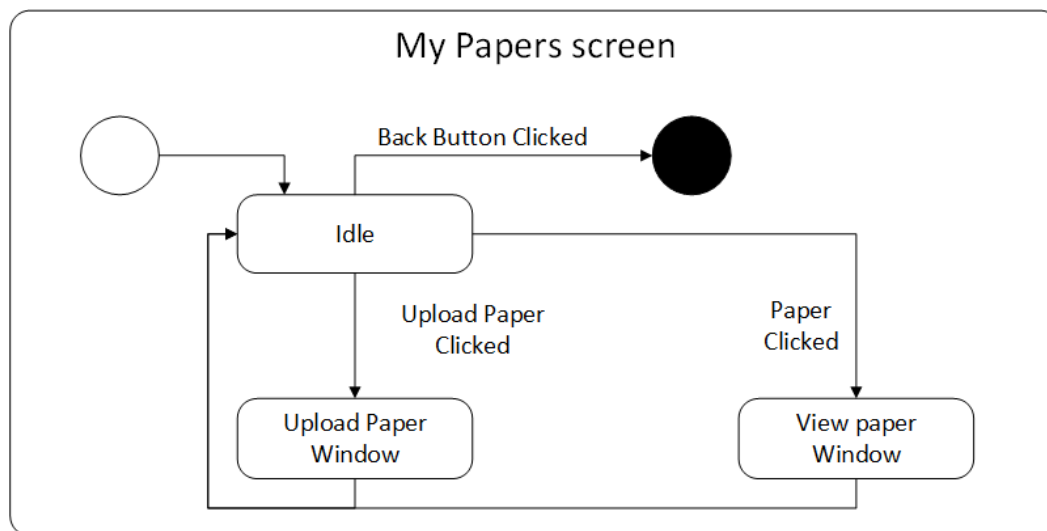


Figure 13. My Papers State Diagram

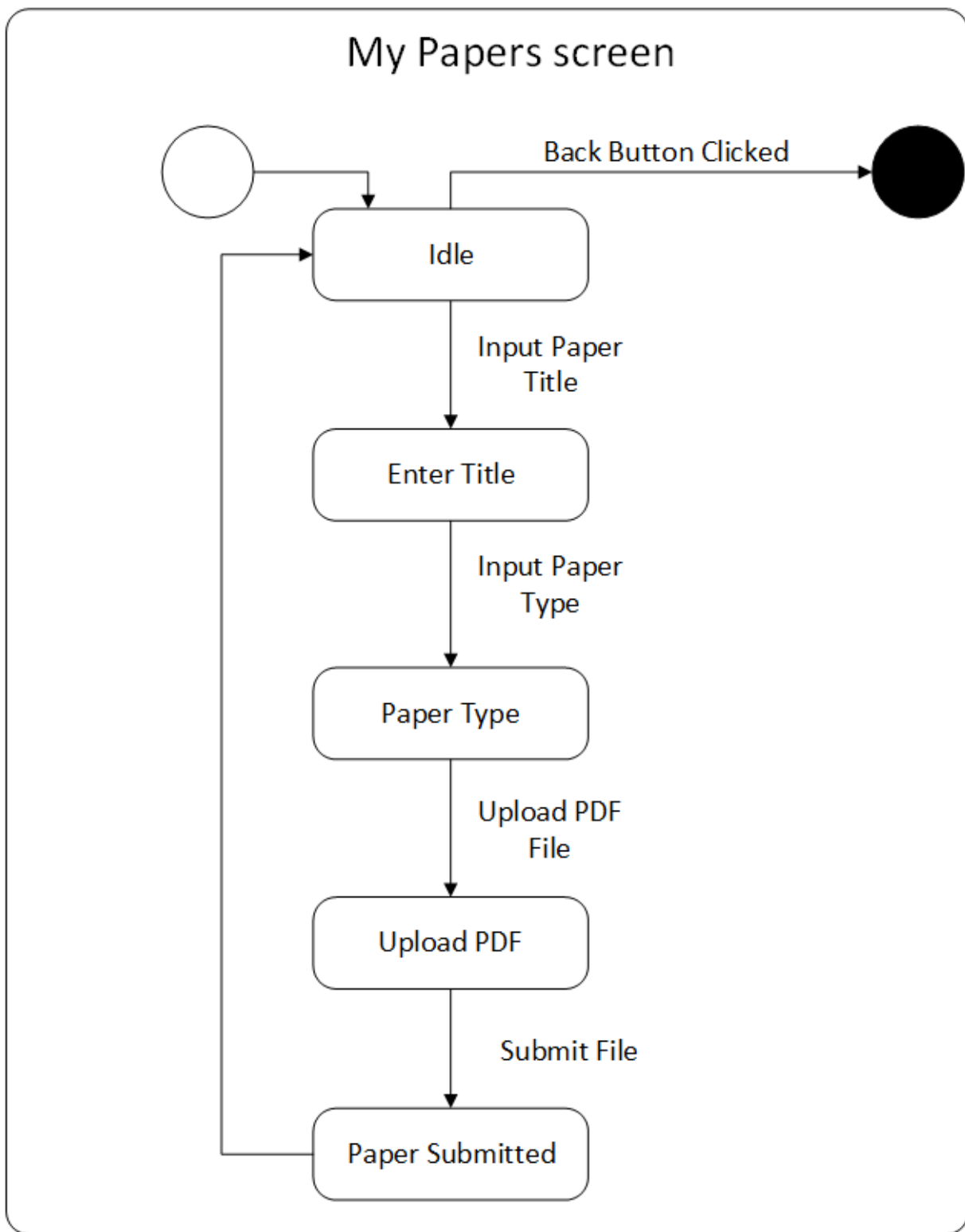


Figure 14. My Papers Explosion State Diagram

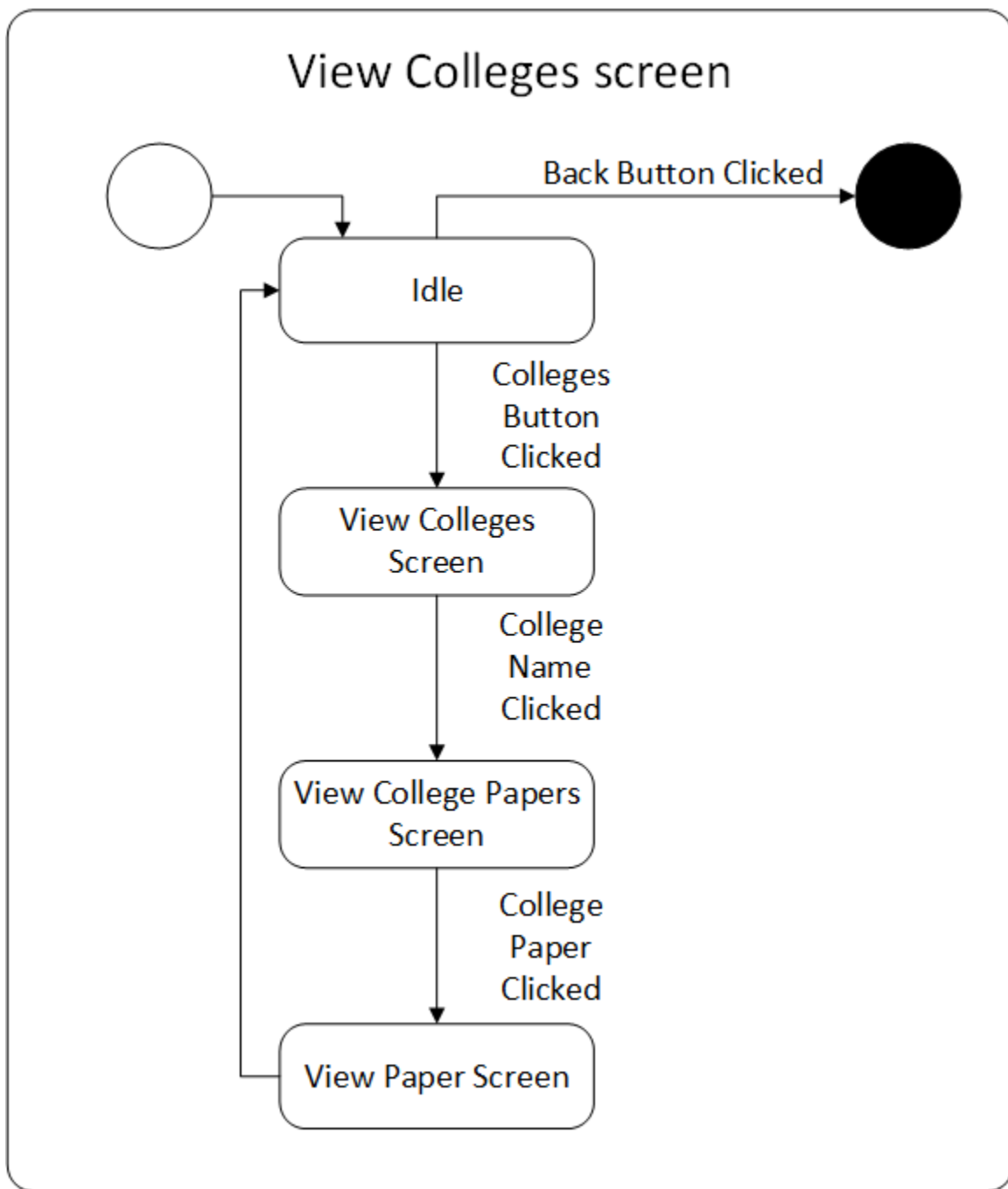


Figure 15. View Colleges State Diagram

4.2.2.3 Logical Database Model

4.2.2.3.1 Normalized Tables (3NF)

Table 6. Normalized Tables of the Digital Repository

USER

UserID	UEmail	UserPassword	DisplayName	FirstName	MiddleName	LastName	College	IsAdmin	IsOrganization	OrganizationName
00001	susgresearch@su.edu.ph	d8a928b.....	SUSG Research	NULL	NULL	NULL	Silliman University Student Government	yes	yes	SUSG Research Committee
00002	brianasalan@su.edu.ph	16d8487.....	Brian Salan	Brian	Adonis	Salan	Institute of Rehabilitative Sciences	no	no	

00003	christianbcalista@su.edu.ph	f56e897a.....	Christian Calista	Christian	Barlon	Calista	College of Mass Communication	yes	no	
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PAPER

PaperID	PaperType	PaperTitle	College	PaperUrl	DateUploaded	DatePublished	DateLastModified	<u>UploaderUserID</u>
10012	Capstone	AUXILIUM: A Mobile Application Management System for Boarding Houses	College of Computer Studies		08/06/2022	08/06/2016	07/28/2022	00001
10013	Thesis	Three_Dimensional Geometric Image Analysis for Interventional Electrophysiology	Institute of Rehabilitative Sciences		09/08/2022	08/06/2019	08/08/2022	00002

10014	Thesis	A Quantitative Study of the Impact of Social Media Reviews on Brand Perception	College of Mass Communication		12/16/2022	08/06/2018	11/12/2022	00003
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ADMIN

AdminID	<u>UserID</u>
31067	00001
31068	00003

COLLEGE

CollegeID	CollegeName	CollegeAbbr
41067	College of Nursing	CON
41068	College of Computer Studies	CCS
41069	College of Education	COE

PAPERAUTHOR

PaperAuthorID	<u>PaperID</u>	AuthorName	<u>UserID</u>
62087	10012	John Smith	00001
62088	10013	Brian A. Salan	00002
62089	10014	Christian B. Calista	00003
62090	10014	Tyrese Dequavious	NULL

PAPERTYPE

PaperTypeID	PaperTypeName
73077	Capstone
73078	Thesis
73079	Dissertation

BOOKMARK

BookmarkID	<u>UserID</u>	<u>PaperID</u>
83077	00001	10012
83078	00002	10013
83079	00003	10014

4.2.2.4 Data Dictionary

Table 7. Data Dictionary of the Digital Repository

USER	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	UserID	The ID of the user	Integer (5)	##	1-99999	Y	PK			
	UEmail	The email of the user	Varchar (50)	A (50)	N/A	Y				
	UserPassword	Password of the user	Varchar (16)	A (20)	N/A	Y				
	DisplayName	The Display name of the user	Varchar(50)	A (50)	N/A	Y				
	FirstName	First name of the user	Varchar(50)	A(50)	N/A	N				
	MiddleName	Middle name of the user	Varchar(50)	A(50)	N/A	N				
	LastName	Last name of the user	Varchar(50)	A(50)	N/A	N				

	College	The college of the user	String(50)	A (50)	N/A	Y				
	IsAdmin	Is the User an admin or not	Bool	1/0	N/A	Y				
	IsOrganization	Is the user an Organization or not	Bool	1/0	N/A	Y				
	Organization Name	Name of the organization	String	A (50)	N/A	N				

PAPERS	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	PaperID	The ID of the paper	Integer (5)	##	1-99999	Y	PK			
	PaperType	The type of the paper	Varchar (50)	A (50)	N/A	Y				
	PaperTitle	The title of the paper	Varchar (50)	A (50)	N/A	Y				
	College	The college of the paper	Varchar (50)	A (50)	N/A	Y				

	PaperUrl	The name of the user that will be used as an author	Varchar (100)	A (50)	N/A	Y				
	DateUploaded	The Date where the paper was uploaded	date	MM/DD/YYYY	N/A	Y				
	DatePublished	The Date the paper was Published	date	MM/DD/YYYY	N/A	N				
	DateLastModified	The Date the paper was last modified	date	MM/DD/YYYY	N/A	Y				
	UploaderUserID	The ID of the user who uploaded the paper	Int	##	1-99999	Y	FK			User

ADMIN	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	AdminID	The ID of the admin	Integer (5)	##	1-99999	Y	PK			
	UserID	The ID of the user	Integer(5)	##	1-99999	Y	FK			USERS

COLLEGE	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	CollegeID	The ID of the College	Integer (5)	##	1-99999	Y	PK			
	CollegeName	Name of the College	Varchar(100)	A(50)	N/A	Y				
	CollegeAbbr	Abbreviation of the College	Varchar(12)	A(12)	N/A	Y				

PAPERAUTHOR	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	PaperAuthorID	The ID of the admin	Integer (5)	##	1-99999	Y	PK			
	PaperID	ID of the Paper	Integer(5)	##	1-99999	Y	FK			PAPERS

	AuthorName	Identity of the authors of the paper	Varchar(50)	A(50)	N/A	Y				
	UserID	The ID of the user	Integer(5)	##	1-99999	N	FK			USERS

PAPERTYPE	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	PaperTypeID	The ID of the PaperType	Integer (5)	##	1-99999	Y	PK			
	PaperTypeName	Name of the paper type	Varchar(50)	A(50)	N/A	Y				

BOOKMARK	ATTRIBUTE NAME	CONTENTS	TYPE	FORMAT	RANGE	REQUIRED	PK/FK	VALID VALUES	DEFAULT VALUE	FK REFERENCE TABLE
	BookMarkID	The ID of the Bookmark	Integer (5)	##	1-99999	Y	PK			
	UserID	The ID of the user	Integer(5)	##	1-99999	Y	FK			USERS
	PaperID	ID of the Paper	Integer(5)	##	1-99999	Y	FK			PAPERS

4.2.3 Screen Layouts

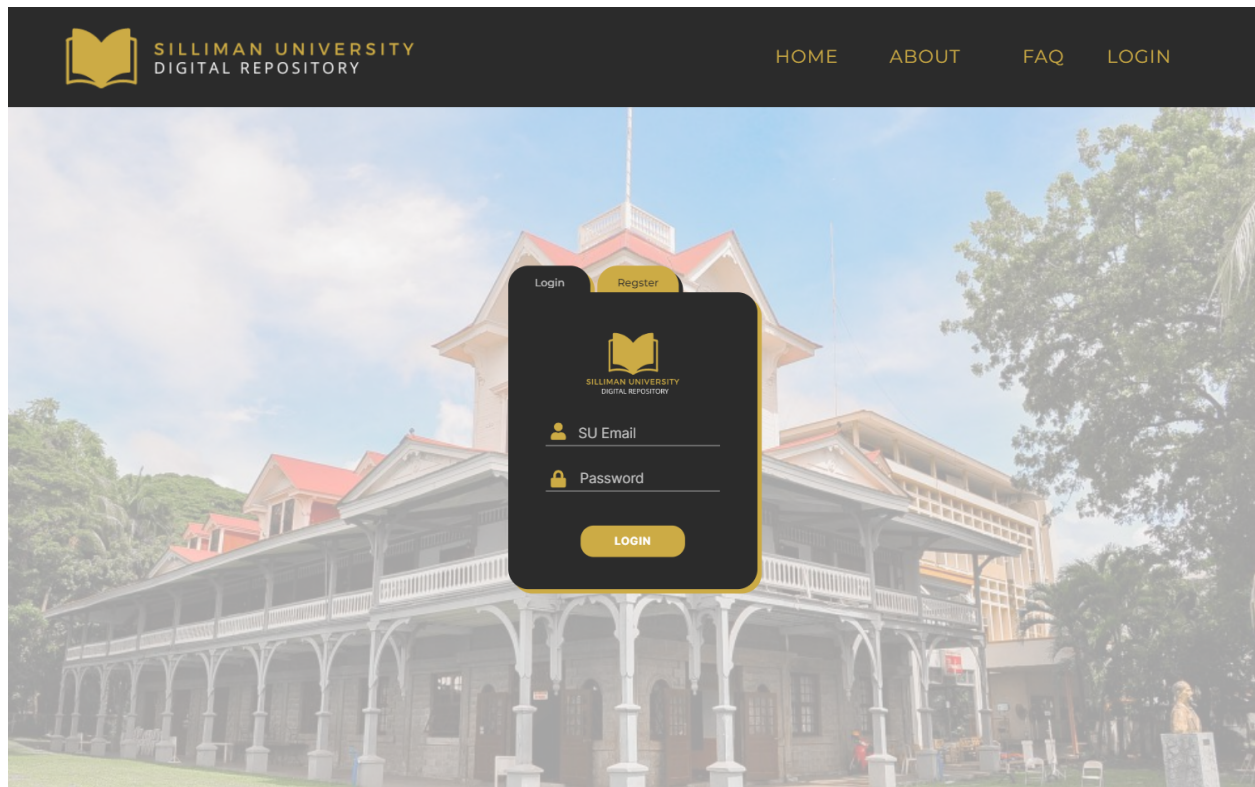


Figure 16. The login screen of Silliman University Digital Repository

The first screen that will appear when the website is loaded is the login screen. There will be a separate tab for user logins and admin logins. Both users and admins must input their SU Gmail account and default password in order to login. Once the correct credentials are inputted and the login button is clicked, they will be directed to the home screen of the website.

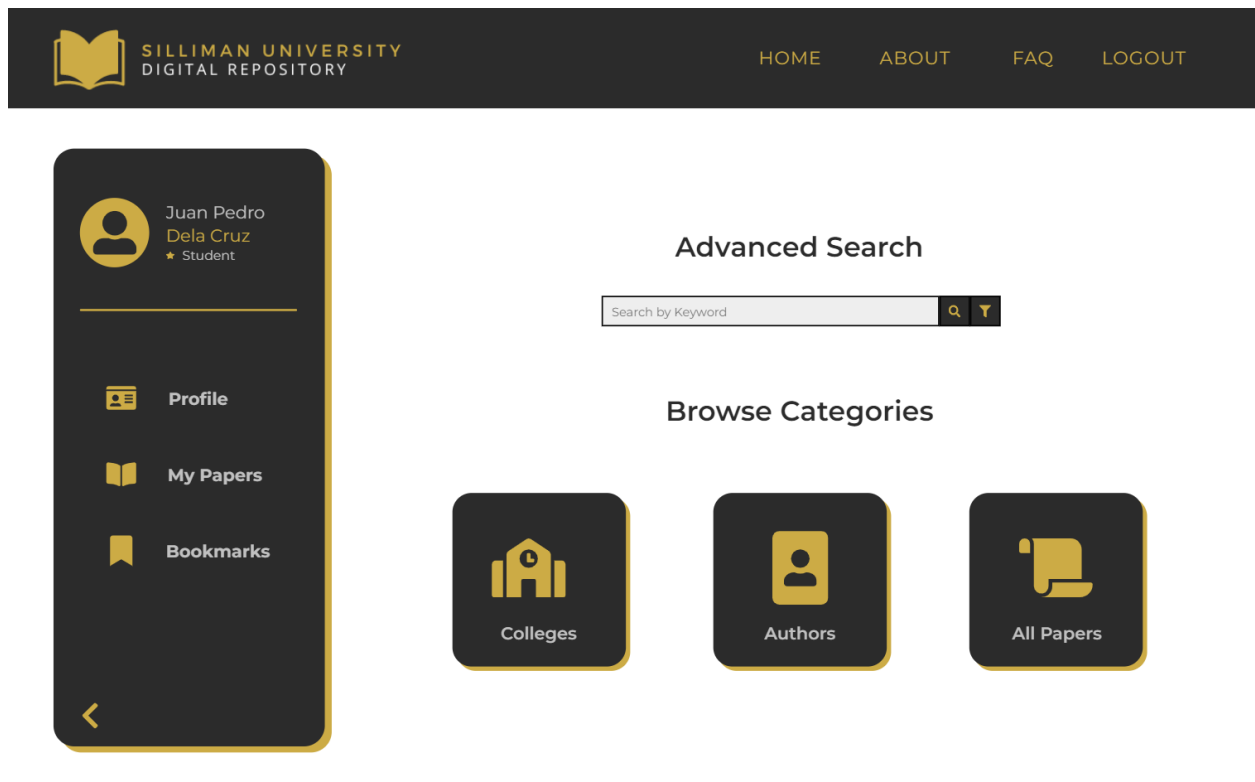


Figure 17. The home screen of the Silliman University Digital Repository

After login, users will be directed to the home screen of the website. Here, users are able to utilize the search function of the website. Users may use the search bar to type in specific keywords of papers and use the filter option to narrow down search results further. Users may also browse papers according to different organized categories.

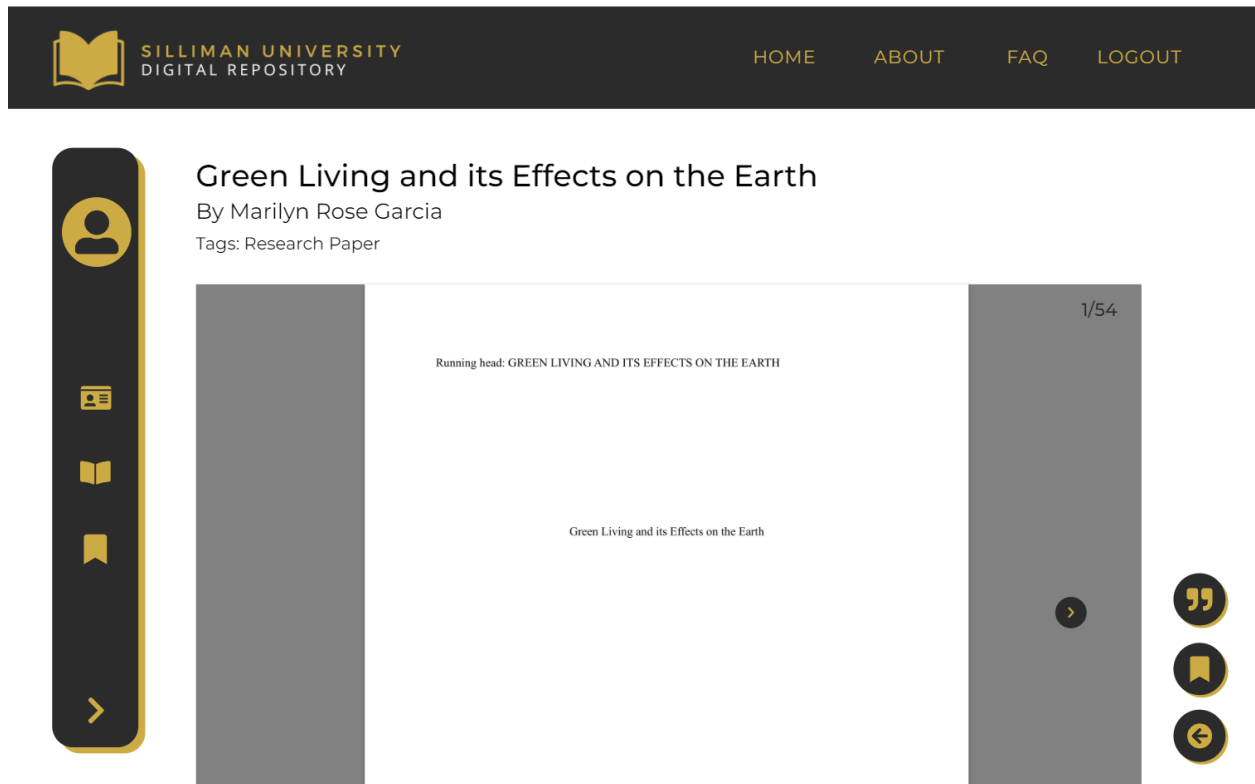


Figure 18. Paper viewing screen of the Silliman University Digital Repository

After choosing a paper to view, the paper viewing screen will load and users will be able to view the pages of the paper. The papers are all images and cannot be copy-pasted. The papers are also non-downloadable, however, users may bookmark specific papers by clicking the bookmark button on the lower left and view the papers in their bookmarks tab for faster access. Users may also click the quotation button on the bottom left to automatically generate citations should they retrieve information from the specific paper for their own work.

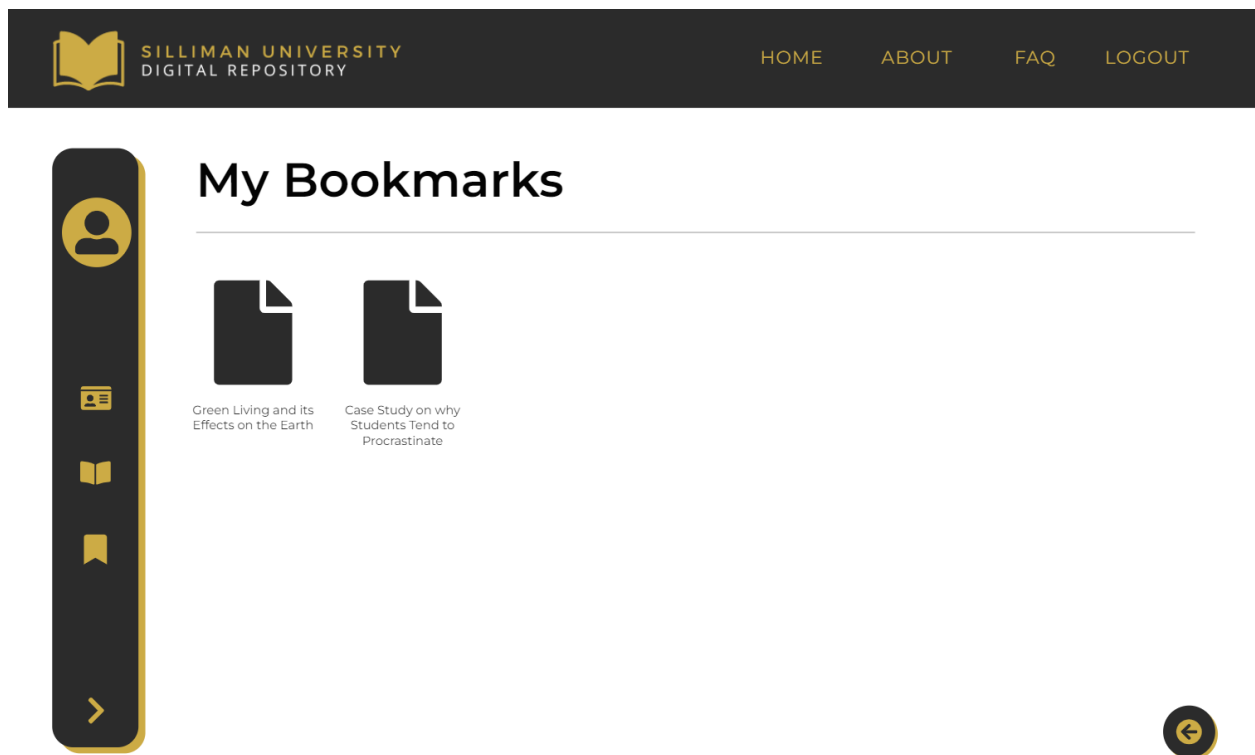


Figure 19. My Bookmarks Screen of the Silliman University Digital Repository

Although the papers will be non-downloadable, users may still bookmark papers and they will show up on the bookmarks page. Users can also un-bookmark papers they do not wish to see in their bookmarks tab.

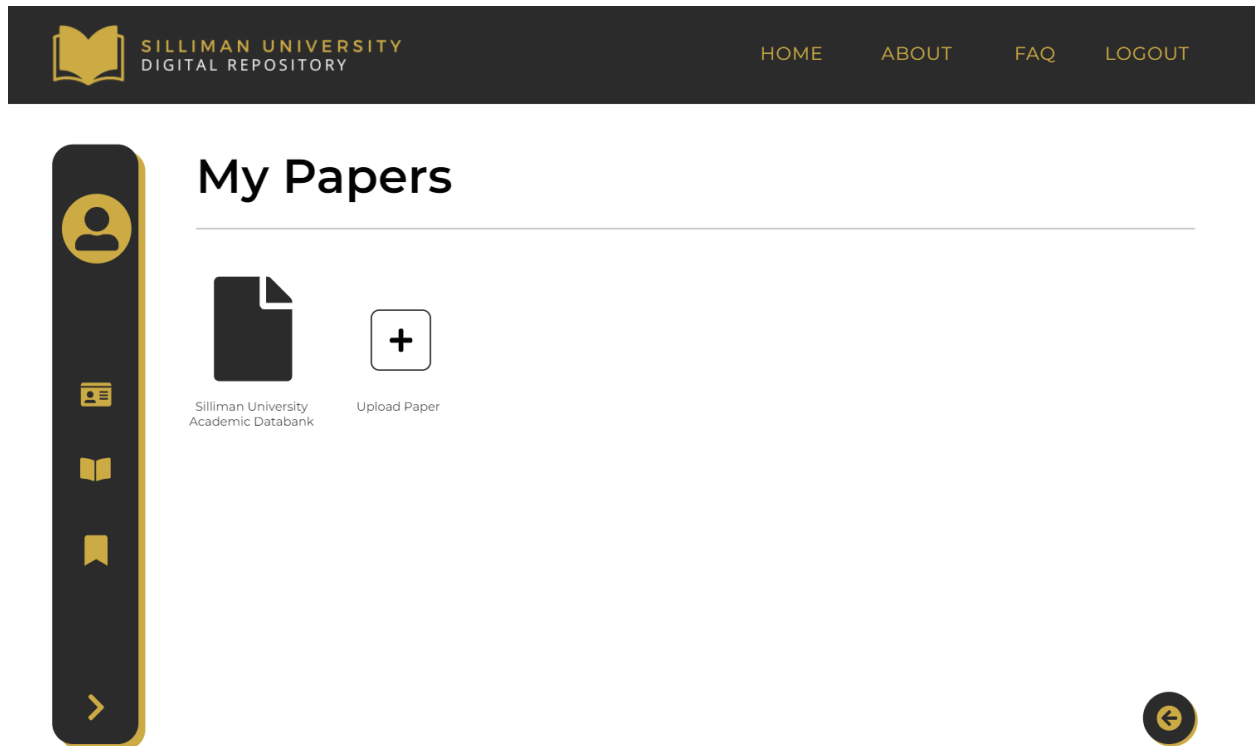








Figure 20. My Papers screen of the Silliman University Digital Repository

In this screen, users will be able to view papers they have successfully published. When users select one of the papers, the paper viewing screen will load. In addition to that, they will be able to upload papers from this tab as well. After clicking the "Upload Paper" button, the users will be directed to the upload paper screen.

SILLIMAN UNIVERSITY
DIGITAL REPOSITORY

HOMEABOUTFAQLOGOUT



Upload a Paper

Title

Enter Title

Paper Type

Choose Type

Upload PDF

+

SUBMIT PAPER










Figure 21. Upload paper screen of Silliman University Digital Repository

In order to upload a paper, users must input the title and choose the appropriate paper type from the drop-down box. Before uploading the paper, users are required to convert their relevant documents into an image format (.jpg or .png). Detailed instructions will be provided in the FAQ section of the website. After all the steps are done correctly, users may click the "Submit Paper" button to submit their papers.

SILLIMAN UNIVERSITY
DIGITAL REPOSITORY

HOMEABOUTFAQLOGOUT



My Profile

First Name: Juan Pedro

Last Name: Dela Cruz

SU Email: juandelacruz@su.edu.ph

College Department:

Choose College Department

Occupation:

Choose Occupation

Student

Faculty

Password: s*****01

CHANGE

SUBMIT




Figure 22. User Profile screen of Silliman University Digital Repository

Upon the first login of the user on the website, they are required to choose their respective college department and occupation from the drop boxes. Users must fill this up carefully and correctly as it cannot be changed later on after pressing "Submit" unless they contact an admin. Users may also change their passwords if they wish to do so. They may change this any time.

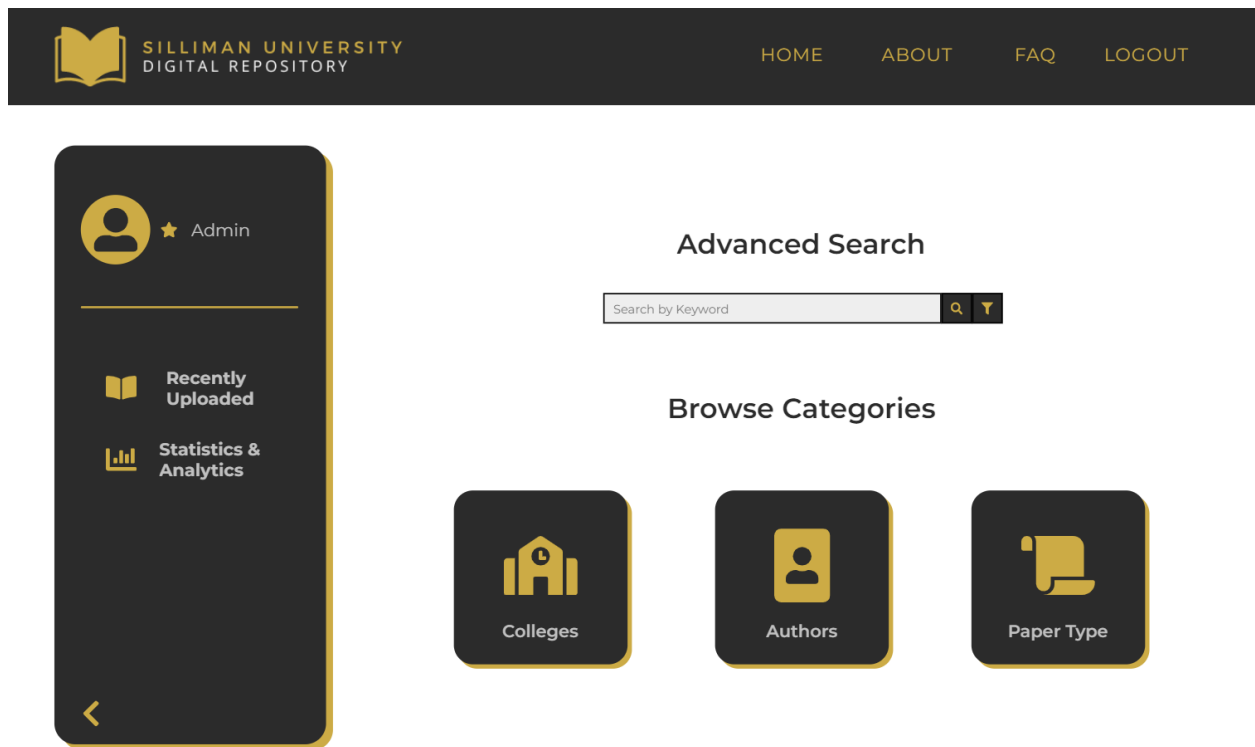


Figure 23. Admin Home Screen of the Silliman University Digital Repository

Instead of the "Profile" tab, "My Papers" tab, and "Bookmarks" tab, admins will have "Recently Uploaded" tab and "Statistics and Analytics" tab. Admins may also search papers the same way a user would, but cannot bookmark papers.

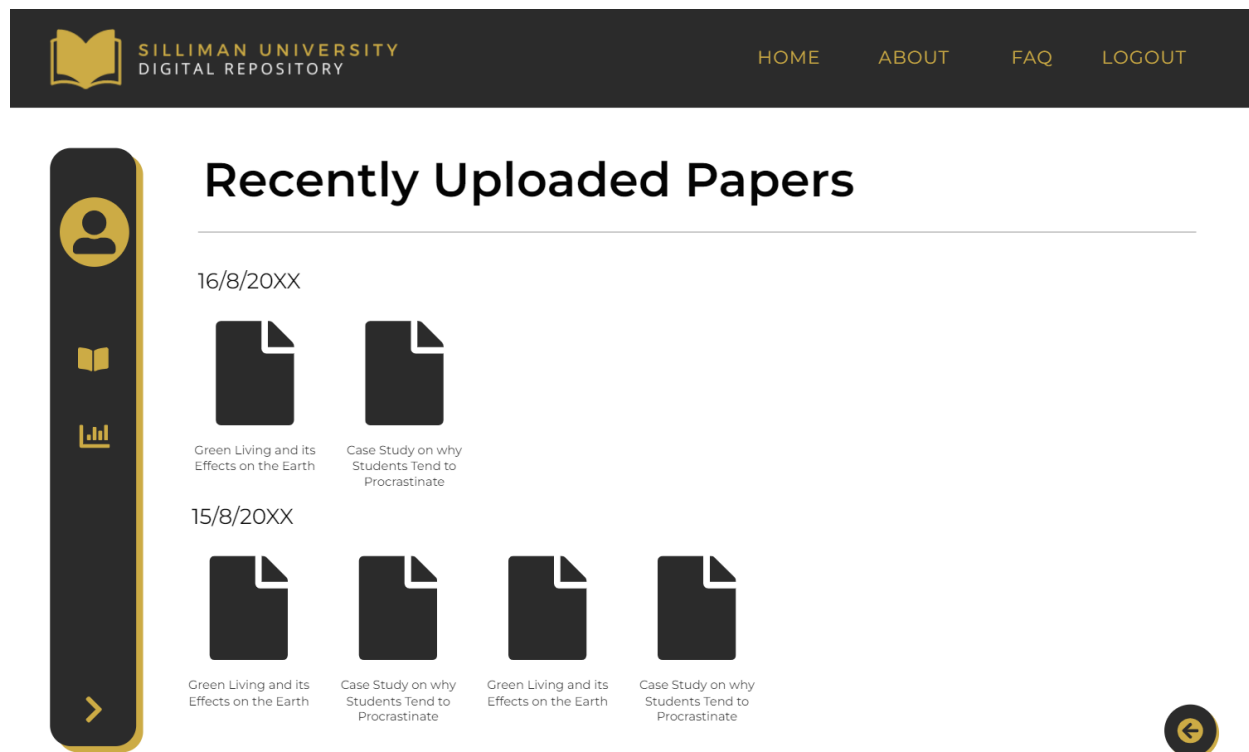


Figure 24. Admin Recently Uploaded Papers Screen of the Silliman University Digital Repository

Here, admin users may view recently uploaded papers by date, and may click on a paper to view. Next page will show what the viewing screen for admins will look like.

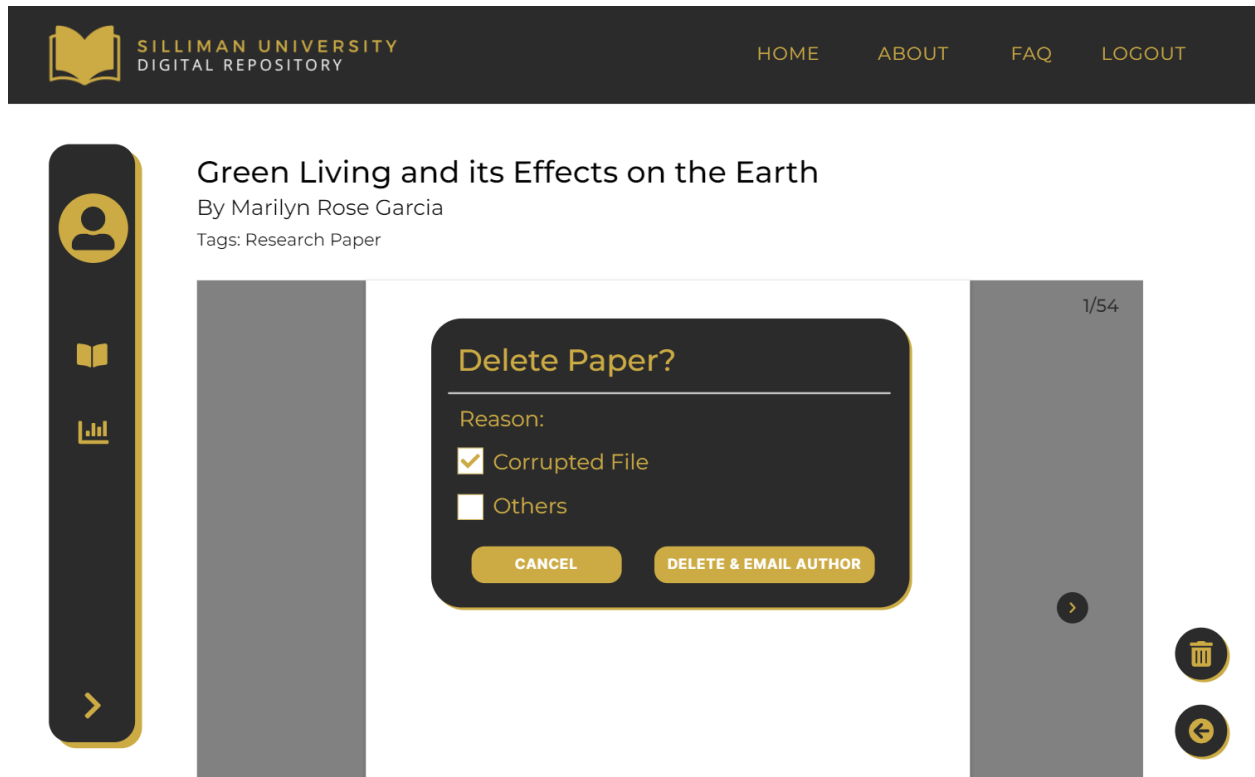


Figure 25. Admin paper viewing screen of the Silliman University Digital Repository

After choosing a paper to view, the paper viewing screen will load and admin users will be able to view if the file is corrupted or not. If the submitted paper is corrupted, the admin user may click the trashcan icon on the bottom right. The admin user may select "others" if there were any other reasons for deleting the file (Request from an author). Once the "Delete & Email Author" button has been clicked, the paper will be deleted and the author of the paper will be notified by email.



Statistics and Analytics

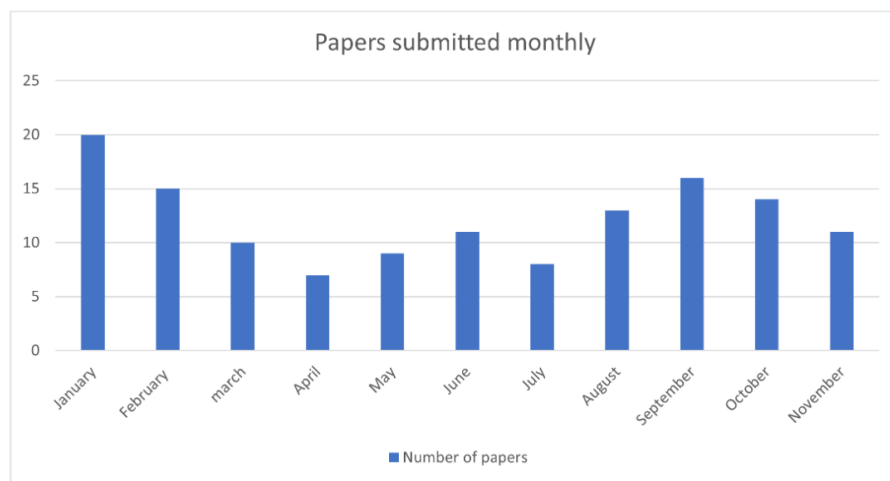


Figure 26. Admin Statistics and Analytics screen of the Silliman University Digital Repository

When admins clicked on the "Statistics and Analytics" tab, they will be able to generate and view statistical reports on the number of submissions per month/year and the number of topics based on keywords.

References

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