

DOCUMENT MANAGEMENT SYSTEM

OOD PROJECT

Group - C24

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A JAVA BASED document MANAGEMENT AND RETRIEVAL SYSTEM DESIGN

AIM :

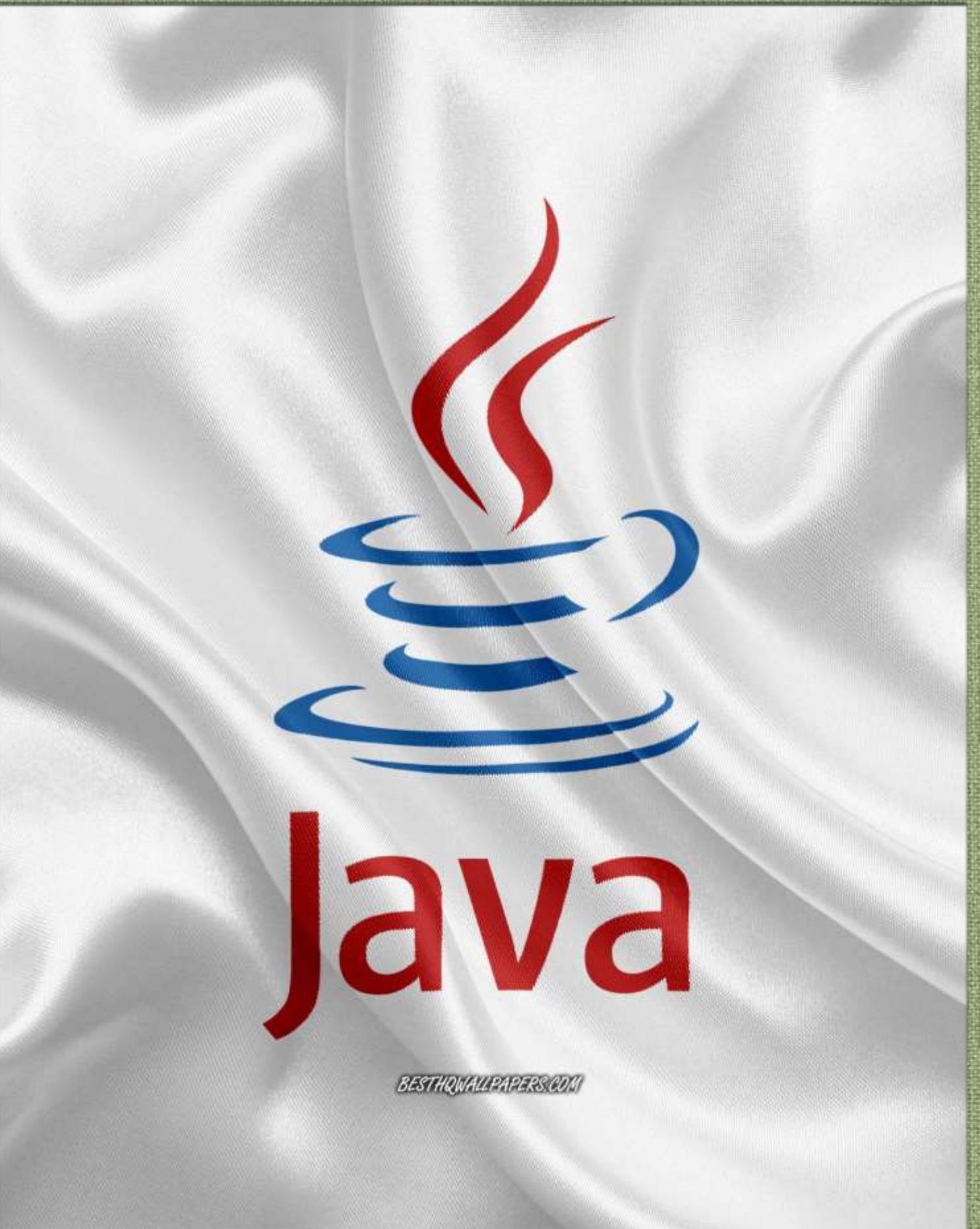
Develop an application to manage document storage and retrieval.

TECHNOLOGY USED:

JAVA JAVA GUI

CONTENT :

UML diagrams:-Use Case diagram, Class diagram, CRC diagram(s), illustrating the design of your program.



DESIGN CONCEPT

Use of Object Oriented Methodology concepts to design the system base.

Basic Classes: Category, Document, Topic, Tag, and have the following relationships:

- A. A document belongs to a category such as policy, plan, report, receipt, order, ... etc.
- B. A document belong to a topic such “CS243 Course Files in Fall 2013”, “Cluster Graduation Project in 2013”, ... etc.
- C. A document can have any number of tags such as: “legal”, “medical”, “administrative”, “technical”, “2013”, “reporting”, ... etc.

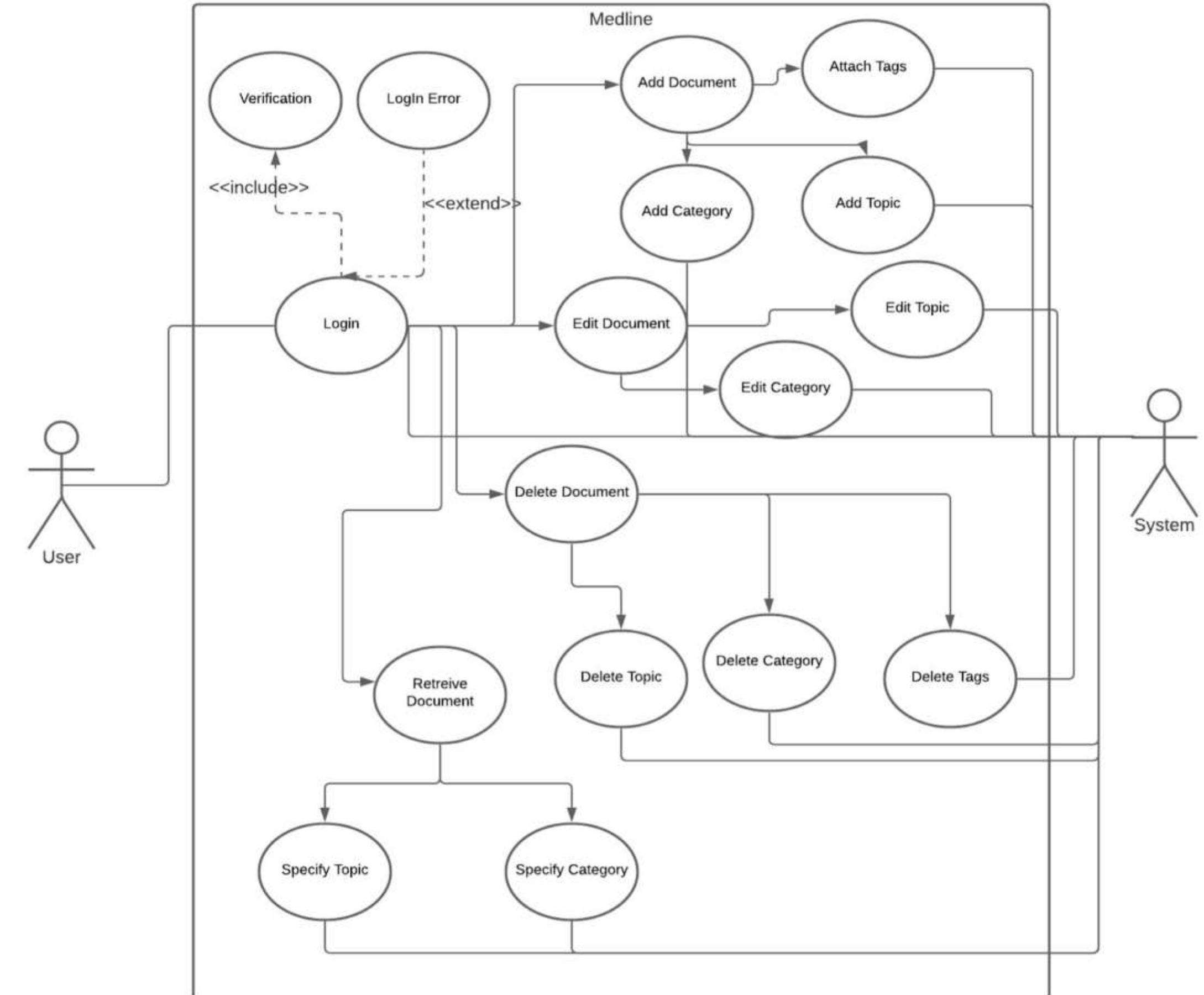
Provides an interface for the user to:

- A. Adding/editing/deleting instances belonging to each class,
- B. Retrieve document by Category, Topic, Tag.

USE CASE DIAGRAM

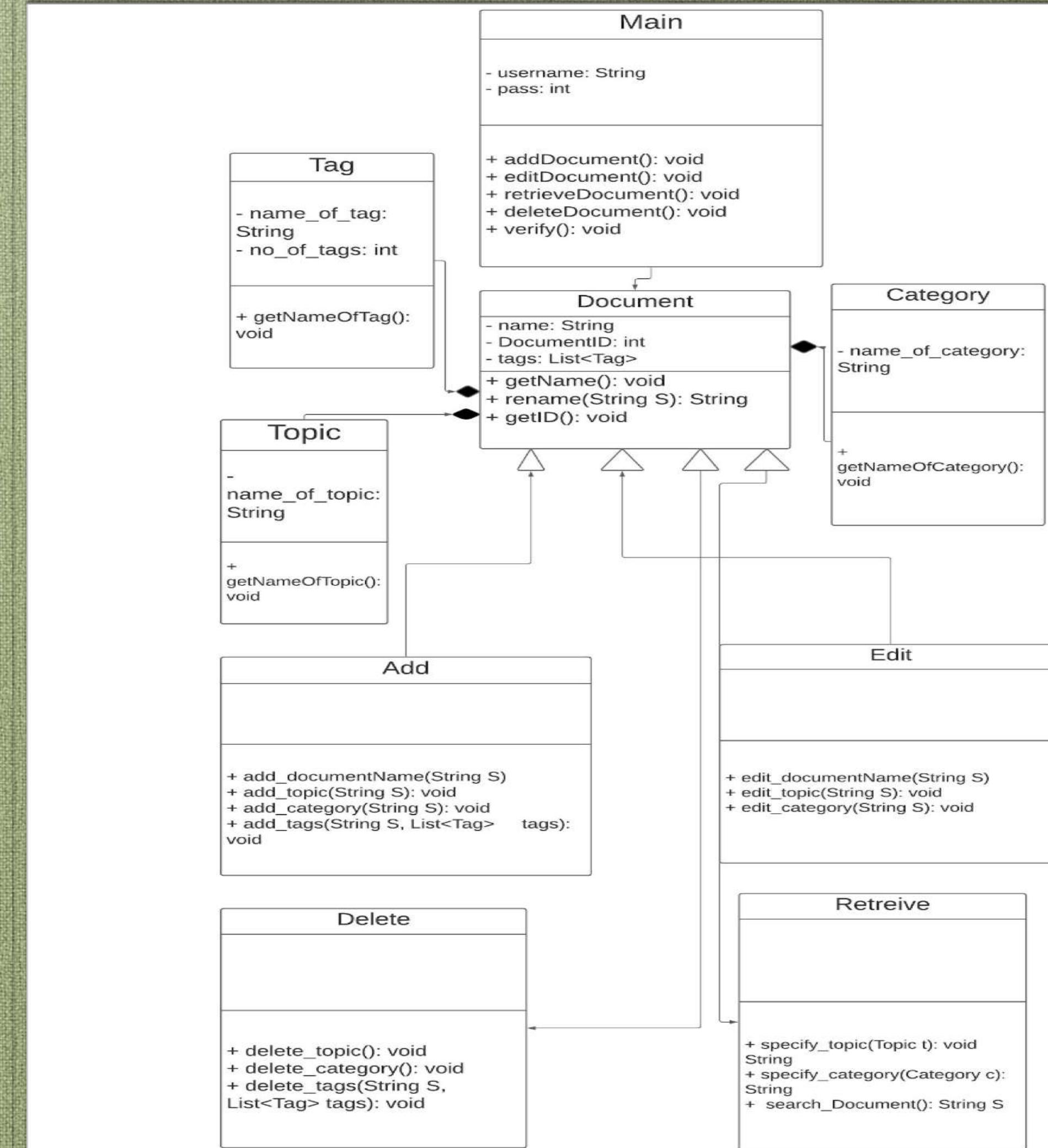
A UML use case diagram is the primary form of system/software requirements for a new software program underdeveloped. A key concept of use case modeling is that it helps us design a system from the end user's perspective.

It is an effective technique for communicating system behavior in the user's terms by specifying all externally visible system behavior.



CLASS DIAGRAM

The class diagrams are widely used in the modeling of object oriented systems because they are the only UML diagrams, which can be mapped directly with object-oriented languages. Class diagram shows a collection of classes, interfaces, associations, collaborations, and constraints. It is also known as a structural diagram.



CRC DIAGRAM

Topic	
- Responsible for attaching a topic to each document	- Document
AddDocument	
- Responsible for adding topic,category and tags for each document added	- Document - Topic - Category - Tag
EditDocument	
- Responsible for updating and changing topic, category and tags for each document	- Document - Topic - Category - Tag
DeleteDocument	
- Responsible for deleting all contents of a document	- Document - Topic - Category - Tag
RetreiveDocument	
- Responsible for retrieving a document by specifying it's topic, category and tags	- Document - Topic - Category - Tag

Class-responsibility-collaboration (CRC) cards are a brainstorming tool used in the design of object-oriented software. To create a CRC card, you can begin by writing out a scenario which identifies the major actors and actions which the actors do. Only write out actions and actors specific to that particular scenario. Nouns should turn into the classes of the card, verbs typically turn into the responsibilities of the card, and collaborators are the other cards with which the card will be interacting.

Main	
- Responsible for verification of user (login)	- Document - AddDocument - Edit Document - DeleteDocument - RetreiveDocument
Document	
- Responsible for holding data - Responsible for having tags, topic and category - Responsible for actions on documents	- Tag - Category - Topic
Tag	
- Responsible for attaching tags to a document - Responsible for holding record of each tag for each document	- Document
Category	
- Responsible for defining the category of each Document	- Document

LOGIN PAGE

The screenshot shows a Java development environment with a code editor and a terminal window.

Code Editor: The main window displays a Java file named `Main.java`. The code implements a login logic where it prompts for user name and password, and then displays a "CHOOSING PAGE" window if the credentials are correct.

```
import javax.swing.*;
import java.util.*;
import java.awt.*;
public class Main {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your user name:");
        String name=sc.nextLine();
        System.out.println("Enter the password:");
        String password=sc.next();

        if(name.equals("Dhruv")||name.equals("C24"))
        {
            System.out.println("Welcome "+name);
            JFrame jFrame = new JFrame();
            jFrame.setTitle(title:"CHOOSING PAGE");

            Add a = new Add();
            Container cPane = jFrame.getContentPane();
            Newclass template = new Newclass(a, cPane);
            jFrame.setSize(template.getSize());
            jFrame.setResizable(resizable:false);
            cPane.add(template);

            jFrame.setVisible(b:true);
            jFrame.setLocationRelativeTo(c:null);
            jFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
        else
    }
}
```

Terminal: The terminal window shows the execution of the Java code. It prompts for user input ("Enter your user name:" and "Enter the password:"), receives the inputs "Sandarbh" and "C24", and then outputs "Welcome Sandarbh".

```
PS C:\Users\sanda> cd "d:\Sandarbh\OOD_PJT_GROUP_37\OOD_PJT_GROUP_37\Document-Management-System"
Enter your user name:
Sandarbh
Enter the password:
C24
Welcome Sandarbh
```

Document Management Dialog: A modal dialog titled "CHOOSING PAGE" is displayed. It contains three buttons: "ADD DOCUMENT" (top right), "DELETE DOCUMENT" (bottom left), "EDIT DOCUMENT" (bottom right), and "RETREIVE DOCUMENT" (bottom center). The dialog has a dark theme with light-colored buttons.

LOGIN FAILED

The screenshot shows a Java application running in a code editor. The code in Main.java checks for user input and compares it against hardcoded values. If the user enters 'Harsh' and 'C24', it prints a welcome message and opens a window. Otherwise, it prints an error message.

```
D: > Sandarbh > OOM_PJT_GROUP_37 > OOM_PJT_GROUP_37 > Document-Management-System-main > J Main.java > Main > main(String[])
1 import javax.swing.*;
2 import java.util.*;
3 import java.awt.*;
4 public class Main {
5     Run | Debug
6     public static void main(String[] args)
7     {
8         Scanner sc=new Scanner(System.in);
9         System.out.println("Enter your user name: ");
10        String name=sc.nextLine();
11        System.out.println("Enter the password: ");
12        String password=sc.next();
13
14        if((name.equals("Dhruv") || name.equals("Kushal") || name.equals("Sandarbh"))&&password.equals("C24"))
15        {
16            System.out.println("Welcome "+name);
17            JFrame jFrame = new JFrame();
18            jFrame.setTitle(title:"CHOOSING PAGE");
19
20            Add a = new Add();
21            Container cPane = jFrame.getContentPane();
22            Newclass template = new Newclass(a, cPane);
23            jFrame.setSize(template.getSize());
24            jFrame.setResizable(resizable:false);
25            cPane.add(template);
26
27            jFrame.setVisible(b:true);
28            jFrame.setLocationRelativeTo(c:null);
29            jFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
30        }
31    else
32    }
33 }
```

The terminal output shows the application being run and failing to log in with the provided credentials.

```
PS C:\Users\sanda> cd "d:\Sandarbh\OOM_PJT_GROUP_37\OOM_PJT_GROUP_37\Document-Management-System-main\" ; if ($?) { javac Main.java } ; if ($?) { java Main }
Enter your user name:
Harsh
Enter the password:
C24
Sorry !! Harsh
Either username or password is wrong
PS D:\Sandarbh\OOM_PJT_GROUP_37\OOM_PJT_GROUP_37\Document-Management-System-main>
```

The status bar at the bottom indicates the current date and time, battery level, and system temperature.

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MAIN PAGE

The screenshot shows a Java application running in a terminal window. The terminal output is as follows:

```
PS C:\Users\sanda> cd "d:\Sandarbh\OOM_PJT_GROUP_37\OOM_PJT_GROUP_37\Document-Management-System"
Enter your user name:
Sandarbh
Enter the password:
C24
Welcome Sandarbh
```

The application window has tabs for 'ADD DOCUMENT', 'DELETE DOCUMENT', 'EDIT DOCUMENT', and 'RETREIVE DOCUMENT'. The 'ADD DOCUMENT' tab is active.

ADD DOCUMENT

CHOOSING PAGE

ENTER DOCUMENT NAME	PROCEED	DOCUMENT NAME: NONE
ENTER TOPIC	PROCEED	TOPIC: NONE
ENTER CATEGORY	PROCEED	CATEGORY: NONE
ENTER TAGS (IF ANY ELSE TYPE NIL)	PROCEED	TAGS: NONE

CHOOSING PAGE

A.TXT	PROCEED	DOCUMENT NAME: A.TXT
FINANCE	PROCEED	TOPIC: FINANCE
BUSINESS	PROCEED	CATEGORY: BUSINESS
MONEY, CURRENCY	PROCEED	TAGS: MONEY, CURRENCY

EDIT DOCUMENT

CHOOSING PAGE

DOCUMENT LIST:	PROCEED	
ENTER DOCUMENT ID:	EDIT	DOCUMENT TO BE EDITED:
ENTER NEW DOCUMENT NAME	UPDATE	UPDATED DOCUMENT NAME:
ENTER NEW TOPIC	UPDATE	UPDATED TOPIC:
ENTER NEW CATEGORY	UPDATE	UPDATED CATEGORY:
CLICK TO GO TO MAIN PAGE	MAIN PAGE	CLICK TO GO TO MAIN PAGE

CHOOSING PAGE

DOCUMENT LIST:	PROCEED	id: 1 Document Name: A.TXT
1	EDIT	DOCUMENT TO BE EDITED: A.TXT
B.TXT	UPDATE	NEW DOCUMENT NAME: B.TXT
TRADE	UPDATE	NEW TOPIC NAME: TRADE
TRAVEL	UPDATE	NEW CATEGORY NAME: TRAVEL
CLICK TO GO TO MAIN PAGE	MAIN PAGE	CLICK TO GO TO MAIN PAGE

RETRIEVE DOCUMENT

CHOOSING PAGE

DOCUMENT LIST:	PROCEED	
ENTER TOPIC	SPECIFY	TOPIC:
ENTER CATEGORY	SPECIFY	CATEGORY:
CLICK TO RETREIVE	RETREIVE	RETRIEVED DOCUMENT:
CLICK TO GO TO MAIN PAGE	MAIN PAGE	CLICK TO GO TO MAIN PAGE

CHOOSING PAGE

DOCUMENT LIST:	PROCEED	id: 1 Document Name: B.TXT
TRADE	SPECIFY	TOPIC: TRADE
TRAVEL	SPECIFY	CATEGORY: TRAVEL
CLICK TO RETREIVE	RETREIVE	VED DOCUMENT: ID: 1 Document Name: B.TXT
CLICK TO GO TO MAIN PAGE	MAIN PAGE	CLICK TO GO TO MAIN PAGE

DELETE DOCUMENT

CHOOSING PAGE

DOCUMENT LIST:	PROCEED	id: 1 Document Name: B.TXT
ENTER DOCUMENT ID:	DELETE	DELETED DOCUMENT:
UPDATED LIST:	UPDATE	UPDATED LIST:
CLICK TO GO TO MAIN PAGE	MAIN PAGE	CLICK TO GO TO MAIN PAGE

ADVANTAGES

1. DOCUMENT INPUT :

When it comes to document input, most of the businesses combine paper and digital files. The ideal Document Management System should allow inputting files through the following sources:

- Email
- Bulk Upload
- Automated Process for Mass Uploading
- Web Services

2. DOCUMENT INDEXING :

Document indexing is the process of associating or tagging documents with different “search” terms. Indexing is a path to the documents. That path is based upon your business processes and your staff. An ideal Document Management System should provide:

- Indexing of all documents
- Custom Automatic Document Numbering
- Content recognition and indexing

3. DOCUMENT SEARCH,DIT,DELETE,RETREVE:

No matter what indices we use, the power of document indexing is revealed when we do a search later on. The document process engine should provide:

- Safe and Powerful
- Document content

4. DOCUMENT SECURITY :

Security is one of the most critical aspects of a document management system. The ideal software will provide a high level of documents encryption and role based access, as well as:

- Audit Trail
- User and Roles
- Advanced Access rights
- Encrypted Documents on file system

DISADVANTAGES

1. REDUCED STORAGE SPACE

Commercial property costs are increasing and so is the expense to store paper documents. A software-based DMS that can reduce the need for file cabinets, boxes, and storage bins is a valuable asset to any enterprise, freeing up precious office space. Documents that have to be kept as hard copies can often be stored in less expensive locations, such as an offsite warehouse or vault.

2. EASIER DOCUMENT RETRIEVAL

Searching for and retrieving documents can be very time-consuming - and we all know time is money. The typical office worker spends an estimated 30% to 40% of their day searching for printed documents while organizations on average spend \$20 in labor to file a document, \$120 in labor to find a misfiled document, and \$220 in labor to reproduce a lost document. These unnecessary document management costs restrict an organization's budget, hamper productivity, and limit growth potential.

3. BETTER COLLABORATION

The ability to quickly access content and collaborate is greatly simplified with an advanced document management system. Documents captured from different sources can be accessed from multiple locations. Electronic imaging makes sharing documents over a network via email or the Internet possible. DMS provides greater visibility to business processes and can allow for better workflow monitoring. Authorized access by external users can be allowed and monitored.

4. BETTER BACKUP AND DISASTER RECOVERY

Any document management solution should include a data backup and disaster recovery plan. With digital archiving as a backup, paper documents are protected from fire and flood, and other disasters. With a DMS, documents are highly traceable and can be tracked using a range of criteria. Document tracking capabilities reduce the likelihood for documents to be lost or misfiled after viewing.

5. INCREASED PRODUCTIVITY

Time is valuable, and time saved is a definite benefit of DMS that often translates directly into increased productivity. Faster and more efficient document retrieval can boost staff morale and increase client satisfaction. Also, document management solutions are scalable to meet the changing needs of any enterprise. A comprehensive electronic document management system offers businesses a few intangible advantages including:

Flexibility

Competitiveness

Improved client relations

Peace of mind

DISADVANTAGES

1. Dependency On Technology :

Digital era means relying heavily on technology. But what if one day, technology becomes a liability? With this in mind, organizations should also consider not having to depend too much on technology in case it becomes a problem in the future. Through our project we are increasing our dependencies on technology.

2. Security :

With information sharing as one of the project's features, there's always a possibility that the information handed might end up in the wrong hands. We have set up user login and password for security but it is enough.

3. Equipment Cost :

Whenever an organization decided to go paperless, a huge volume of data must be scanned. The hardware needed for this type of scanning service would need a substantial amount of money.

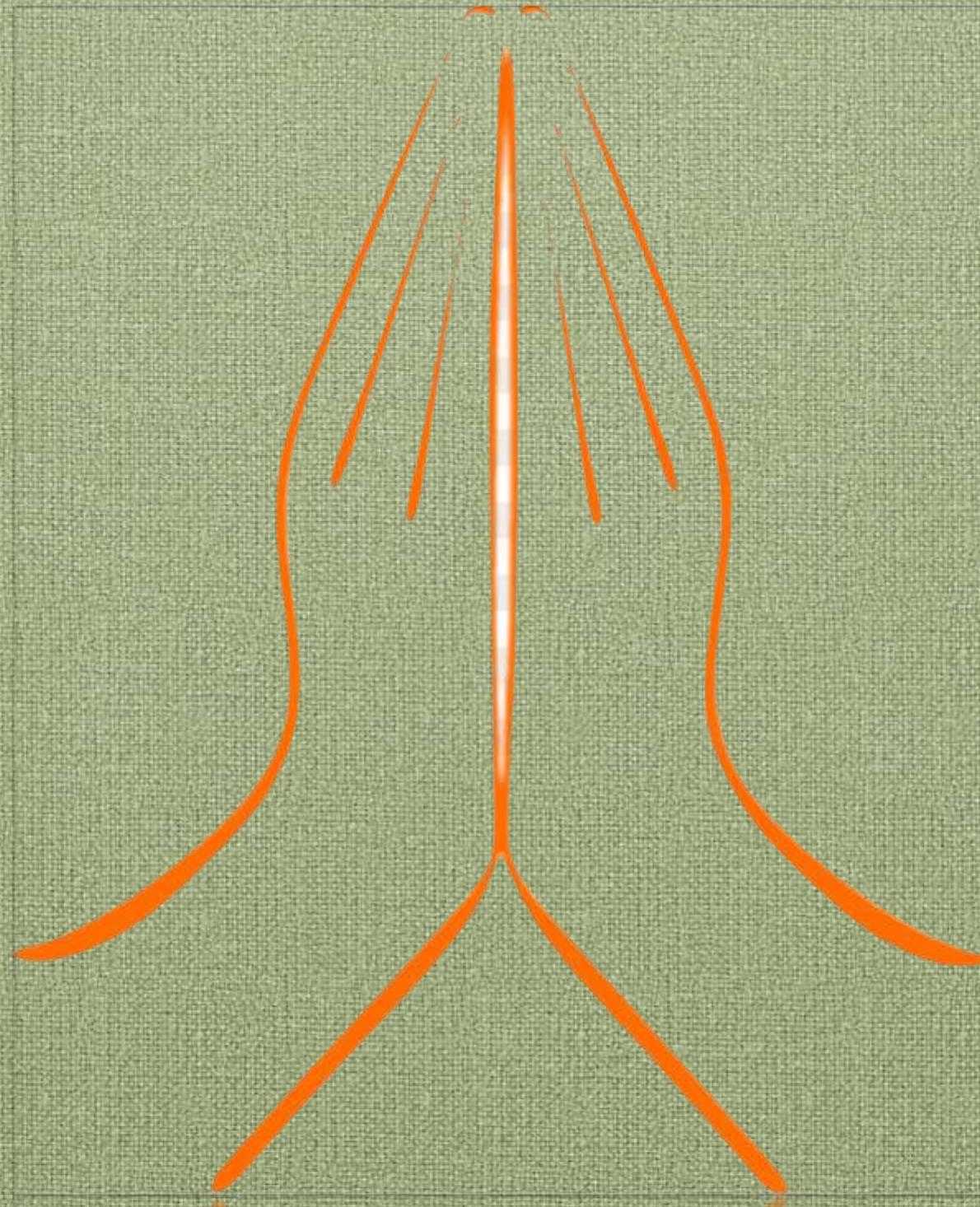
CONTRIBUTION

There were mainly four features which were worked upon and taken up by each one of us.

Sandarbh - ADD DOCUMENT

Dhruv - EDIT DOCUMENT, MAIN.java

Kushal - RETREIVE DOCUMENT &
DELETE DOCUMENT



THANK YOU