	School: .... Campus: ....
Centurion **UNIVERSITY** *Shaping Lives...* *Empowering Communities...*	Academic Year: .... Subject Name: .... Subject Code: ....
	Semester: .... Program: .... Branch: .... Specialization: ....
	Date: ....

Applied and Action Learning
(Learning by Doing and Discovery)

Name of the Experiement : Store with IPFS – Decentralized File Upload

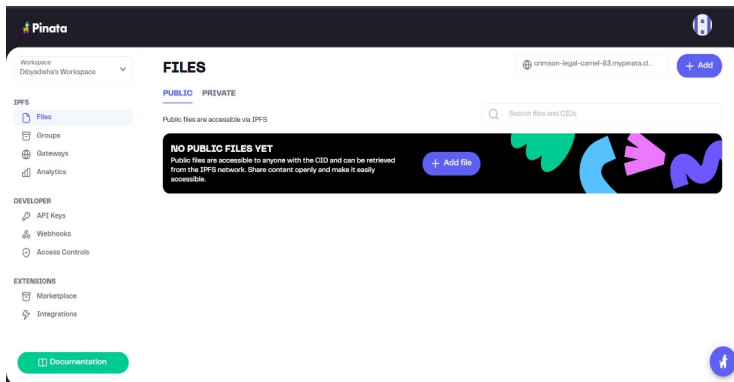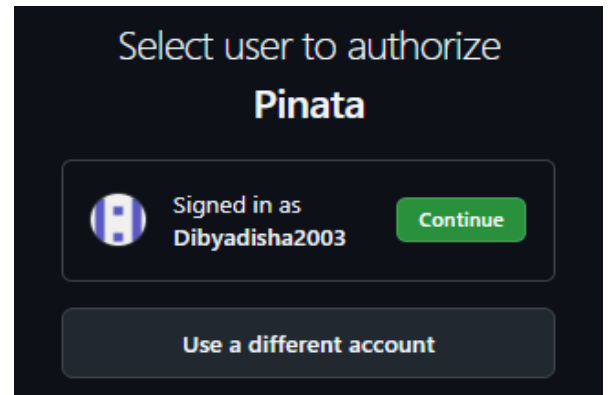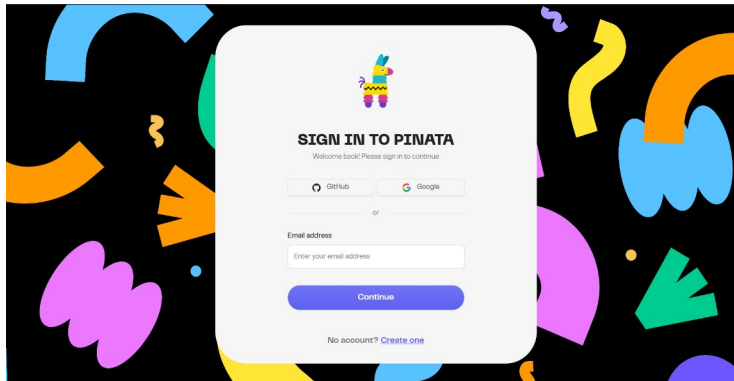## *Coding Phase: Pseudo Code/ Flow Chart/ Algorithm:

Algorithm:

1. Start
2. Create an account in pinata or you can use infura,
3. After creating upload one file in either public or private,
4. After uploading you will get a cid.
5. Now create a key in pinata which will give you an api key, secret api key and jwt token copy all of them and save it somewhere.
5. Now create a folder in your c drive.
6. Open that same file in your vs code.
7. Create a .env file in that very same folder.
8. Write the api key, secret key and jwt token copied in step 5 in the .env file.
9. Create a file named as addFile.js and write code on it.
10. Now create a file named sample.txt on that folder.
11. After creating the above files run the code in the terminal.
12. It will give a hash copy that link
13. Open a new tab in the browser and paste the link it will open the uploaded file.
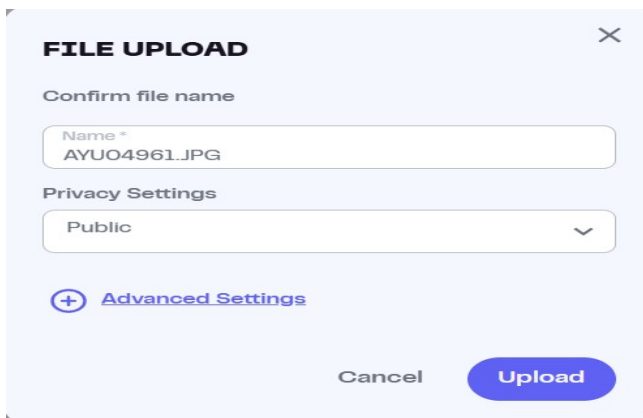14. End

*Software Used:

1. Pinata account
2. Command Prompt
3. Brave Browser
4. VS Code

*Testing/Implementation Phase:

Create a pinata account

Uploading file

*Testing/Implementation Phase:

Create api key

Creating folders

Code for different files

```js
require("dotenv").config();
const axios = require("axios");
const FormData = require("form-data");
const fs = require("fs");

async function uploadToIPFS(filePath) {
  const form = new FormData();
  form.append("file", fs.createReadStream(filePath));

  const res= await axios.post("https://api.pinata.cloud/pinning/pinFileToIPFS", form, {
    maxBodyLength: Infinity,
    headers: {
      ...form.getHeaders(),
      pinata_api_key: process.env.PINATA_API_KEY,
      pinata_secret_api_key: process.env.PINATA_SECRET_API_KEY,
    },
  });
  console.log("📁 File pinned to IPFS:");
  console.log("Hash:", res.data.IpfsHash);
}
uploadToIPFS("sample.txt");
```

```
PINATA_API_KEY=ec5fc2b7005ba96187eb
PINATA_SECRET_API_KEY=4b9e4104852a5f6ec98a1b4c07d14a115029b6cad96690db453a4fbb9c4051dd
PINATA_JWT_Token=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
eyJ1c2VySW5mb3JtYXRpb24iOnsiaWQiOiI1NzU4MjExZC0yM2JlLTQ2OTAtYjU0OC000GVmMDYyZDkxODMiLCJlbWFpbCI6ImRpYnlhZGlzaGGFzYWhvb0BnbWFpbC5jb20iLCJlbWFpbF92ZXJ
pZmllZCI6dHJ1ZSwicGluX3BvbGljeSI6eyJyZWdpb25zIjpbeyJkZXNpcmVkUmVwbGljYXRpb25Db3VudCI6MSwiaWQiOiJGUkExIn0seyJkZXNpcmVkUmVwbGljYXRpb25Db3VudCI6MSwiaW
QiOiJOWUMxIn1dLCJ2ZXJzaW9uIjoxfSwibWZhX2VuYWJsZWQiOmZhbHNlLCJzdGF0dXMiOiJBQ1RJVkUifSwiYXV0aGVudGljYXRpb25UeXBlIjoic2NvcGVkS2V5Iiwic2NvcGVkS2V5S2V5I
joiZWM1ZmMyYjcwMDViYTk2MTg3ZWIiLCJzY29wZWRLZXlTZWNyZXQiOiI0YjllNDEwNDg1MmE1ZjZlZYzk4YTFiNGMwN2QxNGExMTUwMjliNmNhZDk2Njk0ZGI0NTNhNGZiYjljNDA1MWRkIiwi
ZXhwIjoxNzg1NDDc0MDY3fQ.jkU8H9WxTqfDCbZ8ugVA9zNg3zjFVxyrQuCy1Y9FIVE
```

* Implementation Phase: Final Output (no error)

Run some commands in the terminal to get the hash

```
● PS C:\Web3 Projects\lab4-ipfs-basic\temp> cd "C:\Web3 Projects\lab4-ipfs-basic"
● PS C:\Web3 Projects\lab4-ipfs-basic> node addFile.js
  📌File pinned to IPFS:
  Hash: QmeBzCRkoepM4doG8TayTa6cZw9PCtCJrGDJBpvdaMpLw7
○ PS C:\Web3 Projects\lab4-ipfs-basic> |
```

Uploaded file will be shown after copying the link and opening it in a new tab in the browser

```
This is a demo IPFS project
```

*Observation:

1. Implemented a decentralized file upload system using IPFS and Pinata.
2. Enabled multiple file uploads with preview thumbnails and live IPFS links.
3. Displayed already uploaded files using Pinata's API for better file management.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	**50**		

Signature of the Student:

Name :

Signature of the Faculty:

Regn. No. :

Page No............

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.