

# DOCUMENT MANAGEMENT SYSTEM

OOM MINI-PROJECT

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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:

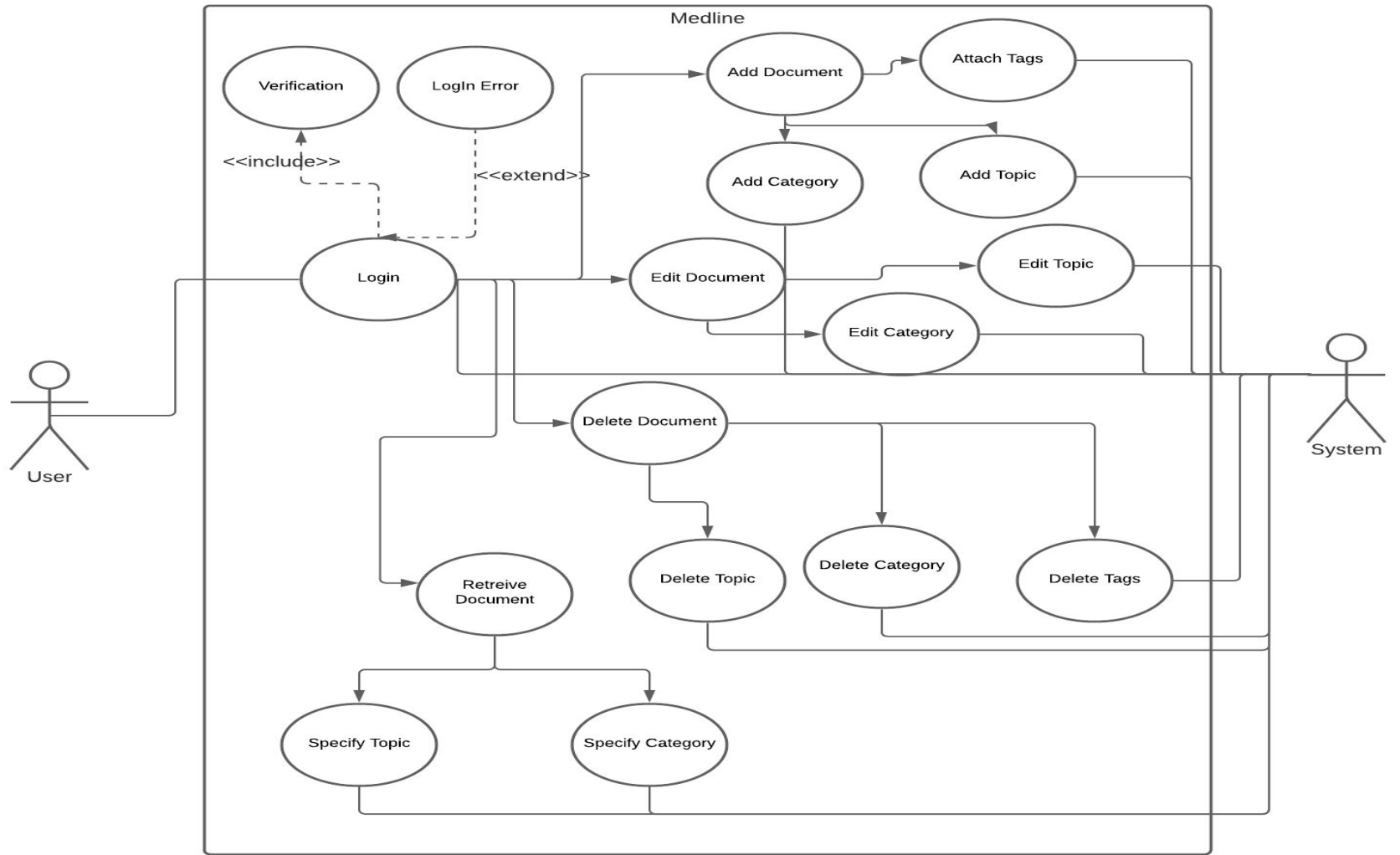
A. Adding/editing/deleting instances belonging to each class,

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.

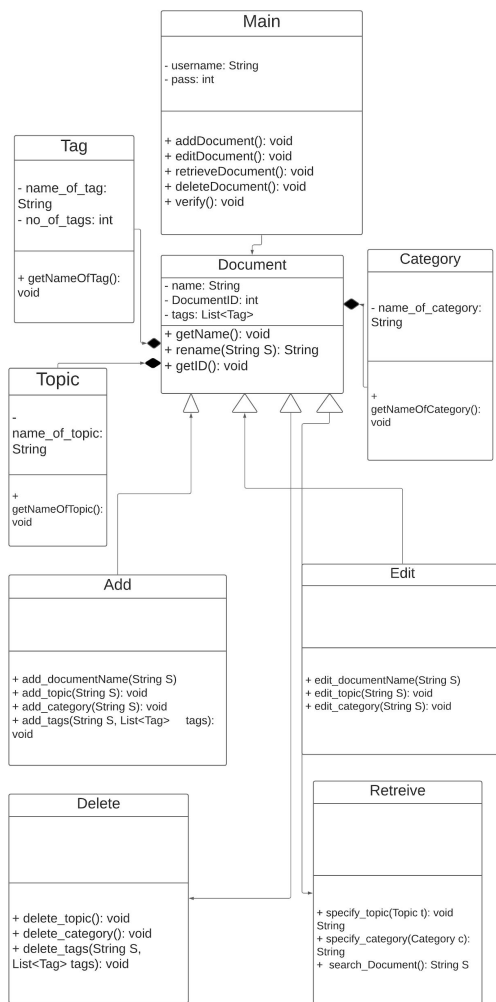




# CLASS DIAGRAM

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

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	
<ul style="list-style-type: none"> <li>- Responsible for verification of user (login)</li> <li>- Responsible for choosing between options of actions on Document (add/edit/delete)</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> <li>- AddDocument</li> <li>- Edit Document</li> <li>- DeleteDocument</li> <li>- RetrieveDocument</li> </ul>
Document	
<ul style="list-style-type: none"> <li>- Responsible for holding data</li> <li>- Responsible for having tags, topic and category</li> <li>- Responsible for actions on documents</li> </ul>	<ul style="list-style-type: none"> <li>- Tag</li> <li>- Category</li> <li>- Topic</li> </ul>
Tag	
<ul style="list-style-type: none"> <li>- Responsible for attaching tags to a document</li> <li>- Responsible for holding record of each tag for each document</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> </ul>
Category	
<ul style="list-style-type: none"> <li>- Responsible for defining the category of each Document</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> </ul>

Topic	
<ul style="list-style-type: none"> <li>- Responsible for attaching a topic to each document</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> </ul>
AddDocument	
<ul style="list-style-type: none"> <li>- Responsible for adding topic,category and tags for each document added</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> <li>- Topic</li> <li>- Category</li> <li>- Tag</li> </ul>
EditDocument	
<ul style="list-style-type: none"> <li>- Responsible for updating and changing topic, category and tags for each document</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> <li>- Topic</li> <li>- Category</li> <li>- Tag</li> </ul>
DeleteDocument	
<ul style="list-style-type: none"> <li>- Responsible for deleting all contents of a document</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> <li>- Topic</li> <li>- Category</li> <li>- Tag</li> </ul>
RetrieveDocument	
<ul style="list-style-type: none"> <li>- Responsible for retrieving a document by specifying it's topic, category and tags</li> </ul>	<ul style="list-style-type: none"> <li>- Document</li> <li>- Topic</li> <li>- Category</li> <li>- Tag</li> </ul>

# LOGIN PAGE

File Edit Selection View Go Run Terminal Help Main.java - OOMMiniProject - Visual Studio Code

EXPLORER

- > OPEN EDITORS
- > OOMMINIPROJECT
  - > .vscode
  - ⚠ .classpath
  - ⚠ .project
  - ⚠ Add.class
  - ⚠ Add.java 9+
  - ⚠ Add\$1.class
  - ⚠ Add\$2.class
  - ⚠ Add\$3.class
  - ⚠ Add\$4.class
  - ⚠ Category.class
  - ⚠ Category.java
  - ⚠ ClassDiagram.pdf
  - ⚠ CRC.pdf
  - ⚠ Delete.class
  - ⚠ Delete.java 9+
  - ⚠ Delete\$1.class
  - ⚠ Delete\$2.class
  - ⚠ Delete\$3.class
  - ⚠ Delete\$4.class
  - ⚠ Document.class
  - ⚠ Document.java 9+
- > OUTLINE
- > TIMELINE
- > SONARLINT RULES
- > JAVA PROJECTS

PROBLEMS 122 OUTPUT DEBUG CONSOLE TERMINAL

1: java

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

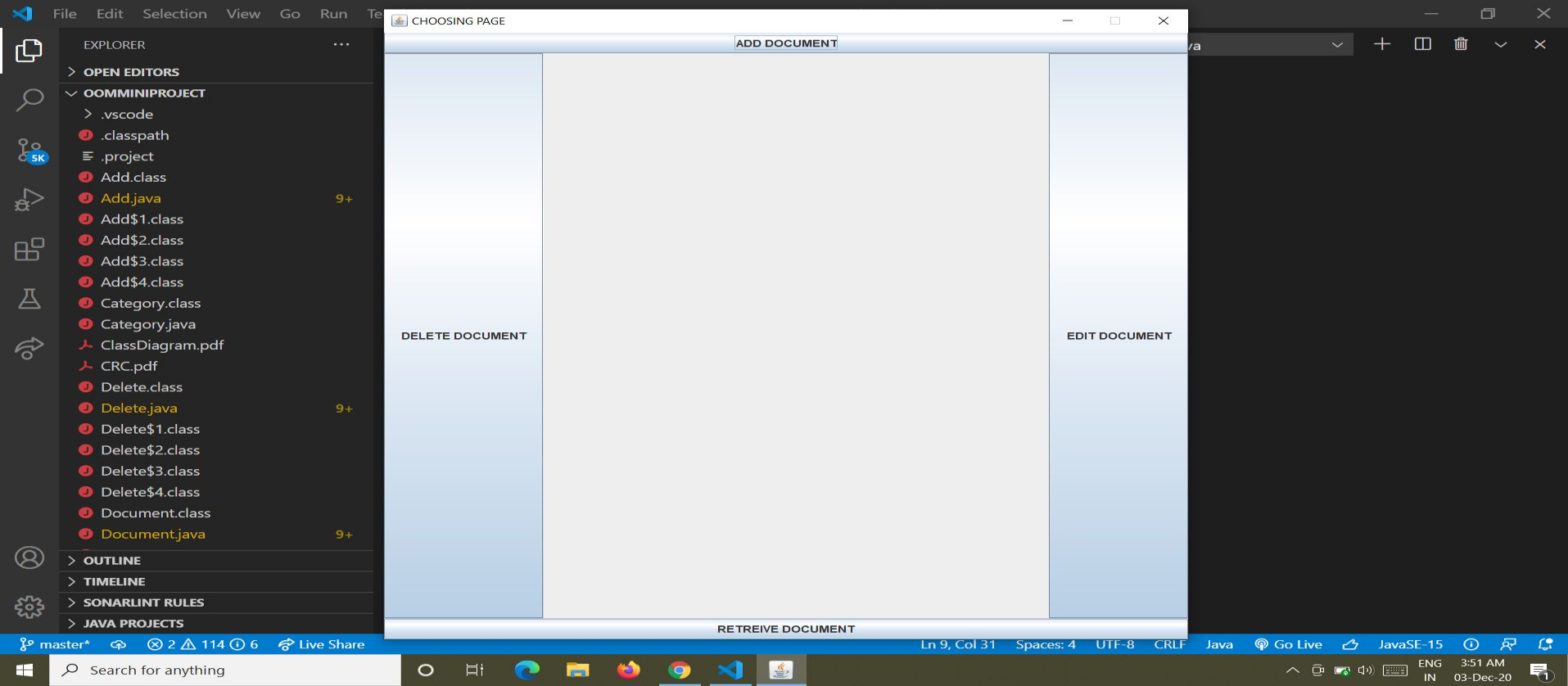
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\lenovo\Desktop\OOMMiniProject> javac Main.java
PS C:\Users\lenovo\Desktop\OOMMiniProject> java Main.java
Hi This is the login page : Please enter your credentials:

Enter your username:
OOM
username: OOM
Enter the password:
123
```

master\* 2 114 6 Live Share Ln 9, Col 31 Spaces: 4 UTF-8 CRLF Java Go Live JavaSE-15 3:51 AM 03-Dec-20

# MAIN PAGE



# ADD DOCUMENT

The screenshot shows the Visual Studio Code interface. On the left is the Explorer sidebar showing a project named 'OOMMINIPROJECT' with various files including .vscode, .classpath, .project, and several Java and PDF files. In the center, a 'CHOOSING PAGE' dialog box is open, containing a table with four rows for adding documents. Each row has input fields for document name, topic, category, and tags, along with a 'PROCEED' button. The status bar at the bottom shows the current file is 'Ln 9, Col 31' with 'Spaces: 4' and 'UTF-8' encoding. The system tray at the bottom right shows the time as 3:52 AM on 03-Dec-20.

Input Field	Button	Default Value
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

# ADD DOCUMENT

The screenshot displays the Visual Studio Code interface with a project named 'OOMMINIPROJECT'. The Explorer sidebar on the left lists various files, including class files and PDFs. A 'CHOOSING PAGE' dialog box is open in the center, featuring a 4x3 grid of buttons labeled 'PROCEED'. The dialog is divided into three sections: 'DOCUMENT NAME: A.TXT', 'TOPIC: FINANCE', and 'CATEGORY: BUSINESS'. The bottom section, 'TAGS: MONEY, CURRENCY', is partially visible. The status bar at the bottom shows the current file is 'Main.java' and the project is 'OOMMiniProject'.

Document Name	Topic	Category	Tags
A.TXT	FINANCE	BUSINESS	MONEY, CURRENCY

# EDIT DOCUMENT

The screenshot displays the Visual Studio Code interface with the 'EDIT DOCUMENT' dialog box open. The dialog box is titled 'CHOOSING PAGE' and contains a grid of options for editing documents. The left sidebar shows the Explorer view with a project named 'OoMIniProject' containing various Java files. The bottom status bar shows the current file is 'Ln 9, Col 31'.

Document List	Action	Document to be Edited
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

VS Code Explorer View:

- EXPLORER
  - > OPEN EDITORS
  - > OoMIniProject
    - > .vscode
    - .classpath
    - .project
    - Add.class
    - Add.java
    - Add\$1.class
    - Add\$2.class
    - Add\$3.class
    - Add\$4.class
    - Category.class
    - Category.java
    - ClassDiagram.pdf
    - CRC.pdf
    - Delete.class
    - Delete.java
    - Delete\$1.class
    - Delete\$2.class
    - Delete\$3.class
    - Delete\$4.class
    - Document.class
    - Document.java
  - > OUTLINE
  - > TIMELINE
  - > SONARLINT RULES
  - > JAVA PROJECTS

# EDIT DOCUMENT

The screenshot shows a Visual Studio Code editor with a sidebar on the left containing the Explorer, Outline, Timeline, SonarLint Rules, and Java Projects panels. The Explorer panel shows a project named 'OoMINIPROJECT' with various files including .vscode, .classpath, .project, Add.class, Add.java, Add\$1.class, Add\$2.class, Add\$3.class, Add\$4.class, Category.class, Category.java, ClassDiagram.pdf, CRC.pdf, Delete.class, Delete.java, Delete\$1.class, Delete\$2.class, Delete\$3.class, Delete\$4.class, Document.class, and Document.java. The main editor area displays a 'CHOOSING PAGE' dialog box with a table of document actions.

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

The status bar at the bottom shows 'Ln 9, Col 31', 'Spaces: 4', 'UTF-8', 'CRLF', 'Java', 'Go Live', 'JavaSE-15', '3:58 AM', and '03-Dec-20'.

# RETRIEVE DOCUMENT

The screenshot shows a Visual Studio Code (VS Code) interface with a 'CHOOSING PAGE' dialog box open. The dialog box contains a grid of buttons for navigating through a document list. The VS Code interface includes a sidebar with the Explorer, Outline, Timeline, SonarLint Rules, and Java Projects views. The Explorer view shows a project named 'OoMiniproject' with various files and folders. The Outline view shows the structure of the project. The Timeline view shows the history of the project. The SonarLint Rules view shows the rules configured for the project. The Java Projects view shows the Java projects in the workspace. The status bar at the bottom indicates the current file is 'Ln 9, Col 31' and the encoding is 'UTF-8'.

**CHOOSING PAGE**

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

**EXPLORER**

- > OPEN EDITORS
- > OoMiniproject
  - > .vscode
  - .classpath
  - .project
  - Add.class
  - Add.java
  - Add\$1.class
  - Add\$2.class
  - Add\$3.class
  - Add\$4.class
  - Category.class
  - Category.java
  - ClassDiagram.pdf
  - CRC.pdf
  - Delete.class
  - Delete.java
  - Delete\$1.class
  - Delete\$2.class
  - Delete\$3.class
  - Delete\$4.class
  - Document.class
  - Document.java
- > OUTLINE
- > TIMELINE
- > SONARLINT RULES
- > JAVA PROJECTS

Ln 9, Col 31 Spaces: 4 UTF-8 CRLF Java Go Live JavaSE-15 4:01 AM 03-Dec-20



# RETRIEVE DOCUMENT

The image shows a Visual Studio Code (VS Code) interface with a 'CHOOSING PAGE' dialog box open. The dialog box contains a grid of four options: 'PROCEED', 'SPECIFY', 'RETRIEVE', and 'MAIN PAGE'. The 'RETRIEVE' option is highlighted. The left sidebar shows a file explorer with a project named 'OoMINIPROJECT' containing various Java files and a class diagram. The bottom status bar shows the current file is 'Ln 9, Col 31'.

**File Explorer (Left Sidebar):**

- > OPEN EDITORS
- > OoMINIPROJECT
  - > .vscode
  - .classpath
  - ≡ .project
  - Add.class
  - Add.java
  - Add\$1.class
  - Add\$2.class
  - Add\$3.class
  - Add\$4.class
  - Category.class
  - Category.java
  - ClassDiagram.pdf
  - CRC.pdf
  - Delete.class
  - Delete.java
  - Delete\$1.class
  - Delete\$2.class
  - Delete\$3.class
  - Delete\$4.class
  - Document.class
  - Document.java
- > OUTLINE
- > TIMELINE
- > SONARLINT RULES
- > JAVA PROJECTS

**CHOOSING PAGE Dialog Box:**

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

**Status Bar (Bottom):** master\* 2 114 6 Live Share Ln 9, Col 31 Spaces: 4 UTF-8 CRLF Java Go Live JavaSE-15 4:03 AM 03-Dec-20

# DELETE DOCUMENT

The screenshot displays a Visual Studio Code (VS Code) environment with a web application running in a browser window. The browser window has a title bar that reads "CHOOSING PAGE". The web application interface consists of a 4x3 grid of buttons. The buttons are labeled as follows:

- Row 1: "DOCUMENT LIST:", "PROCEED", "id: 1 Document Name: B.TXT"
- Row 2: "ENTER DOCUMENT ID", "DELETE", "DELETED DOCUMENT:"
- Row 3: "UPDATED LIST:", "UPDATE", "UPDATED LIST:"
- Row 4: "CLICK TO GO TO MAIN PAGE", "MAIN PAGE", "CLICK TO GO TO MAIN PAGE"

The left sidebar of VS Code shows the Explorer view with a file tree for a project named "OoMINIPROJECT". The file tree includes the following files and folders:

- > OPEN EDITORS
- > OoMINIPROJECT
  - > .vscode
  - .classpath
  - .project
  - Add.class
  - Add.java (9+)
  - Add\$1.class
  - Add\$2.class
  - Add\$3.class
  - Add\$4.class
  - Category.class
  - Category.java
  - ClassDiagram.pdf
  - CRC.pdf
  - Delete.class
  - Delete.java (9+)
  - Delete\$1.class
  - Delete\$2.class
  - Delete\$3.class
  - Delete\$4.class
  - Document.class
  - Document.java (9+)
- > OUTLINE
- > TIMELINE
- > SONARLINT RULES
- > JAVA PROJECTS

The bottom status bar of VS Code shows the following information:

- master\*
- 2 114 6
- Live Share
- Ln 9, Col 31
- Spaces: 4
- UTF-8
- CRLF
- Java
- Go Live
- JavaSE-15
- 4:03 AM 03-Dec-20

# CONTRIBUTION

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

KUNAL PENDE - ADD DOCUMENT

DEBASHISH DATT - EDIT DOCUMENT

RITU MUMU - RETREIVE DOCUMENT

RAHUL ROY - DELETE DOCUMENT

