

# Final Year Project

## Artefact

### CommunityNest

### (Community Management Platform)

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## Table of Contents

<b>1. Functional Decomposition Diagram .....</b>	<b>1</b>
<b>1. SRS .....</b>	<b>2</b>
<b>2. User Management System .....</b>	<b>2</b>
2.1. Use Case Diagram.....	4
2.2. Activity Diagram.....	5
2.3. Sequence Diagram.....	6
2.4. Testing .....	7
<b>3. Document Management System .....</b>	<b>10</b>
3.1. Use Case Diagram.....	11
3.2. Activity Diagram.....	12
3.3. Sequence Diagram.....	13
3.4. Testing .....	14
<b>4. Meeting Management System .....</b>	<b>17</b>
4.1. Use case.....	18
4.2. Activity Diagram.....	19
4.3. Sequence Diagram.....	20
4.4. Testing .....	21
<b>5. Event Management System .....</b>	<b>24</b>
5.1. Use Case .....	25
5.2. Activity Diagram.....	26
5.3. Sequence .....	27
5.4. Testing .....	27
<b>6. Reference .....</b>	<b>30</b>

## Table of Figure

Figure 1FDD .....	1
Figure 2UM_UseCase .....	4
Figure 3UM_Activity .....	5
Figure 4UM_Sequence .....	6
Figure 5DM_UseCase .....	11
Figure 6DM_Activity .....	12
Figure 7DM_Sequence .....	13
Figure 8MM_UseCase .....	18
Figure 9MM_Activity .....	19
Figure 10MM_Sequence .....	20
Figure 11EM_UseCase .....	25
Figure 12EM_Activity .....	26
Figure 13EM_Sequence .....	27

## 1. Functional Decomposition Diagram

Functional decomposition diagram represents the hierarchical breakdown of large, complex system into smaller simpler units or tasks for better understanding of the overall process. It contains of a representation of the whole project along with other necessary sub-tasks contained in the system. (Investopedia, 2021) It acts as the blueprint for understanding how the system is divided and how different components interact with each other. The FDD of my system is as follows:

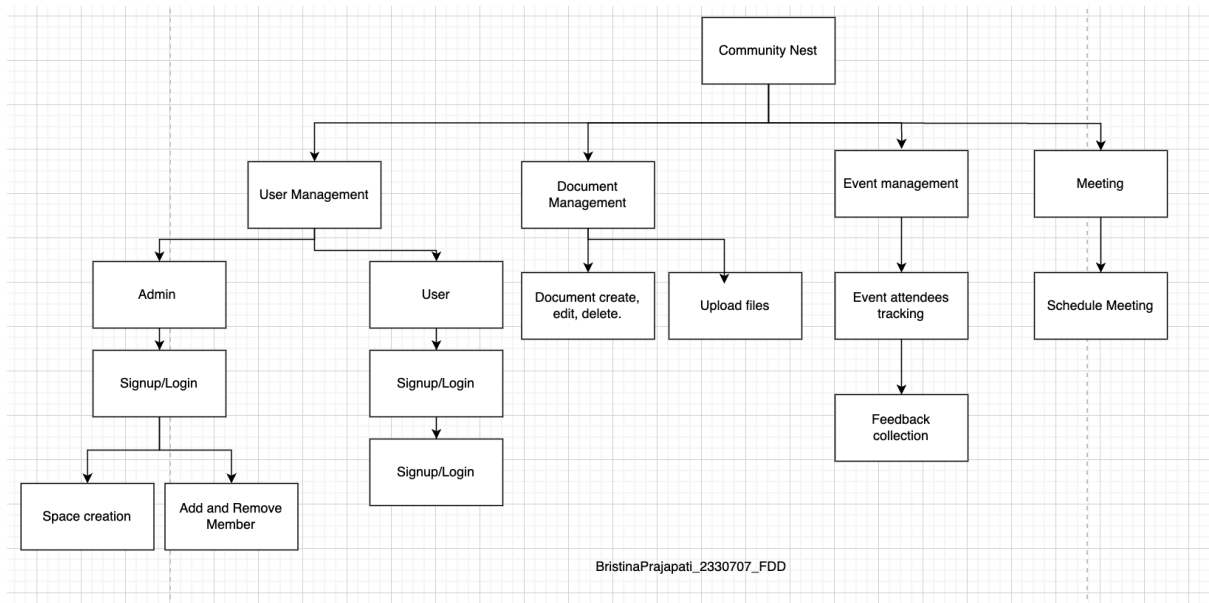


Figure 1FDD

The application 'CommunityNest' can be classified into User Management, Document Management, Event Management and Meeting Management as shown in the above diagram.

The User Management is divided into two sub-parts, Community account/Admin User and normal user. Both the users can Signup and Login to their accounts while the Admin User can create spaces for the community. The Admin User can add and remove members from the particular space while the Normal Users can join the spaces for interaction and collaboration.

The system further consists of Document Management and Meeting Management. The Document Management system allows the users to upload and delete the documents in the system. It also allows the members to create edit and delete the

documents. The Meeting Management allows the users to schedule the meetings for the members and add notes.

The Event Management in the system allows to record the event attendees. It also facilitates in feedback collection process.

## 1. SRS

Sub-Systems

US: User Management

DM: Document Management

MM: Meeting Management

EM: Event Management

Types of Requirements

F: Functional Requirement

NF: Non-Functional Requirement

## 2. User Management System

Requirement Code	Requirement Description
UM-F-1.O	Allows users to create account with the username and email address.
UM-F-2.O	Validates that the passwords entered match during signup.
UM-F-3.O	Sends signup data (username, email, password) to the backend API for account creation.
UM-F-4.O	Displays success message when account creation is successful.
UM-F-5.O	Displays error message when account creation fails.
UM-F-6.O	Redirects users to the login page after successful signup.
UM-NF-1.O	Provides client-side validation for required fields (username, email, password).
UM-NF-2.O	Displays feedback (error/success messages) promptly to enhance user experience.

UM-F-7.O	Allows users to log in with their email and password.
UM-F-8.O	Displays error message if login fails (e.g., incorrect credentials).
UM-F-9.O	Sends login credentials (email, password) to the backend API for authentication.
UM-F-10.O	Redirects users to the appropriate page (admin dashboard or main page) based on their role after successful login.
UM-F-11.O	Implements a "Forgot Password" button that navigates to the forgot password page.
UM-NF-3.O	Integrates Google ReCAPTCHA.
UM-F-12.O	Provides a Forgot password page where the user can enter their respective email to request password reset OTP.
UM-F-13.O	Sends the email to the backend API to generate a password reset link.
UM-F-14.O	Displays error or success messages to the user after submitting the forgot password form.
UM-F-15.O	Redirects users to the password reset page, where users can enter an OTP sent to their email.
UM-F-16.O	Sends OTP and email to the backend API for OTP verification.
UM-F-17.O	Displays success or error messages to the user after verifying the OTP.
UM-F-18.O	Redirects users to the New password page after successful OTP verification.
UM-F-19.O	Provides a New Password page where users can reset their password and validates that the new password and confirmation password match before submission.
UM-F-20.O	Sends email, OTP, and the new password to the backend API to update the password.
UM-F-21.O	Displays success or error messages after attempting to reset the password.
UM-F-22.O	Redirects users to the login page after a successful password reset.
UM-F-23.O	The admin can add users to the particular space.
UM-F-24.O	The admin can remove member from the space.

## 2.1. Use Case Diagram

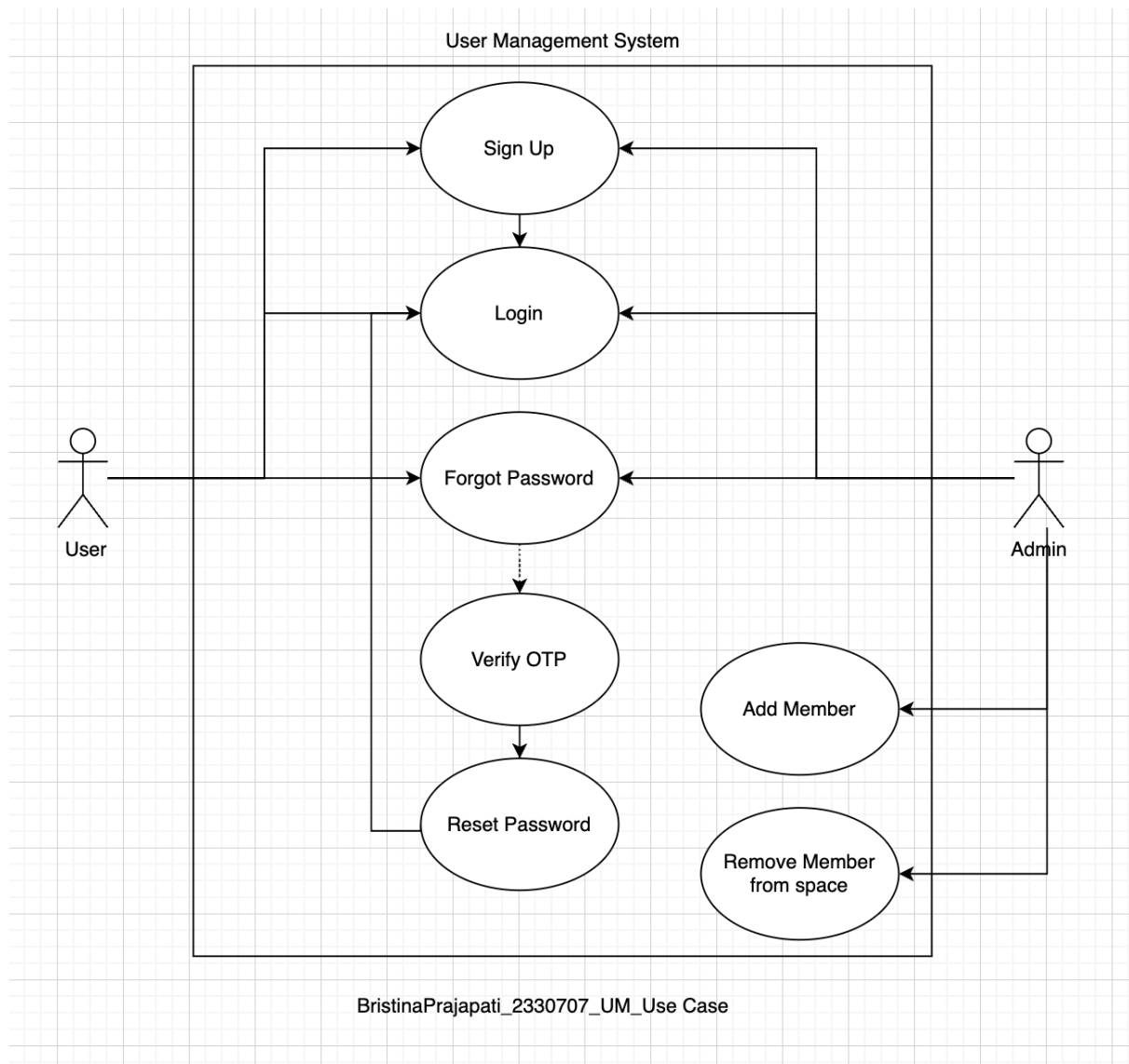


Figure 2UM\_UseCase

## 2.2. Activity Diagram

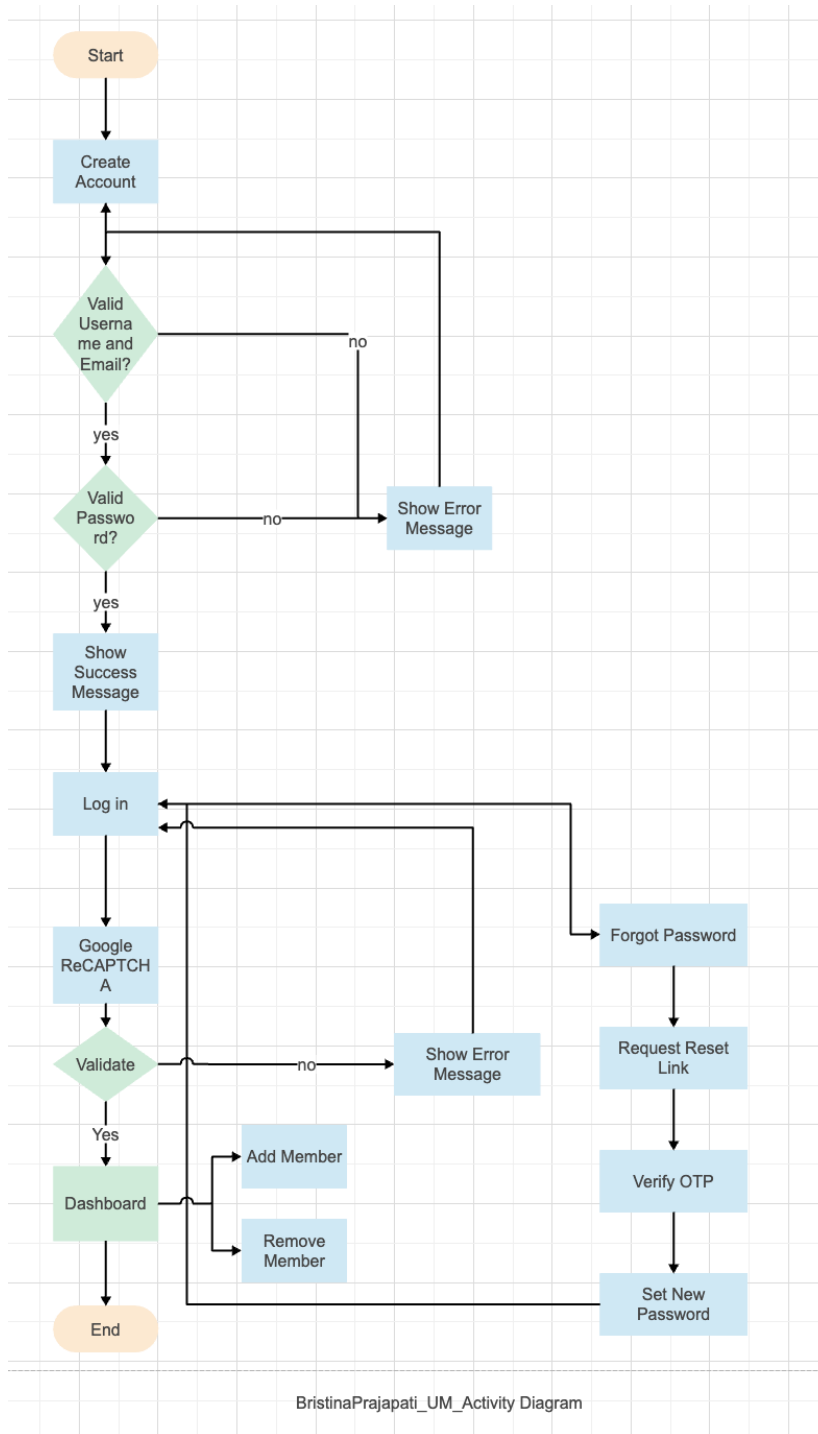


Figure 3UM\_Activity



## 2.3. Sequence Diagram

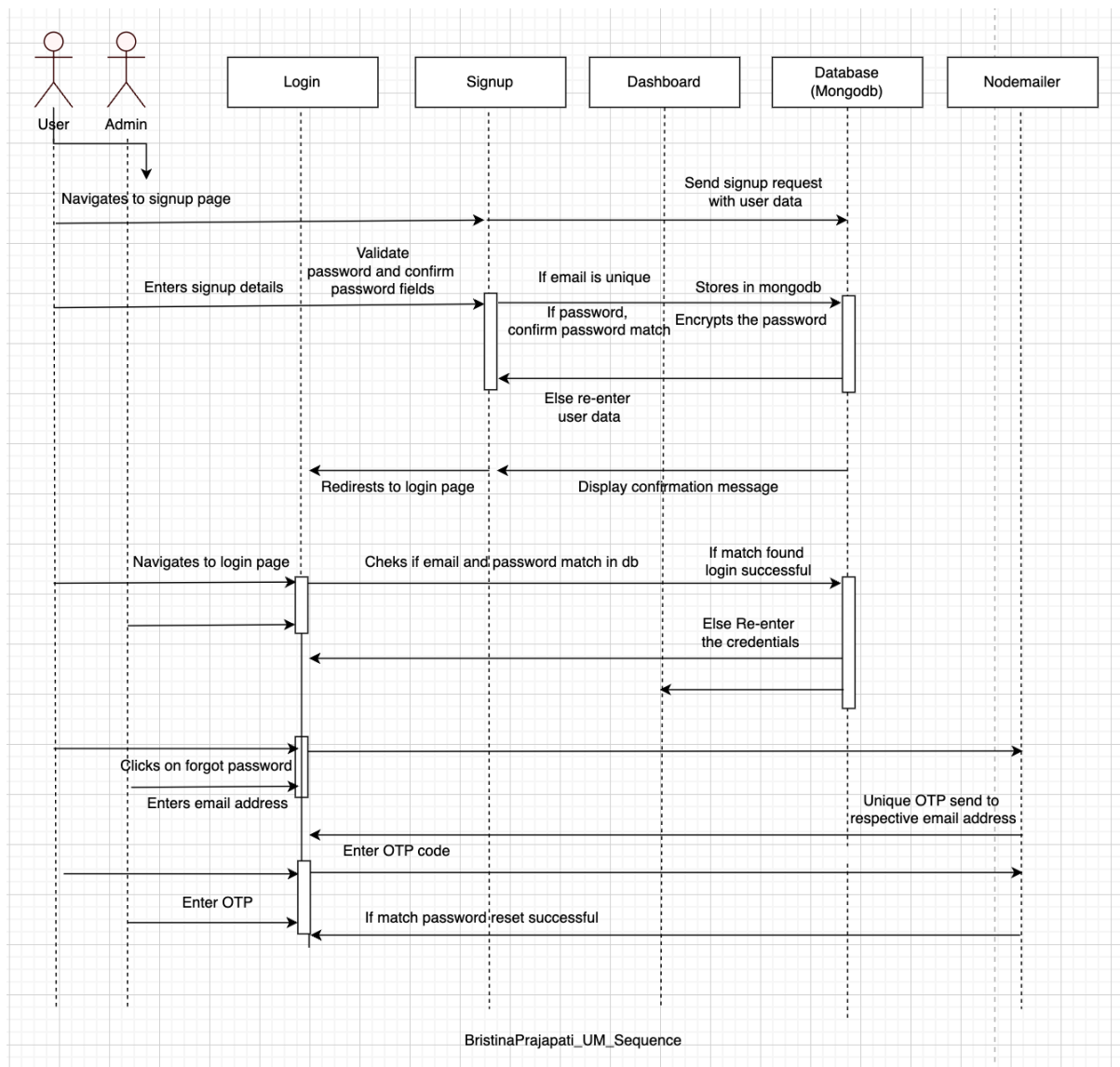


Figure 4UM\_Sequence

## 2.4. Testing

Test Case No.	Test Case Name	Test Steps	Expected Result	Actual Result	Status
UM-01	User Registration	1. Open the web application.	User should be redirected to the registration page.	Registration page opened successfully.	Pass
		2. Fill the details including email, username, and password.	User should be able to provide information for registration.	Information entered in respective fields.	Pass
		3. Click the Register button.	User should be able to create an account.	Account created.	Pass
UM-02	Login Functionality	1. Open the login page.	User should see the login page.	Login page opened.	Pass
		2. Enter email and password in respective fields.	User should be able to enter email and password.	Redirected to admin dashboard or main page.	Pass

		3. Click the Login button.	User should be authenticated, and redirected to the appropriate page.	Redirected to admin dashboard or main page.	Pass
UM-03	Forgot Password	1. Open the login page and click the "Forgot Password" button.	User should be redirected to the Forgot Password page.	Redirected to Forgot Password page.	Pass
		2. Enter the email address and click submit.	User should be sent an OTP.	Email sent with OTP.	Pass
UM-04	Reset Password	1. Enter the OTP received in the email.	OTP should be validated successfully.	OTP validation successful.	Pass
		2. Enter a new password and confirm password.	User should be able to enter and confirm the new password.	New password entered and confirmed.	Pass
		3. Click the submit button.	User should see success or error messages	Success message displayed.	Pass

			based on the outcome.		
		4. After successful reset, user should be redirected to the login page.	User should be redirected to the login page.	Redirected to login page.	Pass
UM-05	Admin Add member	1. Open the admin dashboard and click the "Add User" option.	Admin should see the option to add user to space.		
		2. Click the "Add.	Admin should see success or error messages based on the outcome.		
UM-06	Remove Member	1. Open the admin dashboard and click the "Remove Member" option of the particular member.	Admin should see the option to remove a member.		

		2. Click the "Remove" button.	Admin should see success or error messages based on the outcome.		
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### 3. Document Management System

Requirement Code	Requirement Description
DM-F-01	Allows users to create documents as per the creation of departments using a text editor (JoditEditor).
DM-F-02	Allows users to view documents by selecting a department and clicking on a view document.
DM-F-03	Allows users to edit documents within a department using a text editor (JoditEditor).
DM-F-04	Allows users to delete documents within a department after confirming the action.
DM-F-05	Fetches documents dynamically based on the selected department from the backend.
DM-F-06	Displays a list of all documents with their titles and last updated timestamps.
DM-F-07	Allows users to save document content and title.
DM-F-08	Allows users to cancel the document creation or editing process and navigate back to the documents page.
DM-F-09	Allows users to download the document in both DOC and PDF formats.
DM-F-10	Allows users to create a new document or edit an existing document

### 3.1. Use Case Diagram

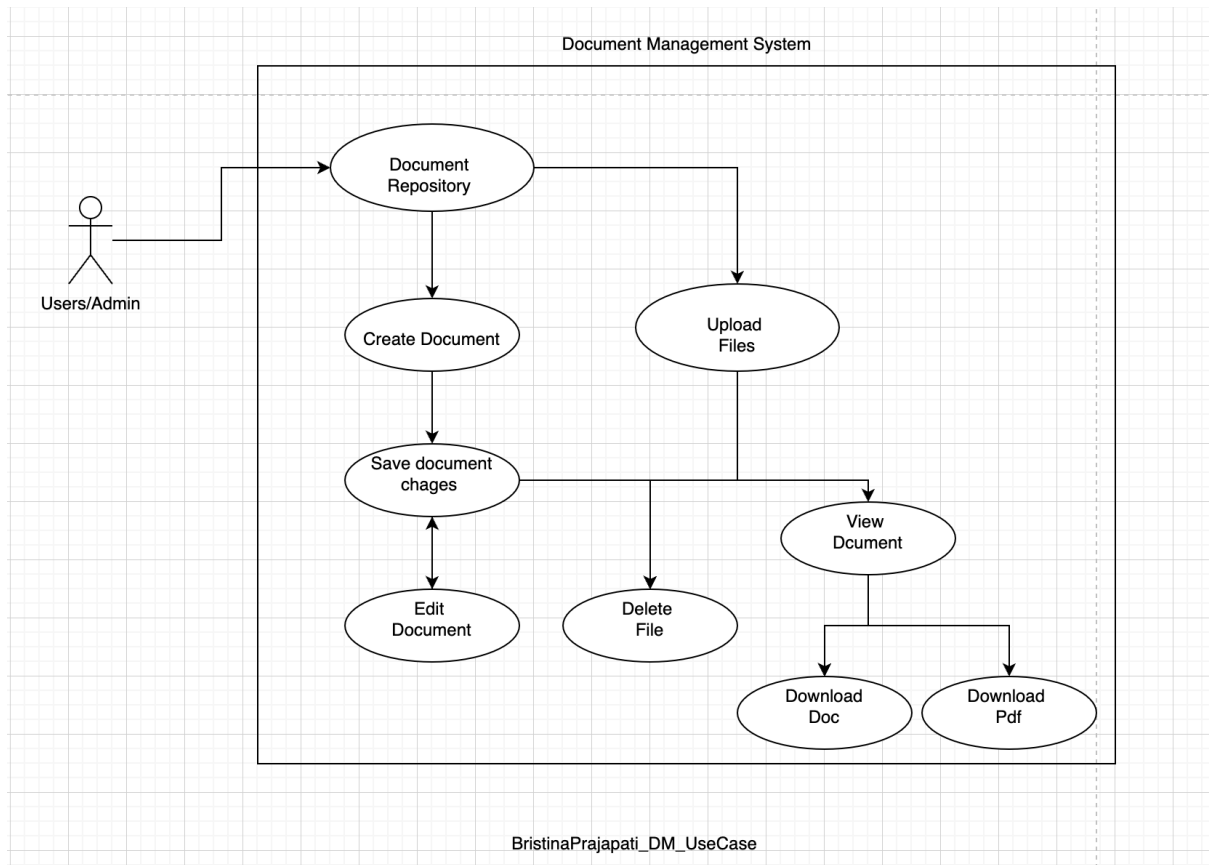


Figure 5DM\_UseCase

## 3.2. Activity Diagram

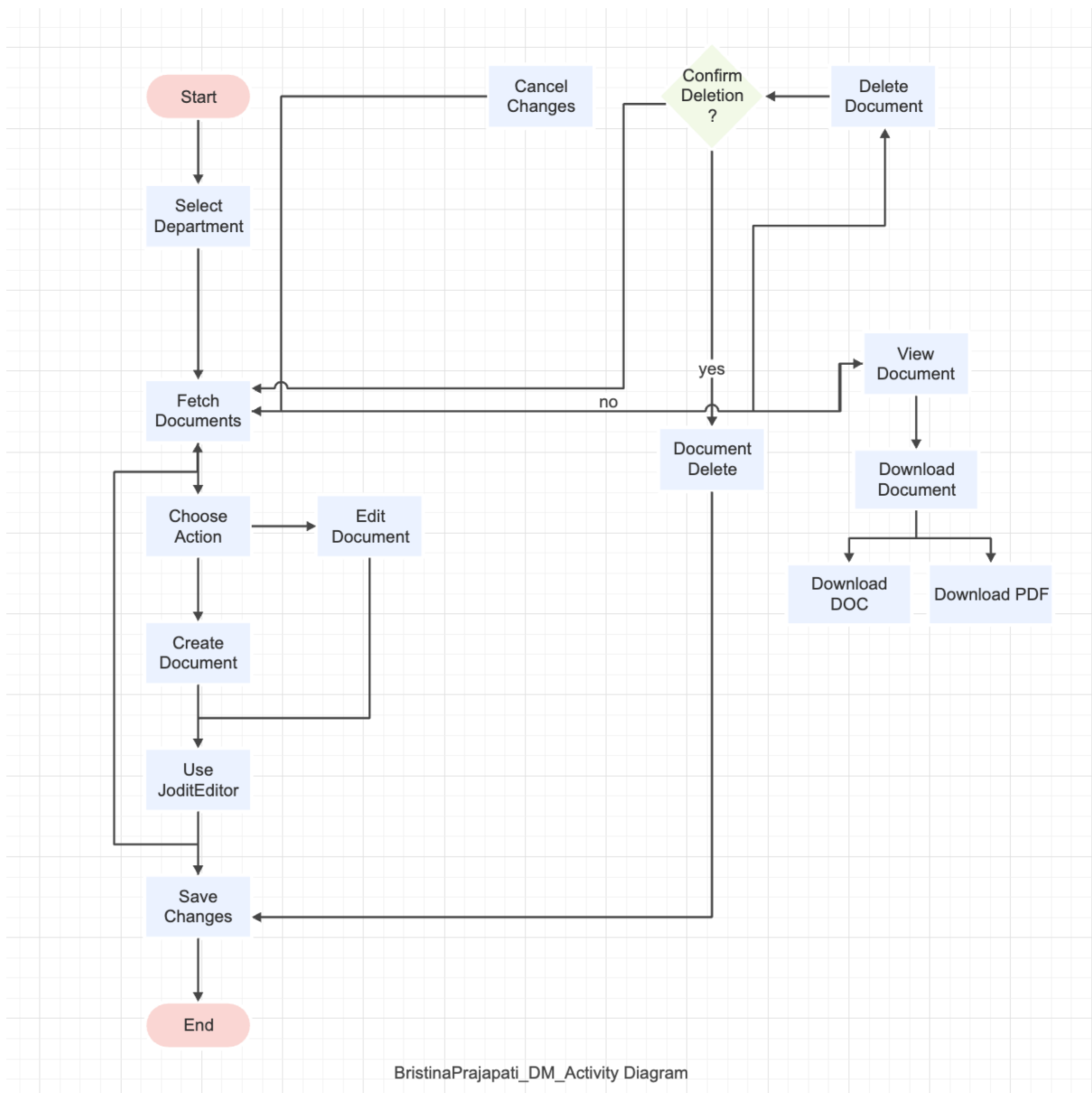


Figure 6DM\_Activity

### 3.3. Sequence Diagram

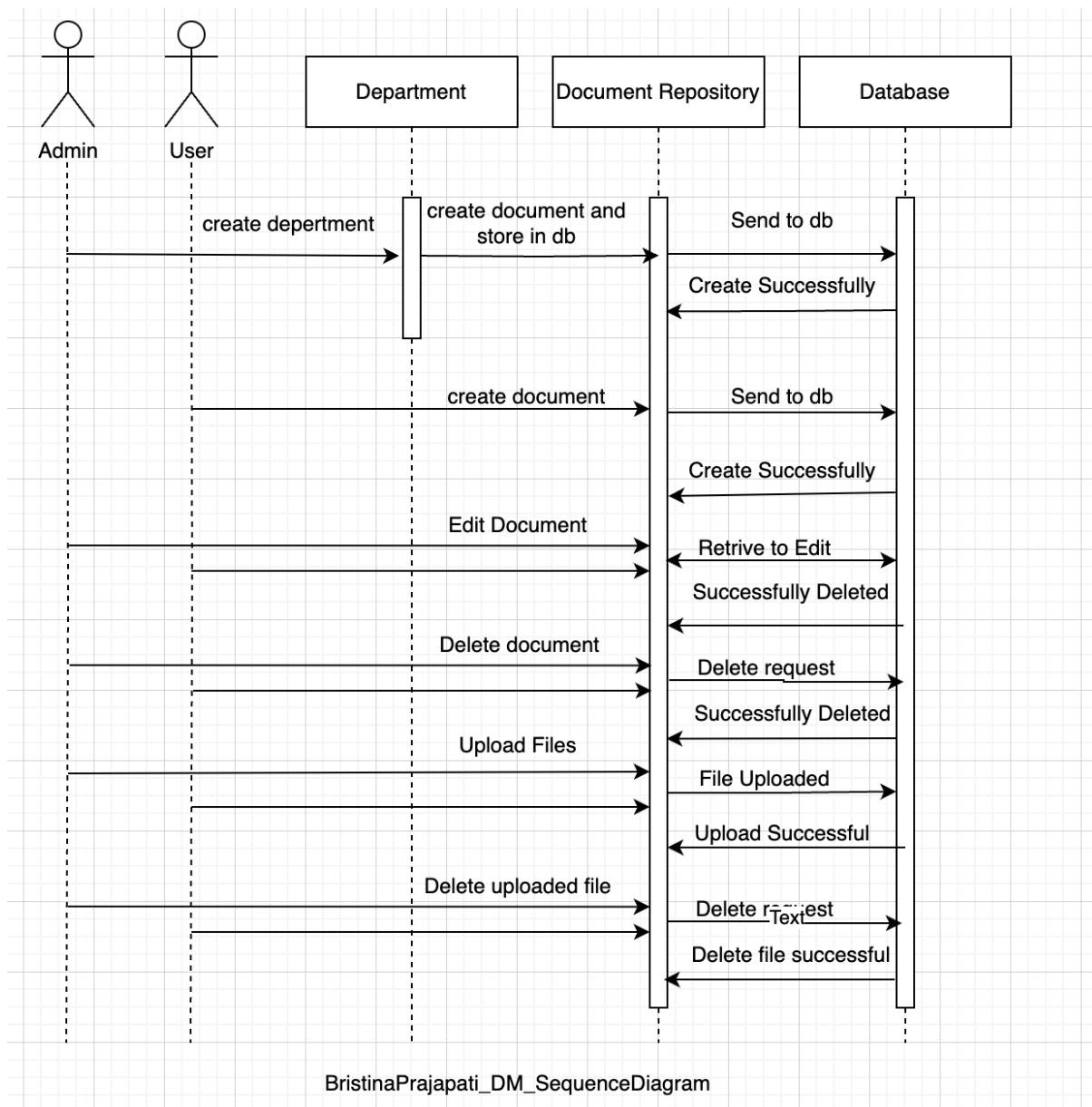


Figure 7DM\_Sequence



### 3.4. Testing

Test Case No.	Test Case Name	Test Steps	Expected Result	Actual Result	Status
DM-01	Fetching and display Documents	1. Select a department from the departments.	The system should fetch and display documents from the selected department.	Documents fetched successfully.	Pass
		1. Open the document repository page of particular department.	User should see a list of all documents with titles and last updated timestamps and buttons to create, view, edit, delete.	List of documents displayed with titles and timestamps buttons to create, view, edit, delete.	Pass
DM-02	Document Creation	1. Open the department section and click on the particular department you want to create the document for.	User should be able to access the document creation interface.	Creation page opened successfully.	Pass

		2. Enter a document title and content.	User should be able to input text for title and content.	Title and content entered successfully.	Pass
		3. Click the "Save Document" button.	Document should be saved with the provided title and content.	Document saved.	Pass
DM-03	Document Viewing	1. Open the document repository page.	User should be able to view a list of available documents.	Documents displayed.	Pass
		2. Click on a document view button.	Document content should be displayed.	Document content displayed successfully.	Pass
DM-04	Document Editing	1. Select a document to edit.	User should be able to open the document for editing.	Document opened for editing.	Pass
		2. Modify the document content and title using JoditEditor.	User should be able to update the document content and title.	Document content and title updated.	Pass

		3. Click the "Save Changes" button.	Changes should be saved and reflected in the document.	Changes saved successfully.	Pass
DM-05	Document Deletion	1. Select a document to delete.	User should be able to select a document for deletion.	Document selected for deletion.	Pass
		2. Click the "Delete" button.	A confirmation prompt should appear for document deletion.	Confirmation prompt appeared.	Pass
		3. Confirm the deletion.	Document should be deleted after confirmation.	Document deleted successfully.	Pass
DM-06	Document Download	1. Click the view button of the particular document and enter view mode.	User should be able to select a document for download.	Document selected for download.	Pass
		2. Click the "Download as DOC" button.	Document should be downloaded	Document downloaded successfully as DOC.	Pass

			as a DOC file.		
		3. Click the "Download as PDF" button.	Document should be downloaded as a PDF file.	Document downloaded successfully as PDF.	Pass

#### 4. Meeting Management System

Requirement Code	Requirement Description
MM-F-1.O	The system allows the users to schedule a meeting date and time.
MM-F-2.O	The system allows the users to add the meeting agenda.
MM-F-3.O	The system allows the users to users to edit meeting.
MM-F-5.O	The system allows the users to invite participants by email.
MM-F-6.O	The system allows the users to send reminders for upcoming meeting.
MM-F-7.O	The system allows the users to add meeting notes and share them with other members.
MM-NF-1.O	The system should be user-friendly and easy to navigate.
MM-F-8.O	The system allows the users to cancel or reschedule meetings.

## 4.1. Use case

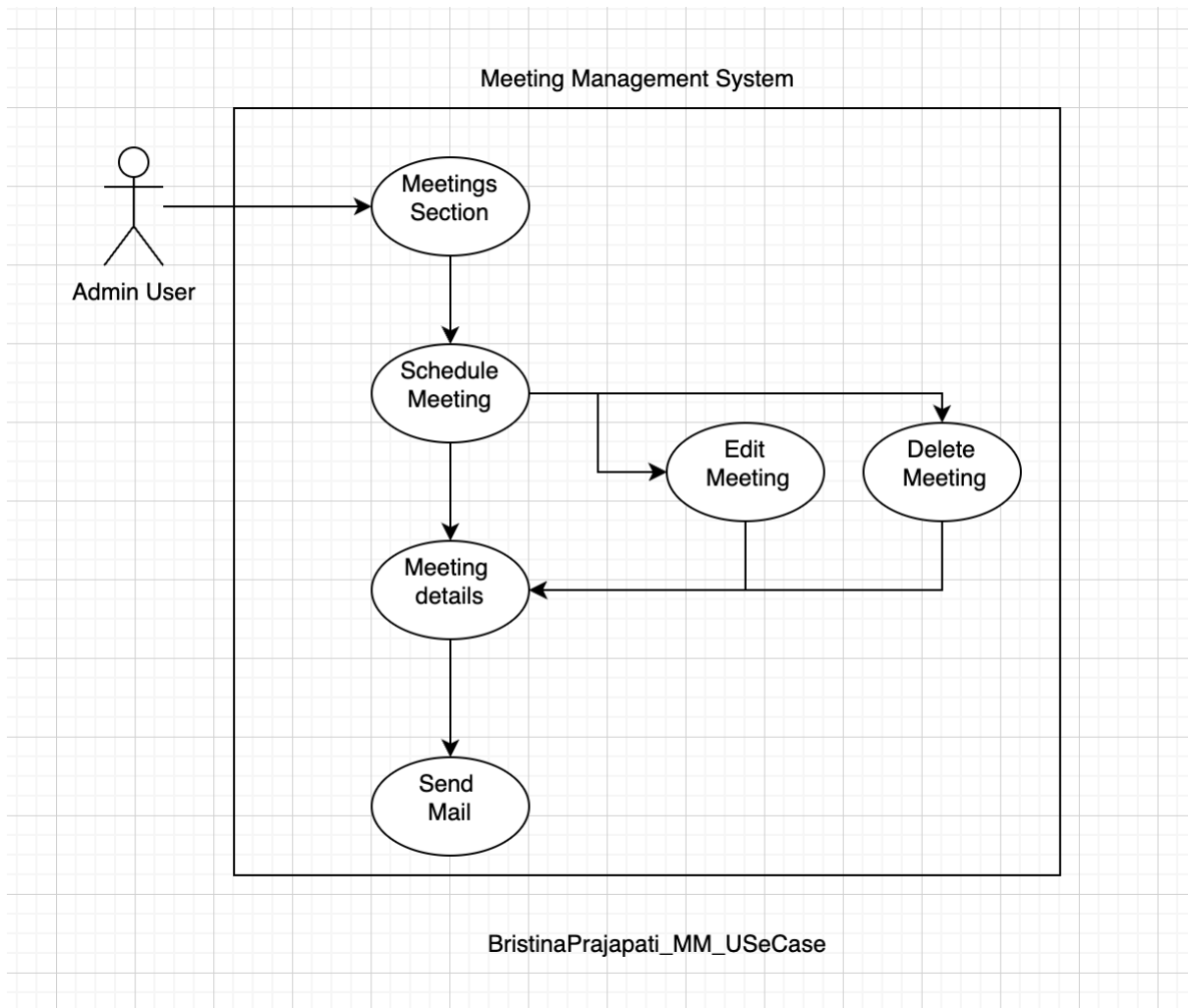


Figure 8MM\_UseCase

## 4.2. Activity Diagram

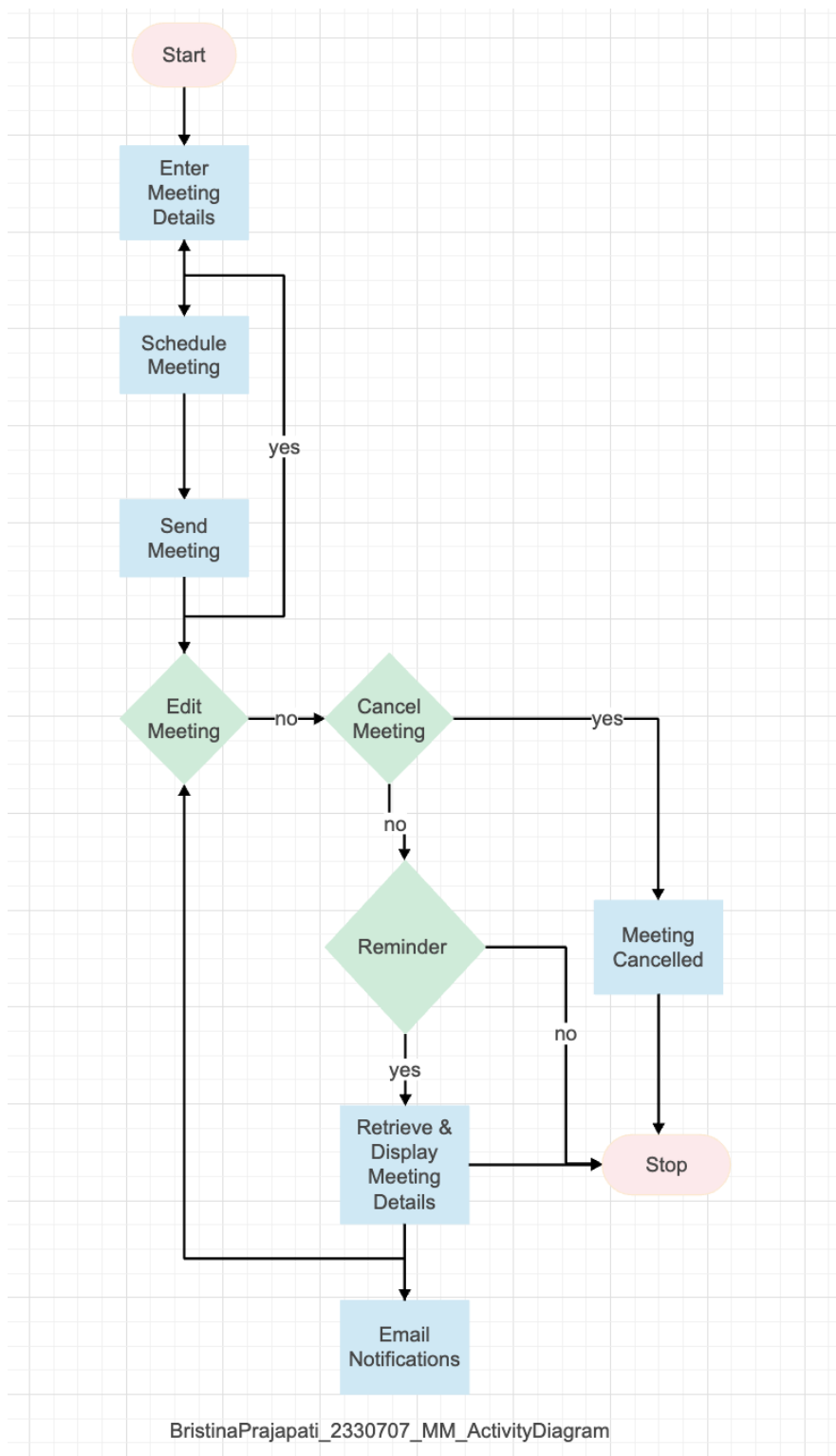


Figure 9MM\_Activity

### 4.3. Sequence Diagram

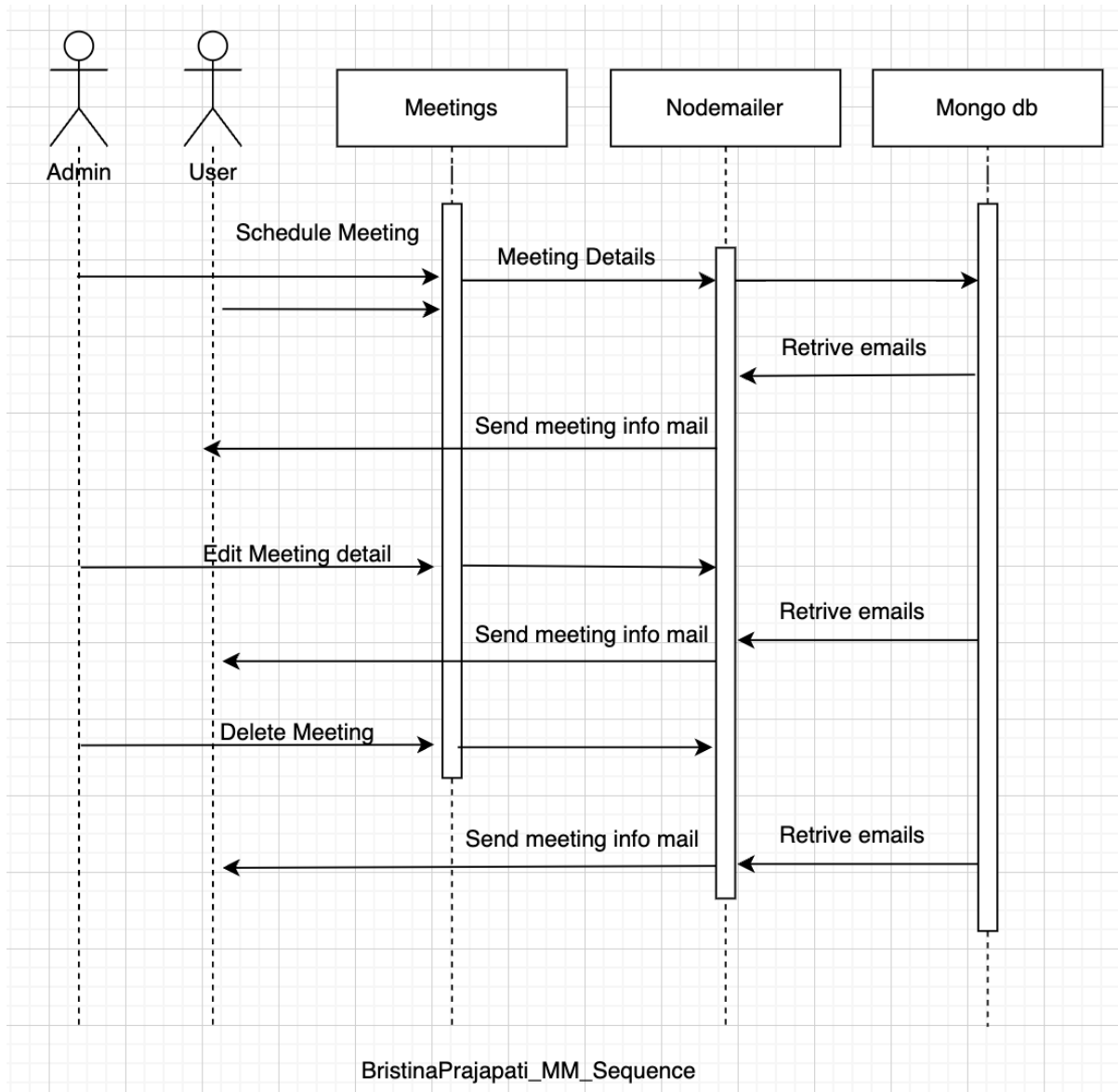


Figure 10MM\_Sequence

## 4.4. Testing

Test Case No.	Test Case Name	Test Steps	Expected Result	Actual Result	Status
MM-01	Schedule a New Meeting	1. Navigate to the meeting scheduling page.	User should be able to navigate to meeting scheduling page		
		2. Enter meeting details (title, date, time, participants, agenda).	User should be able to enter meeting details (title, date, time, participants, agenda).		
		3. Click "Schedule".	User should be able to schedule meeting.		
MM-02	Edit a Scheduled Meeting	1. Open the scheduled meeting from the meeting list.	User should be able to open the scheduled meeting from meeting list.		
		2. Modify meeting	User should be able to navigate and		



		details (e.g., date, time).	modify meeting details		
		3. Click "Save Changes".	User should be able to save the changes made.		
MM-03	Cancel a Meeting	1. Open the scheduled meeting.	User should be able to open the schedule meeting section.		
		2. Click "Cancel Meeting" and confirm cancellation.	User should be able to click and cancel the scheduled meeting.		
MM-04	Send Meeting Reminders	1. Schedule a meeting and wait for the reminder time.	The system should send a reminder notification to participants before the meeting.		
MM-05	View Meeting Details	1. Navigate to the meeting list.	Should be able to navigate to the meeting list.		

		2. Click on a scheduled meeting.	Should be able to view scheduled meetings.		
MM-06	Attach Meeting Documents	!. Open the meetings section.	Should be able to open the meetings section.		
		2. Click "Attach Document".	The system should allow document uploads and display attached files		

## 5. Event Management System

Requirement Code	Requirement Description
EM-F-1	Allows admin to create Event
EM-F-2	Allows users to register details of the event attendees. (name, email, phone e.t.c.)
EM-F-3	The system shall store attendees' email addresses securely in the database.
EM-F-4	The system shall retrieve stored email addresses for sending feedback forms.
EM-F-5	The system use Nodemailer to send feedback forms via email.
EM-F-6	Allows to send the feedback form to the attended of the event.
EM-NF-1	The system should comply for email delivery and security.

## 5.1. Use Case

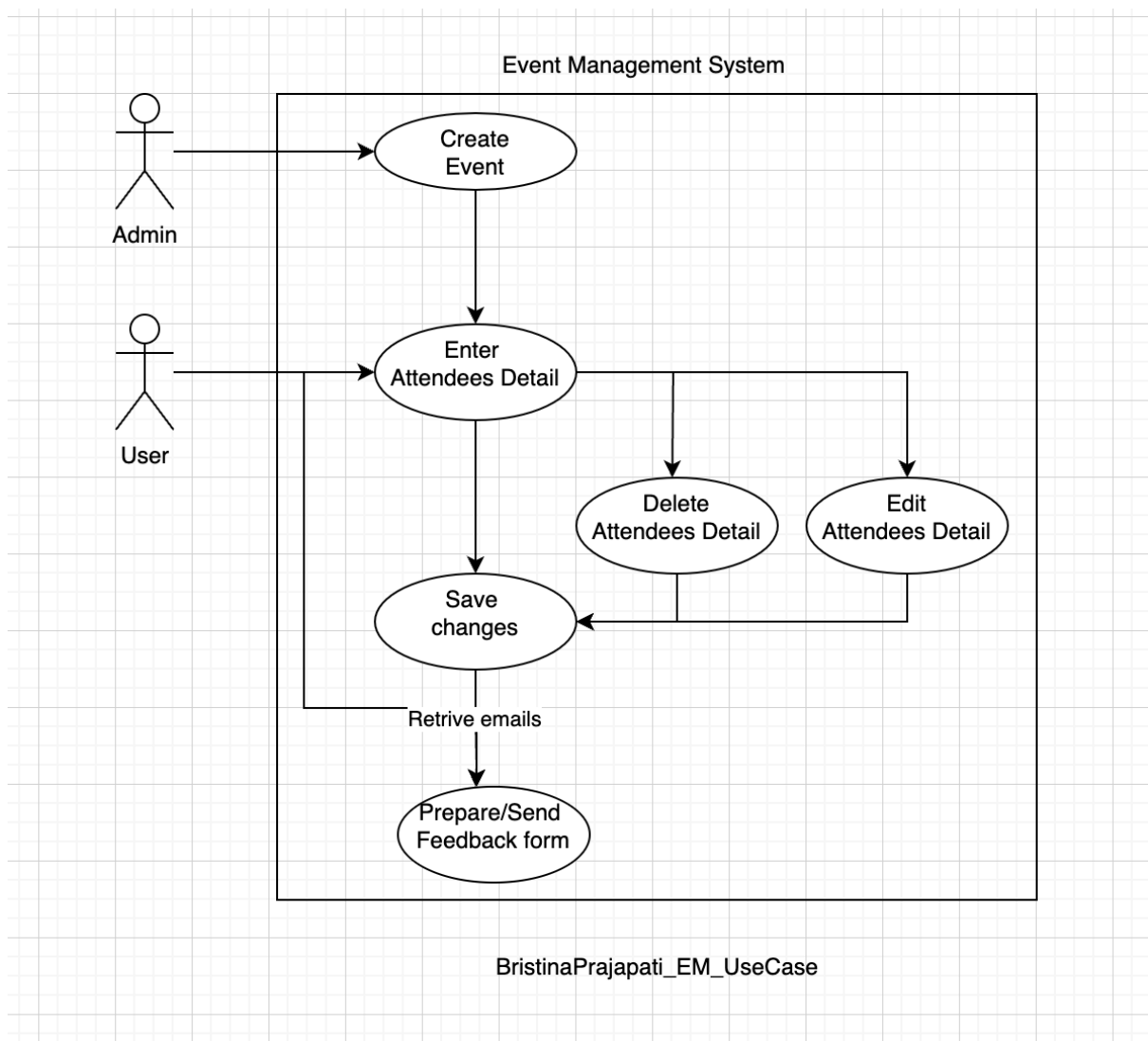


Figure 11EM\_UseCase

## 5.2. Activity Diagram

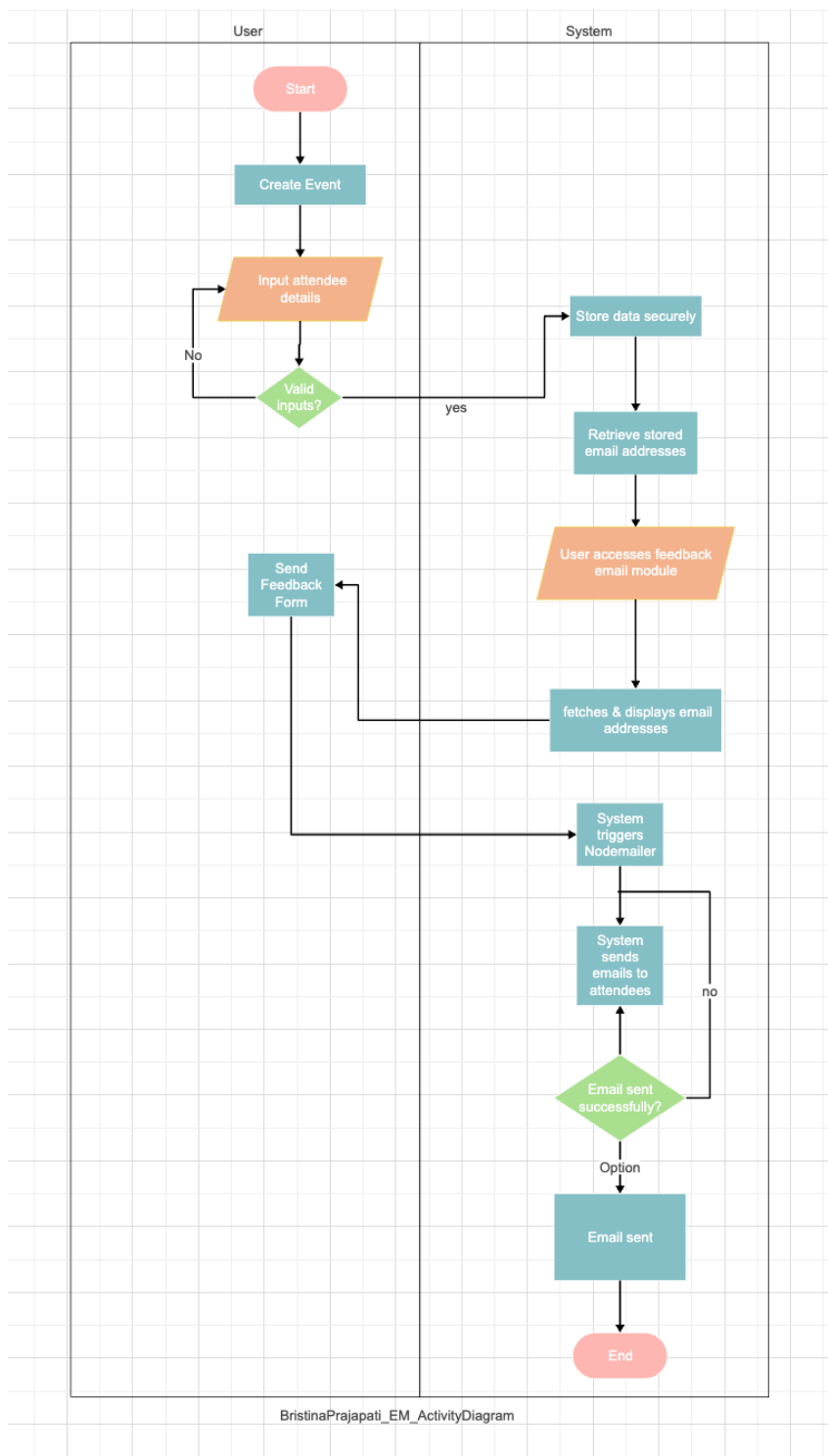


Figure 12EM\_Activity

## 5.3. Sequence

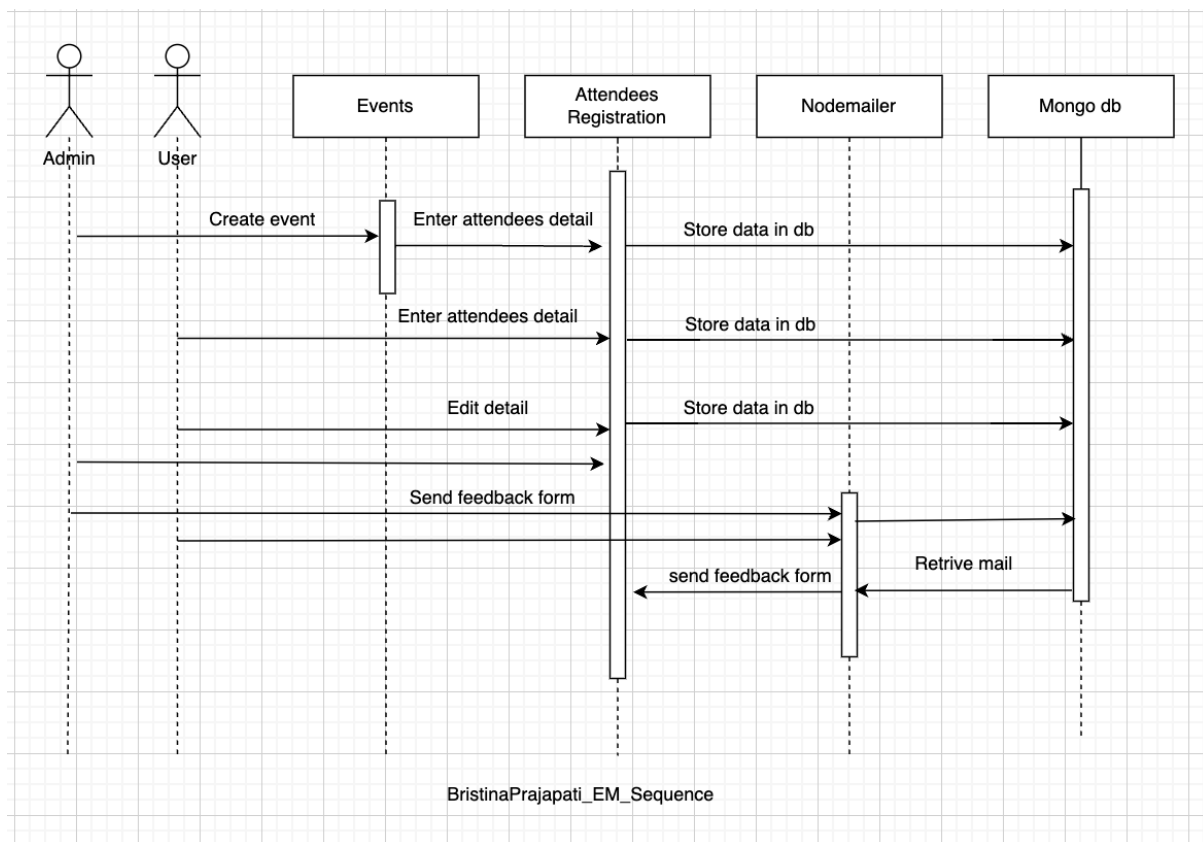


Figure 13EM\_Sequence

## 5.4. Testing

Test Case No.	Test Case Name	Test Steps	Expected Result	Actual Result	Status
EM-01	Attendee Registration	1. Open the attendee registration page.	The system should display a registration form.		
		2. Enter name,	The system should		

		email, and phone number and other details.	allow users to input details.		
		3. Click the submit button.	The system should validate and store the attendee's details securely.		
EM-02	Email Storage	1. Register an attendee.	The system should store the attendee's email.		
		2. Check the database for stored email addresses.	The email should be securely stored in the database.		
EM-03	Retrieve Stored Emails	1. Open the feedback email module.	The system should display an interface for managing feedback emails.		
		2. Retrieve the stored	The system should		

		email addresses.	fetch and display stored email addresses.		
EM-04	Send Feedback Forms via Email	1. Click the "Send Feedback" button.	The system should trigger Nodemailer for email processing.		
		2. System triggers Nodemailer.	The system should prepare and send emails to the stored addresses.		
		3. Emails are sent to attendees.	Attendees should receive feedback forms via email.		



## 6. Reference

*Investopedia*. (2021). Retrieved from Investopedia:

<https://www.investopedia.com/terms/f/functional-decomposition.asp#:~:text=Functional%20decomposition%20breaks%20down%20a,tasks%20needed%20to%20complete%20it.>